Simply Slack

Hostel eleven was struck by the third theft in a space of two weeks on the 4th of September. Like the previous thefts, this one too took place in broad daylight. The lock of a room was cut, a trunk kept inside was shifted atop the bed from under it, its lock was cut and an amount of Rs 2500/- was stolen from within. Security personnel and the police were called in to investigate. The trunk was quite heavy, hinting that the thieves were not physically challenged.

In the wake of the previous thefts, an extra watchman had been posted in the hostel. The numerous workers involved in construction and painting work were given identification badges (a precautionary measure that should have been taken when construction work actually started in the hostel). Yet, in spite of all these efforts, there seem to be breaches which our security system has not been able to defeat. At present, the Dean of Student Affairs has promised to further increase security and provide night latches for all rooms.

Hostel eleven has undergone restructuring recently, and the watchmen on duty are posted at the new entrance which faces the gymkhana grounds.Unauthorised entry is still possible from the side facing the staff hostel(the previous entrance), which has not yet been fenced off completely.

Only time will tell if the institutes action will finally secure a hostel which has been the victim of intrusions often in the past....

Wake up ! Its high time now..

Theres no denying the fact that the institute has always been lax when it comes to security of people on the campus. There is absolute lack of proactive measures being undertaken by the authorities to improve the sad state of affairs here. Its only after the damage has been done that they care to wake up. Take the case of computers found missing in hostel eight which happened right under the nose of a watchman. After the computers were reported to be missing, two watchmen were deployed in the hostel. It would be tough to rationalize this step taken by the security office. Were they expecting the thief to return to the same place ? The same thing happened in the Hostel eleven case. The theft could have been avoided if proper security measures with respect to the construction work going on there had been taken right from the beginning.

We dont have hands, dammit !

The security department ascribes shortage of manpower as the primary reason behind security lapses. According to a report on security in 1989, the optimum number of watchmen required in the campus was 191. Since then, IIT has seen a lot of additions to the campus in the form of buildings, students, stray animals et al. As of today, the security office needs a workforce of 205 watchmen. However, the present number stands at a dwindling 140 and two more are about to retire by the end of this month. The security department says it has been demanding an increase in the workforce but the administration has been indifferent to their repeated requests. The shortage comes down heavily on the existing structure. Many a time, watchmen have to work even 16 hours at a stretch, which is too much to ask for from any normal human being, notwithstanding the martial capacities of our watchmen. The moot point is, why arent the 65 watchmen that the security needs, to operate at optimum strength, employed with immediate effect? Whats up behind the scenes ?

There is a security advisory committee in the campus comprising of Professors, people from the security department and a student representative (the security nominee), which meets once in close to three months to consider security matters and to prepare proposals. Well, isnt three months too long an interim for an issue as sensitive as security not to be discussed at all? The committee, in its meetings, discusses the cases of breach of security, measures to be taken and advises the administration accordingly. It is then left to the administration to carry out the implementation. But does the advice ever get implemented? The issue of having a turnstile gate at Middle Gate was discussed and passed way back in February but this matter is still on the in-the-pipeline list !

Another front on which the institute has maintained a laid-back attitude is building of the boundary wall. The idea of the wall was conceptualised long time back, but its implementation has been stalled due to administrative delays and lack of funding. We are all aware of the critical problems the lack of a wall around the campus has created. Why didnt diversion of funds into building the wall begin when these problems actually surfaced ?

Is it so bad in all the IITs ?

Comparing our system with that of IIT Kanpur, we find a world of difference. The whole campus of IIT Kanpur is well guarded by private security men. A private security firm called SIS has been in existence there for the past four years. Every vehicle coming into the campus is issued a token. The reason for not having a token system here is again shortage of manpower. One of the most frequently asked questions is why we cant have private security as well. (Currently, all our watchmen are Central government employees). This has already been thought of, says the security officer, Mr. Vijay Kumar, but due to stiff resistance from the NASA (Non Academic Staff Association) it could not be put into practice. According to Prof. D P Roy, who presides over the meetings of the Security Advisory Committee, a private organsation has been consulted regarding the

improvement of security in the campus using the extant setup. Its report is expected some time in the middle of September and the recruitment process should follow the report.

Whats more, the average age of watchmen in IIT Kanpur is 25 whereas, in our IIT the same is well above 35 ! Regular training of security personnel is carried out there but no such scheme exists for our watchmen. The reason, appears to be the old age of the guards, owing to which they have resisted physical training for quite some time now.

Are we also at fault ?

The security officer feels that students are also partly responsible for the security lapses. They pose considerable resistance when it comes to implementation of certain rules. There have been instances of students refusing to show their I-cards when asked for by watchmen. In one incident, a student while entering the campus after 11pm wrote, instead of his own, Prof. Nag (our ex-Director)s name on the register at the entry point. It is wrong on part of the students to behave in this manner and then blame the security for everything. For a more efficient security system, we ought to co-operate with the security personnel and help spread awareness about certain security norms.

The GSHA, Anant Gupta, is of the opinion that the security department is prompt in taking action, when required. Its short on hands but they have extended a lot of support in the implementation of several norms like the PUC (pollution under control) tests and the license checks about to start on campus. The GSHA would like to remind all the students that in case of any complaints against watchmen, (which can be written in the register available with the Hall Manager) the Security Officer looks into the matter and takes action immediately if the concerned person is found guilty. The students can also make suggestions to him directly regarding the improvement of security.

How many of us really care to make use of these complaint registers ? How many of us are really aware of the fact that the security officer takes pains to go through these registers every week ? How many of us care to address the efforts the security officers make when we talk about our problems to them in person? For that matter, how many of us care about security norms? Driving without license or at a speed above 30 kmph is punishable by fines. And we know how many of us care to observe these rules. Isnt this a sign of absolute apathy on our side as well? Conclusion

The debate on the issue of security can go on and on. We have looked at both sides of the coin and feel that there is a problem with the security arrangement in the campus and something should be done to improve the situation immediately. At the same time, there is a need to create an awareness of the security norms among all campusites and also to report to the security personnels about any breaches. Its high time all of us realised how grave the problem really is.

The number of personnel in our security department used to be 191 in 1990. Today we have 140 and 2 are about to retire at the end of this month. Why hasnt our administration done anything to take stock of this situation ?

The average age of the security personnel (read watchmen) in IIT Bombay is 36 (supposedly). The same number stands at 25 in IIT Kanpur !

Investigation:

After the recent theft in H-11, one of the issues Insight decided to investigate was whether enough security measures are undertaken wherever construction work is in progress. Construction workers, on duty there, had not been issued identity cards ! Insights correspondant, Amol Gogate, chatted with the Executive Engineer (Estate Office), Mr. V.B.Mamdapur about this. Following are excerpts of the conversation -

Majority of the workers employed in the campus at present are casual workers who have not been issued I-cards by either the institute or the contractors! Whats worse, no proper screening of these workers is performed and none of them are tested for criminal records as well.

Insight (IN): For what purposes are temporary workers employed inside the campus by the Estate Office and how many workers are currently being employed?

Executive Engineer (EE): The temporary workers are primarily employed for maintenance work, chiefly cleaning and plumbing. These workers are employed according to requirements. The number is roughly around 400. The permanent workers are about 200 in number.

IN: Are these workers, especially casual workers, screened before they are employed?

EE: No, that is not in our hands since we do not directly employ them. We specify our reqirements to the contractor and he is the one who employs the labourers. We pay the contractor and he pays the labourers. Of course, there are guidelines to prevent drunkards/addicts from being employed.

IN: And what about construction workers?

EE: Similar to what I said before. In this case the building contractor employs them.

IN: So if in case there is any problem or any damage/loss due to these workers, who will be held responsible ?

EE: The contractor.

IN: Recently there was a theft at H-11 in which cash and credit cards worth more than Rs.4000 were stolen. Can this be linked to the construction work currently underway at H-11?

EE: Look, it is not correct to speak without evidence. If you give us any proof we will immediately hand over the concerned worker to the police. For that matter, the thief could be just about anyone, a worker or a student himself.

IN: Agreed. But I am not talking about any individual. The construction workers did not have any identity cards. That means there is no restriction on who enters. The construction worker were given I-cards after this theft. Why werent any precautions taken ?

EE: Thefts are dealt by the Security office. The contractors do issue a form of identity or hajeri card. It has the persons name and some other details.

IN: And what about identity cards with photos?

EE: These identity cards are not issued by us. In fact, we cannot issue them. The contractors employ the casual labourers. So we cannot issue institute I-cards. At the most we can request the contractor.

IN: But we pay the contractors. Cant it be made mandatory for the contractors to issue photo i-cards?

EE: OK, your suggestion is accepted. Henceforth, I will insist that photo i-cards be issued to all labourers.

IN: About the contractors: are their antecedents checked?

EE: Yes,in this case the checking is thorough. We check if the contractor has a criminal record. We check if he is a valid I-T payer,has E.S.I.C registration no. and has registered with the labour commissioner. He must have a labour license given by the govt.

IN: But we have information that some contractor/worker was found having a criminal case. Although action was taken against him then, he stil moves around in the campus. (THE NAME WAS TOLD TO EE BUT WILL NOT BE DISCLOSED HERE.)

EE: There has been no problem with any contractor for the past 10-11 years. The name you mentioned is probably of one the supervisors i.e. who supervised the casual labourers at the health office against whom action was taken for misconduct.Once action is taken there is no way we will employ him again. Are you sure about the information? INSIGHT DID NOT DIVULGE ITS SOURCE OF INFORMATION.

IN: And what about the guest house incident ?

EE: Yes, in that case there was a police case against the worker. We informed the PRO who immediately sacked that person. We are very particular about such things. The point is that students do not promptly report incidents of misconduct by workers to us. What is the use of giving references of incidents that took place 6 months ago?

IN: Should we directly contact you?

EE: Yes,if there is any misbehaviour/misconduct on the part of any worker just call me up and I will personally look into the matter and appropriate action will be taken immediately. Mr. V.B.Mamdapur INTERNAL NO. : 7990

IN: Thank you

EE: One thing. Nomally we do not expect students to help us actively in solving problems in the institute. Yet, you people can always give us moral support. We are trying to keep our campus in the best condition. But for programmes like Vanamahotsav and Save the Powai Lake campaign, the student participation is very disappointing. Recently, some unauthorised consruction behind H-6 was demolished. The miscreant destroyed our security chowki in retaliation. We dont expect you to settle scores with them, but we need moral support. If the B.M.C. officials see that students too express their concern about encroachments on the IIT campus, it can have its own affect.

A Gurukul in IIT Bombay

When I close my eyes and begin to sing, there is only darkness... slowly light comes, then the beginnings of colour **-Ustad Zia Fariduddin Dagar**

On the 30th of August 2001, Dhrupad Sansar, a Gurukul for learning the Dhrupad form of classical music was inaugurated at IIT Bombay. Dhrupad Sansar gains in eminence by the stature of the Guru, Ustad Zia Fariduddin Dagar, the foremost among its exponents . The initiative to bring Ustad Dagar and Dhrupad to the IIT campus has been taken by a group of professors including Prof. M.P. Desai, Prof.K. Mulmuley, Prof. Shastri, Prof. H.Narayanan and others. Insight talked to Prof. M.P. Desai (of the Electrical Engg. Dept.) who himself is a disciple of Ustad Dagar. He elucidated the details of the program, the underlying motivation and possible hurdles in its course. Inspiration

IIT, in Prof. Desais view, has a one-dimensional structure, with overriding emphasis on technical subjects; even the humanities subjects are taught in passing. He said that the opportunity to learn Dhrupad from Ustad Dagar comes once in a lifetime and should be availed of by all of us. Prof. Desai feels that the traditional way of teaching music where one particular aspect is taught till a level of perfection is reached, will benefit the students, who have hitherto been exposed to a system where scores of subjects are taught at the same time. But will Dhrupad appeal to the students, whose ears are tuned to the mood and beat of rock and pop? It definitely will, says Prof. Desai. It is the quality of performance and the command of the artist that mesmerises the listeners.

Program Structure

When asked about the structure of the course, he said The course will have workshops in each semester to introduce newcomers to this art form followed by interviews to select the genuinely interested students. He emphasized that dedication and the will to learn are the only prerequisites and no prior knowledge or background in classical music is required to join the Gurukul. The classes will be held in the ex-directors bungalow, where the Ustad will reside.

Finally, he made an appeal to the students to make the most of this opportunity presented to them. Believe me, it will be an exhilarating experience. I know it because Ive had it.

This is not the Ustads first stint in IIT. He was here last year on the occasion of Spic Macay and also conducted a Classical Music Workshop from August 21st to Sept 3rd in the Guest House Annexe. This year we had an hour long performance on the day of inauguration of the Gurukul, by Nirmalaya Dey and Bahauddin Dagar, who accompanied the Ustad.

The Ustad

Ustad Zia Fariduddin Dagar represents the music tradition of a family that is believed to have preserved and nurtured Dhrupad music for twenty unbroken generations.

This prodigy has his roots in Udaipur where his father Ziauddin Khan Dagar was the court musician for Maharaja of Udaipur. He has travelled all over the globe organizing concerts and workshops, spreading Dhrupad to a motley of audiences and students. He has been bestowed with prestigious awards to acknowledge his contribution to Indian Classical music. Insight correspondent, Amol S. Gogate, caught up with the Ustad when he was here for the inauguration of Dhrupad Sansar. The Ustad expressed his confidence that his knowledge and time-tested methods of teaching will be able to enthuse the students towards Dhrupad, in particular, and classical music, in general. His respect for Indian value system was all too apparent when he insisted on speaking in Hindi. Excerpts of the interview (translated to English) with the Ustad follow.

Ins: Sir, first of all, what is your vision behind setting up of the Dhrupad Sansar at IITB?

Ustad: Dhrupad Sansar is an attempt to expose the IIT community, especially the students, to one of the most wonderful aspects of Indian culture and tradition - the Dhrupad form of Indian Classical music.

I have an even greater vision for the students of IIT. I believe that students of science and technology with good knowledge of Indian Classical Music will be able to carry out research on music and its relationship with other fields of science. They should be able to create a fusion of scientific knowledge and music.

Ins: What is the specialty of the Dhrupad form of music ?

Ustad: Dhrupad is the oldest existing form of Indian Classical Music. Its origin lies in the Samveda. In some ways, it is the roopa (form) of Brahma - The Creator. Over the years it has been enriched with infusion of ideas from other forms of music. In Dhrupad many times we encounter words/syllables that you may find anarth or meaningless. But if you seek the deeper meaning you will realise that those very words have a great significance

Ins: Do you think hardcore classical Indian music appeals to the students at IIT who are usually more interested in Rock and Pop?

Ustad: Haan, Beshak ! Ruchi nirmit hogi ! (YES, definitely. Interest will be developed !). I have been to St. Xaviers College. There, too, we had courses similar to those envisioned at the Dhrupad Sansar. We all know that the students there are extremely modernised. I went there on the request of one of their faculty members and the response I got was overwhelming. If this can happen at Xaviers, then why not at IIT ?

Ins: Will all interested students be able to take up the courses at Dhrupad Sansar? Many students do not have the preliminary knowledge of classical music. Will they be given a chance?

Ustad: There is just one pre-requisite. Mehnat ki ichha honi chahiye. (One should be willing to work hard).If someone is ready to put in efforts, I will help him in exploring Dhrupad.

Ins: What will be the duration of the course? What will be the minimum time required to attain some basic skills?

Ustad: There can be no time frame. It just depends on the students interest. A student can get whatever he aspires for if he is devoted to the cause.

One Plus One...Makes Two ??

A marked change in the curriculum of the IITs was brought around five years behind today when the Dual Degree Progam was offered for the first time to the successful candidates in JEE. Has the DD program really benifitted the research output and potential for industry of the institute ? Has it been able to fulfill the objectives it was designed for ? Vardan Kabra, Jay Dayaldasani, Anshuk Gandhi and Premal Shah explore.

The dual degree program, initiated in the academic year 1996-97, has grown and expanded considerably over the five years of its existence in IITs curriculum. It started off covering just three departments in the institute and, all disciplines except Engineering Physics offer it. The number of offerings, too, has been on the increase and efforts to invest more into the program are underway even at present. At this juncture, it is important for all of us to carefully evaluate the benefits and trade-offs associated with it and analyze whether it has been successful in meeting the objectives for which it was designed. This article attempts to provide such an objective evaluation.

How do students perceive it ?

Most students are under the impression that the benefits of being a DD student over the B.Tech. counterpart are absolutely negligible. In fact, most of those who have already graduated with a Dual Degree, feel that the program is nothing but a year lost without cause. This is probably because, as of now, the DD students have the same opportunities as B.Tech students as far as jobs, schols or, for that matter, management opportunities are concerned. The institute needs to recognize this prevalent notion among the students. However, the students also need to realize that the DD program is still in its infancy and can prove its worth only in the long run. In fact the onus is on the first few batches of DD students to showcase the value addition of the DD program. On the other hand, the response was exactly opposite as far as the faculty is concerned. The faculty says that the students had made an informed decision and thus, now they cannot say that they are not interested. Students, in general, have differed on this front. They claim that the counseling done for the program was thoroughly inadequate in as much as information about the DD program goes, though the DD programs were overly advertised during these sessions.

Issues of Contention

Dual-degree project

At the core of the program is a project wherein the student is expected to carry out extensive research in a sub-area of his specialization for a period of 14-18 months. This project, as viewed by those who chalked out the DD program, is an excellent opportunity for research work not only from the point of view of the student but also from the institutes perspective. On the other hand many of the students view this time as an

extended holiday and the research work is usually not satisfactory. A few reasons for this are

* Since the time frame of the project is very long, students dont appreciate the need for consistent work spread over the entire period. The general attitude, of course, is that of last-minute work which doesnt yield satisfactory results.

* For the students, the DDP is the first major project that requires an active role on their part - the transition from the passive role of attending lectures and labs to project work.

* Most importantly, the lack of motivation to do project work since there are no tangible benefits of doing good work. The outcome of the DDP does not have much bearing on the job or schol that a student gets since this is decided well before the DDP finally takes shape. A few remedies to this problem could be

* Students along with the guide submit a very clear list of deliverables for the next stage at the end of each stage of the project as has been implemented in the Aerospace Department

*Evaluation of the project can be made more regular, say on a bi-monthly basis, along with grading on the lines of a mid-semester examination or half-semester courses.

* No student can be expected to do any level of research without initial motivation by the guide. Guides should take on the onus of kick-starting the project by familiarizing the student with the kind of work that needs to be done. * Inclusion of project work similar to the mini-projects or Electronics Design Project (EDP) that the Electrical Engineering Department currently has for their DD students can help in conditioning students for R&D. The students can then approach the DDP with greater understanding and confidence.

Flexibility in the program

The only way a student can churn out good project work is if he/she is truly interested in the sub-area. Flexibility in terms of choice of fields to work in would go a long way in encouraging students to put in their best. There are many cases where DD students want to take up inter-disciplinary projects but are not allowed to do so. Of course, on the other hand there are cases where such projects are going on but the need of the hour is to make this an institute-wide accepted norm. Recognizing the basic aim of the DD program to develop world-class technology leaders, it is imperative that the DDP is not viewed as being similar to an M.Tech project. For example, a project that conceptualizes the setting up of a state-of-the-art powder metallurgy unit might not lead to the publishing of a technical paper but it may add value in the form of an industry-ready technology leader. If a student who is specializing in Microelectronics wants to develop an instrument for biomedical research and is also interested in exploring the commercial part of the project he/she should be given an opportunity as well as the encouragement to do the same. Thus, the synergy of departments whether it be the Biomedical Department or the School

of Management can be looked upon as an alternative to publishing technical papers. As of now it is not easy for students to work on such projects even if they have the inclination.

The senate committee recommendation in fact says, Students may have to be offered exposure to some new courses in order to sensitize them to new and relevant areas which will help in keeping up with the changing technological scenario. Some likely courses are in energy engineering, environmental sciences and ecology, material science, management, molecular biology, microbiology, and computer graphics. Two of these courses or other courses of relevance should be offered as core courses in each of the 5 year M.Tech programs preferably during the 5th and the 6th semesters. A course on Technological Development containing topics from Intellectual Property Rights & Technology Forecasting may be made compulsory for all students in the 8th semester. This is definitely not the case with the DD program in most departments.

Far from allowing inter-disciplinary courses and projects, in the present system students find it difficult to take elective courses offered in their own department but under a different specialization head. Departments should, we feel, be more lenient while allowing/disallowing students from taking such courses. For example, the elective structure amongst the specializations in the mechanical engg. dept. is so water-tight that students in CADA cannot take courses in CIM even if they are interested in the field. A point to be noted here is that a course structure like this can actually make the DD program more attractive and solve one of the drawbacks that the five year integrated M.Tech program faced.

Schedule of the DDP

The senate recommendation associated with the setting up of the dual-degree program states that, The Dual-degree project should start on the first day of the month of May and end on the last day of the month of May of the following year. This period includes a one-month vacation for the students

In its present form the DDP ends in the last week of June. This is not in the interest of the students who have to join jobs as early as the first week of July and others who get admission in the IIMs. The professors, too, dont get the vacation that they usually take in the month of June. Perhaps this needs to be revised.

The institute gives TAship stipend to 50% of the present 5th year DD students (apart from the industry-sponsored students). This is because of the scarcity of funds. On the other hand all M.Tech. students get a scholarship which is funded by the MHRD. The MHRD requires a student to clear a Post-graduate level entrance examination (such as GATE) to avail of this scholarship, which is not applicable to the DD students. In fact, some students of the present 5th year batch at IIT Delhi gave GATE just to establish eligibility for the scholarship. Either the institute should look into waiving this rule for the DD students or make it public knowledge that the DD students can appear for GATE

at the end of their 4th year to be able to avail the scholarship fund in lieu of the fact that there is a paucity of funds for the DD stipends.

Industry Sponsored Projects

Industry-sponsored projects are undoubtedly more challenging and demanding than a project taken under a professor in the department. In addition to this, the remuneration is usually the same as for a non-sponsored project. This greatly disparages the attitude of students towards their projects and defeats the basic objectives of the DD program. The institute should take some steps to encourage students to opt for industry-based projects. Increasing the stipends for such projects would be a great incentive !

Specializations

A critical issue with the Dual-degree program is the choice of the specialization at the time of the JEE counseling. Is it really reasonable to make Std. XII students choose between Microelectronics and Communication or between Propulsion, Aerodynamics and Control & Guidance ? An alternative that has been suggested to this format is letting students make their choice at the end of their second or third year when they are better informed about the options. Another mechanism that would solve this problem to some extent would be allowing interchanges amongst specializations as freely as possible. The senate committee recommended that a further flexibility, if desired, in terms of change from one specialization to another to the extent of 20% may be permitted at the beginning of the 5th semester. Increased freedom to choose courses and inter-specialization project topics could also circumvent the problem.

Coexistence of B.Tech and DD

It is widely accepted by the faculty that the B.Tech program is not serving the purpose for which the IITs were founded and that the DD program was initiated to rectify this. If this were true then a logical step would be to phase out the B.Tech program. The advantages of this would be manifold:

- The potential for R&D would be nearly doubled.

- The kind of results that you would get per DD student would be better as the development of any complex among DD students or of conflicts with the B.Tech students in terms of resources, would be automatically taken care of. The long-term plans of the institute with respect to the Dual-degree program are still unclear.

Conclusion

All said and done, the DD program does offer certain positives to students. Doing a 14-month long project provides one with an excellent opportunity for research and personal growth and learning as well. The sense of achievement that comes after the completing the DDP does serve well in motivating students to continue research activities in the

future and become worthy technological leaders. The authors are all DD students from various departments. Their contact addresses are Vardan (kabra7df@ccs.iitb.ac.in), Jay (jd7da@ccs.iitb.ac.in), Anshuk (anshukg@me.iitb.ac.in), Premal (prem@ee.iitb.ac.in).

History of The Dual Degree Program

Prior to the Dual Degree program there used to exist a five-year integrated M.Tech program in IIT, whose objective was esssentially to develop forward looking, well trained and business-oriented engineers with adequate exposure to various facets of industrial activity Design, Production, Management and Research and Development. This program was also designed to increase the IIT-Industry interaction and, more importantly, to provide a participatory opportunity to senior professionals in industry to play a significant role in shaping engineering education. This program, however, collapsed in 1995-96 for various reasons, the chief ones being insufficient industry support and enthusiasm (as compared to the initial expectations) and disproportionate efforts required by the faculty to obtain sponsorships for it. The five-year integrated program, in many cases, lacked the critical minimal input in terms of the number of students. A need to repackage the program was felt in order to take care of the deficiencies mentioned above and attempts to make it more attractive and challenging were initiated. These efforts gave birth to the Dual-degree program in the year 1996-97.

There is a certain diffidence among the DDs, especially when they compare themselves with the BTechs prabably because they do not see any visible returns for the extra year they spend. The institute, on the other hand, has great expectations and has set the goals of the DD program to be very different from those of the BTech program. DD students must strive to build an identity for themselves as creative technology leaders rather than as just corporate leaders. The success of the DD program will be known only after a period of 5-10 years.

Prof. Ballal, Dept. of Metallurgy

The Dual Degree Program does have the great potential to live up to the expectations of the faculty and students alike, but there are certain issues that need to be dealt with in order to allow for that. All we need is the Institute to stand up and take notice!

For those who find themselves not up to a fourteen-month there should be a choice between a one-year project or a smaller project and some extra courses. That way, students without research aptitude wouldnt waste their time for one year on a Research project. Perhaps a DD program comprising a B.Tech in any field and a PG in either IT or Management, will fill the needs of the industry perfectly. To prevent brain drain, one has to equip the dual degree students with the knowledge industry wants. Companies need techno-managers will get their pick of fresh engineers with management knowledge. This will also prevent fresh trainees from leaving the job after a year or so to get an MBA. A compulsory 6 month industrial training can also be incorporated into this program.

Loss of Technocracy

Are IITians really the potential technocrats of tomorrow as the media projects them to be ? Is science dying a slow death in IIT ? Is there no glamour associated with being a technical wizzard ? Different perspectives... Vijay Victor DSilva and G.R. Dev share their views...

Theres an inverse relationship between how good something is for you and how much fun it is. Calvin

Calvins perception is in keeping with the views of many IITians today. The prevalent attitude seems to be that anything even remotely academic, or connected with engineering, is uncool.

Is tech enthu dead? Did people ever possess it? Does it decline after one enters IIT? Is it revived in the later years of ones stay here? Is engineering losing good talent to management and other lucrative fields ? These are among the questions which can be raised while taking stock of IITs technology scene.

Curriculars versus Extracurriculars

The primary reason for the apparent demotivation among the general crowd here to look at engineering from a part-of-life perspective seems to be the marked differentiation students make between whats taught in the curriculum and whats carried out as recreation. Meaning the wide gap between the perception of curriculars and that of extracurriculars. After a long and tiring day of lectures and labs, most students are not inclined to indulge in more of the same academic activity. In fact, most look forward to a refreshing change. Whats more, the environment at IIT offers ample scope for pursuing a wide range of extra-curricular activities. You cant expect me to do the same old stuff that Ive done all day. I need a break, says the G.S.Cult. Acads is acads, hostel is hostel, said another senior, effectively summing up why engineering does not leave the classroom.

The attitude seems to be that the academics will get done anyway, but that extra-curriculars need to be worked on. It is foolish to waste ones undergraduate years by not pursuing extra-curriculars. Anybody can win a journal contest, but winning a music event is an achievement, said one freshman who has evidently imbibed the spirit already.

In contrast, excellence in academics is invariably met with a fair amount of resentment. The studious-minded are branded as geeks or muggoos. Students seem to have a sense of confidence that academic excellence is achievable by anybody who chooses to try, but there is a certain importance attached to distinguishing oneself from the crowd in non-academic matters.

This outlook reduces the general curiosity that students would have had towards many interesting matters. Who wants to look at a Merc engine, who cares, man?, said one final year engineering student about the possibility of having Mercedes engines on display at Techfest. This absence of a natural curiosity towards cutting-edge technology is indeed suprising in an engineering student.

Are all our courses benefiting us ?

A major issue of contention among most students is that the course structure in IIT lacks the desired flexibility. Many budding engineers have found after coming to this place, to their dismay, that their glamorous ideas of technology are rapidly dispelled, only to be replaced by dry academics, exemplified by a calculator and pages of formulae. Dreams of building shiny jet engines give way to number crunching and differential equations. This, admit several students, causes disillusionment and leads to a drop in enthusiasm for technical matters.

However, each of us has some aptitude for engineering, and most are naturally excited by anything intellectually stimulating. This is exemplified by hordes of IITians participating in logic and science quizzes at various fests. It is important not to stifle this curiosity. Many final yearites found that independent study necessitated by their seminars roused their interest in their subjects and that they are now more receptive to work in their fields. Many felt that there is a lack of the practical aspect in courses, and that they are unable to see applications of what they study. This is perceived as low utility of some courses. Among students who fail to realise there are practical applications to what they learn, it even results in a disenchantment towards technology as a whole. It is felt that suitable restructuring/revamping of the course structure will go a long way in promoting student interest and enthusiasm.

There is an inherent tendency among all of us to link technical competence with good performance in the courses that curricula prescribe..and this is probably the reason why so much of talent in our students remains undetected, says Prof. H. Narayanan of the Electrical Engineering Department and convener of Tech G.C. Insight had a cack session with him about the (apparently) growing apathy among IITians towards tech-oriented activities and some related topics that have often been the focus of many discussions in student and faculty circles in the past few years. Following are excerpts of the contributions he made to the conversation -

To begin with, Prof. HN feels that the phenomenon of innumerable IITians deassociating themselves with activities in technical skills is not something that has been observed only recently. According to him, such a tendency has always existed among many IIT students and there is no reason to believe that this tendency is on the rise. The reasons for it are quite understandable and obvious. Many students undertake entrepreneural and managerial activities for the sake of maintaining their own self-respect and self-dignity. For most of these cases, the (assumed) indicators of technical proficiency (like grades and CPI) are not very encouraging and so the individual tends to look for other options to feel satisfied about his capabilities. In this scenario, it becomes important to be able to delink

the academic performance of a student from his competence in doing techy stuff. Technical competence is not about scoring well in exams and clearing courses. Its not even about the capacity to learn in closed classrooms. All that is needed to garner technical skills is a good level of intellectual acuteness, which each and every IITian possesses in plenty. So the problem is not really to reduce the aforesaid disenchantment among IITians but to kill this mindset that academic performance is what makes a person technically acute. And that is something really difficult to attain in the current scenario.

Start early : Dont wait to grasp fundamentals

The kind of schooling students in India receive does most of the harm..Rote learning is emphasized and exam scores are given undue importance. Even an exam like JEE is not able to defeat this problem of people memorizing what they learn. According to Prof. Narayanan, learning anything new need not necessarily involve grasping all its fundamentals. A lot of things that a BTech. student learns in the four years here can easily be picked up by a bright eighth-standard kid. He just needs to be allowed the opportunities to do so. The learning curve of an individual is steepest in the age span of birth to five..shouldnt research in the sense of problem solving start at that stage itself ?.

Learning outside the classrooms

The participation in tech activities should, in Prof. Narayanans opinion, occur more in the form of extra-curriculars than through courses and labs. Techfest is an ideal platform for the results of such activities to surface out and emphasis needs to be laid on the grass-root level activities that students do throughout the year. Unfortunately, event management has received much more attention in Techfest than that given to the underlying theme itself. This needs some rethinking from the organisers side.

Yantriki and Tech. G.C. have served well, to some extent, in allowing the technical skills of students to surface out in the form of out-of-the-classroom activities. Whats most important is the fact that they allow the students the freedom to think in their own right and with creativity, which can rarely be attained through mere courses.

The flare of start-ups

According to Prof. Narayanan, the inclination towards entrepreneurship is a good sign being observed among the students. Most of the startups weve seen on campus have been about new technology and the endeavour is worth continuing with. The incubation cell is now about to be revived and we should be expecting some results in this direction soon. The one thing that needs to be given serious consideration is the preliminary examination of ideas, both from the technological and market perspective, which may not have happened in all the cases of the past. As long as the ideas have undergone this preliminary examination, if necessary by experienced entrepreneurs in the area, theres no reason why the institute should not support, both infrastructurally and by lending the weight of its name, their launching into the market.

The new generation of students has this tendency to worry unduly about whats going to happen with their future lives which makes them deviate from what their current purpose is. Why look so far ahead and lose out on the enjoyment one can get by learning in the present ?

The idea is to keep practising, keep tinkering around, keep playing with interesting things...and to internalise what one learns from all these activities. Such internalised information becomes evident when we are trying to solve problems of some kind. In most of the cases, we attain excellence in our activities when we are unconscious of what we are doing.

In the opinion of Shashank Gupta, Tech. G.C. Nominee,there seems to be a strong aversion towards participation in non-academic technical activities amongst a majority of students for the following reasons -

1) Academics already hogs up too much of their time. There is a tendency to do things absolutely unrelated to tech in the free time.

2) Most students feel that our courses encompass all necessary technical aspects and that they should rather expand themselves in other fields.

3) Students do not want to be associated with this superficial stigma of being a geek. There is this desire to be looked upon as a cultural guru by seniors and juniors, rather than being a tech stud.

Techfest - losing its soul

Four down. One round the corner. Several more to come. Techfest has surely become a permanent feature on the calendar of IIT Bombay. But are we doing justice to the theme with which are predecessors designed this event for us? Premal Shah introspects.. The article has been composed using some facts and suggestions from another article by Supratik Chakraborty that featured in a previous edition of Insight (available [here]( )) and ideas floated during a discussion with him.

An average IITian feels proud about Techfest, which in a short span of 4 years, has succeeded in achieving the status of one of the two high points of the institute calendar year and, in its own way, contributed in fortifying IIT-Bombays repute as the leading technological institute amongst its peers. However, in this bright dazzle of corporeal success and the fervent enthusiasm of those involved, are we losing sight of the fundamental objectives which led to the birth of this festival in the first place? Have the means overshadowed the objectives they were subservient to and become goals in themselves?

Techfest proclaims itself to be a forum for confluence of the industry, the academia and the students. Ask an average student who attended TF2001 to name the first thing he recollects about the fest. Chances are you are going to hear about the great gig pulled by the Uri Gellar of India, Deepak Rao, in front of an observant audience gathered at the LT and the disappointed lot in the Convo. Ask him to tell you more about the fest and he will tell you about Angst-angst - Kungst **$%^*&**&, a hilarious experimental play, claimed to bring forth the issues arising due to the impact that technology is having on our culture. He will tell you about the wonderful movies providing excellent entertainment during the nights. And yes, amidst all these about the workshops on the Internet, stocks and some cool competitions in which he participated in and some more which he heard about. And if he remembers, he may also tell you about the rather esoteric lectures delivered by some of the leading figures in industry and economy. Somewhere in between, while recounting the events of Techfest, one begins to wonder if we are getting our priorities right. Tech, which is supposed to be the very theme and the heart of the festival seems to have taken a backseat to things perceived as more popular, interesting and happening.

There is no doubt that Techfest is getting bigger every year, bigger in terms of participation involved, organization efforts required and also in terms of the shows put, the attention drawn and the budgets involved. These are, unfortunately, perceived as the true and only metrics of the effectiveness and success of the fest. As a result, there is an unmistaken trend of the festival adjusting itself to provide for more events that would pull people to it and in the process inadvertently losing out on the technology aspect that lies as its heart.

Techfest was conceptualized with the aims of exposing the student to the breakthroughs actually happening in the real world of industry and technology, things that he can never

know through the mundane proceedings of the classroom, to foster the interaction with the industry at an early stage in his career and above all to stimulate and bring out the creative faculty in him by providing the avenues for the same.

There is no denying that a festival initiated with such pristine ideas cannot succeed but for the large participation from both the student community and the industry. And there should be enough fun and youth events associated with the festival to make it popular and marketable. All tech and no recreations would make Techfest duller than classrooms and beat the hell out of its effectiveness in reaching out to students.

One also would realize that the number of active participants in such a festival will always be rather limited and while the festival must cater to them, it must tackle the difficult task of providing the thousands of average students with enough opportunities to gain in terms of learning and knowledge and, more importantly, keep him interested in the festival. Workshops can only accommodate so many and the real hardcore tech competitions are not meant for the average curious student. And academic lectures dont happen to excite all. It is also true that technologically oriented shows (like the one in TF2000 about Maya which also happened to be decently anchored) do not always get the response they deserve. But we should refrain from providing trite entertainment shows to substitute for mass engagement. In fact we should have more of the industrial exhibitions and shows like the ones by the Air-Force organized during the earlier Techfests which seem to have been discontinued. We need to have more on-the-spot quizzes and competitions like the contraption contests or ones in which an average student can participate without much preparation or background. Non-technical celebrity presence is an excellent idea if it can be made part of the festival mainstream as it was in TF2000 with Pritish Nandy hosting the panel debate or as in TF2001 with Roshan Abbas as the host for the Biz Quiz.

The TF2001 Hijack

In Techfest 2001, we were perhaps guiltier for stooping to provide ostentatious shows for the benefit of the masses. We had Deepak Rao, looming large and pulling the crowds with his remarkable ability to hold the audiences spellbound and tricks which he termed as his experiments (later adequately analysed and explained in a long thread in iitb.general which claimed the performer to be a charlatan) in P-Science. While there were some very interesting and insightful lectures on P-Science by more scientifically inclined speaker and lesser showmen, the performances of Deepak Rao and his explanations of his methods were a sheer mockery of the inquisitive intent with which the P-Science series was initiated. The congruity of the so-called experimental play with a rather long name, that was largely booed by the expect ant crowds pulled in when it stopped resorting to profanities for entertainment, with the theme of techfest is even more questionable. There is no denying the inappropriate behaviour of the audience, of which IITians formed a majority, in the case of the play, and peoples tendency to be fascinated by tricks and tall claims; but one needs to ask the question: are we not playing to the gallery by hosting such shows. They ended up sidelining some excellent workshops, competitions and other events and lectures organized during the same time.

Techfest-2001 might be remembered more for some popular shows rather than the technology content; which indeed will be unfortunate.

The TF2000 Hijack

Just as crucial is the task of making the festival popular enough to ensure that there will be no dearth of monetary resources required to attain the aforementioned objectives. The marketing people associated with the festival have always done a rather commendable job in raising huge funds for such an unconventional festival.

However, when we talk about the funding, there is one particular aspect that needs to be highlighted. Techfest needs to be extra careful while dealing with sponsors who might have covert or otherwise interests to try and tweak events to suit their agenda. In Techfest 2000 we suffered at the hands of Enron who shamelessly plugged Oorja, a Techfest event to serve as its spokesperson. Oorja was conceived to foster a discussion on issues in energy, environment and development in India. It was also meant to explore the role of conventional and renewable sources of energy in the country.

Using its influence as a sponsor, Enron ensured that no speakers or participants whose presence and views would cause a detrimental effect to its image were allowed to be a part of Oorja. The organizing committee initially thought of having Ms. Medha Patkar and Mr. Abhay Mehta to be on a panel discussion that was a part of Oorja. However, the names of Ms. Patkar, a noted environmentalist and social worker and Mr. Mehta, author of Power Play (a highly critical book on Enrons power purchase agreement with MSEB) were disapproved by Enron.

Moreover, out of two lectures as a part of Oorja, one was delivered by the COO of Enron, which obviously painted a very rosy picture of Enron. In essence, the other side of the story was never told and the essential purpose of the event was defeated.

The role of a sponsor, therefore, needs to be clearly defined. Their help in bearing the financial burden of the event definitely needs to be acknowledged. However, such acknowledgment must have its limits. It should be ensured that money does not buy its way into ideas and uses Techfest as a propaganda forum.

More public opinion ?

All said, Techfest is indeed an excellent effort and the people who have been behind these attempts deserve all the kudos. However, to reiterate, we need to be careful with respect to certain pitfalls. Attempts to try and get a lot more constructive inputs, from not only students but faculty members as well, in a proactive manner are sure to help improve things. Of course, the primary onus here is on the organizers to reach out to larger sections of the community well in advance to make that extra effort to involve all those who might have something important to contribute.

The following questions may be taken as constructive suggestions to TechFest (and other IITB event) organizers with the objective of making such events more meaningful and enjoyable for all on campus.

* Can a survey on the perceived utility/necessity of campus events/activities be done among students and faculty to filter out things that may not benefit the largest interests ?

* Can the clear role of sponsors (of campus events) be defined after soliciting inputs from interested members of the IITB community?

* Can the total budget and some itemized breakups of major events like TechFest be made easily accessible to all and people's comments sought in advance?

Please note that this is solely a constructive suggestion to involve the larger IITB community in planning and organizing events, to get their inputs and to improve on our efforts.

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The menace lives on..

In our last edition, we discussed the panther menace in the campus, its implications and solutions. We also spoke about the stand of the institute authorities regarding the matter. But that was a month ago. In the present edition we find out whether the efforts, if any made, have borne fruit. Sachin Sancheti reports.

The Wall -- Not Even A Brick In The Wall

As mentioned in the last issue, the Forest Department had advised IIT to build a boundary wall or a chain link fence, 15 feet in height, around the campus to combat the panther problem. "Covering the campus perimeter of approximately 15 kms would require magnanimous funding from the government. The high cost (approx Rs. 4 crore) of this operation would also mean diverting the resources earmarked for academic research and infrastructure development. Moreover, BMC road and water pipeline would have to be shifted by the state government.", says the Security Department. Still, a boundary wall (approx 8 feet high) along some area is going to be built, chiefly to prevent encroachment of our land. The Security Advisory Committee met a month back and made a proposal on this front. The committee has not met since then and is ignorant about the state of progress and implementation of the proposal. To top it all, this issue comes way down on their priority list. "Improving the condition of the hostels is more important than building a wall", says Prof D.P.Roy, head of the Security Advisory Committee. And so, like all other things, the implementation of this proposal has got lost in the rigmarole of administration.

The Bush-Cutting Spree

A major operation undertaken by the security department during the past month is the clearing of bushes in all the suspected hideouts of the panther. The administration had ordered cutting of all plants, termed undergrowth, less than 3 inches in diameter (in compliance with the government rule that all plants more than 3 inches in diameter are trees and cutting them is a punishable offence). But would it be rational to consider every plant less than 3 inches in diameter as undergrowth ? Though the security department has given strict orders against felling of trees, a few cases of such activity have been witnessed in the campus. IIT Bombay has long been known for its pristine campus and it is saddening for its residents to see something so close to their hearts being subjected to such injury.

The pertinent question is whether the bush-cutting spree that the administration has started owing solely to the leopard menace is helping to reduce the severity of the problem. We spoke to some watchmen on duty near the ACRE dept. (where the order has been executed most intensively) and they admitted to having spotted the panther as late as the last week of August, far later than when the bushes in that area were cut down. So is this extravagant removal of (supposed) undergrowth really helping in getting rid of the panther ? Clearly, it isn't. The security department agrees with this but their stand is that all that they can do for immediate effect is to take temporary measures as these. Moreover, they are confident that the bushes that have been cut down will grow back within a span of six months and so there is no permanent damage made to the campus. The question is -Why undertake temporary measures when they are not serving any purpose ? No answer.

Cattle and Dogs

The plan to put a hold on the cattle and canine population thriving on the campus, formulated by the cattle committee, has now been approved by the Director, but is yet to receive financial sanction. An interesting point to note here is that these stray animals feed on the garbage all over the campus. Doesn't the administration see a solution in that? By proper waste management can't the problem be solved to some extent? "The bottleneck in the clearing of campus garbage is the BMC", says Dean Planning. "The collection of garbage is carried out in a very shabby manner and once collected, it is all dumped near the sewage treatment plant". According to the Dean, participation from the students can also help in this regard. Students should be careful enough not to litter around the campus, particularly in the hostels. If there is a dearth of dustbins, it should be brought to the notice of the maintenance body and a sufficient number should be installed. "A little student co-operation can make a lot of difference", says Mr.Mumdapur, executive engineer(estate). His grouse is the minimal student participation in campus maintenance related activities, which is evidently true. Student support not only makes the cause more powerful but also boosts the morale of the people working towards it. Students should participate actively for preserving the beauty of this campus which will haunt them throughout their lives.

Drop those wires

Fluidics is an area of mechanical engineering which has tremendous utility in critical applications where electronic circuits cannot suit the environmental constraints, discusses Amol S. Gogate.

Till last year, Insight carried a regular feature under the head of Sci-Tech, wherein recent and innovative developments in the areas of science and technology were discussed. Henceforth, we've decided to focus on interesting research activities that are taking place/have taken place within the campus of IIT Bombay itself. Suggestions and contributions of students as well as faculty are invited.

Five students taking one of the lab courses in the Mechanical Engineering department listen intently as the instructor tells them that hell show them a wonderful experiment not included in the course-syllabus. The apparatus is very simple; just a horizontal flat v-shaped conduit with a blower attached to its narrower end and two pipes protruding out of it vertically. As the blower is started, a paper flag kept at one end of the v-shaped conduit starts fluttering.You see, air is flowing to just one side of the conduit. Nows the real magic. As he places his hand on one of the protruding pipes, the enitre flow is diverted towards thr other flag ! Flag-1 is now stationary. Check the apparatus. Do you find anything different ?. The bewildered students start searching for some sensor, some electronic circuit. They find nothing. The apparatus is more or less symmetric and commonsense tells that the flow too should have been more or less equal towards both flags.

The Lab in questiom is housed in ME 110 on the ground floor of Mechanical Engineering department. Five students of Mechanical Dual Degree Third year were there for the Experimental Engineering lab when their instructor, S. Prakash, of the fluid power engineering lab decided to show them this new experiment that, he thought, would generate interest in the usually boring Fliud Mechanics classes.

The lab is full of charts reading amps, diodes,OR gates, AND gates- all the terminology encountered exclusively in electronics. But wait! this equipment has no electronic components. As Mr. Prakash intervenes once again, These are all logic circuits implemented using fluids !

As one tries to examine the amplifiers and diodes and gates, one just cant help but get puzzled. They are just some weird-shaped channels etched on a slab of transperent material (glass or plastic) with another slab to cover it. It is indeed a wonder.

What is fluidics ?

This sub-area of mechanical engineering or, more particularly, fluid mechanics is called fluidics (fluid+logic). For decades now, fluids have been used to generate electricity. Similarly, fluids can also be used to to do the jobs done by electronics. And much in the same way. Just that instead of electrons we have fluids here. The utility is the same, there are no moving parts and the configuration can be as small as a postage stamp or as large as a piano.

How did Fluidics originate ?

The principle of fluidics on which the first fluidic element was developed - the COANDA effect - was discovered accidently by Henri Coanda, a test pilot around 1910. Coanda had an unusual experience while flying when he tried to obtain additional thrust by igniting more fuel in an afterburner. On attempting this, the jet streams clung to the fuselage, nearly destroying the aircraft! No reason for this phenomenon was found till 1930 when Coanda, while taking a bath, noticed that water from the tap clung to his arm. He reasoned that this was similar to the fuel jet clinging to the aircraft and must have been caused by the partial vacuum on the arms side. When the arm was moved towards the water, the air between the arm and water stream was rapidly removed which caused the vacuum.

Modern fluidics began with the realisation that Coandas theory had tremendous potential. Much of the initial impetus came from the U.S. Space programmes where Fluidics offered a solution to many problems of operating under severe conditions, in outer space under radiations. In India, IIT Bombay was the first center to initiate research in this area.

How does fluidics beat electronics?

Fluidic devices beat their electronic counterparts in some very critical applications. They have no inherent temperature limitations and ceramic based ones can withstand temperatures upto 2000oC. Moreover they are not affected by nuclear radiations and magnetic fields. So control systems using Fluidics can now be housed, unprotected, right at the core of a nuclear reactor or in outer space in high radiation environments. Manufacturing fluidic elements is quite a complex job since devices are often very small and extremely sensitive to dimensional changes. A typical element, for example, may have a power nozzle and control ports, each measuring only 0.25 to 0.5 mm or less. So surface roughness effects play a crucial role in performance of the device.

Fluidics@IIT Bombay

Fluidics was introduced in IIT by Prof. Subir Kar in 1969. Since then, room no. ME 110 was the focal-point of research on Fluidics.We have produced 4 Ph.D.s, 25 M.Tech students and many B.T.P.s in Fluidics, says Mr. S. Prakash proudly. The Fluidic Artificial Respiratory System is another path-breaking application in Bio-medical engg. It has the potential of replacing the existing electrically or mechanically operated units. Again, it consists of an intricately etched and sealed channel in a transperent thick sheet and a rubber bladder.The power jet is attached to the lungs side during inhaling. When the

prescribed pressure is reached, it gives a feedback signal and the jet is let out i.e. exhaling cycle begins. This was tested successfully on animals at the K.E.M. hospital by Prof. Subir Kar.

Why is Fluidics dying off ?

Why is fluidics not a part of our theory or lab courses ? To this question Prof. D.P. Roy of the mechanical dept. replies,Prof. Kar is no more. So who will teach or guide the research? One cannot miss the feeling of a great loss in his tone. Prof. Kar was here as Professor Emeritus after his retirement. But, as of now, research in Fluidics or rather Fluidics itself at IITB is dead, says Mr.S.Prakash, dissappointment writ large on his face.

And who would feel teribbly sad ? One just needs to have a look at the projects - The Fluidic automatic stamping device, The Fluidic position sensor, various Fluidic Thickness gauges and lots more. Is it not the collective responsibilty of the students ,the faculty, all of us at IITB to prevent such valuable research done right here from dying a silent death? We are here at the Indian Institute of Technloogy, a premier technology institute. And if we cannot keep up and build on the research in a field that has such tremendous applications, who else is going to do it ?

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Questech

by V. Subramaniam and Sidhartha Verma

Did you know that when glass breaks, the cracks move at speeds upto 3000mph. Wonder why you dont hear a soft sonic boom?
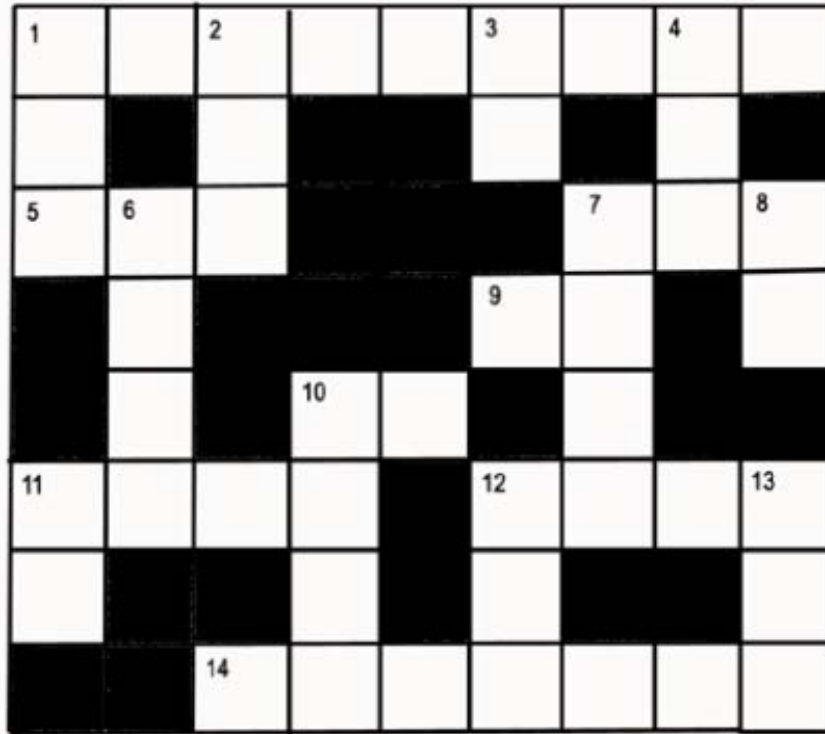
Most of us are interested in science, puzzles, quizzes etc. But unfortunately these bring back bad memories of academics and mugging. Well, here is an opportunity to explore that dormant talent in you, while having fun and winning points for yourself and your hostel.

Tech GC is back in its second year with a brand new look, more exciting events and bigger prizes. So put your thinking caps on and Let your Light Shine.

We have numerous events lined up for you like exposition contest and original idea presentation contest. We will soon hijack a new group and convert it into an open forum to discuss puzzles, trivia, etc, the only constraint being it should NOT be academic.

Questech is a monthly quiz which will appear in every Insight issue and will also be found on our website. The first correct answer will win a T Shirt and also points for his/her hostel. All you have to do is mail the correct solution to techgc@cse.iitb.ac.in Many of us spend our Sunday mornings toiling over Mindsport. Well, here we give you better problems and prizes too. I promise not to publish your goof ups; theyll be used for personal sadistic pleasure only. So awake all ye crossword freaks and take a peek at this numerical version.

CROSS FIGURE

Look who's being paranoid !

In the last issue of Insight we discussed about the new policies undertaken by the institute with respect to freshers and some other related issues. In this span of one month, a lot of incidents have occurred and a variety of opinions have been formed with respect to the new developments. G.R. Dev and Prateek Singh present their viewpoints.

Isn't it worrying that a great many seniors don't want to talk to freshies? Isn't it surprising that they claim to be afraid of doing so? There has been much ado about the alleged protection afforded to freshies, their "abuse" of this protection, and the accompanying decline in interaction between freshies and seniors. In a recent poll (see box), over half the students felt that institute policies and over-reaction by seniors together have led to decrease in interaction between freshmen and seniors. Almost all the others felt that it was solely the institute policies which were to blame. There is widespread resentment against freshmen, and a disinclination to have anything to do with them, much less interact. This is an unhealthy trend and something must be done soon to curb it.

Freshmen have no idea of the way things happen in IIT. There is a whole social system in place, with mannerisms, rules, hierarchies, standards, and attitudes. The first year is a period of adaptation to this unfamiliar system. This unfamiliarity often leads to discomfiture among newcomers. As seniors, is it not our duty to expedite this process of adaptation and make it easiest for all parties involved? The student mentor progamme was initiated this year with such objectives in mind. However, many seniors do not know about its existence. Among those who do, the majority either feel that it requires better implementation, or that it is a worthless idea.

The contention that there is no incentive to talk to freshers any more, in comparison with the "risks" involved, is unjustified. One cannot be hauled up for ragging, for talking to a freshie, any more than one can be fined for speeding while driving under the speed limit! Seniors argue that the risk involved is too great: "All it takes is one freshie to complain that I ragged him, and my life is finished". This is nothing short of paranoia. Freshmen have to spend four or more years here, and it is in their best interest to develop and maintain good relationships with seniors. Why would they jeopardize this relationship by making unjustified complaints?

The moment one becomes a senior, it seems customary to develop an attitude of irritated exasperation towards freshies, the fact that they are here, that we have to share this campus with them, that we need to extend to them all them all "our" facilities. The freshman of yesterday, wanting equality and demanding facilities, changes colours overnight as he becomes a senior, begrudging his immediate juniors all the things he himself hankered for.

Should one begrudge freshmen the right to use the computers here, or any other facility, for that matter? Cannot priorities and rules can be developed to share limited facilties? It is impossible that the best brains in India cannot develop guidelines to share their computers, or any other facilities, with their juniors. In this context, the large majority of

students polled felt that seniors should be given priority for computer usage, and slightly more than half felt that this should be the case for other facilities too!

Issues of freshers "misusing protection" and "threatening seniors" with reporting them of ragging, have been encountered. A common complaint is that in such a situation, hostel councils have no power to interfere and sort the matter out. What is the reason for this? Is it that the institute does not trust the councils? Is there a fear that councils will suppress possible ragging cases and sweep them under the carpet? This issue must be addressed!

At the same time, as responsible seniors, rather than use this as an excuse to stop interacting, a more mature approach is to interact prudently. One can always back off when encountering such behaviour. Freshmen displaying such behaviour only make life much harder for themselves. They will have to face the fact that seniors now will not interact with them, or give them their books, or let them into their social circles. This will serve as adequate punishment. However, most freshmen are rather nice people to know. Why not be nice to them? Blindly stopping interaction with them is detrimental to hostel life at IIT. The question is, do we care enough about that? Or do our egos get in the way?

A lot of water has flown under the bridge since the earliest outbreaks of freshiephobia. This Fifteenth of August marked the freedom of not only India but also, to a great extent, that of the freshers as well as the seniors. And now that the highly strained relations between the freshers and seniors have finally onset the path of gradual recovery, the question to be asked is, did freshiephobia actually exist? Or was it just another classical example of mass hysteria.

Lets start with what the term "senior" means. Some people have, rather emphatically, claimed that it means "nothing". I, for starters, beg to differ. Seniority does not imply a master-slave relationship. It simply means that being a senior by age and by having been in a place for a much longer period, one would expect a minimal level of respect from new entrants and that's all! And that's not asking for too much.

Its here that the over-pre-proactive role played by the institute became the undoing. New ordinances were floated almost every day. Statements like "a senior must never feel that he has any authority over the freshies" were given by the DOSA himself. Although sounding innocent enough, it further compounded the already complex problem. Infact, be it cutting off of H2 and H5 from LAN or an individual incident, where a secy received a personal warning mail from DOSA (gulp!) for being "too stern" to a fresher regarding a then prevailing hostel rule, there has been a general feeling among the seniors that institute overdid things. To a question asked by InsIghT in a survey, a majority 64% said

that efforts made by the institute, though justifiable, went overboard. Whereas, a second majority of 18% said that they were not justifiable at all.

The interaction between freshies and the seniors has surfaced as the main victim. Infact 51% of people surveyed felt that institute policies and also overreaction on seniors' part has been responsible for it. Another 38% felt that only the institute policies are responsible (refer to fig 2). The seniors do tend to take the safe way out, which is, to simply avoid talking to freshers, for who can predict on what a fresher might take offense. But how much can you blame them when the institute has been taking a stand of guilty until proven innocent on such issues. Besides, in itself, freshers find it hard to adjust to a new environment. Over this, if they find no senior to "adjust" with, it's most likely that the next time they will face eccentric seniors, it will be in an interview. More plainly, where, if not here, are they going to learn how to react appropriately in difficult situations?

Hardly anyone in IIT advocates ragging. But institute perhaps in a bid to prevent even the thoughts of the three-letter word has ended up sending all kinds of wrong signals to both, the freshers and the seniors. Freshers just need a feeling of security and support and not appeasement that the institute has been dishing them out. And so now, if freshers tend to misbehave, I really don't blame them. Hopefully, authorities out there are reading this. You have tried a lot of things without success. Now try listening to us, for a change..

Spic Macay

SPICMACAY is a movement that was started by Prof. Kiran Seth of **IIT Delhi** with a few students and colleagues there. The basic aim of **SPICMACAY** as the name suggests is the promotion of our rich cultural heritage and exposing students to the magnificent experience of classical music.

The emphasis is also on educating people (mostly students) about the Indian clasical music and art forms through lec-dems, workshops and concerts by the talents who actually represent their respective fields. **IITB** was fortunate to witness and host **VIRASAT**, a series of concerts,workshops and lec-dems in the last 2 years.

The best thing about **Virasat 2000** was that the artists performed in the students hostels and not in places like LT or the convocation hall. This is probably the best way in which Indian music can be communicated to the young people that is when there is personal interaction between the perfomer and the audience.

This year it will be no different. There are performances by Dr. N.Rajam (Violin), Shri. Prabhakar Karekar (Vocal), Shri. Niladri Kumar (Sitar), Ustad Ghulam Mustafa Khan (Vocal), Shri. Ronu Mazumdar (Flute), Shri. Satish Vyas (Santoor), Smt. Darshana Jhaveri (Manipuri Dance) and Pt. Dinkar Kaikini (Vocal) among others; a talk by Shri. Sh. Govind Nihalini and a yoga workshop by S.P.Nimbalkar. The most likely dates for **VIRASAT** are **29th September to 5th October**.

Pancham- the Legend

R D Burman, or Pancham, as he was lovingly re-christened by Ashok Kumar, was perhaps the best Indian film music ever possessed. Gaurav Sharma looks into the musical life of the maestro and discusses various aspects of his music.

The Man

RDs tunes were in the film music scene ever since he started playing the mouth organ for his father (S.D.Burman)s orchestra. RD played the mouth organ in the song Hai apna dil to awaara. His compositions for SD include Are yaar meri tum bhi ho ghazab, Sar jo tera chakraye and songs from the flick Aradhana. Though he was supposed to have been launched by Guru Dutt in 1958, RD entered filmdom as an independent music director under the banner of Mehmood Productions with the film Chhote Nawab (1961) followed by Bhoot Bangla.

His career took an important turn when he got Nasir Husseins Teesri Manzil in 1965. Interestingly, both Shammi Kapoor and Nasir Hussein were keen on the good old Shanker-Jaikishen for the films music. However, on director Vijay Anands insistence they agreed to hear out Panchams tunes. When Pancham started playing, Shammi Kapoor broke into an impromptu dance and Nasir Hussein signed him for six films straight away ! His entry into the music world was no less than an explosion and, as Kalyanji of the Kalyanji-Anandji duo rightly puts it, everyone experienced the RDBomb much before the world saw RDX!

Right throughout his lifetime, he composed songs that were instant hits and nothing but trendsetters for generations to come. His list of movies (with corresponding directors) include Gulzar (Parichay, Ijaazat, Khushboo), Ramesh Sippy (Sholay, Shaan, Satte-pe-Satta), Vidhu Vinod Chopra (Parinda, 1942-A Love Story), Nasir Hussein (Yaadon Ki Baarat, Hum Kisise Kum Nahin), Rahul Rawail (Love Story), Ram Gopal Verma (Drohi), Raj Kumar Santoshi (Ghatak) and others.

The Style

RD was known for composing music twenty years ahead in time. People in his field still find it difficult to understand how he could be so versatile and still be so innovative and leave his signature on each and every composition. Its difficult to regard Panchams music as a characterisation of any distinct genre. It is said that Pancham used to compose his tunes in a split second and then nourish his own compositions. During his last days when he was recovering from a cardiac arrest he composed as many as 2000 to 3000 tunes on the hospital bed ! He was also one of the first ones to initiate the idea of Fusion in Indian compositions.

RD could create melody out of almost anything. It could be a cup and plate set, a spoon and glass set, empty soda bottles or even school benches ! It is believed that the songs of

1942-A Love Story used no electronic instruments at all. Asha Bhonsle says that people used to attend his recordings to see how the fire in his music was actually produced in the studios. Once even the musicians were on strike but RD recorded a complete song without the musicians alone by putting in his voice and playing a constant rhythm for the interlude : on listening to the song one can scarce imagine that this it had been created without using any musicians. (For those interested, the songs Hum Dono Do Premi from Ajnabee).

The Mentor

RDs being the best was also because of the way he used to help others and give chances to the newcomers. RD played a key role in Kishore Kumars rise to fame. He was also instrumental in Rafis comeback in the 70s with the filmfare award for Kya Hua Tera Waada. Singer Abhijeet was packing his bags after struggling in Bombay when he received a call from him to sing for Dev Anands sons debut film. Abhijeet also got to sing with Kishore Kumar, his idol, in the same film. Other first-timers who prospered owing to his support include Sudesh Bhonsle, and Preeti Uttam (Masoom). RD was considered lucky for the launching of filmstars sons. Examples include Sanjay Dutt (Rocky), Sunny Deol (Betaab) and Kumar Gaurav (Love Story). Among those who have played for or assisted Pancham during his music career are Pandit Shiv Kumar Sharma, Pandit Hari Prasad Chaurasia, Louis Banks, Aadesh Shrivastav and the worlds greatest percussionist, Trilok Gurtu.

The Multifaceted Artist

RD, besides composing music, also sung a lot of them. The rough-edged voice that marked his singing has been tried by many singers, but in vain. The song Mehbooba-Mehbooba (Sholay) was supposed to be sung by Asha initially ! Though Pancham mostly sang fast or peppy numbers his rendition of a few sad songs is simply soulful.

It is worth mentioning that RD has even acted in a few films. He played the role of a supporting actor in Bhoot Bungala and acted along with Rajendra Nath in Pyar Ka Mausam. Such was his popularity after Bhoot Bungala that Mehmood approached him to play the lead role in Padosan (which was later played by Sunil Dutt) !

The Star

His fans..well, the list is absolutely endless ! Not many people know that Sanjay Leela Bhansali had spoken to RD for the music of Khamoshi before he died. Salil Chaudhary once said that Pancham was the best thing that happened to film music in the last twenty years. It is said that there was a time when the whole nation grew with his music.

RD was the first choice of many actor-turned directors like Shekhar Kapoor (Masoom), Shammi Kapoor (Manoranjan), and Amjad Khan (Chor Police). Manna Dey used to tell SD that he had become a great admirer of Pancham and that he loved his treatment of comic songs. During their days of struggle both Illairaja and S P Balasubramanium used

to discuss only RDs songs. Many music companies were launched and grew under the shelter of Panchams music. (PAN Music, Polydor, etc.) For budding talents in the field of music the R. D. Burman Award is given along with the Filmfare Awards and A. R. Rahman was the first recipient of this award. His death came as a blow to many and his influence on an entire generation is shown by the fact that there was an editorial dedicated to him in The Times of India after his death.

In his later years Pancham once told his assistant that he would come to the top position and will remain there for the next 15 years. With the success of 1942,A Love Story, undoubtedly Pancham did attain the top position when he died and today when most of the music directors and DJs (who copy his music and style and produce those pathetic remixes-about 60% remixes are RDs compositions) survive on his music and most of the music companies earn huge profits selling his collections, Rahul Dev Burman has indeed made a mark on the Indian Film Industry.

Some of the most popular songs by R.D.Burman :-

1. O haseena zulfonwali..

2. Baahon main chale aa

3. Chura liya

4. Dum maaro dum

5. Tumse milke aisa laga

6. Huzur is kadar

7. Bachna ae haseeno

8. Ek ladki ko dekha

9. Pyar humein kis mod pe le aaya

10. Saagar kinaare

11. Chingaari koi bhadke

12. Mere saamne waali khidki main

The author is a fourth year student of the Mech. Engg. dept and, of course, a great fan of Pancham da. The composition is entirely original. Contact - gauravs@me.iitb.ac.in

Where has all the money gone? (Broke-and-cant-be-fixed-dept.)

-B. Aditya

If you havent been reading your books, balance books i.e., you might not know that the market is down. Companies are posting losses. No one wants to hire people. Production is low. People have lost the enthu to work. In other words, if you have a job, keep it!! Dont ask for money though..there isnt too much of that going around. Sermonizing apart, it just dawned on us during our ramblings on these oft-discussed topics that companies without money implies that they wouldnt be passing too much of it around now, would they? If you still havent caught my drift, read your lips - SPONSORSHIP! And companies without money means that fests like Techfest and Mood Indigo will be hard pressed for cash. What would the ramifications of this be on our festivals - will they survive? Do they have the money this time around? Will budgets plunge abysmally? To answer these and many other questions, we decided to put these questions straight at the two head honchos - Handy Ramesh and NoGrub Chandra. Here are excerpts from our interviews.

Q: So Handy, is the market affecting you?

HR: Not really. In fact, it suffices to say that we are working around the problem. In fact, it isnt really a problem. Techfest never needed the money - we just pretended we did!!

Q: Pretended you did? Dont you need oodles of cash to get air conditioned tents for all those companies this year?

HR: Oh that! We have avoided all those problems this year. Companies are being told to either come here with their own air-conditioning or not at all!

Q: Dont you think they will just choose the latter and stay away?

HR: OF course not. After all, we are targeting companies started by our alumni and ex-Techfest managers. They have a debt to Techfest. After all, how else could all of them have lost 40% attendance in all courses and still lived to tell the tale.

Q: Hmm. What about computers? Isnt Techfest heavily dependent on computers and connectivity?

HR: That is true. But if we have the best brains on campus, we should use that right. So this time, everyone will be given 30 rupees and the address of the closest computer parts

scrap yard. Whoever can salvage a computer and get it working again will win the first prize from our Potato-chips-are-not-silicon dept.

Q: Prize? First prize? You mean you are giving out prizes?

HR: What rubbish!! The very glory attached to winning a mention in Techfest ought to be enough to enthuse anyone to participate. We also provide all participants with a signed letter saying their certificates will be mailed to them when the printer reduces his prices. And THAT is a lot.

Q: You seem to have it all thought out. What about hardware - mikes and things....surely you need all that ?

HR: We do, we do. But through my rapport with the professors in the electrical dept., I have managed to convince the instructor of the second year devices course to make everyone design and build an amplifier and a mike - with the added clause that you either get an AA or fail! This plan is fool-proof. And we get more than 50 nice amps and mikes. Cool, na?!

Q: I assume after all those cost cuts, you will at least use the LT and the convo and the SAC or are you planning to have Techfest out in the open?!?

HR: Well, normally we have to pay for the LT and convo. This year though, we have an ingenious plan. After all, that is insti property. So we will get the insti to give us their use for free - and allow the insti to put up banners in return! We have already spoken to the institute and they are amenable. Banners like MA104 - No limits. and CH-102 - Chemistry between you and the prof. and Attend classes. Not to the lasses are already planned. They will be put up all over the LT and convo and will seek to boost attendance in the courses the insti runs. I think this is a fair bargain. Also, Convo and SAC have prime places for our ticket counters. We should turn this into one little money-spinner, eh?! ;)

So, we left him there - Handy as usual. Let us see how Techfest 2002 shapes up. We then plodded over to NoGrub Chandra who was recuperating after a string of shocks where even StaffC refused to sponsor MI. He had thence given up eating and hence the re-christening.

Q: So, NoGrub, I heard there isnt going to be a canteen this year at MI. Is this true?

NGC: Yes. Sad but true. We are making alternative arrangements. Every college that is invited will be told to pack their tiffin boxes before they set out for MI this year. We have also tied up with a group of dabbawallahs who will deliver food for all participants from their homes. At a nominal cost of course...

Q: What about the ProNites? I hope they will be as big and bad as before?

NGC: Well....there might be a few changes....firstly, all the booze and cigarettes we get off people that enter will be resold to them when they leave. We hope to make a tidy sum there. In fact, we plan to even announce on the first day that cigarettes will be allowed in order to get everyone to bring packs!! As for the audience, we are getting student volunteers to patrol the crowds and eject anyone who makes a noise. That college will be penalized and will have to make their own certificates.

Q: You mean you are actually printing certies??

NGC: Yup. We are using the Insti printing press and in return for their gracious service, we will put all the names of the printing press workers on the back of the certies. Look at the recognition they will receive. Of course, there might not be place for the name of the participant - but it is the CERTIFICATE that matters.

Q: Are you having any workshops this year? Ball dancing?

NGC: No. This year is different. We have only one workshop on money saving. And since we have all the resource persons on the MI team itself, we dont waste even a paisa calling someone from outside and paying for mineral water! Neat idea, isnt it?

Q: What about all that infrastructure? Dont you spend a ton on that?

NGC: Not this year, we wont. All transport will be arranged using cycle-rickshaws and cycles. Which is why we will be setting up infra from December 1st itself. Qualities might suffer - but it isnt called infrastructure for nothing!

We couldnt take it anymore. After all, we had spent valuable cash treating these guys to dinner in order to hear them speak. But it is the truth that matters . And it is the truth that we bring to you - as always. Insight strives for this and since we are also hit by the cost crunch, you will all have to pay a small amount to get this copy and read all this. You must be out of your mind!

DISCLAIMER: This article is a work of fiction - my imagination is the sole source for all this balderdash. Techfest 2002 and MoodIndigo 2001 are doing well and we wish them the very best of luck. Anand Ramesh and Saurabh Chandra are honourable people who will not beat me up even if I told everyone the real truth about them. (Of course, if you come up on any juice, send it in to us and I will ensure tis printed! And thats a broke mans word!)

<u>NOTICE</u>

IIT Bombay has made arrangements with M/s. The New India Assurance Company, Mumbai to provide accident insurance to all students of the institute. The salient features of the accidence insurance coverage are -

Premium amount to be paid by each student : Rs.126/- annually. Assured Benefits : Rs.1.5 lakhs per student for Personal Accident and Rs.60,000/- Medical expenses per student. 100% of the sum insured. A detailed copy of the accident insurance coverage is kept with the Hall Managers of all the Hostels.

The premium amount will be collected from you at the time of collecting fees for the spring semester i.e. in the month of December 2001. As such, you are requested to note that you will be required to pay an additional amount of Rs.126/- towards premium in the spring semester. Note that your insurance coverage will start from August 2001.

However, for the subsequent years, the premium amount will be collected at the time of paying Institute fees in the autumn semester. Payment of premium is compulsory for all the students.

(Prof. M.S.C. Bose)
Dean, AP

(Prof. U.B.Desai)
Dean, SA