Rules rules and more rules	Foreign Affairs	IIT Bombay's 50th year - A lookback
There are so many rules we follow but have you ever wondered why? **Page 2**	A glimpse into the lives of exchange students in IITB. Includes two interviews. **Page 3**	A colour centerspread about the little known facts of our institute and its 50 years of heritage. **Pages 4 and 5**

Academic Dishonesty

According to an informal survey, students rated IITB as (on a scale of 1 to 10) 7 in Academic Excellence, 9 in Cultural Activities and 5 in Academic Integrity. Why is it that only a fraction of us (students) do assignments honestly? What is the reason behind the lack of attention in classes? Why can we pass courses by studying just one day before exams? As a starting step, InsIghT interviewed a number of professors across departments with an aim to gain perspective on this problem.

> "I do hereby certify on my honour that I have derived no assistance during the time of this examination from any source whatsoever."
>
> – Princeton Honour Pledge.

"What's yours in also mine"

"*I come across assignments being cogged pretty often,*" says Prof. A. Sanyal (CSE), who, while giving a warning, makes sure that those involved get no credit for that particular assignment. Although he adds, "*It is very difficult personally to keep track of such cases and one has to rely on TAs who are largely responsible for checking the assignments.*" While some professors take strict action, some feel that awarding of XXs and FRs is too harsh and others adopt different approaches. "*I generally do not give assignments for evaluation. Problems given are discussed in class. In assignments, if I suspect that there is copying I try to ensure that the student knows the material,*" says Prof. K. Rustagi (Physics), who otherwise awards no credit for cogged exams. Cogging is not restricted to assignments - "*I made a student re-do his BTP when it was found to have been lifted from elsewhere,*" states Prof. A. Contractor (Chemistry). With a similar view, Prof. S. Suryanarayanan (Mech) says, "*Students found cogging in a BTP lose me as their project guide.*"

"*Copying of experimental data for projects has never been detected,*" says Prof. K. K. Rao of the School of Biosciences, a school not admitting its students through the IIT-JEE. He also adds, "*Copying of text invites a penalty of rewriting the project.*"

An Honour Code

Undergraduates at foreign universities agree to conform to an academic honesty policy called the Honour Code. Students write and sign an honour pledge, the breach of which invites serious penalty including expulsion. "*Honouring such a code is not in the culture of the students,*" says Prof. Suryanarayanan who believes that such a system will not work. Taking it further, Prof. Rao feels that the sympathetic tendency of the faculty will hamper it. "*It might work if there is concerted effort on behalf of the faculty to enforce the punishment,*" he adds.

Many students believe there is nothing wrong in cogging assignments or giving them to a friend to be cogged. The survey reveals that if harsh punishments are enforced, most of us would attempt the assignment on our own before copying it.

What's wrong with us?

Is IITB really an institute of excellence? Insight takes a look at two student issues which need acknowledgment from within and immediate reform - dishonesty and lack of motivation

Motivational Crisis

All of us agree there is a moral vacuum in IIT. But there is a general lack of motivation that seems to pervade in most activities across different fields. We have approached the issue of motivation from two different paradigms - 1) a basic lack of interest in academics 2) doing activities for 'résumé value'. To quote Prof Ballal (MEMS), '*Students are hawking the present for the future*'.

Manifestations: Less than 30 percent of a class in any department does the assignments honestly. Proxies are rampant when the class is large and/or when the professor is known to be a lenient person. Fear of XX does have an effect on students; only cause them to come to class and sleep. The last couple of years has seen an inordinate increase in the number of organizations and posts, many of which are clerical in nature but seem grand on the résumé (E.g. Lights' OC in PAFs). This rush is leading to a decrease in participation in cult and sports and a simultaneous reduction in quality.

Reasons

'We can get away with it': Or at least that's what most IITians think. The IIT system doesn't seem to be capable of checking these infractions, perhaps due to the sheer magnitude of the problem. Punishments that can have a deterring or reformative effect are hardly dispensed by the instructors. Most students believe that with minimal effort, supplemented with cogging and proxies they can sail through a course and get a BC or BB.

'15/100…..pass ho gaya': Professors know that a majority of students will not be able to answer difficult questions and a number of them repeat assignment questions or even previous years question papers lest there be many backlogs. "*If the teacher finds that students are unable to cope, the course inevitably gets diluted,*" says Prof. Rustagi. One can also ascribe this fact to professors being thoroughly disinterested. As Prof. Ballal says, "*It takes time and effort to make a challenging question paper*". One solution he suggests is giving out strict punishments for a few years: give more FF's, give more XX's and severely penalize dishonesty. Leniency normally results in students taking calculated risks: the chance of being expelled when caught copying is really low because there is no precedent of it.

'The balance sheet of life: Résumé': Having a résumé with balanced academic and extra-curricular achievements is seen as crucial to securing the dream job four years down the line. Students however are influenced by misconceptions that merely being a CG or OC is a ticket to a good job as if it were a convenient subterfuge from academics. That this is hardly the case is supported by the recent BCG and McKinsey shortlists where the percentage of candidates with a CPI>8 were 90% and 70% respectively.

'Brand IIT ': The rapidly expanding service sector demand for people with good quantitative ability is at an all time high. IIT with its brand value seems to be the ideal target for companies. They would rath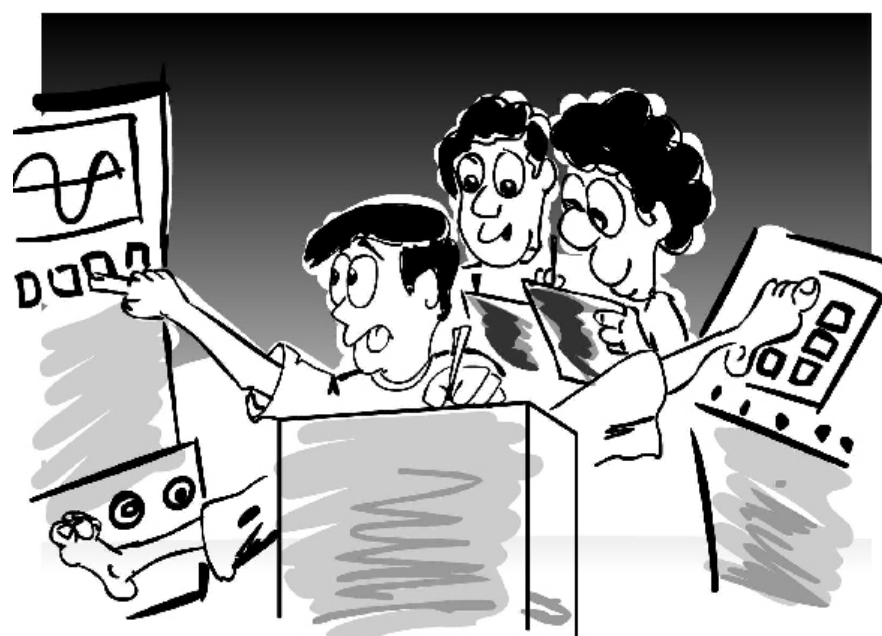er hire an IITian with a low CPI rather than someone from a relatively lower ranked university. This means that students need hardly be good engineers: after all one need not perform structural analysis on the stock market right?

'Weak branch': Most students do not get the branch of their choice. Since there is no real interest in the branch, academics also tends to dip. Motivation wanes from lack of self esteem- the very chap who is the hero of his town feels insignificant here because he's in the 'wrong' department. Most seek glory in organizing. The current third year batch has 35 managers, CGs and institute post holders in a class of 85. A reason for this phenomenon is also the perceived notion of what is required for a job: a CS 7 pointer is 'qualified' and likely to get a well-paying coding job; whereas core jobs for civil and metallurgy departments are hardly desirable opportunities.

'Self Esteem': This lack of self esteem is sometimes the reason behind cogging and copying. While most students hide behind the façade that '*if we study we can do it*' most realize or feel that after some effort they will still not be able to do it. Might as well cog and get better grades!

'Role models & collective culpability': Most juniors idolize MI CGs and Techfest managers; the perceived glamour is a by-product of adept marketing. Students feel more satisfied planning an event at coffee shack rather than attending a lecture. Misconceptions are also handed down from seniors: about branch, CPI and job requirements.

'Boring Lectures': "*Some students come to IIT considering it a stepping stone to a non-technical career and are not motivated towards their particular subjects,*" says Prof. Rustagi. Were all instructors at JEE

01

- Shaunak

IIT has rules. IIT has many rules. And these rules seem to multiply with the passage of time, slowly insinuating themselves into our lives, taking over our souls and laughing wickedly at us. Some are modes of a larger society passed over time. Some are recent additions. Both ways, these are diktats that have merged into our conventional wisdom and their presence needs to be questioned. At the same time let us, as students, ask ourselves whether we consider ourselves fit for the freedom that we demand.

Institute

0 2

What a mess!

Many (in fact most) of us hate them. But they continue to be a part of our lives. Why is it compulsory for a student to be a member of her/his hostel's mess?

Rationale

• Non-messing students might eat in the mess without paying. Students aren't particularly honest in this part of the world. Keeping track of messing and non-messing students is a difficult task, and will necessitate an increase in manpower.
• If messing were optional, a large number of students would opt out, leading to a loss of economies of scale. This additional cost would have to be borne by the remaining members of the mess.
• If it were made optional, students would keep changing their minds about being members of the mess each month, leading to a high variability in demand, necessitating the quantity of food made to be constantly re-examined and estimated.

Comments

If students were given the option at the beginning of the semester only, the issue of variability would cease to exist. The need for additional manpower may be circumvented by providing infrastructure to make swipe-card identifications possible at messes. We already have SIM chips on our ID cards. All we need are the readers.

Too many rules! And why?!

Some of the rules that we live by need to be constantly examined and questioned for purpose and relevance. Rylan and Ashwath observe..

> *"The desire and effort to overthrow oppression has been sanctioned by humanity and is the highest aspiration of every free man."*
>
> **- Nelson Mandela**

"Student!"

Many a time have we tried entering the hallowed portals of IIT, only to be stopped by the fabled gatekeepers. The piercing question as to the purpose of our entry has but one correct answer – *"Student!"* Young or old, big or small, this password gets you into all doors - except in the rare case when extreme suspicion causes the watchman to ask you the trick question – '*Hostel number?*'. And who can forget signing in the '12-4am exit/entry' register, and the extreme seriousness with which it's done?

Rationale

• Only an actual student of IITB would readily answer 'student' which is something an oursider would not immediately think of. Knowing hostel etc. is also something only a student would readily know.
• The night register is kept on account of parents expecting the institute to be responsible for their children's whereabouts. Passage to and from the campus is monitored between 12am and 4am primarily because there are very few legitimate reasons for students to be out at those times.

Comments

While the night register does keep a track of student movement at 'suspicious' hours, it seems like a rather perfunctory attempt by the institute to placate parents, to allow them to say '*We tried*'. And then again,

where does one draw the line? How far do parents really expect the institute to be responsible for their legally adult children?

Crossovers

A boy (or girl) is strictly forbidden from entering a girls' (or boys') hostel, after the clocks chime 10pm.

Rationale

• Girls are uncomfortable with guys hanging out in their hostel overnight. By and large, it is safe to assume that guys wouldn't mind girls being present over night, but parity must be maintained.
• Hostel wings are yet to evolve into a place where your neighbours would respect your right to privacy. Gossip and peeping toms are sources of unnecessary discomfort.
• A few years back, there were a few incidents of commercial sex workers visiting hostels during late hours.

Comments

For most, the 10pm deadline is merely an inconvenience. The night holds no mystery, making such things possible that would never happen by light of day. Even if people of the opposite sex staying overnight breaches comfort zones, why is the deadline 10pm? Why not 11pm? Or later like in other IITs? It has just been the status quo, and is something very amenable to change.

Sin City

A quick mention of the official institute policy on certain vices.

Alcohol

In no Government institution in the country may alcohol be brought or consumed within the confines of the institution, for

recreational purposes. IIT is a government institution. No professor, staff member, or student is permitted to consume or possess alcohol on campus. Drinking on campus during Valfis is a strict no-no.

Smoking

The rules that apply to the country at large apply here too. So smoking in the hostel area is fully sanctioned, though it is prohibited in some parts of the academic area.

Comments

More than 70% of students in IIT are over the legal drinking age. Further, looking at this from the staff/faculty perspective, it seems even more unfair. Here are adults and respected professionals, being dictated terms in their own homes! Though, this does encourage the spread of a healthy lifestyle among all, and '*is for our own good*' – like tetanus injections, it dismisses our right to choose.
However, there have been incidents of students indulging in antisocial, destructive behaviour under the influence of alcohol. Like always, a few rotten elements are the reason the entire community suffers quarantine.

Freedom and Responsibility

We do not live in an ideal world. In an ideal world, we would all be free to do as we pleased. Some form of all-pleasing anarchy would ensue and we would be happy. These rules are compromises. They have been instituted primarily because the freedom given to students has, inevitably been abused by a few. And unless we learn to accept the responsibility that comes with the freedom we will always be short of justifications towards liberalization. It's just a practical simplification to lay down a blanket rule, rather than weed out individual cases. "*We are not the moral police*," as Prof. Gopalan said, "*we are here to run an institute*."

(With inputs from Prof. Prakash Gopalan, Dean of Student Affairs)

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coaching centers interesting? How is it then that no one complained about instructors then? The reason could be that we all knew that unless concepts were mastered there was no way JEE could be cleared. If a similar system is applied here then maybe similar results could be achieved.

'No time for Participation': Despite a decrease in the number of events in the cultural calendar, many hostels put up poor quality entries or no entry at all. It is a commonly accepted fact across both the sports and cultural scene that the quality of participation is going down. No one really wants to practice a sport or pursue a hobby for the sake of it: the resume value is negligible. Many give up hobbies to pursue organization, but they do so half-heartedly leading to failure there as well. Many alumni have said that they learnt skills like scrabble, debating, and fine arts post coming to IIT. However these days prior knowledge is seen as an undue advantage: we can call it leveraging of a core competency.

(Arunabh and Rajlakshmi are final year students of the MEMS Department. Aditi is a third year student of Electrical Engineering Department. Sudarshan and Prachur are second year students of the Engineering Physics and Computer Science Departments respectively)

Academic Casualties

Why isn't there a formal mechanism to identify students with academic problems and provide early help? Rahul and Tarun comment...

While the debate on student integrity and motivation is a valid one, we cannot dismiss the fact that every batch is witness to a handful of students who face academic problems of a more serious nature- accumulating backlogs, depression and sometimes even expulsion. Is the institute doing enough to check these issues?

Prevention

The major infliction, according to every single authority on the subject – including the Dean, AP and the faculty advisor for reserved category students – is that practically no student is cognizant of the academic rule book (http://www.iitb.ac.in/academic/rules.jsp). The document, they say, contains information on all possible support mechanisms to resolve academic issues. However, the problem is that at this late stage, the lamentation "*If only I had read it…*" doesn't serve any purpose. It is, therefore, a must for every student to read the rule book – an urge on behalf of the academic authorities; and a warning on behalf of every student who has faced academic problems.

A commonly cited reason for poor performance in coursework is deficiency in English. The English remedial classes designed specifically to tackle this problem

are simply not taken seriously. A must for most of a student's curriculum, it is the student's responsibility, again, to consider this an absolute priority

Many-a-times, a student faces problems that are, although unnecessary, unavoidable for various reasons. At that point of time, the most important thing is for the student to accept his/her problem and for the institute to identify and help the student.

Identification and the cure

One mode of identification is to have a support system that expects the students to approach seeking help. This has proven ineffective (some students that we talked to do not believe that the support system works. It is understandable in our society that no one would admit having a problem serious enough to require professional help). Alternatively, the system can actively identify underperforming students and provide help at the beginning, without waiting for them to actually fail half a dozen subjects in order to prove they need help.

As an example, Prof D. K. Sharma (EE) identifies students who underperform in the midsems and conducts extra classes for them. Personal attention is given to each and every student in these classes and Prof Sharma comes to the institute on

weekends specifically for this purpose! If one teacher can do it, why not inculcate the procedure as a part of the system?

With respect to students on the brink of termination, the institute faces a moral dilemma even after being proactive. Although these students are identified at an early stage, should the institute terminate them at that time or wait for the situation to improve? Early termination gives the student opportunity to prove him/her self elsewhere, whereas the latter is a social dead end.

Coming back to the case of remedial English classes, it is obvious that a student who is already wary of the language would take his/her time to adjust and comprehend. Then how does the institute expect them to cope up with courses like Economics in their first year, which runs parallel to the English classes?

All in all, our contention is that if it is this simple to identify a weak student before it is too late, why hasn't the institute gone ahead and asserted its willingness to help at that stage? As for the student, it isn't demeaning to accept and it isn't that uncommon: when you feel you require help, ask for it.

The authors of this article (who are in across the second, third and the fifth years respectively) have spent different amounts of time in Hostel 13. Over the course of a few lunches in the mess, we realized that we had almost never interacted with a foreign student. (The only time a foreigner is even noticed is when there is a synchronous movement of heads towards the unexpected guest from H11).

When asked if they would recommend IITB to other students, all answered in the affirmative.

This got us thinking about the overall low levels of interaction between the average IITian and an exchange student. Their participation in both campus activities and policy discussions is limited, to say the least. The reasons for these are many. The following paragraphs might make them clearer, and provide telling insights into just what it is like to be a foreign exchange student in IIT Bombay.

1. Interview: Solomon (PhD student, Chemistry Department)

Solomon is from Ethiopia. He tells us that the Ethiopian Embassy 'randomly' allotted him IITB after he was awarded a scholarship. He is a rare case among the exchange students - a PhD student. (see box)

He tells us that, academically, IIT Bombay has been all that he hoped for, with a stimulating academic program and a bunch of dedicated professors. When we asked him about how his interaction with other IITians had been, he told us that, on the whole, he had found them very helpful and friendly. He cited incidents where he had been helped with translation.

One complaint that he had was: *not enough was being done to solve the language problems of foreign students*. The remedial classes conducted by IITB were woefully inadequate. He offered an interesting solution: students could take care of this at hostel level itself, by explaining basic Hindi rules whenever possible.
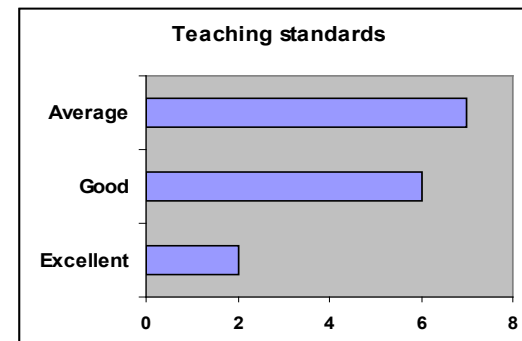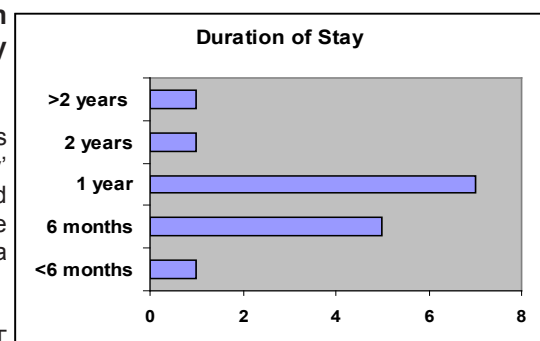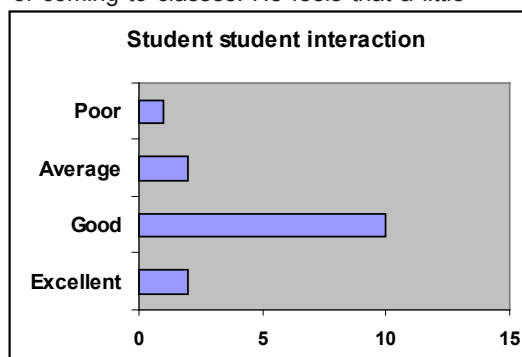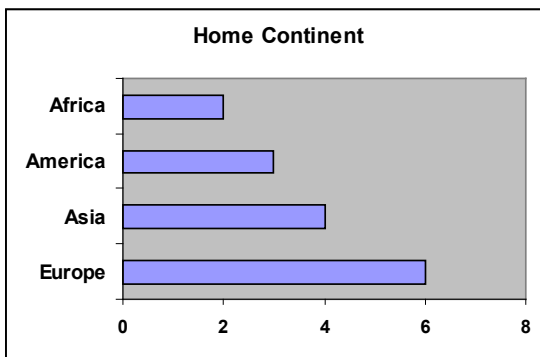
IITB - The Forex Reserve

How do exchange students find life in IITB? And how do we respond to their presence? Vaibhav, Rajat and Krishna take a look...

2. Institute Representatives

The Dean, Alumni and International Relations (AIR) and the Institute Secretary for Foreign Relations (a nominated office bearer) are in charge of ensuring that the exchange students have a smooth and enjoyable stay at IITB. A trip to the Dean's Office gave us a lot of information (some of

Home Continent

(bar chart: Africa ~2, America ~3, Asia ~4, Europe ~6; x-axis 0 to 8)

Duration of Stay

(bar chart: >2 years ~1, 2 years ~1, 1 year ~7, 6 months ~5, <6 months ~1; x-axis 0 to 8)

which is summarized in the table).

An interview with the Institute Secretary for Foreign Relations proved enlightening. Initially, a lot of work seems to have been done to ensure that the exchange students settle down. However, we did get the impression that the secretary was not very proactive in ensuring that problems were identified and solved.

3. Interview: Victor (B. Tech Student, Physics Department)

Victor is from the University of Darmstadt, Germany. He had heard of IIT before coming to India, but came specifically to IITB because of Mumbai's cosmopolitan

reputation. He said that he finds his long trip worthwhile, and that he is having fun here.

Victor told us that the course level at IITB was good, but that the system was a little too rigid. For example, he felt that attendance should not be enforced, and that students should take the responsibility of coming to classes. He feels that a little

Student student interaction

(bar chart: Poor ~1, Average ~2, Good ~10, Excellent ~2; x-axis 0 to 15)

Teaching standards

(bar chart: Average ~7, Good ~6, Excellent ~2; x-axis 0 to 8)

more independence given to students here will benefit both the institute and the system.

As regards interaction, he said that he spends time mainly with other foreign students in the hostel. In the department, though, he has a significant level of interaction with other students.

Victor feels that the Institute procedures for foreign students are unnecessarily complicated. Also, a lot of schedules are communicated quite late, which leads to planning problems.

4. Interview: Sophie-in-the-wing

Apurv Agarwal is a *sophie* like any other.

He does all the things *sophies* do. He has a number of friends in his own batch. There is, though, one difference about Apurv – a lone BTech in a wing with foreign exchange students. And Apurv loves it.

He tells us that he hasn't missed out on a

"Filling forms in a security office every time we want to invite somebody from the other gender is RIDICULOUS."
- Lionel Feugere, Physics Department, 2007.

thing. He is able to interact with his other friends in the hostel. He says that his wing-mates are very friendly. His long stories of the lavish treats they go on every weekend seem calculated to drive the other *sophies* crazy with envy. He says that it is a great learning and horizon-widening experience as well.

Apurv's experience serves as an eye-opener to those who believe that interacting with the exchange students is difficult. As with anything worthwhile, it just needs the first step.

PS: And if you're still not convinced, Apurv's final argument should get you frantically applying for a room on his floor. He informs us, with a wicked glint in his eye, that female exchange students keep dropping into his wing.

Conclusion

From all the varied views above, we feel that we have proved that interaction with the exchange students is an important area we need to work on. A possible solution we came up with is this: the post of the Foreign Relations Secretary could be made an elected post. As of now, if one looks at the work being done at a voluntary level, it is indeed commendable. However, for an issue of this magnitude, it might help to have elected representatives. This might raise seriousness levels as well as provide accountability, and ensure that help is provided to the exchange students before they even ask for it.

And when you see a foreign exchange student from now on, do stop and have a chat.

Take a bowl of *rasam*. Add two pieces of grilled-stuffed fish into it. Garnish it with some *sarson*. Take a *pav*, fill it with this assorted mixture of nutrients and serve it hot, with *kadi*. Fortunately or unfortunately, the mixing capability of human beings is not in the same measure as the food they consume.

Our need to conglomerate

While it is understandable for students belonging to a certain ethnicity wanting to meet up and engage in cultural activities, it is the ethnic hangover existing in the hostels that causes concern. Moreover, first year students, the most vulnerable and impressionable among the lot, are targeted by these all of these clubs whose aim is understandably one of self-perpetuation. A cultural group or a clan is perceived as a shortcut to getting accepted, getting support and getting to be a part of a "family". This group consciousness is present in many day to day choices exercised by students – from the choice of dinner table to voting for a candidate during an election.

The groupism that we are talking about here isn't limited to culture-groups and it would be a Herculean task to identify and analyse this issue over all possible groups

Group Dynamics

Tannistha Sanyal and Rahul Dash present glimpses of groupism that prevails even in a place like IITB

that exist in IITB, ethnic or non-ethnic. We present two striking examples:

1) **VANI and Speaker's Club**
The formation of VANI, the Hindi speaking club of IITB is a burning example of the most widespread yet the most subtle linguistic division present: English and Hindi. The reason for VANI's formation was probably the complete failure of the Speaker's Club to initiate any Hindi speaking events or the lack of cohesion amongst the speakers of the two languages. Either way, the existence of two separate speaking clubs is one of the worst wastage of resources.

2) **The Higher Dimensional Society**
One club that has taken to misleading students like no other is the so called "Higher Dimensional Society" or HDS. Narrating his experience of having attended some of the club's meetings, a sophomore narrated his experience of getting 'initiated':

(a) The orientation of the club was done under the tag of "bioscience and physics higher dimensions, nebula *et al.*" The main

agenda, however, was kept hidden.

(b) The students were called to Ankur Apartments, Powai. They were given good refreshments and a supplementary discourse on the *Vedas*. The promoter of the club was introduced as 'a big civil engineer'.

(c) Students were advised to give up their rooms and go stay in the apartments. They were given a *rudraksh* and were asked to chant certain mantras. They were even told not to mention all this to their parents. They were assured that these activities would lead to a high CPI among other advantages!

While there is nothing 'fatalistic' about the existence of HDS which is 'just another club', it is probably the most striking example of our appetite for security at the cost of reasonable judgment. There is absolutely nothing wrong in the existence of ethnic/linguistic groups for cultural activities. What disturbs is the ease with which groupism degenerates into petty behaviour and thwarts our capacity to reason.

We would like to reiterate by no means do we oppose eating *bhog* or attending the screening of *Sivaji* or learning the Art of Living. We have found that most of these things are indeed harm less. Indigestion happens when the spices are in excess. Birds of a feather flock together. It's all good, just as long as the birds don't start plucking each others feathers off over a few grains.

50 years of IIT Bombay - The final chapter

Nithya, Tarun and Aishwarya present the third and final chapter of our series on the institute's glorious years (Pages 4 and 5)....

Culture

04

> **In Prof. Manchanda's words, IITs were considered *"Sophisticated conveyer belts for the outflow of the nation's intellectual capital.*"**

We pick up where we left off, with the institute poised on the edge of colossal change. After the research slowdown that continued through the 80s, IIT Bombay was trying to pick up steam despite the adverse economic and political conditions in India. The first and most important of these changes was the enmeshing of the whole campus in an intricate web of cables, the pioneering Local Area Network that was to bring about a transformation. Hot on the LAN's heels came the dramatic change in the face of the campus - vast new buildings mushrooming all over through alumni generosity and at the same time, a paradigm shift in research and development activity. In this final chapter we explore what it took to make IIT in Bill Gates' words, "An Incredible Institution".

The struggle

During the early 90s India was in the throes of a major economic crisis. With a vast foreign debt hanging over the country's head, money was in extremely short supply. It was a period of double digit inflation and precarious employment. At such a time, there weren't enough funds in the institute's coffers for even routine maintenance of infrastructure, while the ongoing technological revolution ensured that all laboratory and research equipment was fast becoming obsolete. IIT Bombay was perhaps the only one among sister institutions to still have nothing better than card readers for its main-frame computer in the late 80s.

up. The IITB Heritage fund had been set up and now was finally reaping dividends. Nandan Nilekani, Kanwal Rekhi, Raj Mashruwala and various other illustrious alumni made good their pledges and donated millions of dollars to the institute. Renovation of hostels, building of SOM, the Guest House, academic scholarships and awards– all were started. Not only was it a direct investment in the institute's infrastructure, this goodwill of giving back to the alma mater was reflected in an increasing amount of trust laid on IIT by the government, which only furthered development. India had also clawed her way back from the economic slump and there was more money than ever before for education. So much so, that the Institute in 1999, envisaged raising a sum of Rs 500 crore for its Golden Jubilee in 2008 – which it is in the process of achieving.

As the new millennium dawned, things were looking pretty perky. The IT Boom was in full swing, IITians had as many job offers as their CPI (the average 6 pointer had 6 offers and so on) the alumni funding was steadily pouring in and with ventures like CDEEP started, the institute was giving back to the country as best as she could.

The "teaching institute" label was also to be gradually eroded during this period as the Dual Degree Program was started in 1996 and undergraduate research was taken seriously with UROP. Before the end of the nineties, student enrolment had gone up by 30% - mostly Post Graduates - to further research activity. The institute also made it easier for undergraduates to convert to Dual Degrees, making its intentions crystal clear.

The slow, yet steady progress shown by the institute was reflected in its growing reputation abroad. The hallmark of

recognition was the IIT feature in CBS's 60 minutes' – where the stature of IIT in India was compared to that of "MIT, Princeton and Harvard combined". In 1998 IITB was rated the 6th best technical institute in Asia.

> ### FOLKLORE
>
> - Several critics have said that the advent of LAN caused the death of student interaction. This may have been the case but the feats pulled off by some of our alumni beg to differ. From placing a sharpener on the IDC pencil to building working models of lifts and helicopters for PAFs, some of these stories are the stuff of legend.
>
> - Waterfights and intra-wing sports were as keen participation as ever, but so were online multiplayer games.
>
> - A In March '97, Aashish Singhvi and Neil D'Souza spent 85 continuous hours in the IIT swimming pool (see photo strip). More than a record they also created a sensation in all local newspapers.

> ### PAF
>
> The Performing Arts Festival requires a separate article all to itself but we couldn't resist mentioning PAFs here, so integral a part as they are of IIT life. PAFs used to be in the Convo uptil 1998. Once they were shifted to the three dimensional stage of

The Forest Reserve that we are

Over the past decade, IIT Bombay has not just been the ideal sanctuary for the intellectual capital of the country. It has also been widely recognized as a plush, verdant campus abounding with flora and fauna – various species of plants, animals and humans alike. However, a few particular genera have become somewhat infamous, although uninvited, yet irregular visitors to the campus.

Panthera pardus This spotted big feline, symbolic of our beloved institute is fierce and one of the most successful members of Indian big cats. Its success, however abominable it may make itself for humans, lies in killing two young boys close to campus, and trespassing nearly a dozen times on institute territory. These leopards, of the panther genus abound in the nearby Sanjay Gandhi National Park; and despite fencing and tight security armed with flashlights and firecrackers, they remain the most intimidating aspect in every freshers' orientation. Reportedly first spotted in 1992, their sightings and strikes began to rise with their population within the Park in the early 21st century. The spotted big cats have been spotted the most in the academic area as well as the area around hostels 6 and 9. Notably, not a single campus resident has even been injured by any of these leopards. That doesn't stop the able

At the same time, the IITs were suffering a tidal wave of public disapproval. In Prof. Manchanda's words, IITs were considered *"Sophisticated conveyer belts for the outflow of the nation's intellectual capital."* They were nowhere near addressing the nation's needs – the very purpose of their existence. In such a depressing period, it was inspiring and dedicated administration that got us through. The then Director Dr. Nag and the Deputy Director Dr. Kudchadker identified four thrust areas on which they focussed their attention. These were – an administrative process overhaul, automation, faculty recruitment and reaching out to alumni. As time would show, this very vision alongside the economic resurrection of the country was to prove the saving grace of the institute.

By the mid–nineties things started looking

The hostels 12 and 13 were built to resemble a giant ship with portholes when viewed from across the Powai Lake.

the OAT, student creativity knew no bounds. Hostel sentiment was strong and interhostel rivalry intense in the months leading up to PAF. Once, so displeased were students with a judge's ruling on a particular PAF that they pushed his car- parked at the Convo- all the way to YP and left it there for him to find.

In that period, there were points for publicity as well and extremely innovative methods were cooked up. For one PAF there were milestones all along the main road detailing the distance from the OAT, while for another they carted a horse around all the hostels to make a statement. To keep people waiting outside the SAC gate entertained, there were dance performances in the swimming pool parking lot.

and trained security to slack off, even after cages and fencing in proper place. Consider that a friendly caveat for the years to come, if you can.

Crocodylus Palustris. In 2004, a full grown crocodile left its natural habitat in the murky waters of Powai Lake, strolled through the Guest House area and attempted to cool off in the artificial lake nearby. After hours of struggling to capture the reptile went in vain, an innovative method was employed. The duck that was sacrificed for its capture, however, is still mourned today. There was another female crocodile that sprinted across a visibly petrified procession of Lord Ayappa devotees. Although no one was hurt on either occasion, rumour has it that this particular one was a vociferous atheist.

Culture

Student Life

Through the period of the nation's economic turmoil student activities still flourished. In 1992, Bombay was torn apart by riots and Shiv Sainiks invaded the campus. MI was postponed twice and finally held in March 1993. The students were technically and culturally as active as ever, but it was only in the late nineties that we see the seeds of our now burgeoning club culture. InsIghT, Aawaaz, Insync, BONDA, Staccato all trace their origins to this period.

Make Bombay Mumbai, Let IIT Bombay Be

As we draw a close to this series, we are left in awe of the vibrant and magnificent history of this world-class institution. We intended this to be more than a history lesson and hence went looking for an extensive study on the 'why's' and 'how's', rather than just the 'what's'. Over these past few months of rigorous research, one thought resonated in our minds incessantly. If only IIT Bombay had had its autonomy as promised at every single stage of its development, we would have been at an unfathomable position right now. Fluctuating economic and political scenarios in the country, coupled with the incessant interference of the MHRD in irrelevant issues, left IIT Bombay nowhere to run or hide. Take, for example, the case of the Bharat Shiksha Kosh, with the MHRD imposing fruitless rules on well-intentioned funds.

Finally, we must admire the efforts of the administration and the faculty at every point in time, since they made the absolute most of what they were given, under the circumstances – optimized resource, in short. It is only natural to think, that had IIT Bombay been left alone with adequate resource throughout, the world would have know us differently.

(We would like to thank Prof. Rohit Manchanda of the School of Biosciences for his invaluable help. All quotations in this and the previous articles of this series are taken directly from his manuscript on the history of IITB.)
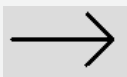
A revolution came with the setting up of LAN in hostels and this nervous system constructed of cables became a lifeline, carrying colossal amounts of information, entertainment and knowledge as vital as blood to the students. They fast discovered its many uses and exploited it to the fullest. Communication had never been easier or more painless. Students became more and more creative; IIT Bombay was famed for its dramatics club, Mood Indigo and from 1998 onwards, Techfest.

An overwhelming trend, however, was the mushrooming of coaching centres all over the country. In giving the extra edge required to clear the dreaded JEE, they flooded the IITs with what we call 'factory products' now. On a serious note, a distinctive impact that this trend had, was the clear increase in the affluence of an average IITian, as observed by campus old-timers. Many consider the coaching classes to be putting a Rs. 40,000 barrier on the average JEE candidate.

Towards the early 2000s, student life was most seriously affected, when the IT bubble burst. Suddenly a job became something you had to struggle for; a résumé was the most important document of student life. Although jobs aren't scarce anymore, the overflow of that period can be realised now, with the cut-throat competition evident in the student community – each person fighting for résumé points.

Ragging was extremely rampant in this decade throughout the country. Here in IITB though, stringent measures were taken to ensure the safety of freshmen. The Director of the time, Prof. Sukhatme held the view that, "*Even if one student suffers because of ragging, it's one too many.*"

The Unthinkable of Today? - IIT Bombay 2033
- Prof Rohit Manchanda

Before training our eyes on the next twenty-five years, a thought about the last fifty. If there's one arena in which IIT Bombay has unarguably excelled over its five decades, it's the strength of its academic programmes, the rigour of its curricula. Their products – IIT Bombay's graduates – have been eagerly sought by academia and industry, and have often scripted astonishing successes for themselves. Domains in which the Institute's achievements haven't been as impressive are research and technology development. Over the decades to come IIT Bombay seeks, amongst other things, to become a global forerunner in R&D while retaining its pre-eminence in teaching built up over the last fifty years.

This will not be easy. During the years that research at IIT Bombay was sluggish (and this was so all the way until the turn of the century), universities across the world were surging furiously ahead; catching up with them in volume and sophistication of research will take time, and much hard work. Frontline technology development may happen more readily, given the excellent expertise available here and the rapid rise in Institute-industry partnerships.

Accompanying these qualitative changes will be growth in numbers. In these competitive times, academic institutions have to abide by the same pitiless dictum previously reserved for businesses – grow, or die. IIT Bombay, too, will need to relentlessly innovate and expand: into novel academic programmes, areas of research, and modes of functioning - challenges it has already started addressing. So great may be the expansion that some of those I've spoken to have envisaged IIT Bombay metamorphosing into a "University of Technology", hosting for instance a truly eclectic canvas of humanities and liberal arts that would both draw upon and inspire novel, vanguard technologies. Others have conjured up a research-driven, exclusively postgraduate Institute, its B.Tech. programme a thing of the sepia-tinted past. Unthinkable? And yet what history recalls for us is that the unthinkable of today is often the passé of tomorrow.

Scaling up

For the Institute to translate any of its visions (even the more prosaic ones) into reality, it will require concerted effort on many fronts. Greater volumes and broader palettes of activity will call, for example, for speedier and distributed modes of governance. A near-collegiate system may emerge. Change will be inevitable; only its scale is open to conjecture. And it will affect all aspects of life at IIT Bombay. None of the academic expansion can happen, for instance, without creating more of every category of infrastructure: ever more buildings, recreational areas, amenities. This will directly affect what has always been amongst the Institute's most prized possessions: its bejewelled campus. Students arriving 25 years hence may be greeted by a lot less verdure, a lot more concrete – unless a swift decision is taken to "go vertical" from now on, build only high-rises, each housing multiple academic and residential units. Future students may also find themselves lounging on the fringes of Vihar Lake – for the Institute may have to muscle its way to the far side of the pipeline, reclaim the outlying reaches of the campus.

In another 25 years, then, the Institute may sport a persona, both physical and intellectual, barely recognizable from the one we know today. When you return for IIT Bombay's Platinum Jubilee celebrations, it may be hard not to look surprised.

2003 was an eventful year for IITians. A new DOSA had taken over and a new set of unpalatable but necessary rules had been introduced, like the bike ban and the compulsory 80% attendance. Freshie participation in GC was stopped and cult activities were curtailed. So, in January 2004 the then Editor of InsIghT Harsh Roy, chose to thus chronicle the year gone by.

→

IITBombay
Golden Jubilee 2008
Tryst with Excellence

insight
the third eye

Insightus Romana

What's your IQ?
IITian Quotient

Want to find out what type of IITian you are? Take this short simple quiz...

The Prof. announces that you are in danger of getting an XX. What becomes your plan of action?
A) You will kidnap the DR1's mother and get him/her to answer at your name during roll call, the rest of the semester
B) You will attend all the remaining lectures of the Prof. this semester, including the courses you are not registered for
C) You will kidnap the Prof's son/daughter and force him to give you an AA for his/her return
D) You will send your wing sophie to the hospi every day to get pink slips, explaining that it is excellent crossy practice

The Coffee Shack closes down. What do you do?
A) Die instantly, like a patient does when taken off life support
B) You start a 'Save Shack' campaign, and write a letter to the President of India. After this is unsuccessful, you go there every day even after it is shut down, and look sadly at the empty publicity boards
C) Dress yourselves and a few friends up like the previous employees of the Shack, and open a new Shack. You write this in your resume as 'Internship in the Hotel and Restaurant Sector'
D) Take it as a God given opportunity to visit the mess everyday, and fall sick as a natural consequence

A panther confronts your friend and you as you are returning to your hostel at 4 AM. What do you do?
A) Hit your friend on the head till he/she loses consciousness, then offer him/her to the panther after performing unspeakable rituals
B) Call up all the newspapers. This is your best shot at those elusive 15 minutes of fame
C) Give the panther a tumtum coupon and ask for a lift
D) Nothing. You are convinced that panthers don't exist, and dismiss this one as the product of an alcoholically nourished brain

If you liked these questions, find more on http://gymkhana.iitb.ac.in/~insight

Now, let's get down to business: Give yourself 100 points for each question that you answered as A, 60 points for each B, 30 points for each C and 10 points for each D.

Calculate the mean, the mode and the median.

If your mean is not equal to your median, you have frequent mood swings.
If your median is not equal to your mode, you have a split personality.

If you have scored highly in this quiz as well, you are definitely an RG.
If you are still re-checking your calculations, you are definitely a Nabdu.
If you have been doing the calculations in some academic book, you are definitely a Maggu.
If you have first answered this quiz with respect to someone else, you are definitely a Poltu.
If you have found a mathematical flaw in our arguments, you are definitely a Lukkha (the last three lukkhas to send us the correct derivation will be given free milk-shakes).
And if you have noticed the one place this article is not gender-neutral, you are definitely a feminist (free double-cold-coffees if you catch any one of the culprits for this article and show them your copy of Insight with the guilty section underlined in pink).
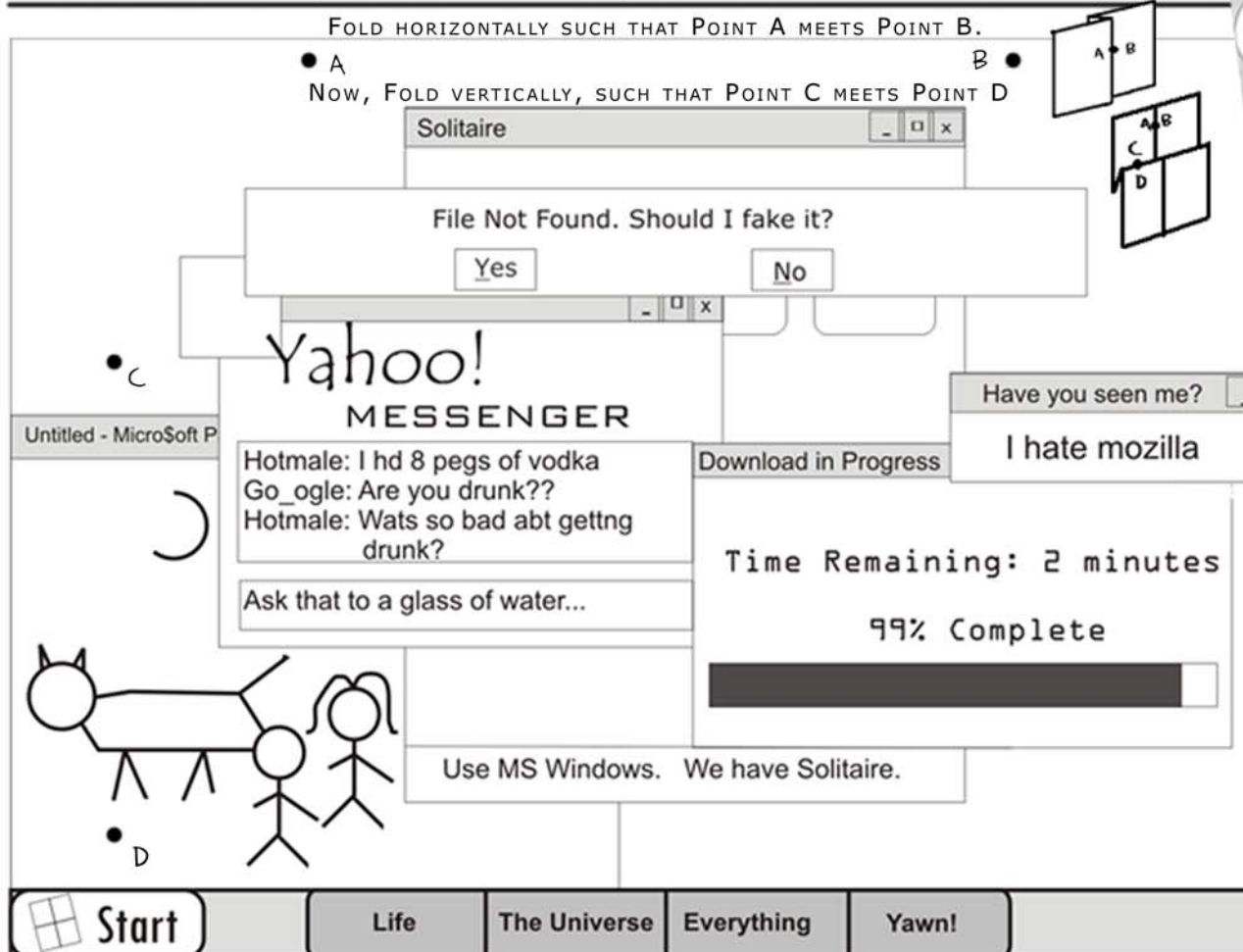
LiMERiCKS
What! No wacky title?!

The dilemmas of a JEE cracker reach a pinnacle
When to choose between mech, civil and chemical
Then B.Tech. or DD
And B,D,M,K,G or KGP
What! No women? I'd better take up medical

Pity me, I'm a router in hostel two
In the midst of gamers and downloaders -phew!
Then came the ban
On their precious LAN
Now I get time to relax just like all of you

FOLD HORIZONTALLY SUCH THAT POINT A MEETS POINT B.
• A   • B
NOW, FOLD VERTICALLY, SUCH THAT POINT C MEETS POINT D

Solitaire _ □ x

File Not Found. Should I fake it?
[Yes]   [No]

Untitled - Micro$oft P

Yahoo! MESSENGER
Hotmale: I hd 8 pegs of vodka
Go_ogle: Are you drunk??
Hotmale: Wats so bad abt gettng drunk?
Ask that to a glass of water...

Have you seen me?
Download in Progress
I hate mozilla

Time Remaining: 2 minutes
99% Complete

Use MS Windows.   We have Solitaire.

[Start]   Life | The Universe | Everything | Yawn!

A NEVER DONE BEFORE PIECE OF TIRING AND DIFFICULT WORK CAN PROVE TO ONE THAT SLEEPING AT THE CLASSROOM TABLE IS UNPLEASANT AND CAN LEAVE ONE FEELING AS IF DRUGGED

Do I really have to be running on a Sunday morning? Stop splashing so much water on me!
I had to put a night-out!
Stop cribbing - I had to TAKE a knight out.
Watch out! They're coming to get you!

PIRATES of the CribbuUNION

How dare you pick my pocket!
How dare you pocket my pick!
Pied piper picked poor Peter's petty pockets

If I turn it at the rate of 13 rpm for another 17 seconds, we should get there by 6:36
6:38, you nincompoop!
This must be a Thursday. I never could get a hang of Thursdays

Do you really expect us to fit a three-part movie into 5 frames?
We demand two full pages!
And while we're at it, how about colour too...
And ya better be makin' it quick, ma ni...
I just want to have a bath

Return of the JEDI : Just anothEr DoSA Interview

CLAiMER: This is a real interview of The Dean of Students' Affairs conducted by trained operatives on 29/10/2007

Q. How tough a job is it to oversee Students' Affairs at iiT Bombay?

A. Not at all. It's a piece of cake.
(Dear DoSA, the cakes in our canteens are tough. Tougher than even the JEE)

Q. How would you rate the number of Students' Affairs at iiTB in comparison to another college, say, Xavier's?
A. i'm sure the number is similar, though they would be having affairs of a different nature.
(Similar Number of affairs in iiTB and Xavier's? 2000 odd single iiTians would be glad to know that)

Q. Out of the total population of about 5300 students here, approximately how many do you think are involved in affairs?
A. About 200
(Um, did he forget a decimal point...)

Q. Given the gender ratio here at iiT, such a number would be expected. Are any measures being taken to combat this?
A. None at all. We like it this way
(Oh, we thought the new Coffee Day outlet was a step in this direction)

Q. What, in your opinion, has been the effect of the LAN ban on Students' Affairs
A. Maybe it will provide them with a fresh impetus to go on and have an affair
(So THAT's what it was about all along...)

Q. Does the institute have some policy guidelines to follow to sort out a triangular, quadrangular, or higher degree affair?
A. Maybe it's time to set-up a committee
(No comments)

Q. Are we allowed to print this interview in insight?
A. Oh sure. Go ahead and add some masala yourself...
(Presenting, a delicious recipe for an authentic MASALA DoSA)

We'd like to thank Prof. Gopalan for being so sporting as to give us this interview

Ghaza, Vaibhav Devanathan, Eeshan Malhotra, Radhika Gupta
Prof. Prakash Gopalan
Send feedback to insight@iitb.ac.in

TNT Sensor

Who: Prof Anil Kumar and Jasmine (PhD student), Department of Chemistry.

What: Development of a chemical sensor for Tri Nitro Toluene (TNT) and molecules similar in structure and functionality to it - essentially, a chemical that will do the job of those nosey Alsatians and Retrievers we always see on TV.

Every solid is in equilibrium with its vapour phase. If someone were carrying TNT, he might be interested to know that there will be a few particles of TNT for every million gas partiles around him - greater the amount, more the number of particles. And these miniscule numbers of TNT will be his undoing when he tries to pass through a security check.

The sensors being developed here are electron rich, fluorescent polymers. It has cavities which are just right in size and shape to accommodate a TNT molecule. TNT, being an electron loving species, traps the excited polymer electrons after lodging itself in the cavity. This results in quenching of the fluorescence intensity which in turn confirms the presence of TNT.

The group has made a polymer which, in the form of an ultra thin film, can detect very low concentrations of TNT in real time. Currently they are working on tuning the fluorescence colour in the green region, because oureyes are most sensitive in that part of the spectrum.

Fast forward: The challenge for the group is to create a portable, hand held device that can detect extremely low concentrations of TNT in real time. This is being carried out in association with Prof. V. Ramgopal Rao of EE department and Prof. Soumyo Mukherji of the School of Biosciences and Bioengineering.

Innovative Postbox Design

Who: Led by Prof. Chakravarty of Industrial Design Centre (IDC)

Research@IITB: Alive & Kicking

Archana Raja and Prachur Goel provide two glimpses of exciting and impactful research projects in IITB

What: Need for a new letter-box design has long been felt by the Indian postal department. Under Shenoy innovation studio, Prof.Chakravarty took up the cause to design a maintenance-free post-box. Seepage of rainwater, rusting and ease of collection were the core issues that had to be addressed.

Features: The new post-box has a square cross-section main body (of stainless steel) and a beak-like top (of plastic) which prevents rainwater seepage. The wide opening caters for large envelopes and its inclined and flat top surface can be used for writing. It can be easily dismantled and transported. There is a common key to open all boxes in a particular region. The letter-box will be completely maintenance free and will last for over 20 years. Its cost of manufacturing is higher than the ones currently existing but zero maintenance cost and usage of sides for advertisements will prove to be highly profitable in the long run.

Prof. Chakravarthy funded the pilot project till the prototype stage and postal authorities provided the manufacturing cost. It was officially launched on 18th October, 2005. 30 test boxes at Mumbai, Pune etc. received positive response. These prototypes have been installed in different locations across the campus (Y-point gate, outside SAC, near H-8 etc). The design also won a "special mention" at the Stainless Steel Innovation Awards 2007 by Jindal Stainless Ltd.
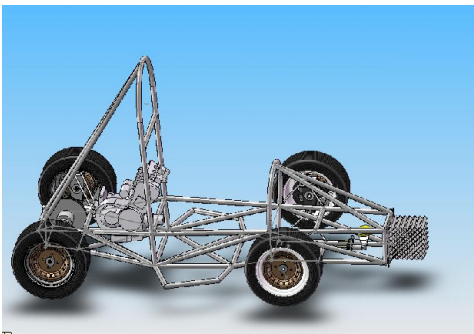
Fast Forward : The Indian Postal Service has decided to adopt the new design and now plans to replace the old ones with the new ones wherever necessary.

(Archana Raja is a second year student of the Integrated 5 years M.Sc. Course and Prachur Goel is a second year student of the Computer Science Department)

Formula Car

Come May 2008 and the world's biggest inter-college engineering design competition will take place in Detroit, Michigan. We're talking about Formula SAE, a formula car making competition held by the Society of Automotive Engineers (SAE). And IIT Bombay has yet again proven itself to be a torch bearer for India, by being the only university from the subcontinent competing against 119 other top universities of the world!

The Formula SAE competition is for students to conceive, design, fabricate, and compete with small formula-style racing cars. The

November 2007

restrictions on the car frame and engine ensure that your creativity and imagination are challenged. The IIT Bombay team has been working hard since May this year under the guidance of distinguished faculty from the Department of Mechanical Engg. The framework and driver's seat have

Innovation in IIT Bombay

Gautam and Aditi get you familiarised with two extremely ambitious ongoing student projects that we need to take pride in and support

been completed. A bike engine has been procured which is being tweaked to suit the car requirements. Designing of suspension, steering and brakes is done and simulation is being carried out. Substantial CFD and analysis is in process with software such as Ansys, Fluent, LS Dyna etc. The car is scheduled to roll out in January, after which modifications shall be done on the basis of extensive testing.

November 2008?

Those interested in joining the team (B. Techs and M. Techs both) and knowing more about the competition can send a mail to *fsae.iitb@gmail.com* or visit *http://www. me.iitb.ac.in/~fsae* . You can also drop by ME 114 or the FSAE room in IC Engines lab (both in Mechanical Engg Dept).

Satellite

In a landmark project to be taken up by IITB students, a fully functional satellite will be manufactured right here in the institute in about 15-18 months. After its completion, the satellite will be delivered to the Indian Space Research Organization (ISRO), ready for launch.

The satellite will essentially be a scaled down version of a national satellite. It will be around 30*30*30 cm in size and weigh roughly 10kgs. Almost all the designing and fabrication will be done by the students themselves thus bringing down the cost to about 30 lakhs. A beacon, GPS receiver, cameras and some scientific instruments will make up the payload of the satellite. Besides that, control centers will also be set up within the campus to control the satellite when it is finally up in the sky.

A team of dedicated students, who can work for almost a year on the project, is to be formed shortly. According to the guidelines provided by ISRO, a team of around 20 people is needed. There will be 6 groups of 3 people each , along with a group leader , to cater to different parts of the satellite architecture like controls, structures, on-board computers, power systems etc. Besides, there will be faculty members helping the groups out. There is an elaborate procedure for selection involving a screening test, which was held on 7th October and personal interviews as a follow up.The details are given on the science club webpage. However, anyone not a part of the team is also encouraged to contribute, informally by attending the group's meetings, giving fundaes etc. and formally, by taking up short term projects to be floated from time to time.

Much of the credit behind IITB acquiring this prestigious project goes to Prof Sudhakar (HOD, Aerospace), and a few enthusiastic third-yearites like Saptarishi Bandhopadhyay and Shashank Tamaskar who have been in touch with ISRO for almost a year. The final satellite will be delivered to ISRO around Dec 2008 and if all goes well, India's first student satellite will be up in the sky by Dec. 2009. Here's wishing all the very best to the team!

(Gautam Salhotra is a third year student of the Mechanical Engineering Department and a member of the Formula 1 SAE team. Aditi Goyal is a third year student of the Electrical Engineering Department and an active member of the Science Club activities)

All about Science Club

Shashank Tamaskar, Overall Co-ordinator of the club describes its various activities and invites participation

The Science Club at IIT Bombay envisages to dispel the notion deep ingrained in the junta's mind that nothing technical is being done at IIT, and there is much 'song and dance' about nothing. For many of us, it seemed a distant dream to study at a place where there is endless scope for any idea you can possibly dream of , where you get to indulge in all of your technological fetishes and be recognized for doing it. The Science Club hopes to make that dream come true.

It consists of five clubs, listed below:

Krittika-The Astronomy Club: Astronomy, a childhood fantasy for many of us, is sadly forgotten as we grow up. Armed with an array of telescopes (which includes the 10" inch telescope made by students) Krittika plans to hold progressive observation sessions as well as spot-your-sun sign sessions. We've had a talk on Gamma Ray bursts this semester apart from a trip to the planetarium. A number of projects are in line to be unveiled in a week's time.

Aeromodelling Club: The Aeromodelling Club hopes to rekindle our fascination towards flying objects. Starting from refinement of our paper plane making skills, the club intends to scale up its activities this year with a parachute making competition and a boomerang making workshop-cum-competition in the week following the quizzes. Also in the pipeline are a few projects in the form of making an RC plane from scratch, and a balsa glider making competition.

Electronics Club: Whether it is robotics, or making model F1 cars, electronics lies at the heart of all devices. Recognizing the same, the club holds regular sessions bringing out important theoretical points, apart from giving the students invaluable hands-on training. The EE Dept WEL Lab is where all the action takes place. Coming up in the month of October are workshops and competitions on microcontrollers and DC Motors.

HAM Club: The HAM club has been slightly dormant so far but things are picking up slowly. HAM radio clubs are popular all over the world. All you need to do is to tune into any frequency you like, and you get connected to hundreds of other HAM radio enthusiasts. Talking to them would require a license, for which the HAM Club intends to hold regular Morse code sessions, starting from the second week of October.

Papers Club: Papers Club is a band of people who like having a discussion on anything and everything technical under the sun. The Club has so far had presentations on Nanotechnology and one on Sunspots. The other talks lined up for the semester include those on Quantum Computing and Chaos Theory.

Apart from these, Science Club this year is also providing logistical support to the Students' Satellite Initiative, in collaboration with ISRO. For more information on any of the clubs and their activities, log on to *http://gymkhana.iitb.ac.in/~science*

(Shashank Tamaskar is a third year student of the Aerospace Engineering Department)

Over the last few years, the number of financial firms recruiting from IIT Bombay has increased significantly. Most of these firms are KPOs (Knowledge Process Outsourcing Units) – offshore extensions of the front offices in New York, London and Singapore. While investment banks have also begun recruiting for their front offices in global financial hubs from the IITs, that number remains relatively low. So, what does it take to get that Day 1 job in a Deutsche Bank or a Lehman Bros?

I-Banking (the 'I' does NOT stand for internet!)

Let's first see what an investment bank actually is! Go check wikipedia. Done? Okay – now, the two most interesting departments in an i-bank are *corporate finance and global markets.* The big money M&As, IPOs etc are all handled by the "bankers" - *Corpfin* is the branch that raises capital for corporations, governments etc. In this division, work is not too different from what a consultant does. Typically, this is what the MBA grads get into.

Global Markets, on the other hand is all about buying and selling financial products and making PnL off tight spreads. In this division, there are various desks – FX, IR, Cmdties, Equity, Credit etc. You have sales guys trying to pitch to clients to buy the products created by the structurers – who structure exotic financial products based on market conditions and client requirement. And then we have the traders – these guys make prices, execute trades, manage risk etc. With their heavy quant background and tendency to pick up things easily, IITians, typically, end up working with structuring or trading teams, straight out of college.

What does it take?

An investment banking job primarily involves the use of a person's quantitative and analytical skills to come up with innovative products, to suit the client's needs (*and make piles of $ for the firm, of course*). There are well structured training programs in place to teach the finance part – but

Finance 101

For those who dream of I-banking jobs, trading and lots of money, Vikranth Audi pens a small introduction of the subject..

the basic math remains the same. One can expect a fin interview to be a mix of quant questions, puzzles and questions to gauge your personality, with a few resume based queries in-between. Let us focus on the fin part, in this article.

Glossary of important financial terms

• **Equity**: Measure of the net worth of a company. Equities are securities representing ownership interest possessed by shareholders in a company.
• **Bonds**: Long term debt instruments with the promise to pay a specified amount of interest (called 'coupon') and to return the principal on a specific maturity date.
• **Futures Contract**: A legally binding agreement to buy or sell an underlying (equity/commodity etc) on a later date.
• **Options**: They are financial instruments that convey the right, but not the obligation, to engage in a future transaction on an underlying.
• **Hedging**: Holding two contrary positions in two or more financial instruments, in order to offset a loss in one, by a gain in another. (Think! How would an oil producer hedge against a fall in oil prices using options? Using futures?)
• **PnL**: Profit (n Loss). (*We try to just have the P, but that's how the convention is!*)
• **FX** – Foreign Exchange, **IR** – Interest Rates, **Cmdties** – Commodities
• **M&A**: Mergers and Acquisitions, **IPO**: Initial Public Offering
• **Financial Products**: Forwards, futures, options, swaps etc.

It is good to have an inkling of what is going on in the markets, on a day to day basis (*rather than go into the interview room with the typical, "I am an IITian. I don't need*

to know anything about finance!" attitude). The sub-prime contagion, the bull run of crude prices, the wild swings of the BSE Sensex, the appreciating Rupee, the wholesale price index – are all potential "discuss" questions in an interview. When you apply for a position in a leading i-bank, you should make sure that your curiosity and interest for the role is carried across to the recruiter, so that you can distinguish yourself from the other shortlisted candidates.
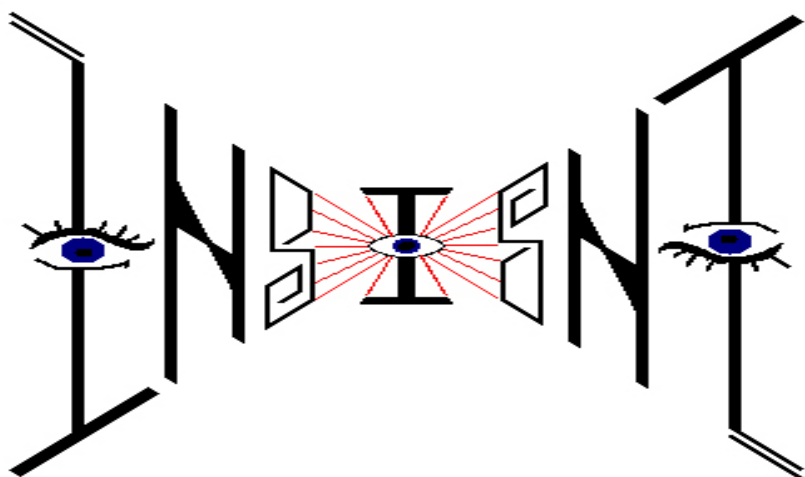
Most i-banking jobs involve the use of derivatives – financial instruments whose value is derived from the value of something else. The main types of derivatives are *futures, forwards, options* and *swaps*. If you have "NCFM certification in Derivatives" on your resume, then be prepared to be quizzed on the basics of derivatives, their purpose, hedging using futures and options etc. Again, there is plenty of literature available on the internet and wikipedia, and you should make constructive use of the LAN!

A Teaser for your Brain!

Here's a brainteaser heard on Wall St: Consider two oil companies R and S. R has oil fields in Texas, while S owns oil fields under the Arctic Sea. Both have the same market cap. Assume that oil is at 50$/bbl today (*actually, crude is somewhere at 92 right now - but let's assume…*). How would the market caps change, if oil prices suddenly went upto 100$/bbl. Which company's market cap will rise more? (Prize? Let's see! Treat for the first correct answer in my inbox). Make meaningful assumptions.

I think I'll stop the essay right here. The bottom line is – make sure you know why you want to work in an I-bank (*even if it is just for the money. Greed is good!*). Brush up your elementary math, make a good resume and spend some time making yourself aware about the financial markets – you are all set to crack that i-banking interview!

(Vikranth Audi is an alumnus and can be contacted at vikranth.audi@db.com)

Contests

1) **Logo Design Contest** - We extend this contest for another edition's time. All photoshop dabblers and experts, design a new logo for InsIghT and mail it to us at insight@iitb.ac.in. Crossword gift vouchers to be won. Ankit Kothari has sent in an amazing ambigram logo entry so far and has staked his claim on the voucher.

Results

1) **Find a Typo Contest** - The winners are Anupam Ghosh (H7) and Prachur Goel (H4).

2) **Write a Caption Contest** - The winners are Siddhartha Chadha (entry: "Indispensable Symbiosis @ IITB") and B. Reddy (entry: "Need Canteen not Company"). There were multiple entries of "Pre Pizza Talk".

Winners are requested to pester us at insight@iitb.ac.in for their prizes. Results of the Blog Writing Contest will be up on the Coffee Shack Bulletin Board before the end of the semester.

InsIghT team

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Karthik Shekhar

Chief Editor
Vivek Upadhyay

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If you would like to join the InsIghT team and/or give feedback, feel free to mail us at insight@iitb.ac.in or visit our website http://gymkhana.iitb.ac.in/~insight.

Questech

Die another way

A standard pair of six-sided dice is rolled and the sum is noted. There is one way of obtaining a 2, two ways of obtaining a 3, and so on, up to one way of obtaining a 12. Find all other pairs of six-sided dice such that:

1. The set of dots on each die need not be standard {1,2,3,4,5,6}.

2. Each face has at least one dot.

3. The number of ways of obtaining each sum is the same as for the standard dice.

A one-liner

What is largest perimeter possible for a semicircle inscribed in a unit square?

(Mail the answers to onkardalal@iitb.ac.in or dale86@gmail.com with "Questech" as the subject. The early bird gets its worms at coffee shack.
Last edition's winner - Siddhartha Chadha, H2. Congratulations! Don't forget to collect your Coffee Shack treat from the eds. Mail us at insight@iitb.ac.in.)

Word Games

Words Backwards

A palindromic sentence is one which reads the same backwards and forwards. For example, the sentence 'Was it a car or a cat I saw?' reads the same both ways. (Ignore the spaces when you check to see if a sentence is palindromic).
Given below are clues to ten palindromic sentences. Also, the number of words and the number of letters in each word is indicated. You have to guess the sentence.

1. What might Watson and Crick's lab be called? (3,4)
2. Friends strike you across the face. (4,4)
3. 1983 Black Sabbath live album (4,4)
4. How might the first man have introduced himself to the first woman? (5,2,4)
5. What did the little boy known as 'The Menace' usually do? (6,6)
6. The outer edge of a reflector. (6,3)
7. How might you indicate which mathematical constant you would like better to use? (1,6,2)

(Mail the answers to vaibhavdevanathan@iitb.ac.in with "Word Games" as the subject. Likewise.
Last edition's winner - Chris Verghese, H9. Congratulations! Don't forget to collect your Coffee Shack treat from the eds. Mail us at insight@iitb.ac.in.)