

7.2.1 Two Best Practices of the institution:

1. Strengthening of Students Quality
2. Encouraging Research Culture

1. Strengthening of Students Quality :

Goal:

The mission of the institute states about preparing competent, value added, patriotic, globally competitive engineers for societal development. It has two significant aspects. Firstly, it puts students at center of all activities. Secondly, it explicitly states that not only the students should be academically nurtured and nourished; but should also be holistically developed.

The planning and execution of all processes is student centric to ensure that the student is academically sound, well-versed with the latest technology and empowered with the soft competencies so as to be globally employable or an entrepreneur. Further the student is well nourished with values which make him/her not only a good engineer, also a good citizen and a good human being too. The student is well aware about his/her role in the development of global society and should have a commitment towards the role.

The Context:

India, with its huge population and socio-economic problems, is ambitiously headed up on the path of transition from developing country to the developed country. Its demography is rich with young age group. This huge human resource has to be transformed to skilled human resource through technical education. Today, the strength of a nation is measured by its technological power. The backbone of economic development, prosperity and security is in the technological excellence. Modern India is ambitiously battling with the challenges of socio-economic uplifting.

As Dr. A. P. J. Kalam has said it has the potential to become techno-economic super power. It has also the potential to become the 'Jagat guru', the global preacher in science as well as spirituality, Dr Vijay Bhatkar has said. To realize the visions of these great visionaries we need engineers who are academically sound so that they are at pace with the present day technology, at the same time they have willingness to use their knowledge for the development of nation and service of the society. In this transition era where India is transforming from developing nation to a developed nation, it needs engineers who are capable and committed as well. The goal of the institute is laid down in this context.

The Practice:

A great thought, a great idea may remain confined on the papers if not executed willingly and systematically. The institute has a great vision of empowering students. The process of empowering them is well executed by the systematic and sincere procedures which are described herein. The institute has a visionary management chaired by an eminent academician Mr. Jitesh Maheshwari. The local management includes major representation of teaching faculty. Their academic expertise and experience is utilized in the planning and implementation of the best practices in the institute- the student empowerment.

The institution has a meticulously organized and clearly planned teaching, learning and evaluation schedule- the academic calendar. The schedule is quite comprehensive. It gives prime emphasis to the academic empowerment. Yet it finely blends co-curricular and extra-curricular activities with the academics for the holistic empowerment of the students as per the goal laid down by the institute. The schedule is prepared at the beginning of the academic session, keeping in view the span provided by University academic calendar. It is prepared by thorough discussion of all HoDs with Principal. The practice of the academic calendar is quite versatile e.g. sports, cultural activities, group discussions, debate, elocution etc. Special training program, entrepreneurship development program, soft skill development program, guest lectures and many such activities also contribute to the same. A special feature of the institute is a lecture series . Every year such activity is conducted . It includes motivational lectures of diversified personalities like eminent scientists, researchers, sports persons, social activists etc. This provides inclusive nourishment to the students. This empowers student through a balanced growth of his/ her personality and ensure his/ her robust persistence in real world circumstances.

The students are also empowered by their participation in responsibility sharing. Students are members of several committees. This practice makes them recognize their role in the participatory functioning of the institute and develop a deeper bonding with the organization. Their wisdom is utilized in decision making and they get empowered. Whenever institute organizes an event, the student volunteers are involved in event management. This approach practically teaches several managerial and soft skills to the students which are essential for a good engineer. This practice empowers the students and strengthens the association between student and institute.

For most of the activities in the institute, feedback system is in place, e.g. feedback on teaching-learning, feedback on library facility, feedback on hostel and mess facility etc. Owing to this practice students' opinion is utilized to redesign the functioning of the system and to make it more effective for the student empowerment

Though the institute is self-financed, it offers fee relaxation and scholarship to students under the scheme Government Scholarship Scheme. This empowers the students coming from socio-economically weaker sections of the society.

Evidence of Success:-

Success of the efforts for student empowering is reflected in some of the achievements given below.

Paper presentation/participation :

More than 140 students have presented/participated in technical paper presentation.

Placement :

During the last five years more than 187 students are placed through campus interviews

Problems Encountered and Resources Required:**Resources required:**

Effective and efficient scheduling of activities, parallel activities and sincerity in implementation.

Intake quality of students:

The quality of students getting admission in engineering is depleting day by day.

The students are poor in fundamental science and communication. Their ability to write and express is poor. They need effective and tedious efforts to upgrade.

Resources required:

Students need extra efforts in core subjects like mathematics etc. For communication skill and soft skill upgrading, special trainers/ counselors are provided.

Socio-economic background:

Socio-economic background plays significant role in the performance of a person. The larger proportion of students coming for engineering are from rural background and are from socio economically backward sections of the society. Resource required: effective student counseling and time for the same is required.

Financial limitations:

The institute is a self financed institute. The major resource of income is student fee. Hence finance is a constraint sometimes for student empowerment activities.

Geographical Location:

Owing to rurally located institution, students get less opportunity for industrial exposure during their studies.

Resource required:

Students may be taken for industrial visits if time and financial resources are available.

2. Encouraging Research Culture :**• Goal :**

Research comprises "creative work undertaken on a systematic basis in order to increase the stock of knowledge, including knowledge of humans, culture and society, and the use of this stock of knowledge to devise new applications." Knowledge is just like a torch in the hands of human being showing him the path ahead.

The institute aims that its engineers must have research orientation. They must not be just followers of knowledge traditions; they must explore new dimensions of knowledge. Research must be imbibed into their attitude. Research must be their very instinct so that they learn to tackle engineering problems to its roots, rather than superficially managing it. They must propose innovative, better solutions to the conventional engineering issues in modern context.

• The Context:

Dr. A. P. J. Abdul Kalam has mentioned that research and teaching are complimentary to each other. Good teachings emanates from research. Considering this the institute strives best to

provide conducive environment to its faculty members for research. Through faculty members research attitude is inculcated while guiding UG and PG students for their project works.

The National Knowledge Commission (NKC) of India has recognized the need of research based engineering education for modern India. It has specifically mentioned that “creation of new knowledge principally depends upon strengthening the education system, promoting the domestic research and innovations in laboratories as well as grass root level.” Recognizing the directives underscored by the NKC, the institute has given due emphasis in the capacity building of its faculty members and student in terms of research attitude. It ultimately contributes to the mission of the institute- to provide engineers who are empowered with knowledge and are capable to do global societal development.

- **The Practice:**

In order to inculcate the research attitude in students and faculty members, the institute has taken several initiatives.

The institute has a Research coordinator to coordinate the research activities. The Research coordinator scrutinizes the research proposals submitted by the faculty members. He also keeps a track of various research funding schemes and inspires faculty members to submit proposals under them.

The institute budget has specific provision for research activities for each department. The faculty members can put up their requirements within the budget to carry out their research. There are separate provisions for student projects too. In case of specific student/faculty project, provisions beyond regular budget are also done on the recommendations of HoDs and Director of Research. The institute has initiated an indigenous research promotion scheme (SSRPS). The faculty members can submit their research proposals under this scheme every year at the beginning of the academic session. The proposals are scrutinized by a research committee and based upon the merit the funds are provided for the conduct of research.

The institute always encourages faculty members to indulge into research activities, write research proposals, communicate research papers etc. The institute publishes its own international research journal accommodating a broad spectrum of research arenas. This provides opportunity to the faculty members and students to publish their research papers online as well as in hard form. The institute every year organizes international conference which invites internationally recognized eminent research scholars. They interact with the faculty members and students thus inculcating research attitude into them. The institute organizes workshops aiming to imbibe research attitude in faculty members and students. The students and faculty members are also deputed at other institutes to attend conferences and workshops which help them in developing research attitude. The institute organizes students’ paper contest, project exhibition, poster presentation and tech fest like activities.

- **Evidence of Success:-**

The evidence of success of the efforts of inculcating research culture in students and faculty members is reflected through following:

- **Faculty research :**

3 faculty members have acquired doctoral degree and 3 members are registered for doctoral degree and are expected to acquire in near future.

Paper Presentation :

190 research papers are published by faculty members and students in peer reviewed international journals. Over 88 papers are presented by the students in the technical paper presentation.

- More than 05 workshops/ training sessions are organized by the institute for students and faculty members.
- Every year national/ international conference is organized by the institute.

Best Outgoing Student Award

Goal of this practice:

Every Academic year, the Institute felicitates the Best Student amongst the Final Year students of all UG Programs. Prize is given in the form of cash money.

Problems Encountered and Resources Required:

- **Time constraint:**

Time is the primary requirement for research. Engineering colleges are basically teaching institutions. Hence teaching is the priority. Extra hours are required to complete the curriculum. The routine administrative responsibilities are inevitable. Researcher has to extract quality time out of it.

- **Resource required:**

Limitation of funds: Though the institute makes provisions for research funds in the budget, limitation of funds is always an issue in a self financed institute. Hence resources which would provide monetary help are always sought.