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insight
the third eye

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Students' Gymkhana IIT Bombay

'Poll'itical Mullings

InsIghT brings you a summary of the rules and schedule for this year's elections

The procedure for this year's edition of student elections has recently been made public. What is immediately evident is that the Electoral College has been refined and looks a lot more rational than last year's quick-fix solution.

As per the prescribed procedure elections will be conducted in two phases. The core teams for institute festival and media bodies will be determined in the first phase (this translates to the Techfest and E Cell Managers, MI CGs and the InsIghT and Awaaz teams). Overall Coordinators and Editors will be elected in the next phase along with the institute post holders.

The four GSs and the Institute Secretaries continue to be elected by the entire student body. The electoral colleges for the OCs and Editors have been defined as follows:

Institute General Secretaries, Institute PG Nominees, Department General Secretaries, Hostel General Secretaries, and the Core/Editorial team of the concerned organization.

The members of this college are all elected representatives of the institute, barring the core team and the PG Nominees. The ideology behind this seems to be ensuring indirect representation of the majority of students. However there are still doubts about the ability of individuals who have had no prior association with the festivals and publications, to elect the Overall Coordinators/Editors.

Candidates contesting the posts of Independent Body (IB) heads are required to submit a proforma indicating the approval of his/her hostel warden and council. Once again, what real purpose this serves is beyond our comprehension.

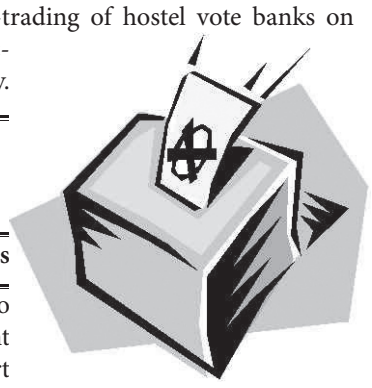
The biggest question mark still rests on the question of open candidature. Allowing individuals who have not been a part of the outgoing core team to contest the highest post in the organisation is difficult to justify. There is also the threat of an unnecessary politicization of the election process.

Schedule for Institute Elections

Date	Process
26th - 28th Feb	Filing of Nominations
2nd March	Nomination Withdrawal
5th March	Campaigning Starts
8th March	IBs to submit Core Teams
12th March	Soapbox for Secys
13th March	Soapbox for GSs
14th March	Soapbox for IB heads
14th March	Campaigning Ends
15th March	Silent Day
16th March	Polling

While the inclusion of the core team in the election process is likely to be a strong enough check, it still has a measure of imperfection.

The institute elections will take place on the 16th of March. Institute Elections have seen many unpleasant instances in the past and it is now on the shoulders of the new election committee to minimize any such cases this year. A direct suggestion can be to set down clear guidelines regarding campaigning particularly e-campaigning. The measures to prevent "anti-campaigning" also need to be given a thought. There is also the issue of horse-trading of hostel vote banks on the Election Day.



It is also important that apart from describing the rules the punishment for violation is also specified. Only then can we hope for a elections free of controversies.

Apart from these issues, a major concern is very few people being present for soapbox. Each year the soap box is publicised as the forum for the electorate to get to know the candidates. However, placing the candidate in a room with not more than 20 people hardly serves any purpose.

We request all our readers to exercise their right to vote carefully under no external influence. Your right to vote is important. Please do not abstain from polling. For the lesser informed, you can cast a postal vote if you are unable to attend the polling day.

We wish luck to all aspirants and hope to see fair and unbiased elections this year.

InsIghT would be glad to serve as a forum to route your suggestions/queries to the election committee. We would also like to receive suggestions towards improving our coverage of the institute elections. We can be contacted at insight@iitb.ac.in

From the Editors' Desk

This issue took us a while to put together with St. Valentine causing us much woe (most of the team was preoccupied).

Last week, the incident at the H4-H3 turn relatives of the ex-Registrar, IIT Bombay physically assaulted a student who tried to intervene in a fight due to a minor accident. It is indeed a sad state of affairs that students of this institute have to face such crass and unbecoming behavior. It is testimony to the better judgment of the involved students that the issue didn't boil over. However, tempers are still high and unless some action is taken InsIghT and the student body will only be forced to be more vociferous.

Mood Indigo and Techfest have been covered as a part of the color centre-spread on pages 4 and 5 respectively. In the format we've used, issues on how exactly to come up with the ratings arose. Surveys and opinions polls were conducted. The review presented hence is based on popular opinion about the events and does not necessarily reflect upon the organizing teams. There can be views different from those presented and we would be very happy to receive feedback from all our readers about how we could have gone about it in a better manner.

We thank all who made the cartooning contest announced by us a success. The chosen few have been included in a supplement.

With elections around the corner, we're looking forward to treating you, the reader to interviews, debates and a possible panel discussion. All in all, we promise that life at IIT is going to get spiced up after the midsems. Wishing best of luck for mid-semesters. See you then.

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InsIghT Update: Placements

Ruchir Goswami provides an update on the current placement scenario.

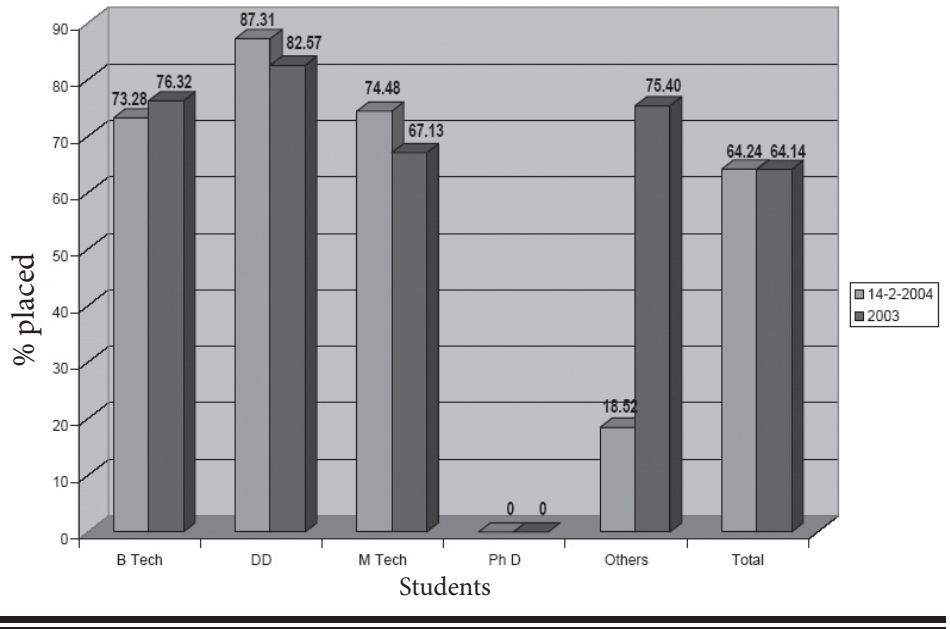
The placement scene this year always looked promising with the crest of economic boom we are ridding on. As was anticipated there were legions of companies visiting campus during the first half of the semester.

With more companies visiting this semester the placements have already crossed the last year's mark. A look at the statistics reveals a few interesting facts. Continuing last year's trend, Dual Degree students have the highest percentage placement. There is an improvement in the M. Tech placement scene too and the undergraduates are also catching up with last year's final figure. There is a marked difference in the "Others" category between this year and last year. This can be attributed to the fact that most of the "Others" comprises of IDC students and their placements have not yet started. By the end of this placement season we can hope to see a much better figure at that place.

The other side of the coin is that 13% DD and 26% B. Tech. and same percentage of M. Tech students still looking for opportunities. It is important that the placement cell realizes that achieving a 65% is not their goal. It has been felt that there have been fewer companies visiting campus this semester as compared to last semester.

Till now it has been a dream run. More efforts are required to keep up with the same pace. We hope the stride continues!

Ruchir Goswami is a second year student of the aerospace dept. He can be contacted at goswamiruchir@iitb.ac.in



Breaking The Mould

Amrita Mahale looks at the ideology behind the UROPs and undergraduate research.

"MIT is deeply committed to the premise that undergraduates should inhabit a very special world-that of a moral and intellectual universe with certain fixed stars, but also with wide spaces in between where students can find room to wander and to make their own paths."

Thus spoke Margaret L. A. MacVicar, founder of MIT's Undergraduate Research Opportunities Program (UROP) in 1969. MIT's UROP set the ball rolling for similar undergraduate research programs elsewhere, including our very own IIT Bombay.

How successful has the UROP been? What about undergraduate research outside of UROP? How does the undergraduate research scene here compare with that in the best universities overseas? Who takes the credit for that? (Or, who takes the blame?)

This article aims to shed light on some of these issues to give you a better picture of undergraduate research.

The most apparent objective of any student research program is of course to develop intellectual and creative faculties in students. It also exposes students to the latest techniques and technologies in their chosen fields. However, most importantly it improves student faculty interaction and fosters mentoring relationships.

The Numbers Game

Let's look at undergraduate research in IITB quantitatively. Over the past few years, the numbers are on an upward swing. At least every third student has juggled some form of research with the staple fare of courses, labs, quizzes and exams. "Students are becoming more proactive. They want to find out where their interests lie and the hands-on experience is the best way of making up their minds", says Prof. Ananthkrishnan of the Aerospace department. But we can't just sit and take the laurels. A change in the larger picture has also helped. "The faculty too has more projects on their hands, and in general there is more research going on than say, 10 years back. Thus, the trend of more undergraduate research just fits in with this", he adds. However, the surge in student research has not translated into sheer UROP numbers. Unstructured research seems to win hands down over the formal UROP. (See box)

No. of UROP-01	
Year 2003	
1st Semester	8
2nd Semester	34
Year 2004	
1st Semester	9
2nd Smester	13

The Nature of Research

The nature of the bulk of undergrad research here is in essence slightly different from that in the US. Most undergrads in IIT take up computational and analytical problems which require them to work in direct association with the faculty. In universities abroad, undergraduate research is largely experimental in nature. There are well established research groups and an undergrad is just expected to fit in. One might argue that independent analytical work is the only way to hone one's skills and is the best form of research. However, one must understand that the emphasis here is on the word undergraduate. Most undergraduates prefer to explore the breadth of their respective fields and not the depth. They use patience sparingly and look for quick introductions to different fields. This explains why students often prefer an informal project to the more rigorous UROP. In such a scenario, some might find it better to work with a mature set of graduates already working on a well defined problem, and contribute in their own small ways. Due to the absence of well defined research groups in IIT, average to above average students often shy away from research.

Incentives

What efforts do universities make to promote undergraduate research? All universities, IITB included, provide funding for the formal research programs. A true reward, however, is getting one's results published. Though many student projects from IIT find their way to conferences and a few to journals, the encouragement is nothing like that abroad.

There are numerous undergraduate research journals in the US and the UK. In fact universities like MIT, Stanford and Caltech have their own peer-reviewed undergraduate research journals. These annual publications present original undergraduate research to other students as well as to a wider community. A similar initiative from IIT Bombay, or better still, a joint effort from all the seven IITs would be highly appreciated.

Which brings us to a very pertinent issue before the end of the article: is undergraduate research necessarily about getting published results or is about tinkering with what you know to learn a lot more, having some fun on the way? Most clues seem to suggest unanimously that it's the first option. It is unspoken knowledge that most undergraduates take up project work outside of course requirements to layer their resumes or to garner that much sought-after 'reco' or recommendation letter. Without mincing words, Prof Suryanarayanan of the Mechanical Dept sums up the attitude of students," Many IITians don't like their courses, or even engineering for that matter. They are here by chance or somebody else's choice. They have a final destination in mind. IIT is just a pit stop for them. Everything they do here is to get them somewhere else. This explains the mad rush for posts, extra-curricular activities and now, publications and papers."

Whatever are the motivating reasons and whatever is the form, undergraduate research is not just a passing fad. It just might be the weapon that could make IIT Bombay a force to reckon with worldwide.

Amrita Mahale is third year undergraduate student of the Department of Aerospace Engineering. She can be contacted at amrita@aero.iitb.ac.in

Entrepreneur Speak

In this series of interviews InsIghT and E-Cell attempt to bring to light the experiences of successful entrepreneurs from among our Alumni.

Rizwan Koita, co-founder of Transworks, B.Tech in Electrical Engineering, IIT Bombay, M.S. degree in Electrical Engineering & Computer Science, Massachusetts Institute of Technology.

Q: How did you start off? What motivated you to start up your own company rather than continue your job?

A: I graduated from IIT-B in Electrical Engineering in 1992, and received the Institute Silver medal. Subsequently, I got a scholarship from the Massachusetts Inst. of Technology (MIT) and went there to do my Masters Program in EECS. After completing my Masters I returned to India, based on both professional and personal reasons. Given the changes that were happening in India during the mid-90s, it seemed that India was progressing, and there would be new / interesting career opportunities in India. On returning to India, I joined McKinsey & Co., a leading Management Consulting firm. In 1998, I was involved with the McKinsey-NASSCOM report on IT-enabled services, which projected the emergence of a large new industry which would grow from almost a zero base to over US$ 17 billion by 2008-09. It had always been my aspiration to start my own company, and this seemed like a good starting point. Hence I left McKinsey and started TransWorks along with Jagdish Moorjani. Jagdish is also an alumnus from IIT-B and completed his B.Tech in Chemical Engineering in 1993.

Q: How many people did you have in your team at the beginning? You are from an entirely technological field, so did you face problems in non-technological fields like marketing, finance, etc.? How much technology related work do you do at present?

A: As mentioned above, we were 2 founders at TransWorks - Jagdish and myself. In any new venture 4 key things have to fall into place: - The right team of people with complementary skills and an excellent working relationship - A good idea which offers a distinctive advantage to potential customers - Funds required to sustain the business till the time the internal revenues cover the costs - Initial break - either in the form of a first customer or a business partner. To make this happen requires a fair amount of cross functional skills - project management, people management, financial analysis, and a lot of communication /presentation skills. Given the strong analytical backgrounds most IITians have, it is relatively easy to acquire the financial skills needed in business. The communication/ presentation skills are the critical factors which needs to be enhanced for a typical IITian.

Q: You got funding for your company from ChrysCapital venture capital firm. Could you explain what it takes to approach a VC firm and obtain funding from them?

A: Raising venture capital is similar to acquiring a new customer. In this case, you are selling part of the company as against your product. Typically a venture capitalist will ask the questions which you would expect an investor to ask: What are you going to sell? Why should the customer buy it? How will you make money? Who will manage the company? What is your strategy against competition?

(continued on page 8 ...)

Practical Solutions

A proposal for centralised PTs has been doing the rounds of PT representatives of various departments. Arvind Shastry presents the proposal in its current form.

Under the new proposal a PT Officer, possibly the placement officer himself, will coordinate the process of securing PTs (with the Dept Faculty PT Coordinators) for different departments. At the same time, the institute PT Nominee would be working along with the PT representatives of all the departments. The USP of such a system is that the mails or letters officially sent by a PT officer to different companies definitely carry greater weightage than individual PT representatives calling up different companies and enquiring about vacancies.

The current system of securing PTs at a departmental level will still continue. However, similar to the placement process, the resumes of the 3rd year students will be sent to the Training and Placement (T&P) Office. Also irrespective of whether the placements start from the odd or even semester, the PT process will start from the odd semester. A deadline will be given by the T&P office to the departments by which it should be intimated as to how many slots have been secured by the departments and how many are left. The PT officer would take over from there. Another idea which could be fitted along with the current placement process is to request companies enrolling for placement to also induct interns. Such a process can be easily initiated by a PT officer than possibly a PT representative since companies usually prefer to take interns much later during February or March. As of now, no formal training programme is laid out by the companies for interns. If the T&P office itself takes interest in this affair, the companies might think of outlining a more fruitful 6-8 weeks schedule for the trainees.

Having a centralized system would also, in some ways, make the departments "accountable" towards the T&P Office as they will have to answer them regarding the slots secured by them.

By 1st February, only around 30% of the Mechanical batch had secured PTs and further 10-12 slots had been obtained; while the scene is far better in the CSE department with 43 out of 50 students having secured either research or industrial PTs. The Chemical Engg. Dept. had managed to obtain 20 slots from 13 companies to go along with 8 students already having PTs. The situation is bad in Civil Engg. with only 6-7 slots available in the core field and 2 students having confirmed research PTs. The Aero batch has 8 confirmed slots for 33 students out of which 2 have secured research PTs. These statistics were presented by the PT Representatives in their Review Progress Meeting with the GSAA.

The proposal of centralization was first charted out in a meeting of the GSAA with the placement and PT representatives of all departments and its pros and cons were analyzed and discussed. However the proposal is yet to be (by 1st February) placed before the higher authorities. It was also unanimously accepted that greater involvement of faculty in the PT process would be highly beneficial for the students. A feedback to this proposal is most welcome from the current crop of 3rd yearites and also sophies as they could most likely be the first beneficiaries of such a proposal.

Feedback could be given to insight@iitb.ac.in as also slaad@che.iitb.ac.in

Arvind Shastry is a third year student of the Dept. of Chemical Engineering. He may be contacted at arvindshastry@iitb.ac.in

Putting the Pedal to the Medal

IIT Bombay finished second at the annual Inter IIT Sports meet held at Madras in December 2004. Krishna Ramkumar and Rohit Hippalgaonkar narrate the action and ponder over how things can get better.

Participants of Inter IITs of this year and of those of the past - will testify to the fact that an Inter IIT is always a humbling, yet enriching experience. This year's Inter IIT, held at Madras in December, was no different. At the end of ten action-packed days of intense sporting rivalry, Madras won the Mens' GC, with Bombay coming second. The final scores this year were much closer than the last, but Madras was still clearly superior and they were deserving winners.
It all started with the Aquatics and Water Polo events, way back in November. Bombay swept the Aquatics events and came a very close second in Water Polo. The athletics team performed well this year in spite of the fact that there were 5-6 notable absentees in the team. The basketball team had a tough pool, and though it started off well, a loose last match vs IIT KGP saw it bow out. A strong performance was given by our volleyball team but it ended up 3rd, after losing in a closely-fought semifinal encounter with KGP. The cricket team, widely regarded as the best over the years, lost out to eventual champions Roorkee in the semis, before clinching the bronze medal match. Bombay's traditional stronghold – tennis – stayed with Bombay, the men's team winning with ease and the women's team bagging 2 out of the top 3 positions. The weightlifters put up a good show too, but slipped down 1 place from their gold- winning performance at the last games. The standout performance however came from the hockey team, who played with amazing grit and determination to clinch gold.
The best individual performance from IIT Bombay was by freshman Sarvesh Paradkar who bagged a staggering 12 gold medals in aquatics! In the women's swimming championship, Mayura Deshpande was awarded the individual championship. Third yearite Paras Nehra, from the weightlifting team, was voted Mr. Inter-IIT. Among others who put in good performances were: final yearite Abhishek Godhara from the hockey team, thirdies B Srikar and Shrinivas from the cricket team and third yearite Shrinivas from the football team.
The Inter IITs are played with a great deal of passion and seriousness. However there are always those glorious moments of sporting spirit that stand out in every meet. Take for instance our badminton tie against Kharagpur. In the deciding match, the player from Kharagpur suffered a severe bout of cramps, but hobbled his way through the match, showing remarkable resilience. The Bombay crowd, though initially extremely partisan in its support, was amazed by his spirit and began cheering on both players. Bombay clinched the match in a nail-biting finish, and both players came off to a standing ovation! This is the spirit the Inter IIT ties ought to be, and on many occasions is, played in. A special reference must also be made here about the team spirit and bonhomie that follows from being part of the same team – traveling together, practicing together, living in the same wing for an extended period of time and so on.
It is strongly believed that IIT Bombay has an abundance of sporting talent, but unfortunately, in some sports this isn't tapped to the maximum. At the end of another exciting Inter IIT, the question to be asked is- have we done well enough? Are we happy with 2nd? A meeting with the GS of Sports, Prateek Sharma, and the SAC-in-Charge, Dr. Yadav, yielded some interesting insights as to why overall first has been elusive in the last few years.
•These days, Inter IIT is seen as just another means to enhance one's resume and so the same level of seriousness is not there. A very disturbing fact is that many attend the camp, only to back out at the last minute, with their certificates safely stashed away in their pockets. This attitude is downright sickening, and if many pass-outs are to be believed (and there has to be some element of truth in it) , it is this that has, in part, led to wholesale changes in the extra-curricular (and sporting) activities in the institute.
•There is a growing feeling on campus that LAN has a lot to do with dwindling levels of talent and more importantly interest in sports. It is a fact (and no we aren't talking just about H10!) that secys in some hostels have to go from door-to-door to get people to play in inter hostel events. Incidentally, the recent introduction of LAN in IIT Madras has coincided with reduced audience for inter-hostel matches, but the enthusiasm of the sportsmen themselves hasn't reduced drastically…well, atleast not yet. Let's just give them some more time, and then we'll see!
•Certain sports like cricket and athletics share the same ground, and this again hampers practice sessions, which are crucial for improving one's game. As a result of the extended monsoons in Bombay, we also get very little time to prepare for Inter IIT.
•Each coach handles two sports in NSO. As a result he only has one day every week to dedicate to coaching the institute team. Take for example, our athletics coach, who handles all the three kinds of events in athletics – track & field, throws and the jumps. Madras, on the contrary, has one coach for each of these departments.
•Part-time coaches, we feel, (who incidentally, Madras does recruit) are a must to ensure that sufficient time is spent coaching the institute team throughout the year. Minimal practice happens in the even semester in Bombay, another pointer to the fact that Inter IIT is fast becoming 'just another credential'.
•Some IITs offer sports scholarships as incentives to encourage sports. A variant of this was suggested, where 'team incentives' could be given to improve the discipline and work-ethic of teams, rather than just rewarding individual talent.
With serious thought now been given to the sporting system in the institute, things are definitely looking up.
•In a major project, the SAC premises is being extended to the area beside the NCC lawns, where a complex, housing a squash court, an indoor basketball court and another swimming pool will be built.
•The sports scene is back on track with various inter hostel events lined up for the semester.
•A conscious effort is being made by coaches this semester to identify budding talent through open events like the 60 m sprint.
•There is a definite possibility of temporary coaches being employed next year, for the sole purpose of Inter IIT.
•A very big sports meet is being planned later this year by the SAC authorities, and if all goes well, it will involve several good teams from all over the country. This will give our teams invaluable exposure and also serve the purpose of keeping the teams practicing together.
To conclude, one can only say that the groundwork is being done and the foundations are being slowly laid. Whether all this will culminate in Inter IIT gold, only time will tell!

Krishna Ramkumar is a second year student of the Department of Chemistry. Rohit Hippalgaonkar is a second year undergraduate student of the Department of Mechanical Engineering. They may be contacted at krishnar@iitb.ac.in and rohith@iitb.ac.in respectively.

The sport by sport breakup of IITB's performance:

Mens' GC

Sport	Position	Sport	Position
Swimming	1st	Athletics	2nd
Hockey	1st	Cricket	3rd
Tennis	1st	Volleyball	3rd
Weightlifting	2nd	Badminton	3rd
Water Polo	2nd		

Women's GC

Sport	Position
Swimming	2nd
Table tennis	3rd
Athletics	3rd

Keep Running

Numerous IITians took their passion for running one step further this year at the Mumbai Marathon. Some of us even clocked impressive times. Anup Mudbidri recollects his experience of the event.

There was this thought haunting me for having missed the first ever marathon held in the Indian sub-continent last year. Once bitten twice shy, I jumped into the marathon bandwagon when it resurfaced this time around. Registering was one thing but running the whole course was a different ballgame altogether. 42 kms was asking a bit too much for a casual runner like me and 7 kms was just about our institute cross-country race. All said and done 21 kms seemed to be my best bet. Having spent my winters lazily and having hurt my foot a week before the event, I was unsure as to what would happen on the D day. A motley crowd gathered on the chilly morning of 16th January near the SAC and we headed to CST in the relatively new and well-maintained institute bus.
"Enthu" as we IITians fondly call it was in the air right from the word go. The sheer number of people – young kids, hunks, chicks, oldies, housewives, dabba-wallahs and best of all the onlookers - was awe-inspiring. These people were not here for fame or money and in most cases not for a cause either. They came only because they wanted to be a part of something bigger. The absence of vehicles on the ever congested streets of Bombay, media crews jostling all over, the police-forces maintaining a tight leash, celebrities happily mingling among the crowd, volunteers in the last minute rush and the runners fully geared - it was a sight that will be etched forever in my memory.
The half marathon was scheduled at half past nine and having time at hand we headed to Azad Maidan for some quick snacks and to dump our baggage. Chatting with an elderly person who coincidentally happened to be related to one Kokilaben about whom TOI had printed an eye catching article was an interesting experience. Several NGOs, ad-men and social workers used this occasion to highlight their pet issues. Some were dressed up as a broom (awareness on cleanliness), some were carrying banners and still some had their faces painted.
Amidst all the trampling and the arrows being thrown the race began in full zest. Eyecatching T-shirts befitting the occasion, having lines "Run like the city that never sleeps", "I run with a positive attitude", "I run for Mumbai" were all around. People were helping each other out, encouraging each other and smiling all along. This was in sharp contrast to the frowns and growls that is characteristic of junta. On that magical morning nobody was a loser, not even the bystanders.
I am sure the Marathon will go a long way in etching Mumbai's name prominently on the global map. The relatively low prize money, the fact that it was dominated mostly by foreigners was immaterial to the ultimate thing that won on this day – Human Spirit. Surely isn't our journey in life similar to a marathon? The hurdles we need to overcome, the ruggedness we need to keep going no matter what, the potholes and the pitfalls we need to be wary of.
Drained and tired I just managed to run for about 18kms and walked the rest. Though not worth boasting about, it has given me the "Been There Done That" confidence. Also it has forced me to sit back and reflect if I am well prepared to take on the marathon of life. This is more critical because here I just have one chance.
So next time the marathon comes around do give it a shot. I assure you that you'll learn a lot and have fun.

Anup Mudbidri is a fourth year undergraduate student of the Department of Mechanical Engineering. He may be contacted at anupmm@iitb.ac.in

Mood Indigo 2004

Competitions ★★★★☆

Key Events:
Gyrations, Debate, JAM, Castle Making, Antakshari, Word Games, English Dram to name a few.
Highlights:
- The introduction of the Parliamentary Style English Debate.
- The successful introduction of the Ball Room and Couple dancing competition.
- Innovation in the problem statements for the Fine Arts events.
- An eminent panel of judges ensured overall satisfaction with the results
Downsides:
- Lack of creativity in most LA events
- No one seemed to be able to find the Competitions Desk
- The introduction of Malhar style contingents and the resulting points system didn't go down well.
- Major Colleges were absent especially in dramatics events. (the timing of MI this year played a big role)

Vogue ★★★☆☆

Key Events:
Professional Fashion Show, The Competition, Terrence Lewis
Highlights:
- Rope Malkhamb as a part of Terrence Lewis' Performance.
- A great showing by the IIT Bombay team.
- Change of venue to the OAT
Downsides:
- Despite its high quality, Terrence Lewis' performance was too abstract for most of the audience.
- A dip in the quality of participating teams.

Publicity ★★★★☆

The MIthology centric publicity campaign had nice artwork on the posters, pamphlets and calendars. The publicity inside campus was very noticable and results clearly showed with a greater number of students (particularly freshmen) attending and working for MI despite the odd dates.
One brilliant publicity idea worth mentioning was the precsence of MI logo and mascot on notebook covers all around Mumbai.

Pronites ★★☆☆☆

Key Artistes:
Hema Malini,Remo Fernandes, Colonial Cousins, Parikrama, Zero
Highlights:
- Despite being late, Live-Wire saw a good audience and was appreciated by many.
- Remo's "IIT... Mood Indigo!" performance.
- Bharatnatyam on Roller Skates.
- Roop Kumar Rathod.
Downsides:
- Colonial Cousins' disappointing performance.
- Sonali Rathod.
- Dragonfly (Why were they there in the first place?!)
- The Sufi Music & the 'Piya Bawari' opening acts.
Repeated Sentiment in response to survey questions:
"The artists had tremendous celebrity value but very little substance in their performances."

Informals ★★★☆☆

Key Events:
Hysteria, Discotheque, Mr. and Ms. MI, 60 seconds to fame
Highlights:
- DJ Nasha and DJ Suketu performing during Hysteria
- DJ Friction and DJ Nihaal performing at the poolside discotheque.
- The Karaoke Insomnia night
- The Clay Modeling and Kite Flying OTSE were successful.
Downsides:
- The absence of Aquagames
- The attempt at Crystal Maze
- The much publicized 'Crazy Workshops' turned out to be a 20min video show late by 24hrs.
- 'Mobile Informals'

Horizons ★★☆☆☆

Key Events:
Heads ya Tails, Cha Cha Cha Workshop, Panel Debate, Exhibitions
Highlights:
- The Cha Cha Cha Workshop
- "Bole So Nihal..." the martial arts show.
- "Ek Kadam Ka Faasla", a play by IITians, being staged.
Downsides:
- "Heads ya Tails" had good moments but dragged on too long.
- The Art Appreciation Workshop (Insomnia)
- Lack of audience in the Panel Debate.

Crowds ★★★★☆

The choice of dates for the festival caused it to occur from Monday to Thursday, all working days just before the commencement of the Christmas-New Year vacation season! Major outstation colleges were not able to send strong contingents. This reduced the level of competition in some events.
Still, in terms of numbers this Mood Indigo matched previous editions. A larger number of colleges from in and around Bombay showed up and the pronites saw no decrease in audience.

Lounge ★★☆☆☆

- This was a new concept introduced this year, a nice thought but not well-executed.
- Very few events at lounge were appealing to the crowd.
- Most of the events could not stick to the schedule.

Misc

- Tremendous efforts were put in to organise LiveWire on 25th Jan. It generated over Rs. 3 lakh for relief of Tsunami victims.
- The MIthology theme was well chosen and efforts to implement it were evident in the stage setting at Vogue and some of the competitions.
- MI reunion saw a few alumni from the 70's. The panel discussion on MI over the years was thought provoking.

Controversy

- 23rd of December, 7:30 PM, the MI OC's were informed by the Dean SA about the sudden demise of PV Narsimha Rao and that they should consider cancellation of the event.
- On 24th December, the MI team kept trying to get permissions for organizing Live Wire by contacting the ministry. Meanwhile, pass distribution was put on hold and a long line of confused people kept waiting.
- 24th December, 3:30 PM, the MHRD sent a fax stating that all events involving loud sound and lighting should be cancelled. This was a reply to another fax which was sent from IIT to the ministry asking permissions for a student rock show scheduled for the same day.
- The fax from IIT was sent by the Registrar on request by Dean SA. The MI OC's were not aware of these proceedings.
- On 24th evening, Dean SA mailed cancellation of MI on iitb.general. The MI OC's were not informed about the same.
- All events at MI (including sponsor stalls) were closed on 24th evening. Prize distribution was also cancelled and prizes were given at SAC office which caused a lot of confusion.
- After cancellation of Live Wire, there was a heated argument between the MI team and the Dean SA in the OAT. The team was dissatisfied with the manner in which the issue had been handled, particularly the fax which was sent to the ministry.
- The whole drama ended on a sad note with a down-hearted MI team and a discontent crowd.

★☆☆☆☆ poor ★★☆☆☆ average ★★★☆☆ good ★★★★☆ excellent ★☆★★★ outstanding

Techfest 2005

Yantriki

Key Events:
Survivor, Rescue, Micromouse, Powerboats
Highlights:
- Teams from 5 Countries with an Iranian team placing 2nd in Micromouse.
- Dominance by Pune based teams in Rescue and Survivor. Where were the IITians?
- Huge Crowds. A packed Convocation Hall for the finals.
- The winner of Micromouse clocking a time of 17.33 sec through the maze (The world record is around 9 sec).
- IIT Bombay's 'Romeo' fighting for top honours in the finals.
Downsides
- The lack of IITian participation. Did the tougher problem statement prove too taxing for us? If yes, its something that we must take a close look at.
Innovation
The problem statement of Survivor, made innovation imperative. Machines had to be designed to survive a 1m fall. Designs included high density foam bodies, steel chassis and hand crafted suspension systems.

Chemsplash

Key Events:
U Turn, FDP, Viscometer
Highlights:
- Faculty participation in floating problem statements and judging the events.
- Creative problem statements for U Turn and Viscometer.
- Great levels of participation in the above events including a significant number of MTech entries.
Downside
- The FDP saw poor participation. More appealing problem statements could be looked at.
- The sheer lack of events considering that Chemsplash is advertised as one of Techfest's main stays.
Innovation
U Turn saw innovative solutions. Conductivities of a conducting electrolyte were altered in some machines. Catalysis was also used as a control mechanism. Most IIT teams used the rate of flow of an electrolyte to control distance. Viscometer saw a few interesting entries that used the oft forgotten yet simple basics of Chemical Engineering.

Workshops

Key Workshops:
Animation, User Centric Design, Security
Highlights:
-The workshops had great content.
-The workshops were based on popular themes.
Downsides
-Only a restricted few could participate.
- IITian participation was low.

Udaan

Key Events:
Chuck Gliders, Hot & Rising, Kite Workshop.
Highlights:
- Huge participation
- Visually appealing
- A great new concept
Downsides:
- None that we know of :) considering that it was a new event.

Communique

Key Events:
Lectures by Dr. K. Kasturirangan, Dr. Ponani Gopalakrishnan, Dr. Stephen Wolfram, Dr. Andrew Harrison. Xgesis
Highlights:
- Great Reception to the talk by Dr. Kasturirangan
- Dr. Stephen Wolfram's technical lecture went down extremely well with the audience. There was tremendous participation by the faculty among the audience.
- Xgesis, the exposition contest saw enthusiastic participation and was highly appreciated.
Downsides
- The lectures failed to catch the imagination of a large section of the visitors
- The topics were in some cases, too technical.
- Some speakers weren't really as high profile as previous years.

Hub & Exhibitions

Key Events:
On the spot events and Exhibitions
Highlights:
- Entries from UMIC in the R&D exhibition received great appreciation.
- Professors from IIT Bombay participated with great enthusiasm.
- Documentaries from the history channel.
- On the spot quizzes and competitions
Downsides
- Poor adherence to the schedule at the Hub and on the first day of the exhibitions.

Miscellaneous

Highlights:
- Phenomenal participation from outstation colleges.
- Industry participation in Techfest reached a new high.
- The canteen facilities were surprisingly affordable.
Downsides
- Despite managing to win the trophy, the level (quantity and quality) of participation from IIT was poor.
- The Techfest intra events were a let down.

Drishti

Organised in association with the National Association for the Blind, Drishti aimed at attracting entries to aid blind people. The entries received included innovation to everyday items like canes and mobile phones. All in all a great initiative that should be carried forward into future Techfests.

Last Straw

Key Events:
Under Construction, Skyline, Constructa, Atlantis II
Highlights:
-More Challenging Problem Statements that employed Civil Engineering Fundamentals.
-Traditional Structure building competitions saw great turn out.
Downsides
-The newer events like Skyline didn't receive great response. The tougher problem statements proved to be a deterrent to some.
Innovation:
Most participants stuck to the mould. However some exceptional designs were able to bear up to 100 times their weight.

Competitions

Key Events:
Open hardware, Open Software, CRO 1.0, Decathlon.
Highlights:
- Decathlon for the novelty at a Tech-fest and the enthusiasm of the participants
- A Pakistani team winning Open Software.
- An interesting problem statement for CRO 1.0
Downsides
- Open Hardware and Open Design didn't receive any noteworthy entries.
- The traditional online competitions were missed by many.

Technoholix

Key Events:
Laser Show, McLaren Mercedes, Humanoid Soccer, Scitech.
Highlights:
- McLaren Mercedes, steering and all.
- The story board at the laser show.
- Scitech was extremely well organised. Great questions held the crowd's attention.
Downsides
- The F1 car revolving for over 5 min.
- The repetition of the laser show this year and its poor execution.
- The humanoid robots were a disappointment after 2003's similar yet better executed demo of AIBO robots.
- Barry O'Brien making his second appearance in as many years

poor average good excellent outstanding

.leisure

How To App In 5 Days

So you've decided to go for a PhD/ MS and you suddenly realize that the University deadlines are right around the corner. Before letting those panic attacks hit you, take a look at our emergency apping guide.

Day 1

12noon: So this is when you wake up? No time to lose. Search the net for Prometric helpline phone number. Take GRE date for day 5. Afternoon slot. Trust us, you will not get up for the morning slot. Take TOEFL on day 4. Will help you get used to the examination centre. Also, decide what subject you're apping in (can be postponed to day 5 also).

1pm: It shouldn't have taken you that long to finish step 1, but since you're new to this we'll go easy on you for now. Quickly, lunch 12.5 seconds. Make a list of Profs who will give you recos. This is not easy. Many people will not like you. If you're lucky, you'll find 3 reluctant but willing recommenders. If not, go buy them flowers.

2pm: Apping is expensive. Write to seniors in Cornell etc who will sponsor your app. Tell your parents not to buy that new car just yet. Make sure you get around Rs.60-80,000 depending on how many universities you apply to. An international credit card will make your life a lot easier.

3pm: Go through rankings of Univs in your field (and with specialization) and go through their websites. This will take a lot of time which you don't have. But make your best effort. Its important to choose your universities in a well-distributed manner. Yeah, yeah we know MIT should accept you but even then.

9pm: So we gave you a good amount of time for research. Hope you had dinner too. Start writing the basic outline of your SOP. You might want to look at some online tips and some sample SOPs only to give you an idea of what is expected and NOT to lift lines which sound impressive. Frame a basic outline and have a basic idea of how you want to present yourself. Then get some sleep.

Day 2

9am: Get up lazy bum. Go meet your recommenders and ask them *nicely* if they are willing to write you a good letter of recommendation. If they are not IIT Profs, mail them. Recos take a lot of time and you've been very lax about asking them but plead, beg and promise to do chores for them and they might offer to help you.

12noon: Now that you've done enough grovelling for the day, go to the acad office. Ask for a beautiful dot-matrix fresh transcript request form. Its 500 hundred for the first and hundred per additional form (It doesn't make sense but ...) so decide in advance how many you need. Take about 10 more than that. Pay up at the cash section and collect in the evening.

2pm: Study for GRE. 50 word lists, 3 days. Go figure. You don't have much time, unless you're Johnny Mnemonic, just go through the Most-Frequent Words list. If you have to study for TOEFL... you probably can't read this guide anyway.

4pm: Fill out online application forms. This is like the good old freshie days when you created 100's of yahoo accounts. Only this time the details matter. This will take a lot of time again.

5pm: Collect Transcripts. Then get back to filling out forms.

9pm: Make sure you find out exact addresses of where to send things. Some univs want everything in duplicate, one copy for the graduate division and one for the department. Write your resume. Send it to your father/uncle/best friend/cat for suggestions and spell-checks.

10pm: Mail profs so that they remember your recommendation forms.

Day 3

9 am: Visit/e-mail all recommenders quickly. Remind them (with the right amount of desperation in your voice) that there are only 2 more days to go.

10am: Get back to your SOP. Fill in body. No time to think. Let your pen do the talking. Again, send it out to everyone who can give suggestions.

12noon: Check requirements on the online sites again, find out GRE codes for each university, you'll need them on the exam day.

2pm: Go to New-cooperative (What, you don't know where that is??) and buy 10-20 large Manila envelopes and some envelopes to give to your recommenders also. Study for GRE.

5pm: Finalise your SOP and resume. Take printouts on good quality paper.Take print out of whatever online forms you need and fill them out. Sort out your envelopes and put in the right SOPS/resumes/forms in each. Put the addresses on the back. Good. Now you only need those recos. Uh oh. Panic attack. Mail the profs again. Take an antacid, study some more and go to sleep.

Day 4

9am: TOEFL in the afternoon. Call the courier guy and tell him that you'll be ready at 7:30pm tommorow.

1030am: Leave for TOEFL center. It's in Sakinaka but there's always a lot of traffic. Best of luck! The hardest part will be not falling asleep.

5pm: Good, you're back. GRE tomm, get cracking. Before you go for you exam tomorrow you need to collect recos. Mail profs again. (Yes, we know that you seem like a pain in the neck but trust us, it's necessary)

Day 5

9am: Collect recos. Uh oh. One prof hasn't finished. Plead with him to finish by evening.

1030am: Go for GRE test. Best of luck. With your level of preparation, you need it.

5pm: Run and collect the remaining recos.

6pm: Get back to your room. Put everything in the right packet. Double check. Triple check.

7pm: The courier guy is here. Send out your packets.

710pm: Yipppee all done! Wait, send your additional score report form for GRE and TOEFL scores. You have to fax them.

9pm: Now you're finally done! If you've pulled it all off congratulations! All the best with your results!

Anon-e-mouse and Mr Nobody are two students who do not wish to be contacted and are not responsible for any consequences that might result from these techniques.

Esoterica

Udit Parekh and Anuj Pradhan take you on a tour of places to eat at for the cash-strapped hungry in the fourth edition of their column.

The editors of this bastion of upright journalism have decidedly gone off their rockers by asking us to continue with the incomprehensible column we started last semester. This time they have on their hands a rejuvenated couple of loons.

Since we cannot help but look back on the marvelous sea food we had at near throw away prices; since we are always, we mean always, hungry; since any mention of a new restaurant has us running there at the drop of a hat; since we are always short of the requisite amounts of money; since we are sure that you are thrilled with the prospect of facing a further three months of 'channa' and 'rajma' we thought that another glaringly bad article disguised as a piece on food joints would pass by without us being sentenced to a good old round of stoning, especially one on cheaper eateries.

We decided to start near home, with places most of us have been to. There is the much loved Maddu Mess, whose entrance has put the fear of God into a friend of ours. Those lurking about in the early morning hours have surely eaten breakfast at Maddu, partaking of the wonderful egg dosa, dal vada and other such delicacies. There is nothing like breakfast at Maddu to start off the day. Their meals are not too bad either (one of the authors survived winter by eating here), the chicken curry, mutton curry and fish curry are always there, while the biryani cooked occasionally is heavenly compared to what you are skipping. The vegetarian food has more variety and with kadi and rasam to wash the meal down, Maddu is a sure winner. Their coffee is great too. Maddu is located in the second left across YP. Before you get to Maddu, there lies another reasonable joint by the name of Nityanand, located in the same lane. Their beef is what we had as well as the biryani. Not bad at all, and the paratas cooked in the Keralite style (we hope this information is correct!) are refreshingly different.

At a slightly higher rate than the previous two, one can partake of some good sea food near Vikhroli station at Priya Lunch Home. Their sea food plates are what we usually have accompanied by the stuffed bombil or the koliwada style prawns. For a feast of meat, one must go to National Café just past Hotel Leela, near Marol, on the main Saki Naka road. The last time we went there we had tandoori chicken, tandoori chicken, kababs, tandoori chicken, …, you get the picture (and one of the gluttonous authors still wasn't sated!) The gravy dishes are priced at very affordable rates as well. For all good things one must move to south Bombay (snooty *!@$@#$ -Anuj) for their one finds in and around Colaba Causeway all manner of things edible, from the exorbitantly priced to the littlest of roadside stalls. Causeway is home to Olympia, an eatery serving some very neatly priced chicken and mutton. We were also sold out on their kababs, which were soft, succulent and just mouth-wateringly good. With chapattis at Rs.2, one cannot get much lower prices. Their gravy dishes are priced in the Rs.20-40 range. Of course there is the additional benefit of having Leopold's right across the road. Famous for being the eating place of choice for what seems like all the foreign tourists in the city, it serves humongous quantities of meat at prices which are not all that steep. Their steak and onions for example costs Rs.75 and their fantastic Boti kabab costs Rs65. Just go there and pig out, of course food is not all that you get there (knowing grins), a pitcher would make you poorer by Rs.250. A similar establishment to Olympia is the much talked about Baghdadi, which is in the same lane as the famed Bade Miyan (which we thought was a huge disappointment and overpriced to boot). Do not miss the huge rotis for Rs.5. We ventured into just about everything on the menu and most of it was pretty good. Oh and if you insist on going to Bade Miyan, try their Beef seekh kabab rolls and the beef baida roti. The chicken and mutton stuff is nothing worth writing home about.

Low-Priced Eating Joints - Ready Reckoner

Eating Joint	Location
Maddu Mess	YP
Nityanand	YP
PLH	Vikhroli
National Cafe	Marol Naka
Olympia	Colaba Causeway
Leopolds	Colaba Causeway
Baghdadi	Colaba Causeway
Snowflake	Metro Cinema
Apoorva	Horniman Circle
Crystal	Wilson College
Food Inn	Colaba Causeway
Kulfi Center	Chowpatty

Lastly there are the rare low priced sea food options. We were shown a great little Goan joint close to Metro cinema, near CST. Ask for Kayani or Bastani around Metro and venture into the lane next to Bastani. In a little corner sits Snowflake, where mori amotik costs about Rs.25. Their pork vindaloo is great and there was some beef curry which we tried which was good as well. If we recall correctly a plate of rice costs Rs.5-10. Another place worth visiting in town is Apoorva. Very close to 5 Spice and near Horniman Circle, CST, it offers a wide variety of reasonably priced sea food dishes and a meal comprising solely of multitudinous types of fish and rice shall set you back a mere 150 bucks. The place also boasts of good veg food which is even cheaper than the fish (surprise, surprise!) and an extravagant dietary outing shall cost you no more than a Rs.100. (The authors aren't oblivious to the existence of vegetarians. We just have limited expertise in the area.)Trying to do some justice to the greener section of the food eating community and in a desperate attempt to make this article look less lopsided than it actually is, we shall end with a mention of Crystal and Food Inn. The former is a dingy old joint on Marine Drive, very close to Wilson college and boasts of some of the best aaloo parathas I've ever had for a mere Rs.14. The lassi to go with it is also worth a mention and the 2 together form one of the cheapest meals one can get in town. Food Inn, again located on the famed Colaba Causeway covers the basics in both the veg and non-veg departments and a decent veg meal shall cost you no more than 100 bucks. For the times we cannot afford to go to Churchill for deserts there is Kulfi Center which, as the name suggests offers a wide variety of kulfis for a meet 25 bucks a plate. Located near Chowpatty beach on Marine drive and walking distance from Crystal it's a perfect way to end a long day spent in town.

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On The Edge

Prashant Pawan looks at the ins and outs of the Formula One Car.

Everybody is waiting for March 2005. The midsems would be over, the institute elections and PAF will be here. And then of course, there is that huge number of people waiting for the Pakistani cricket team's tour of India. But there's something else, which is catching the attention of more people and media this year, than ever. Yes of course, the Formula 1 season! With Techfest 2k5 putting up the McLaren on display and Narain Karthikeyan all set to be the first Indian to set the track alight in a Jaguar, the mood amongst us couldn't have set in better. So what is so special about this sport which, as some would naively put it, is just a few cars going round and round some 70 times, only to have the same guy win almost everytime? Well, there is a lot more to it. As someone rightly put it, F1 is not just a sport. "It is technology in action". Read on and make yourself familiar with some of the more important aspects of the technology that goes into the sport.

The Engine

"The perfect race car crosses the finish line in first place and then falls to pieces"- Ferdinand Porsche.

Revving to over 18,000 RPM and some of them having done as much as 750 bhp/litre, the F1 engine requires a very sophisticated design. Add to that an incredible fuel consumption of 0.75 litre/km and you have what has been termed as "the most stressed piece of machinery on earth"! The engine consumes a ridiculously large 650 litres of air per second!

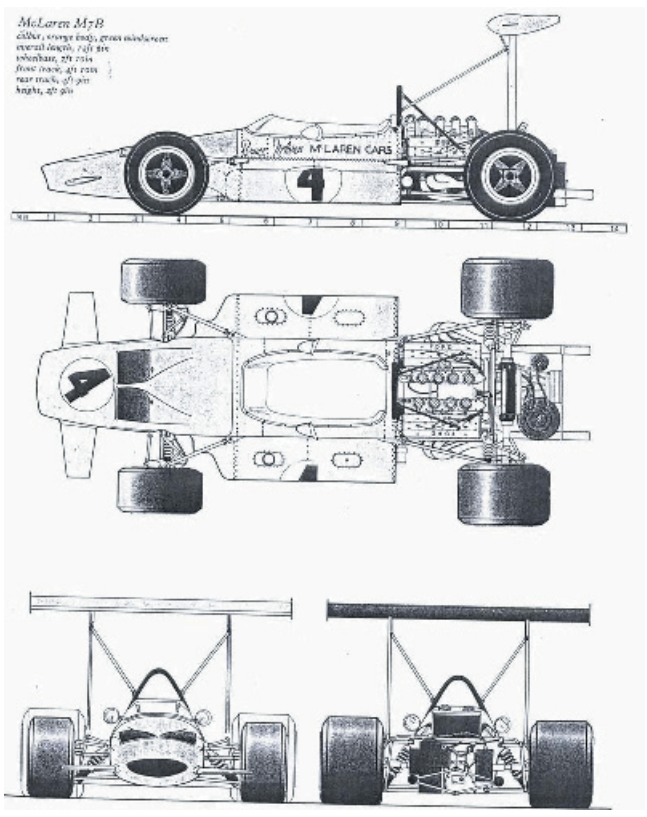
The force on the pistons is about 9000 times that due to gravity. All this requires a sturdy engine design. But then there is also this requirement for the engine to be as light and compact as possible. It is this conflict that brings in the skilled engineer. Materials like Al-Mg alloys and carbon fibres, known for their light weight and strength are commonly used.

The gearboxes in the current versions of the cars are highly automated and drivers select gears via paddles fitted behind the steering wheel. You would've noticed this being done when the television shows images from the on-board camera. The design is faster than the "H" gate style found in road cars and is quite similar to that found on bikes. Most of the cars on the grid today run seven-speed units.

Total automation, however, has been disallowed by the FIA (the governing body). They have in fact restricted every team to one engine per Grand Prix weekend, mindful of the huge costs that go into the manufacture of these engines.

Fuel

For a machine that runs at scorching speeds you would think the fuel it uses is some kind of a magic formula. Well the fact is that the composition of the fuel that runs these cars is surprisingly close to commercially available petrol. The official F1 website states that during a typical season a formula one team uses 200,000litres of fuel for testing and racing and these can be of anything upto 50 slightly different blends depending on the track and/or the weather conditions.



Aerodynamics

After the engine itself, this is probably the most important aspect of the formula one race car. Here the designer needs to take care of two aspects:downforce and drag minimization.

Downforce is that which helps push the car's tyres onto the ground and improve cornering forces. The drag, of course, is a result of turbulence (those of you who've done a transport phenomena related course would've come across this).

The way downforce works is the same as that by which lift is generated for an aircraft. The Bernoulli Principle dictates that where the velocity of the fluid is higher, the pressure is lower. This is exactly what happens when a wing of the right design is used. The air above the wing pushes the car down to the ground. Modern F1 cars generate downforce of as much as 3.5 times their own weight! If that didn't sound all that spectacular, you should know that this, in principle, allows the car to travel upside down at very high speeds!

The wing profile depends to a great extent on the particular track. For instance, tight, slow circuits like Monaco require aggressive wing design. On the other hand, circuits like Monza, which are essentially high-speed ones, will cause most teams to strip off the wings to a great extent. So it all boils down to cleverly balancing both the aspects ofdownforce and drag.

Teams spend huge amounts of capital and computing power to get their aerodynamics right. McLaren in fact calls a modern bespoke wind tunnel a necessity, rather than a luxury. And rightly so, because the competition is so fierce that even a 10% improvement in performance can lead to amazing results.

The Brakes

One of the striking aspects of F1 racing is that, cutting down speed is as important as pushing it to amazing levels. Proper braking is one of the most important skills that an F1 driver should possess.

Braking technology, again, is pretty simple in F1. The cars use rotating brake discs, which are squeezed between brake pads using a hydraulic caliper. In fact, after FIA banned anti-skid systems, braking has become one of the greatest tests for the F1 driver. The materials used for the brakes are of the highest quality. Most of them use carbon-fibre composites, which are of light weight and can withstand high temperatures. But how high can temperatures be? So high that you can actually notice them glowing yellow hot during the races! Their design is meant to withstand 750 Celsius.

The Tyres

It is very easy to get carried away with all the technology involved in the engine making and aerodynamics. Indeed, one forgets the most important factor in deciding the performance of the car – the tyres. How many times has one not heard of entire races being lost solely due to poorer tyres. The F1 tyres typically last for about 200 kilometres unlike their road cousins which can live upto 16000 kms. Their nylon and polyester structure ensures lightweight and durability, which, as you would've deduced, are the aims of almost every component of the car. All racing tyres typically work best at high temperatures. The F1 dry grooved tyres are designed to function between 90-110 degree Celsius. They are filled not with air but with a special mixture of low density gases which ensure constant pressure conditions. 'Wet' tyres have the necessary tread patterns to expel standing water on the tyre during the race. Lack of this facility will lead to one of the worst possible situations for the race driver – 'aquaplaning'. This is nothing but the formation of a film between the tyre and the track. This will mean that the car is effectively floating (much like the frictionless air tables)! As a result grip is drastically reduced. It is worth mentioning that the patterns are actually mathematically derived, inorder to ensure scrubbing off as much water as possible. F1 doesn't cease to remain interwoven with engineering does it!

Other details and sources

There are various other aspects of the modern race car which involve the latest technology and still pose design problems to the very best of engineers. The best place to look for further information is ofcourse the official formula one website, www.formula1.com. A major portion of this article in fact draws information from the site. Then the more enthusiastic reader might care to look up individual webpages of some of the top teams, full with brilliant images of their technology centers.

Armed with all this and more, you will be all set to derive the pleasure that an informed user gains while watching the races. And for the first time possibly, a good number of F1 viewers will be supporting the Jaguar F1 team and its new driver! See you all on race-day!

Prashant Pawan is a third year Metallurgical Engineering student. He can be contacted at p.pawan@iitb.ac.in

Questech

It's time to whack your brains again as Shweta Shah and Varun Kanade provide you another mind sport . Early birds can claim treats at coffee shack!

Editor's Note: We solved these puzzles in 15 mins flat. So this is how it goes...
15 mins: Scope!
20 mins: Genius
25 mins: Intelligent
30 mins: Cream of the Nation!

Playing with squares and cubes

If a number is a square of an integer, and also the difference between cubes of two consecutive integers, then the square root of this number can be expressed as a sum of squares of two consecutive integers.
For eg. 169 = 512 - 343, so 13 = 4 + 9

Ants everywhere!

You have a rod of length L, and n ants are placed at positions t1,t2,t3.. tn=L which are at equal intervals from the left end of the rod. All ants can move with the same speed. Ants may begin to move in any direction, but if two ants collide they will reverse directions. What is the maximum time required for all ants to fall off the rod?

Transportation problem

Looks confusing but hey it really isn't that bad. Every pair of cities in a country is linked by exactly one of the three modes of transport, namely, road, rail or air. All the three modes of transport are used in the country. No city in the country is served by all the three modes and also no three cities are linked pair wise by the same mode of transport. Determine the maximum number of cities in the country.

The number game

This is just another number puzzle which generally feels magic, but is really only logic. Choose a number. If even, make it half. If its one more than a multiple of four, multiply it by three and add one. If its one less than a multiple of four, multiply it by three and subtract one. Whats the minimum number you will reach by a successive application of this rule? Justify.

Please mail your queries, suggestions and solutions at vkanade@cse.iitb.ac.in and/or at shweta@iitb.ac.in

ChEA Symposium 2005

The Chemical Engineering Association (ChEA) is organizing the annual ChEA Symposium, one of the biggest events in the field of Chemical Engineering. This year the Annual ChEA Symposium will be help on 19th March 2005 at P.C. Saxena Auditorium (L.T.). The topic for the symposium is "Role of Chemical Engineering in Nanotechnology". Eminent speakers from academics as well as industry will be in attendance on the 19th for the Symposium. To name a few, we have Bhatnagar award winner Dr. Murali Sastry from NCL Pune, Dr. V M Naik from Unilever Research, Bangalore and other speakers from well known academic institutions like IISc Bangalore, IIT Kanpur, and the industry.
For further details please visit www.che.iitb.ac.in/chea/symposium2k5/index.html or mail chea@che.iitb.ac.in

R & D Split Wide Open

Ankur Gupta and Anup Mudbidri look at funding for undergraduate research and other pertinent issues surrounding R&D at IIT Bombay.

It is a sad situation that BTPs and DDPs for most of us have become a matter of improving on our plagiarizing skills rather than providing a taste of solid research work. Most of us end up doing some last minute jugglery and pray to god just about a day before our presentation that the examiner and the guide be in a good mood. (Pardon us for generalizing). Who is to blame for this sorry state of affairs?

Given the fact that these projects are a requisite for a B.Tech/Dual Degree, for a good number of students it is involuntary work. The project just gets added as another point in your resume - jazzier the name it has, the better. Also for another bunch of students it is a means of garnering a good recommendation in order to apply for their Masters/PhDs. Only a handful of them really pursue it with a flair for research it demands and deliver the goods so to say. The situation is aggravated by the lack of proper guidance and strictness by the professors in some cases.

Probably most of the students are oblivious to the fact that these projects are part of the R & D activities of the institute. A lot of money is being poured in for these (about 50% of the projects are funded). To get a clearer picture we spoke to Prof. Kartic C. Khilar, Dean Research & Development. He says "Various government organizations like the DST, DRDO and the like give us projects and consultancy work to the tune of Rs.300 million and the private industries account for about Rs.90 million". If so much of money is being spent the big question is why don't students who do this work as a part of their project get paid? Prof. Khilar, elaborates "Anything that is compulsory for a degree, particularly undergraduate projects the professor is not obliged to pay. Also note that 50% of professors do not have projects. But normally each faculty should be allocated one BTP student. It is unto the professor's discretion to judge a student's work and given his/her limited resources, decide to pay the student or not."

Now let us compare IIT Bombay's situation Vis-à-Vis reputed institutes abroad. A patent on the Recombinant DNA Cloning Technology held by Stanford University, California earns them close to $ 100 million annually. The chemotherapy drugs Cisplatin and Carboplatin earn Michigan State University about $ 15 million. Also a lot of industries have joint research labs with good universities. In contrast IIT Bombay earns most of its funds on a project to project basis and consultancy work. Prof. Khilar adds that "Though the inputs (read funds) have been increasing constantly at about 10% over the past decade, the research output has more or less been constant. In universities abroad there is a constant pressure on the faculty to produce quality research papers regularly. To give you a better perspective, decently good universities in the US have an average of 3-4 research papers published per faculty per year. To nurture this culture, these universities have a performance based pay structure. IIT Bombay in this regard is a rung below with an average of 1.5 and being a government institute we cannot change the pay structure."

The IRCC has been doing commendable work to try and better the situation. Special awards/incentives have been instituted for the most cited paper, research having wide industrial application and the best new faculty.

Workshops, In-house symposiums and advanced research labs are actively being pursued.

Recently a technology licensing workshop was held by the World Intellectual Property Organization, Geneva. Also the thrust is on technology transfer agreements, patent licensing and technology licensing. An indicator is the number of patents filed by IITB which has increased from a measly 4-5 per year in 1998 to a commendable 25 last year.

Yet several issues need to be addressed and we have a long way to go. We believe that the situation will improve slowly but surely. Also the students need to realize the importance of their work and do it with due diligence. In such a case we should expect professors to play a more pro-active role in guiding a student's research work. This will effectively lead to quality research work and students can hope to earn more pocket money. With this the twin objectives of R and D as elucidated by Prof. Khilar - to help the society & the industry by working on advanced knowledge and to sustain an educational environment which promotes creativity, innovation and scholarship will fructify.

Ankur Gupta is a fifth year student of the Dept. of Chem. Engg. Anup Mudbidri is a fourth year student of the Dept. of Mech. Engg. They can be contacted at ankur@che.iitb.ac.in and anupmm@iitb.ac.in respectively.

Electives: An Eyewash

Gaurav Sultania and Md. Abdul Qavi take a look into the structure and apparent lack of availability of institute and dept. electives.

"The difficulty in life is the choice" said George Moore but with the fourth year students there seems to exist no such irony. In fact it is the lack of choice that is plaguing them. In some cases, if not the lack of choice, then it's the classic case of having to choose an option when one would much rather use 'None of the above'. Yes, we are referring to the "electives" (many would argue against the word used, but forgive us, this is how that particular list of courses is known) offered in the fourth year. One eagerly awaits for this only opportunity to study the courses of his/her own interests, but when the moment dawns upon him, one is totally dumbfounded by the magnitude of the mirage that has caught him.

The system believes that electives are given to the students to pursue the subjects of their interest, especially in their field of specialization. Institute electives are provided to give them a chance to learn other than what is taught in the department, which, more often than not, turns out to be a HSS course. Once the major requirements for the degree have been met, only then is this choice provided. Hence to ask for a certain amount of flexibility in this choice is logical enough.

But as are the circumstances at present, such flexibility seems distant. Infact, in certain cases, the list boils down to a set of compulsory courses when discounted for various constraints. One major problem has been that of slot clashes between various electives. Many a time these are resolved but there are instances where choices have been curtailed due to such clashes. Another constraint is a minimum CPI requirement of 7.5 for all the PG courses. A good number of faculty feels that this is supposed to motivate people for studying harder. Yet another constraint is the prerequisite for certain advanced courses. We don't object to these restraints, infact they seem to be very apt, but courses with such constraints should atleast not figure in the already short list of electives, since they are not really an option for many of us.

One very ridiculous instance goes like this (Dept. of Mechanical Engg.)-

Problem statement -

No. of department electives to choose - 4

Total 3 categories and 2 courses in each category which makes a total of 6 options.

Constraints - 1 course from each category is compulsory. 4th course can be taken from the 2nd or the 3rd category. Also a couple of courses are PG courses, which have a CPI criterion of 7.5.

Result - Many dejected souls with 3 options and 4 choices to make.

Well if this is not enough, in yet another classic case from another department, the pre-requisite for a course was removed, just to make choices to be made = options available.

One annoying fact is the policy difference across departments. Some departments have a very flexible policy, wherein, certain courses from other departments can also be taken under the tag of department electives. On the other hand, there are departments which do not even allow courses from across specializations within the same department on the pretext that the courses should be under the purview of the same specialization. One of the faculty advisors under the condition of anonymity cited "department dynamics" as the reason for such discrepancies. Well he obviously refused to elaborate.

It's not that the authorities are unaware of the problems. But they seem to have their own reasons. One of the major problems with some departments is the shortage of faculty or the uneven concentration of the faculty in terms of the various fields of interests. Another reason cited is that each course requires a minimum number of students and if the options are increased, it becomes more and more difficult to satisfy this criterion, thereby, causing the course to be discontinued. A plausible solution for the same could be to remove departmental barriers and to allow electives from across departments. Also some SOM courses can be opened as institute electives. Whatever courses are deemed essential for the specialization can be tagged under "compulsory" courses.

On talking to the authorities we got an impression that they are willing to listen to the problems but they feel that the students come up with problems at the last moment when it is impossible to make alterations. The procedure to introduce or change any elective is a tedious one, involving various strata of administration i.e. department level, DUGC, PGPEC, etc. The time span for introduction of a new course/ elective or any such change is about 3 months. So if any change is to be made, the process should be initiated one semester in advance. A formal request should be made to the respective HODs through the faculty advisors. As told by one of the faculty advisors, the students come up with their grievances only after the registration process starts. He believes that since the entire list is conceptualized almost 6 months in advance, such requests should be made earlier.

So if the present third year batch wishes to avert the same pathetic situation, its time for quick efforts. Students must ask for due representation in decision making bodies of the department where the courses and their structure is decided. The students should get to present their interests and expectations prior to finalizing of course options and faculty assigned to each of them. A healthy feed back from the present batch will certainly help faculty customize curriculum appealing to the students. We can only hope that an issue of such importance does not fall on deaf ears and appropriate action is taken ahead of time.

Gaurav Sultania is a fourth year dual degree student of the dept. of Mech. Engg. Md. Abdul Qavi is a third year student of the dept of Civil Engg. They may be contacted at gk@me.iitb.ac.in and ma_qavi@iitb.ac.in respectively.

Entrepreneur Speak

(... continued from page 2)

Q: Coming this far mustn't have been easy. Could you elaborate some of the problems you faced and how you overcame them?

A: The problems we faced were typical of what other startup companies would face. We were trying to sell a new concept (offshore outsourcing) in 1999/2000 when the world was not aware of this concept and its impact. Hence in the initial period a lot of effort was spent on educating our clients/prospects. On the other hand, once the business started growing, the key issues have been around managing the delivery from India. Today, TransWorks has close to 3,000 employees. We work in an environment in which everything we do gets benchmarked to top US/UK standards from Day 1 of any new project which is not easy to achieve given operating issues in India.

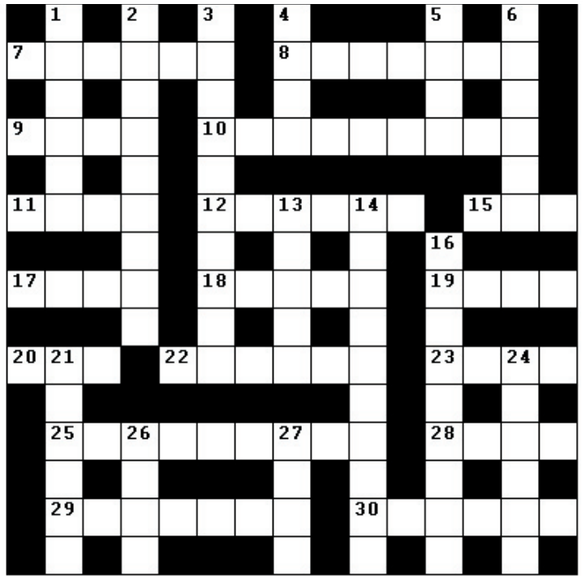
Q: Transworks was acquired by an Aditya Birla Group company in 2003. In what ways is the situation now different from having your independent company, the pros and cons?

A: Acquisition and the subsequent transition from a privately held company to the Aditya Birla Group has been a very smooth process - a lot smoother than I earlier thought. We continue to manage the company much like we did before with the Aditya Birla Group management providing overall guidance and funding. The credibility of the group both in the domestic and in the international markets, and the strong financial backing will enable TransWorks to continue to grow and be a leading company in the call-center/ BPO industry.

Q: Any message that you have for the students of IIT Bombay?

A: There are tremendous opportunities both in India and abroad. If you can back your idea/vision with a lot of perseverance, take a few calculated risks and have a little bit of luck... you can go a long way. After all with an IIT degree behind you, what do you really have to loose?

Crossword



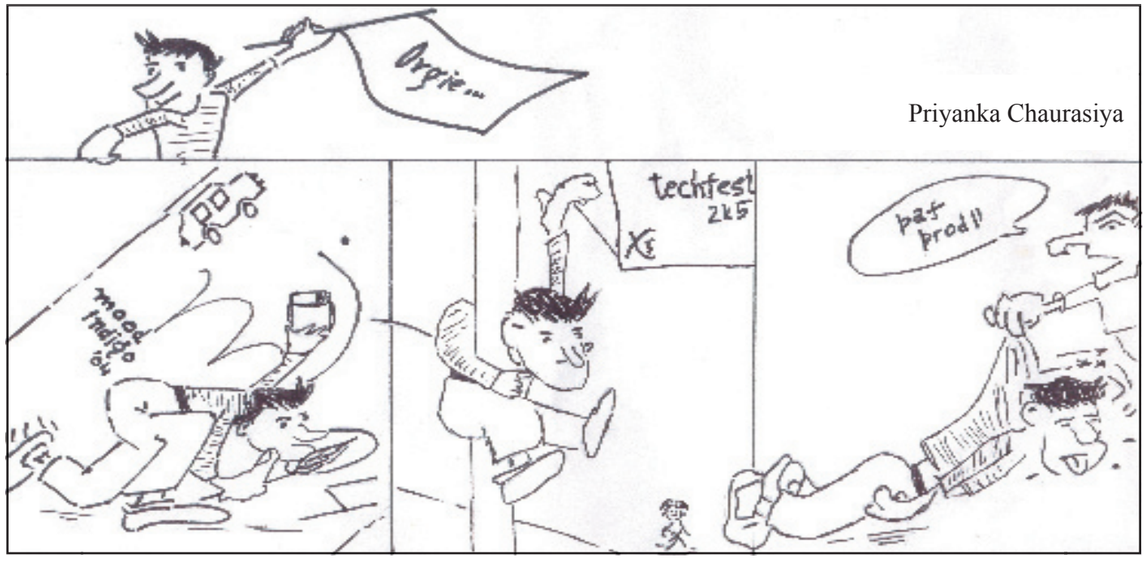
ACROSS

7. Make a cat or dog roll with no end can make the car move (6)
8. The wall may fall in Merc's home (7)
9. Crazy nuts can amaze (4)
10. Badly letch over the car (9)
11. How the cops travel (4)
12. Protect your top or get fined !! (6)
15. Cut the bad smell out with VooDoo? (3)
17. Is it a mouse, a skirt or a car (4)
18. A great show in a Coca-Cola sergeant? (5)
19. Lazy when the car won't move (4)
20. Already fed up with huge tacos (3)
22. The hawk is an operating system with prey (6)
23. Carve out et cetera with a hard top (4)
25. The pretty girl is wearing a noodle? (9)
28. Shift this up when in an awful rage (4)
29. A tight turn in one's locks? (7)
30. Do the principal thing and get a site name (6)

DOWN

1. A car for the insect (6)
2. The course may sound like a great thorn (5,4)
3. These dark pits may suck you right in (5,5)
4. Stare at jumbled lego (4)
5. The liar is back to support a train (4)
6. The rules say one of the deadly seven pays up (6)
13. With Ferrari around, everybody else becomes this (5)
14. Rise before the others and they get food (5,5)
16. The evil Omega dive can entertain one (5,4)
21. He's cut badly when using this black liquid (6)
24. Tea a little sister make up a car's framework
26. Sounds like a part of the car is in a leaf? (4)
27. Water stored in a military vehicle (4)

(Solutions in the next issue)



Priyanka Chaurasiya

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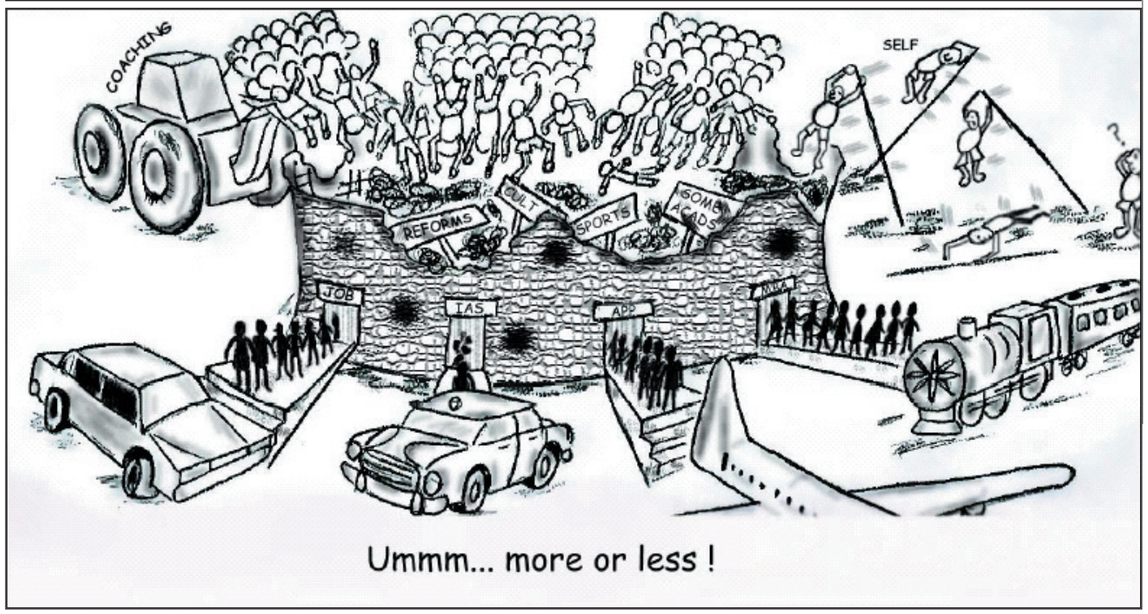
Life@iitb ...
The Cartooning Contest

The response received was overwhelming! While only the top three were eligible for prizes the sheer number of great entries has forced us to bring out this supplement. The winners can collect their prizes by hunting down one of the editors. (hint: We tend to lurk around the coffee shack at 12:30 pm). They may also contact us at insight@iitb.ac.in.

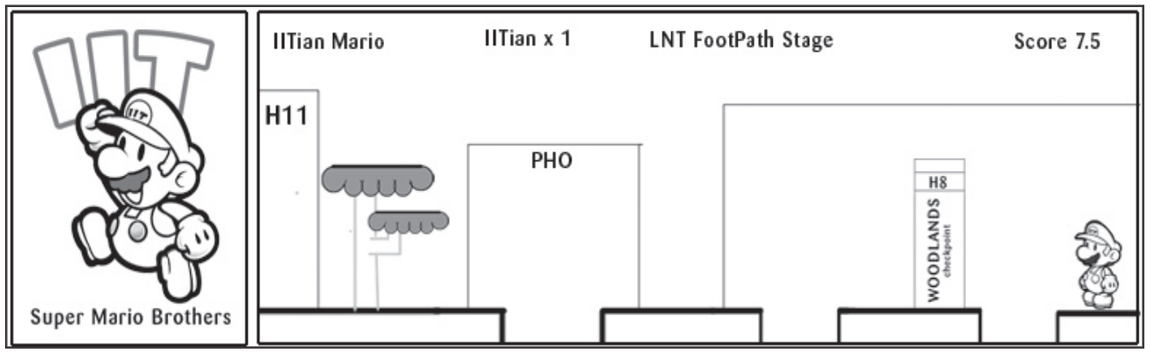
I[st] Prize Winner

Sudhanshu Garg



II[nd] Prize Winner

Abhishek Thakkar

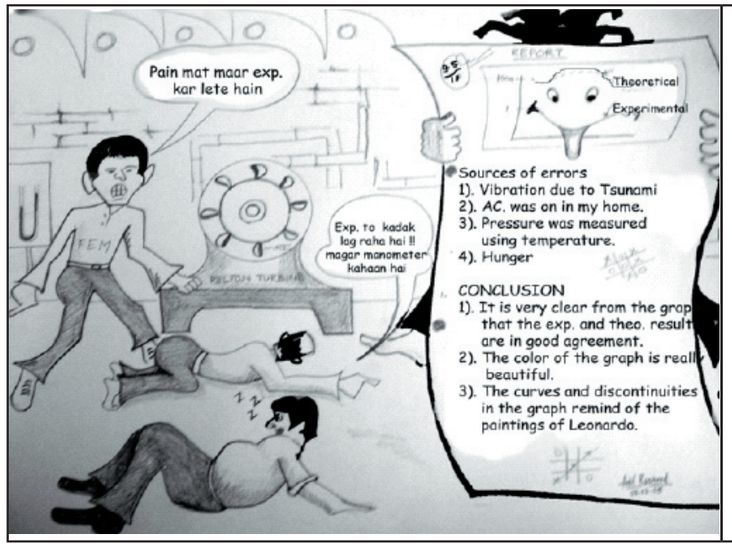


III[rd] Prize Winner

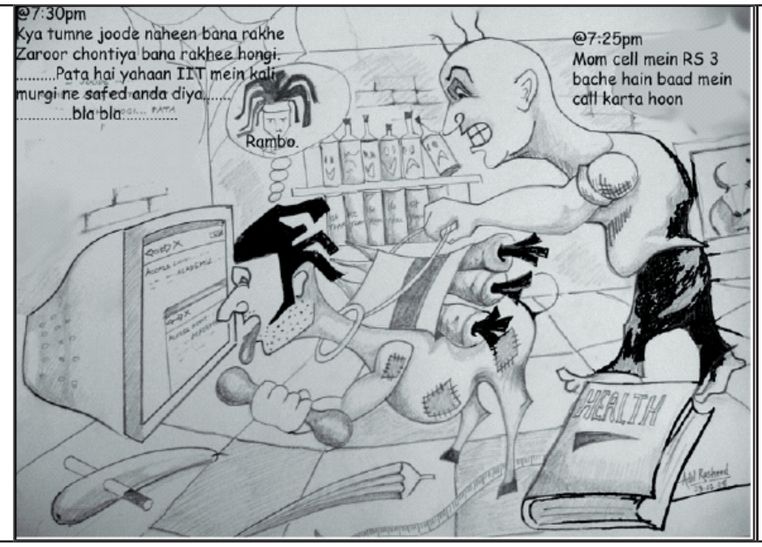
Final Year

Adil Rasheed

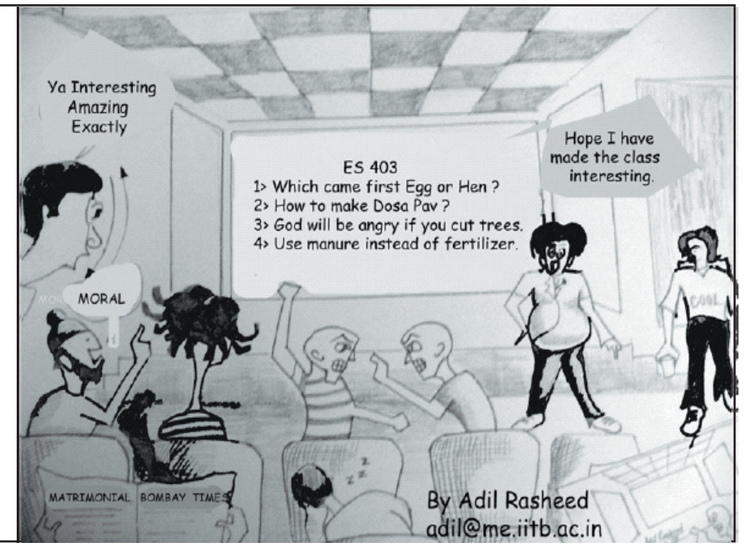
In Lab



In Gym

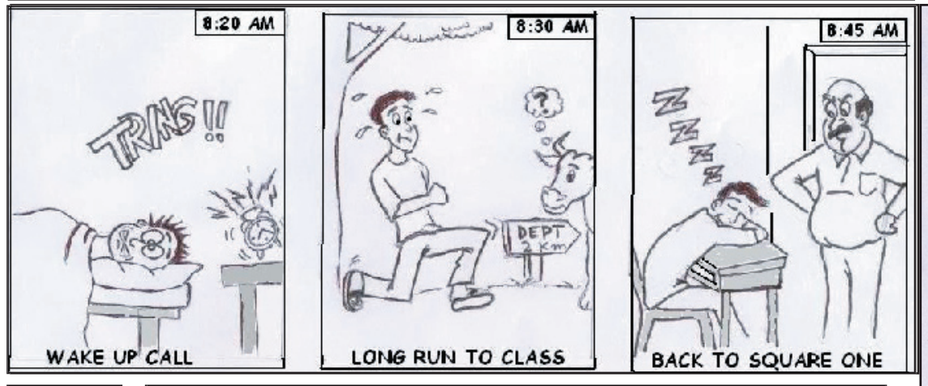


In Lecture



Good Morning!

Akshay K

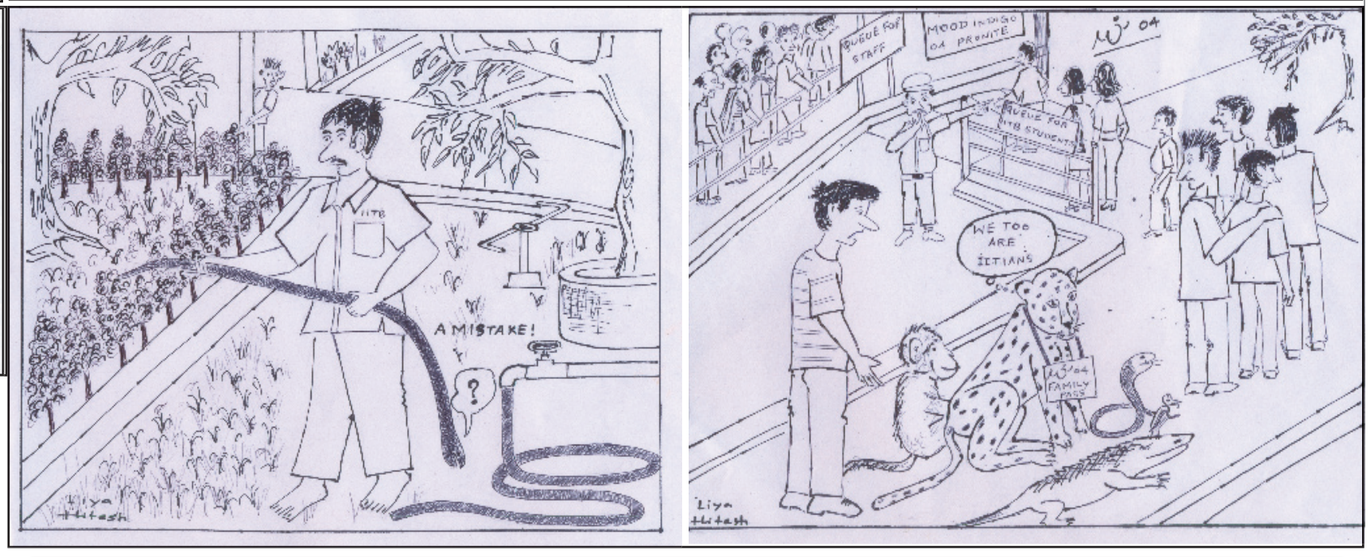


Post Graduates Anonymous

Yohan John

Animal Planet

Hitesh Liya



InsIghT plans to make the Cartooning Contest an annual event. Please let us know how you found this supplement and whether we should pursue it further. Those of you who missed out on sending us entries may still do so. We will try to find place for them in out next issue. In addition to this suggestions for other journalism based competitions are welcome. Readers are also welcome to send us articles, cartoons and write-eups on issues pertaining to IIT, life or absolutely anything under the sun. All correspondence should be directed to insight@iitb.ac.in. For details on upcoming issues and contests please visit *http://insight.iitb.ac.in*