october 15 . 2004*

insight
the third eye

Students' Gymkhana   IIT Bombay

Jobseeker(in nbd): Abe tere paas blue tie hai kya?

Wingie(irritated at being woken up at 8 AM): Kyun!!??

Jobseeker: Yaar, abhi interview hai.

Its placement time again. Terms which were not very relevant in one's stay at IITB –JAFs (Job Application Forms), PPTs (Pre-Placement Talks) and the Placement Cell suddenly attain a new found importance. Otiose weekends become days of tense and hectic activities (fundae sessions on PIs, GDs). Treats become a daily affair in celebration of your friends-seniors-wingies-genraal acquaintances having cracked a fundoo job. Also a few dejected souls are found closeted in their rooms, soul searching.

Hard selling by the company is done, to the (to use a clichéd term) crème de la crème of the nation by way of PPT's. Also information as to what it expects of candidates, how many of them it plans to take for how much are disseminated. Meanwhile IITians who have not had their dose of sleep do so, in the dark corners of the auditorium. Any questions or initiative on part of students is rewarded with T-Shirts and freebies. PPT done, food is served. The well behaved IIT crowd (!!!) makes a mad rush for the Pizzas, Sandwiches, Samosas, Coke, Pepsi (yummy!) served.

The signs are comparatively positive in this year's placements, with 45 firms in half a semester as compared to the total tally of

placements@iitb.ac.in

IIT Bombay is said to have one of the best organised placement processes countrywide. Shamiroh Tikoo and Anup Mudbidri present an analysis of the placement scenario so far.

110 last year. 469 job offers have already been made on campus.

The number of companies coming to IIT has increased and so have the type of jobs. The placement numbers have clocked a healthy 48.44 % as of now and given the trend we will easily surpass the 64.4 % attained last year.

Breaking the tradition of the consultancy jobs being dominated by EE/CS students, other departments have completely taken over this time. Another interesting fact is that the fairer sex ruled the roost, so to say bagging 3 out of 6 first institute jobs (McKinsey and BCG).

ment. A clear-cut policy and systematic approach would go a long way in ensuring a synergetic relationship. Midnight seems to be the ideal time for this year's placements which anyway goes with the long IITian tradition of night-outs, but this may not seem as rosy as that. Companies are compelled to finish of the process in a single day as the next morning has students having their classes.

A parallel recruitment process might be a possibility but inbound logistics seem to make it difficult to make such decisions but it is worth a try for companies that have this urgency of being the first one of its type to come on campus.

Another major concern is that bulk recruiters seem to be at crosses with IIT Bombay, in comparison to our fellow IITians. Statistics state, IBM recruited 106(IITM) vs. 31(IITB) and Infosys 39(IITM) vs. 4(IITB), TCS recruited 44(IITD) vs. 21(IITB). These numbers might not reflect on the image of IITB but does definitely on the timing and importance given to such recruiters. Do we here at IITB discourage mass recruiters? Is everything driven only by the compensation?
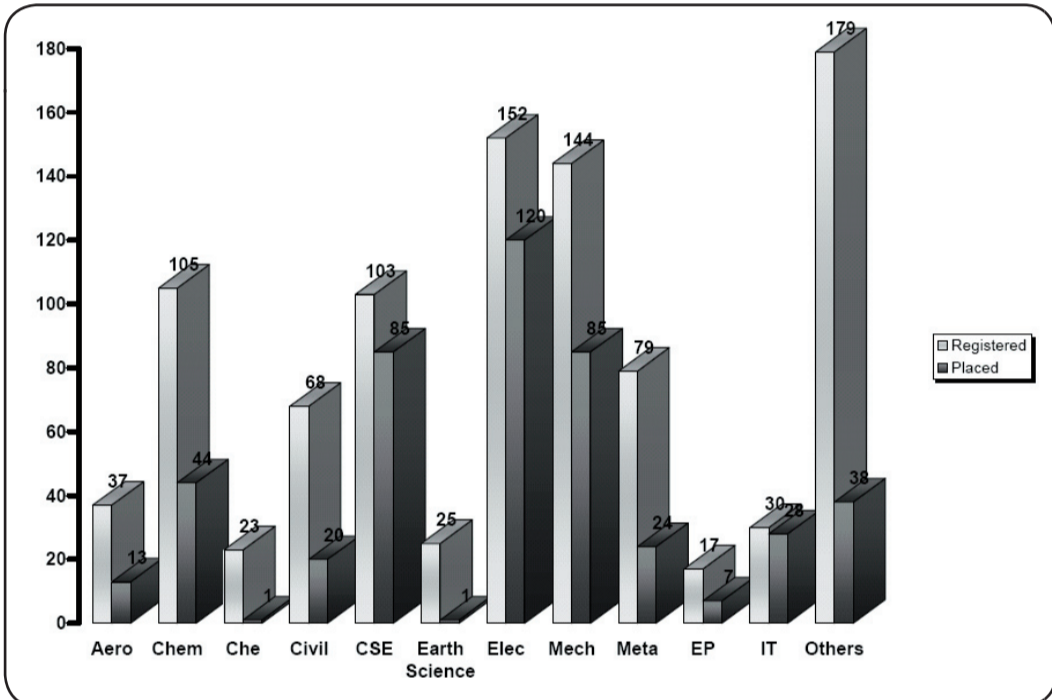
Discipline in PPTs was a concern cited by the placement cell. Lack of punctuality and the behaviour of students is another area of concern.

Another quick suggestion would be to have a database of questions and answers prepared by the students who have got recruited. This database would help the coming batches in the long run.

The placement process has been a roller coaster ride and has been the best in the last three years and IIT looks up to this with high expectations this year. Way to go baby!

Disclaimer: All stats presented above were valid as of 12th October 2004 and are as per information provided by the Placement Cell, IIT Bombay.

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tained last year.

In what seems a repeat of last year's healthy trend, majority of the recruitments have been for technical posts. Close on heels is an assortment of IT firms. Consultancy still remains the most sought after job what with the high pay packet and the kind of aura it carries. The other job recruiters consist of essentially banking firms and allied fields. More than 50% of both B. Techs and M.Techs have been placed. The PhDs however are possibly looking for an apposite role in companies which meet their expectations and interests. With the first batch of CS DD students, the tussle between the DDs and the Btechs has intensified. Though Btechs outnumber DDs in number of jobs, a phenomenal 75.9% of DDs have found jobs.

The boom in the IT and IT-enabled services sectors continues and again this year accounts for the largest number of offers. The CS department has come good with the maximum number of jobs and a stupendous 93% of the IT students have been placed.

A good initiative taken by the placement team was the conduction of Group Discussions/ Personal Interview workshops. Also, appropriate care has been taken to see to it that the placement process and academic commitments are not at loggerheads.

However successful the placement season might have been, it has had its share of controversies. Scheduling of company interviews and ranking is not an easy task and there is room for further improve-

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Interview with Prof K N Gupta

InsIghT: Sir, there has been some confusion regarding the categorization of companies in the placement process. And there have been complaints from students that the Grade given to the company "Misleads" them. Could we get some insight into the process of grading the company?

KNG: There are four primary aspects considered while deciding on a grade. In order of preference they are: -
•Cost to Company(CTC)
•Spread across departments
•Past experience with the company
•Number of students taken in earlier years

The placement cell does not want to deny the opportunity of a deserving candidate getting a dollar job. However at the same time a person must not land up with multiple jobs with similar job profiles. Reasons like this compel us to take decisions like giving Tata Motors an A2 and Maruthi a B1. All dollar paying companies are given the A1 grade because of both high CTC and spread across the departments. Feedback from Alumnus is also considered while taking such decisions.

Transparency is maintained in the whole procedure and JAFs as stated by the company is kept open to all in the Placement Cell to be viewed by interested candidates. All details furnished by the company are displayed at appropriate places, in the placement notice boards and the files kept for viewing by students.

InsIghT: Sir, it was observed that few of the companies were dissatisfied with the Grade given to them and the timing given to them; this could have lead to them recruiting in less numbers. Your Comments.

KNG: The scheduling is done by the student representatives who evaluate these companies based on decided criteria. I have no hand to play in this. If the company comes in late then I take a decision as to when the company can be scheduled.

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(continued from page1)

InsIghT: We had an incident where we had HLL come in after ITC for the first time in IIT and HLL people were dissatisfied with this. How do you propose to tackle these situations in the future?

KNG: I did not know about this incident.

InsIghT: Why do we not have a system where we can have two similar companies taking interviews simultaneously, like the IIMs?

KNG: Given the sheer number of students who appear for placements and the lack of halls/rooms this kind of a system is not viable.

InsIghT: It has come to out knowledge that placement representatives have been barred from making local/std calls from the placement cell? Is not the registration fees students pay (Rs 300/-) meant to cover such expenses?

KNG: First of all let me clarify that placement representatives haven't been barred from making calls. It is just that the phone has been locked and my permission is needed to make calls. This situation arose because of the high bill we incurred last month (Rs 32,000/-). Also it was noticed that students tend to misuse the facility and make personal calls.

The Rs 300/- students pay for registration go into the Arabian Sea! Basically it goes to one of the institute heritage funds. The expenditures of the cell are borne by the institute as per the director's discretion. Previously it was free of charge but however to ensure that only serious candidates apply for the process a token amount is being charged. There is a proposal afoot to charge an amount of Rs 10,000/- which would be refunded on joining the company. This will

effectively counter several instances of students not reporting for the job.

InsIghT: What changes have you brought in the placement process?

KNG: In 2003 the placement process happened in weekends and on Wednesdays. This year we have taken out time on other days after classes. Care has been taken that the student does not have to miss classes in order to give an interview. Also we have allowed the student to miss the Pre-place-

Type of Job

ment talk of a company in case of a class being held at the same time. At the same time PPTs are important for the companies as this gives students an idea of what kind of work they have to do. I have had students coming to the interview who have no idea about the company and take up jobs. We have to try and stop such activities.
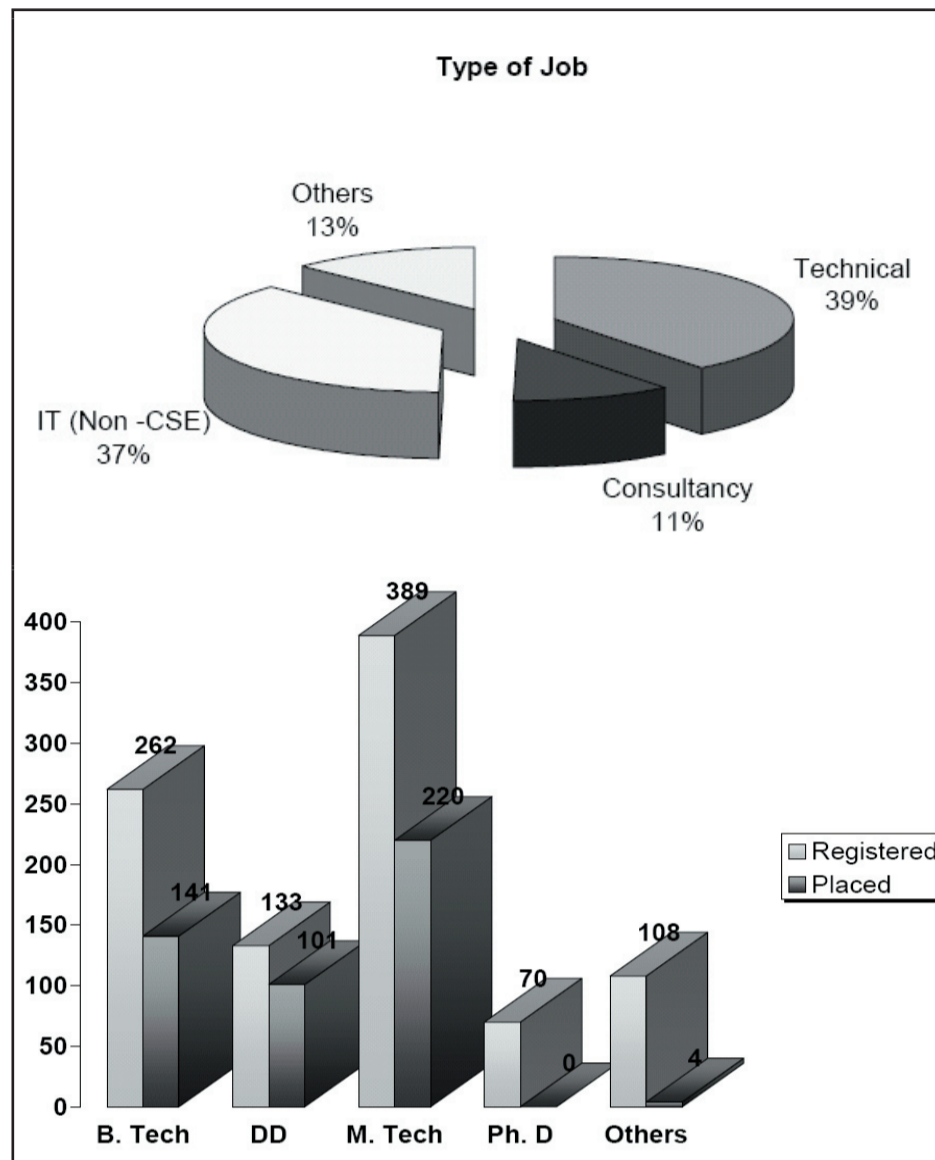
Also the average CTC is much higher this year compared to the last two years. IIT Bombay is number one in India and has always had the best placements.

InsIghT: It has been seen that placements has affected academics in a student's last year. IIT's research has not been seen too positively by students. Would you like to comment?

KNG: Placements are second priority. Academics are our top priority and we would not like any student to miss classes because of the placements process and good care has been taken for the same. After 6'o clock we have the PPTs and interview process on all days other than Wednesday and Weekends. PPTs are also waived if you have classes.

InsIghT: Do you feel the need for an equally competitive Apping Cell in order to help students apply in universities abroad?

KNG: An Apping cell would be a good initiative and people serious in applying abroad should not sit for jobs so that companies are not dissatisfied. Many companies do not understand that some students take up jobs as a safe option and the placement process in the following years suffers. However having an institutional body for applying does not seem feasible and does any other IIT has faculty interference in this process?

Embedded Systems: What lies Beneath

Embedded systems is one of the hottest fields in Electrical Engineering. Aagomani-2004 shall attempt to familiarize students with this field. Sandhya Hegde reports.

Where would you find embedded systems?

For the layman, a microprocessor stuck deep into your friendly household gizmo would be called an embedded system. Look all around. From televisions, air conditioners, fax machines, printers, pagers, cell phones, credit card readers, to microwave ovens, they literally run the whole hi-tech show. From the minute details of pouring just the right coffee into your espresso, to directing your pacemaker, embedded devices are the hidden brains behind the latest technology. They are what make complex devices work for everyone and are vital to the real time Information Revolution sweeping the world this very hour. Every electronics company worth its salt has ventured and invested into Embedded Systems. Even better, they are making huge profits.

Who is into Embedded Systems today?

Everyone! All leading companies in consumer electronics are moving towards this market and manufacturing embedded gizmos, the latest of which are PDAs: Personal Digital Assistants (Palmtops). Cell phones and Dig Cams are passé now! On offer are pocket PCs with swiveling web-cams that, in a nutshell, let you live online. Not just some science fiction fantasy anymore, we can belong to the world of embedded 24x7. Handheld devices with brilliant VGA displays, handwriting recognition, Bluetooth wireless access and up to 64 MB RAM are fast becoming an affordable reality. Software companies are moving in for the kill with Real Time Operating Systems (RTOS) for embedded applications. Java, with its OS independent features giving it immense and growing popularity, is going embedded at the speed of light!

Forays are being made away from the PC into the world of embedded systems. As an example, Business News predicts that devices playing MP3 music are expected to surge to 52.4 million units by 2007, up from about 18 million in 2004. Leading the pack cashing in on the embedded music revolution is the Apple iPod - the fastest growing product at Apple. It has reduced the company's reliance on PCs and mainframes by percentages few would have predicted even a couple of years back. The iPod showed up a fantastic third in recent polls among US teenagers (just below cars and clothes) as the most desired items on their wish list. Apple shares surged 83 per cent this year and the success of the devices has made the iPod a target for competitors from Japan's Sony to PC king Dell. In fact, there is a whole new industry springing up that builds add-ons for iPod! Indian software companies are fast catching up with these trends.

Another front with some real impact on consumers is the development of complex Automobile Control Systems. BMW, Renault and others have been spending sizeable amounts of money on developing embedded system control units for accident prevention, safety management, chassis/engine control; GPS enabled tracking systems, and state-of-the-art comforts and conveniences. Also being brought in are intelligent transportation systems, telematics, fuel injection and traction control for racing sports. As a result, cars today have

an increasing number of sub-systems that need real time inter-communication, making software requirements increasingly demanding and complex. In fact, the growing level of silicon in automobiles shall change the face of the automotive systems industry in the years to come.

How is the academia involved in Embedding?

Progressing in embedded systems research is IITB with applications built in the fields of medical research, wireless communication, automobile embedded systems, and smart cards. There are also student start-ups in embedded systems like eRT and Retrolabs that focus on commercial applications in consumer electronics. Retrolabs has developed affordable smart phone (Immobile) for the Indian landline market. Immobile allows service providers to deliver various data services like emails, sms, IM, and browsing on regular landline networks to end consumers (www.retrolabs.com). eRT (Embedded Robot Technologies, KReSIT Incubator) is developing human centric technologies that will enable easy interaction of robots with their owners. Embedded Systems has also shaped up on the campus in the IIT Bombay academy in the form of lectures on hardware issues in the Department of Electrical Engineering and related software courses in KReSIT.

Where are we heading?

As the cost of microprocessors and memory continues to fall, smart electronic devices have invaded our lives. While once limited

to military or industrial applications, in the future we might find miniature embedded systems in clothing, food packaging and even under our skin. Imagine shopping for clothes that know what temperatures you like! Consider your kitchen choosing from list of rated options and keeping your freshly cooked dinner ready to serve as you enter the house.

To further these trends in embedded systems and encourage innovation and development of products, EESA (Electrical Engineering Students Association) is organizing a two day workshop on Embedded Systems and DSP on the 23rd and 24th of October 2004. Associating with industry flag bearers such as TI, IBM, PCS and CMC, the workshop - titled Aagomani 2004 (the arrival of a new era) - focuses on large scale interaction between the industry and the academia to promote knowledge and awareness regarding the immense potential of this field. Apart from lectures (Heads of the Embedded Systems Groups: TI, IBM, PCS) there shall also be interactive sessions for the participants to gain up-close experience from the architects of cutting edge products like MP3 players, PDAs, medical instruments, mobile phones and the latest thingamajigs.

This will enable students and young professionals alike to gain much needed insight into these fast developing and indispensable tools that are bringing different worlds closer and closer together.

For details on registration visit http://www.ee.iitb.ac.in/eesa/aagomani

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"As IITians they expected to conquer the world, something they know isn't likely to happen" -FIVE POINT SOMEONE.

Like Chetan Bhagat's Hari, Ryan and Alok, some of us do fall into a vicious cycle of failure, denial and depression. Many blame the authorities. However the best safeguard is eventually being aware of the rules one has to contend with. When "I didn't know" becomes your best defence, something is definitely amiss.

Through our stay at IIT we are required to deal with academics on a day to day basis and many of us raise hue and cry about the way academics are regulated in IIT. While most of us will never come to see the bad side of things, awareness of the rules is our best defence against what might end up being an academic emergency.

"Many People in our institute do not read the rules in the first place, then come expecting us to solve all problems saying they did not know." -Prof. N.L. Sarda (Ex-Dean AP)

Here is a look at some of the lesser known, yet significant rules (these are also available at http://www.iitb.ac.in:8080/examples/acad/rules/newugrules.jsp).

The Rules of the Game
Delays in DDP/BTP: "In case of delayed project submission other than those in special cases (such as prolonged health problem, delay in getting facilities), the maximum permissible grade is BC."
Strangely enough, the rule is an old one albeit extremely harsh. Its rigorous implementation has been the cause of heartache for many in the recent past.

"This is an old and valid rule. I just got this implemented, so it is nothing out-of-the-box" -Prof. N.L. Sarda (Ex-Dean AP)

However, no warnings were issued and a large number of students were caught unawares by its sudden implementation last year. Grades were slashed from 10 to 7 in some exceptional cases.

"I agree that the old rule is harsh; we propose to review these rules by introducing variable penalty according to the delay in submission."
"We are very reasonable if a genuine problem exists and the project is delayed, but we expect at least 2 week intimation for

extension before the final submission date. If request is reasonable, extension is given by UGAPEC/PGAPEC." -Prof. N.L. Sarda (Ex-Dean AP)
Statutory Warning: Complete you projects on time.

Self(less) Study: To enable a student to complete the course credit requirements at the end of 4th year for B. Tech. and the 5th year for M.Sc., or Dual Degree, a student having a backlog of only one or two courses may take self-study courses after taking necessary approval from UGAPEC. The opportunities for clearing backlogs may become available through summer courses and by running courses in unscheduled semesters.

However, for the Self-study option, the following directive will be followed.
"The Self-study option will strictly be restricted only to (B.Tech/Dual degree/(5Yr./2Yr) M.Sc.) students in the summer of the final year, and for a maximum of two courses. A student is not permitted to register for more than three courses (including Self-study course, if any) during any one summer term. The restriction, on students with FR or XX grade in a subject not being eligible for the self-study option for that course, may be waived by the Departments if only two courses are remaining for the completion of the degree."
Essentially a single failure in 2nd or 3rd year will propagate till the last year, leaving a student with no scope to make amends. We hope that the authorities will take note of this.

Extra-Credit Weightage: "All credits in any semesters will carry equal weightage. There will NOT be 0.5 extra weightage for credits from 3rd year onwards."
This rule will be implemented for the '02 and the subsequent batches, i.e. for the third yearites and the juniors. So those who are hoping to make up for their CPIs, should figure this change in their calculations.

The present fourth year B Techs and Duals as well as the fifth year dual degree students will continue with the 1.5 times rule.

Lowering limit on grades:: "Those students who are awarded "FF" grade will be permitted to take the re-examination. In such re-examination if the student passes, the maximum grade obtainable shall be limited to DD and if the student misses or fails, the FF grade shall get converted into FR and the student will have to repeat the course."

Missing the Re-exam: In case the student fails to appear for the re-examination also on admissible grounds (personal illness or accident), the student shall be considered

Academics:
Running the Gauntlet?

"Five Point Someones? – If you're having problems with your acads.. Bad News. Things just got a lot worse." Sangram Kadam and Mohit Soni ring the warning bell.

to have dropped the course. If the reason for absence at the re-exam is not supported by a medical certificate, the II grade awarded will be revised to FR.

"There will be no change in the re-exam dates for students. Changing these dates places an incredible load on the faculty and Acad office. Also, proper invigilation becomes difficult." -Prof. N.L. Sarda (Ex-Dean AP)

Apart from the above there have been no major changes in the rules. However, the academic office has become a lot more stringent in implementing the rules. The academic office claims that these rules were designed considering an average student and the rules can not be modified for the slowest traveler.
Another important point that should not go amiss is the difficulties and overheads that the academic office has to handle.

"All of us must understand the difficulties involved in the Acad office if the grades are not given on time. There are several bottlenecks and problems caused by such delays." -Prof. N.L. Sarda (Ex-Dean AP)

He also stressed that we should not take

academic office as an entity against the students. He pointed out several examples where students have exploited the system, *"We do have a provision for medical cases. But there is a large burden on the faculty and Acad office due to a lot of false cases that students present."*

However, the students are not to blame all the time. Faculty members sometimes send the grades late to the Academic office.

"We take utmost care that the student is not penalized in such cases." -Prof. N.L. Sarda (Ex-Dean AP)

Despite all assurances, by the ex-Dean, in some cases the students have suffered unreasonably harsh punishments/penalties. The GSAA assures us that feedback has been taken from the students' community and conveyed to the authorities. What remains to be seen is whether a significant change is brought about by these measures. He also informs us that steps have been taken to assign more proactive roles to the Faculty advisors, in order to help troubled students. It has been suggested that the FacAds will discuss the poor performance of students after midsems and help them appropriately.
As things stand right now, we have seen a lot of turbulent times for the students as well as faculty members. There have been many complaints and students have been left distraught.

"Let us appreciate that our institute is one with good discipline and excellence. Only a few students face difficulties, that too because they are not sincere. One can not compromise and relax the rules all the time; this will surely lead to degradation of our standards. No system can work without rules, but our system is not a closed black box. We make exceptions, on the basis of genuineness and merit, and we make changes. However at no point must we comprise our core values and our principles. The students should learn to face occasional failure when it is due to insufficient efforts from their side. A failure is not the end of the world." -Prof. N.L. Sarda (Ex-Dean AP)

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The overall championship at the Inter-IIT sports meet has been and shall forever remain, one of the most coveted prizes for students at IIT Bombay. Come December, the SAC grounds shall transform into training grounds for what is for many, a time of war. For the past few years, great performances from our swimming team have ensured that we've started the December meet in a strong Position.
The 40th Inter-IIT aquatics meet was no exception. IIT Bombay placed joint first with IIT Madras (the hosts). We placed 1st overall in the swimming events and a close second in Water Polo. The meet saw some brilliant individual performances with 5 records being broken. Sarwesh Paradkar, a freshman, blew away the competition winning 12 individual gold medals and 1 relay gold; a feat unmatched in the last 20 years. He shattered the records in the 100m-breast stroke, 200m-breast stroke, 100m-back stroke, 200m-individual medley and 50m-free style events. Mayura Deshpande shared the individual women's championship with Natasha Singh of IIT Delhi.

We Are The Champions!

Victorious! – Akshay Saxena reports about the swimming team's recent triumph

The victorious IIT Bombay Swimming Team

Other medal winners included Sumedh Risbud, Kaustubh Nadkarni, Harshwardhan Agashe (3 silver 1 bronze) Abhishek Maheshwari and Yashodhan Kanoria.
Our water polo team showed tremendous grit and determination in their silver medal winning effort. Champions last year, the team had to contend with indifferent refereeing this time around. The semifinal against IIT Delhi went right down to the wire. IIT Bombay won 3-1 on penalties owing to exceptional keeping by substitute goal keeper Hrishikesh Kelkar. The team lost 3-2 to the home team in the finals despite giving it their all.
The performance this year has yet again, proven the IIT Bombay swimming team to be a force to be reckoned with. With the addition of brilliant young swimmers to the ranks, the performance levels can only get better.

Akshay Saxena is a fourth year dual degree student of the Department of Chemical Enginnering . He can be contacted at asaxena@iitb.ac.in

Consider a survey question:
Why did you join IIT?
a) Best education
b) Best future prospects
c) Best infrastructure
d) Best 4/5 years of life

Reflect on these choices for a while. What option would you go with? I would be distracted for a while by the other options but I know that the answer is (b), that IIT opens the world for me. That IIT is a backstage, the faculty, the facilities; all groom you before you are ready to face the audience, the real world, when the curtains rise. That my parents sent me here, away from them, not because of (a), (c) or (d) but because they dream a bright future for me.

True, the primary aim of an IIT is to impart the highest quality of education. The best faculty, the best curriculum, the best lab equipment, the best hostels, the best mess food??!!! But should we view this education as an end in itself or a means to an end. Consider this. The strength of Chemical Engineering batch has increased from 60 odd in 2000 batch to over 90 in 2004. Contrast this with the very low number of technical jobs available in the field and the dramatically decreasing number of students applying for higher studies. Similar is the case with many other departments barring some exceptions. In the emotionally charged inaugural speech given by the director when a new student enters the campus, parents are convinced that their child is now a part of the IIT family and is IIT's responsibility until he has a viable career option at the end of his stay. Therefore, it is unfortunate that placements and apping are treated with such indifference by the institute.

The proposal of delaying the placement season by a semester and starting in December has been put forward, effective from the next year. The reason cited is that the placement activities hamper regular academic activities. This unilateral decision is clearly not in the best interests of the students' careers. Every year on an average only 60 out of 100 students get jobs through campus placements, the rest apply off campus in their final semester. If the placements were to begin in the final semester, what would be the fate of these students? Did the fact that a large number of

Future Perfect

Is IIT's role limited to providing excellent education or is it also responsible for ensuring a bright future for it's students. Harsh Roy and Ankur Gupta engage in a war of words.

students in IIT are not from affluent families and need a job desperately to take the financial burden off their parents, come up for consideration? How many of us really think that stopping placement activities for a semester would enthuse students to get up in time for their 8:30 lecture? Should we not stop searching for futile excuses as extra curricular activities and placements as reasons for disinclination towards academics and be more honest and analytical? Is organizing an inter collegiate festival in a large team more devastating to academics than presence of computers in every room equipped with 24 hour internet, all movies under the sun and LAN games?

Black & White

Almost everyone who has engaged himself in activities outside of classroom would vouch that the learning involved was just as much if not much more. If only the professors were to show that they were more sympathetic to the wants and aspirations of students and fine tune their teaching methods and behavior to prove the same, the students will definitely reciprocate. The powers that be, should realize that no matter what, a job or a scholarship would rank very high in a student's mind and any efforts to undermine that and create hurdles can never be favorable in long run. Today, brand IIT is recognized the world over not because of our labs, the papers we publish or even the faculty we have, if today companies from US fly over to recruit our students it is because of the impact created by our alumni, by the virtue of the positions they are in. IIT should make sure that it does not compromise this hard earned position. Every IIT graduate must be assured of a sound platform from where to launch into his professional life.

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It's truly amazing that even after spending some fruitful years of learning at IIT, the outlook towards career in particular and in general what we call success hasn't changed much. To elaborate further, it's another case of neither enjoying nor making the best use of the present but always aiming and looking for what might lie in the future.

The technical skills of the highest order with which IIT equips a student provides him with an ideal platform that can serve him well for the rest of his life. So, the over-all education which IIT imparts to its students along with an ideal mix of co-curriculars, is sufficient for other things like placements and app to take care of themselves even without active involvement of the institute.

The claim of apparent apathy towards placements shown by faculty is well taken. But an important point to note here is that since its inception IIT has never ever faced the problem of placements or lack of scholarships from the best univs of the world. This problem surfaced a few years back which was a very short-lived global phenomena and it would be wrong to generalize it. Placement stats of the current year support this point.

There have been innumerable instances of students not joining or quitting their jobs too early when faculty had helped them. This has led to a feeling of distrust towards the students among the faculty. But as far as apping is concerned, the faculty has shown a lot of interest and responsibility over the years and if it were not for their recommendation letters, IITians wouldn't have got admission in the MITs and CMUs.

A simple question arises here. What is the percentage of students in the last 5 years who have taken their academics seriously; (meaning the technical learning IIT has offered them) scored good grades and not got a job/schol as desired? Whose fault is it then, when students do not take interest in

the primary concern of this institute and by their own choice spend their time and energy in development of 'over-all personality', as is the USP of most extra curricular activities? IIT education, when taken seriously guarantees a high technical acumen, which is better than what most UG courses offer in the best univs of the world. Mind you, it's not wrong to follow your heart but if students shy away from acads, then the responsibility lies with them.

Coming back to placements, there are no companies, including consultancies and s/w, which do not reward a student for his academic brilliance. I'd like to quote a company representative who after having faced candidates with unexpectedly low tech fundaes came up with a suggestion, "May be, IIT should award a degree in Short Cut to becoming a CEO."

What students fail to realize is that a short stint as the marketing manager of a student fest does not even teach them the tip of the iceberg called marketing. So, it's up to the students to make the best use of their time and energy and strike a balance and be aware of the ground reality. I agree that extra curricular activities go a long way in boosting a person's confidence and so called soft skills, but at the end of the day, as a Bachelor of Technology, you cannot wish for the earth to swallow you when faced with a fundamental tech question in a job interview.

The proposal of delaying placements by a semester needs to be properly reviewed. Whether it's only because of campus placements that academic performance in BTP and DDP goes down needs to be ascertained. Perhaps, there are better ways to put checks and balances on performance and attendance rather than a backlash on something which is quite independent of the former. Setting high standards in project work, enforcing attendance rule strictly and stopping the practice of awarding Free Grades in projects is a better option rather than delayed placements which can hurt the overall placement as well as build up pressure and also clash with apping time. The time has come for the students and faculty to discuss this steep drop in academic standards and not blame them on issues like placements.

Scholarships Unscrambled

Raghav Goel and Kush Meshram find out how to secure a scholarship at IIT Bombay.

With burgeoning day-to-day expenses, scholarships are gradually becoming essential for many students at IIT Bombay. Despite there being umpteen scholarships around, most students stop trying in sheer exasperation. Through this article, we shall attempt to summarise the total number of scholarships on campus and the process involved in availing of them.

Let us first take a quick look at the basic scholarship structure. Scholarships are basically Merit, Means or Merit cum Means. Merit and Means have their own criterion for eligibility which is different for different scholarships. In general 'Merit' is wholly on the basis of your performance in JEE and you academic performance in the respective years where as parental income forms the basis for 'Means' scholarship. Majority of the scholarships available have the means criterion which includes free tuition fees and facilities of free messing.

At undergraduate level there are Institute scholarships, private scholarships and Govt. scholarships. Institute scholarships mainly constitute of Institute Merit-cum-Means, free tuition and free messing facilities. The private scholarships include those instituted by Private Trusts and Private Organizations and the IIT Bombay Heritage

Fund. The National Scholarships and the NTS are the Govt. scholarships available to students. Institute scholarships have the Means criterion for which the JEE rank becomes the sole merit criterion with regards to the new entrants. In subsequent years, the corresponding criterion is the academic performance during the preceding academic year.

At present students whose parents' annual gross income from all sources does not exceed Rs.1,00,000/-, are eligible to apply for Merit-cum-Means Scholarship. A student whose parental income falls below the prescribed limit at any point during the course of his program (due to reasons such as retirement of the parent/guardian or due to any unforeseen circumstances) is eligible to be considered for an award of Merit-cum-Means scholarship from the month in which such situation arises. In addition to those awarded Merit-cum-Means scholarships another 10% of students can get the benefit of free tuition only. SC/ST students are exempted from the payment of tuition fees. The facilities of free messing

(only basic menu), a pocket allowance of 300/- and exemption from the payment of hostel room rent is granted to select SC/ST students.

There are several scholarships instituted by various private organizations. These are available to students on the basis of merit or merit-cum-means. For new entrants JEE-AIR or the 1st SPI will be the criterion. In subsequent years, the corresponding criterion will be their CPI during the preceding academic year. Students whose parent's annual gross income does not exceed Rs.2,50,000/-, are eligible to apply. Those students who have applied for the Private Trust Scholarships are not considered for the Institute Merit-cum-Means Scholarships. These scholarships are 61 in number. IITB also has a IIT Bombay Heritage Fund which is supported by the IITB alumni in USA. These scholarships are 18 in number.

The government scholarships are basically national level scholarships. National Scholarships are awarded to the students from the respective states. The scholarships are

provided through IIT by the state government. National Talent Search Scholarship (NTS) awarded during the 10 + 2 is continued during the UG and PG level and the institute also recognizes them under MCM for the institute scholarships with free tuition fees.

For all the scholarships there is an application procedure which has to be completed by the end of August and the renewal of the scholarships will be supplied during March every year. There is also a requirement of submission of Saral Form (income tax return Form No.16) of their parents/guardians for Merit-cum Means Scholarships or an affidavit stating the income not liable under Income Tax.

At present students whose parent's annual gross income from all sources does not exceed Rs.1,00,000/-, are eligible to apply for Institute Scholarships with the facilities of Free tuition fees and free messing facilities and Rs.2,50,000/-, are eligible to apply for Private Trusts/Organizations Scholarships.

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We all know them. We all see them. And we all belong to them. Yes, I'm talking about those darn stereotypes. I present to you a unique exposé on stereotypes lurking in your backyard.

The iitb.general/iitb.discussers
Don't even get me started on these guys. 4 am in the morning somebody posts about how women are given separate slots in the swimming pool. Three hours later there are a hundred follow ups. How seriously can you take someone who is posting at 4 in the morning anyway? If you're on iitb. general, very seriously. Its interesting to follow a thread that goes -women are given separate slots- guys should also be given separate slots - why are you guys so sissy - what about transvestites - shut up - you shut up - you are very irritating and frustrated in life - he sent me a personal mail abusing me... MLC!!!

The Compulsive Downloaders
.shazaam, .gbs, .gv. Ever wondered what those extensions meant? Yep, that's the mark of a downloader. He's probably had his netmon khatched more times than Pakistanis get their visas revoked. But where would all the F.R.I.E.N.D.S, South Park, Wonder Years and the latest movies come from if it wasn't for these guys? Legend has it that there are ex-IITian downloaders who went to the US and now rip movies and send them back to IIT. So compulsive is the habit. Now you know why the network is always clogged.

The Movie Watchers
Ever bumped into someone in your final year and realised that he's been your batchmate for four years? Yeah, he's probably a movie watcher. Even muggoos are visible in the classroom but MWs are in a class of their own. They've seen every single movie on every server, twice. They know every line of every episode of every season of

friends backwards. They don't attend classes 'cos watching movies till 5 in the morning makes them sleep all day. They can be easily recognised (if you ever see them) because they have a glazed look in their eyes. They practically depend on the downloaders for their daily bread. Rumour has it that six of them suffered a stroke when Kamada

Stereotypes

There's more to IITians than just studying, in this definitive guide Vikram Rentala explores the in's and out's of life in IIT.

left the institute. And you thought extra-curriculars were driving students away from academics?

SPs junta
They listen to cheesy Hindi masala mixes all day, drink at night. Life is just rockin'. Survive on whiskey and chicken lollipop. Most of us go to SPs once in a while to drink but these guys are the ones who leave SPs once in a while to get some fresh air. They are on a first name basis with all the waiters and have an air-conditioned table waiting for them. Usually very philosophical, especially after three bottles of beer.

The Muggoos
Somebody forgot to tell these guys that 12th was over. Or maybe they had a bad childhood. Either way they spend the nights doing what they do in the day. Studying. Secretly, all muggoos desire to be hip and happening. After a couple of months they kind of realise that while being the hero of the coaching class may have won them a few admirers in the past, it just doesn't cut the cake in college. So they reluctantly resign themselves to the fact that the only scoring they are going to do is on the midsems.

The MI/Techfest People
Always at the coffee shack at 12:30 pm sharp. You can easily spot this breed because they are the only group of ten not talking to each other but talking on their cell phones. Future executive material. They aspire to either get a job in a consultancy or do an MBA. They have more treats

than they have events. The MI vs. Techfest debate has a long history. E-cell is the new kid on this block.

The H10/H11 Men
A larger group than many might think, perhaps, even outnumbering the women in these hostels. Till the mess ban was in place could even be found playing TT and carrom in the middle of the night in the girls hostel mess. If you saw people having seizures when the 7:30 rule was announced you know what I'm talking about. Some of these individuals go on to the elevated status of being nominated for G.Sec ...of H10 and H11 of course. From 10 pm to 4 am they can be found taking walks till YP, carefully avoiding lampposts and security jeeps.

The Hostel Enthu Punters
People need a cause in life and when they do not have one, they have one thrust upon them. That's how people are made to "work for the good of the hostel". Whether it is organizing Dandiya or the Hostel Fest or working for PAF or otherwise, these guys are always to the rescue. Usually are given awards like Gem of the Hostel and Delight of the Hostel. Sounds a lot like some kind of dessert?

The Lit Junta
Always talking in English and getting excited about crosswords and Dumb Charades. Most people don't even bother trying to understand their sense of humour. They live and die by the GC tallies. If you overhear a conversation between them it usually goes like "Yeah, Malhar sucks they didn't have many cash prizes, perhaps we should go to K'scope". They listen to rock and are very snooty with regards to any other kind of music.

The Yahoo Messengers
Hmm, have you ever heard a profile read "CoolDude91: So can we meet? RavishingChick24: I'm your wingie. CoolDude91: You're a guy???". Don't be surprised. Their life story unfolds in 128 bit ASCII. Where each BUZZ! is a high point of their day. Now if only they had a smiley to eat and go to the bathroom they would never have to get up from their chairs.

The Crib Babies
To err is human, to forgive divine and to crib is IITian. "The quality of mess food is so bad… the bathroom doesn't have a hot shower… there was no GBM for insti Alumni Secy…" There is no end to the list of cribs these children have. Nothing is good enough and they are always on a crusade to condemn everything and anything. Usually, they end up becoming InsIghT editors (eds please let this line stay)

Whatever be your stereotype, do not fret. There is still hope for you! The best way to deal with the trauma is to embrace your stereotype. In our own unique way, we are all conformists to some way of life and thats what makes IIT a fun place to be in.
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05

Since the multitudinous readers of Insight were not vocal enough about how the convoluted sentences (which really don't convey much) we put together in our previous article were so meaningless, our loving editors have been desperate enough to let us utilize Insight real estate to publish our random thoughts yet again. This implies that disagreements with article content and general spite against us can be taken up with them.

With placement season flourishing (for namely Anuj, as he so succinctly put it before) and wing treats being given a dime a dozen by the beneficial and eventually horribly broke party, we decided to use our extensive knowledge of restaurants in Bombay, gathered over years of experimentation at the expense of our parents hard earned money, to try and expose a bit more of this wondrous city to you. It is finally time for you to look beyond Chakras, Shera and the eternal midnight buffet, and expand your horizons to places where the food is refreshingly different from the staid circuit of treats from campus. Yes, we're sure that the ambrosia-like mess food has you craving for more, but a few lowly restaurants occasionally shouldn't do you much harm.

Personal favouritism forces us to start with arguably the finest (and most cramped) restaurant, I have ever eaten in. Café Churchill, with its inconspicuous yellow board, is a place few would notice on a leisurely stroll down Colaba Causeway. But once inside, one cannot help but be over-

whelmed by the overpowering aroma of finely cooked Italian and Continental food, and the broad smile of the ever cheerful head waiter, Rao. With a wide variety for both Veg. and non-Veg. pallets, one can choose from a variety of pastas, steaks and lasagnas. The worst part about a meal there is that after one is stuffed with the main course, one is always left looking longingly at that extra dessert you could have had if

Esoterica

For those who survived their first column here's another one. Anuj Pradhan and Udit Parakh review a few eateries in and around Mumbai.

you had the money. We recommend at least two after a meal to do any kind of justice to the quality. A tad on the expensive side, we got away with a bit more than Rs. 300 per head –that's including 2 desserts per head.
While we're on the topic of food from the Continent, one must also try out Pot-pourri at Bandra. A small establishment by the road-side, it serves somewhat similar fare to Churchill. Plenty of pastas here too, there are also dishes from other

far flung countries, like the Spanish Paella rice, some Mexican is also thrown into the menu. Though not quite in the Churchill league, Pot-pourri too has a strong tradition of desserts, their whiskey slice being quite popular. This one is not too cheap either; somewhere between Rs. 250-300 should do it.
Two paragraphs of Continental food should have people picketing us for

being elitist, so we'll head back east, to one of our favourite Chinese restaurants, Ling's Pavilion. Located near Regal Cinema, we love it because the food is good and the servings are large. It is probably one of the lower priced, higher rung Chinese eateries in the city. We have been told that the vegetarian fare is also quite delightful and you have our personal assurance that the carnivorous lot will have a ball. Do try the pot cooked rice; it is quite wonderful as

is everything else. This one should be fall in around the same range at Rs. 250-350 a person. Another place that we like, but which has unfortunately increased its rates is a place called Five Spice, located near Horniman Circle. By this time you must be detecting a pattern when we mention wonderful desserts. Beware though, this place is always full, especially on weekends, half an hour waits are commonplace.
Finally we will end up with a good old dose from the homeland. Apoorva and Mahesh Lunch Home, both located in the Fort area, near Horniman Circle and RBI are a treat for all sea food lovers. Prawn, crab, lobster, clams and fish of all sorts freshly brought in everyday, the salty smell of the ocean wafting in with the dishes alongside the aroma of Konkani spices. Herbivores, do not worry, we have been told that there is good vegetarian food at both places. Of course if you intend to order exotic dishes, be prepared to shell out. If you can spare the dough, try the butter garlic crab. It is absolutely divine. Mahesh Lunch Home has a branch at Juhu too.
P.S. Pocket-watchers fear not, we will do a budget eatery piece soon.

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These articles aim at providing an InsIghT into PT's. We have attempted to incorporate three major kinds of training pursued by undergraduates. Management training/shop floor assignments, software and training in universities abroad.

ITC Ltd.
-Sundher Ram, Shreya Deb

Well, had somebody asked me to write an article on 'why I chose to do my internship with ITC', I would have drawn a blank simply because I had no clue as to why I was doing it and whether it would add value or not.

Internships in ITC, HLL, Asian Paints and Shree Cements can be broadly classified as shop floor assignments and factory internships. In most of these companies it is possible that the project may not be related to your discipline at all and will invariably be about optimizing some critical task or setting up some entirely new system on the floor. First I will try to address the issue of what a good internship must offer and then branch into what exactly such a shop floor internship will offer.

What must one look for in an internship? One of the most important qualifications for an internship is that it must give you enough opportunities to get a long and hard look at the managers and the job pro-

The United States of America
-Harsh Roy

It is the kind of thing which lights up a freshie's eyes, "kya bol rahe ho, aap america gaye they?" and to which you reply as the grand old man, "its no big deal, now you are in IIT. Start thinking big". A foreign PT for an IITian is like a free t-shirt, pizzas at the end of a PPT, a cancelled submission, one of the few things which bring real glee, the highest return for a meagre investment. That is why, when I got a call from a US university for a 10 week project with the "juicy, creamy, delicious" words "travelling expenses paid" and stipend in dollars, I called up my parents in the middle of the night.

Contrary to popular perception, the strategy of sending the same cover letter and resumes everywhere is non-rewarding, you need to match the professor's research interest with some work you have done in the field and personalize the application. Calling up the professor if you get a positive response never hurts. Also, going for a PT abroad just for crossing the seas does not make sense, if you do not want to go for higher studies in future. If it is a job that you are after, then an industrial PT in an industry of repute which gives pre-placement offers is a better bet. The trend of overseas PT has greatly picked up in the last couple of years. Before that only a handful of people went to institutes such as EPFL, Switzerland and some select Canadian universities. Since then students have spent their summers in USA, Canada, Australia, France, Italy, Korea, Germany, Switzerland, Singapore, Ireland and even Costa Rica! It is a further indication of the global recognition of the IIT brand.

One of the first things which struck me about the US was the difference in the people, not the place. Professors in shorts carrying diet coke into class, women the age of my mom roller-blading, strangers waving zealous Hi's. You find yourself waving back as zealously. You also find yourself peeling onions and washing dishes while back in India the only trip you ever made into a kitchen was to gorge into what mom made.

file of the company. "Do I envision myself doing this job or a similar job after my graduation", this is something one must be in a position to evaluate at the end of the experience. The question assumes critical importance during placements considering the fact that most of us have no clearly defined plans as to what we wish to do after graduation and an answer may at least help us in ruling out some options. Apart from this any internship, apart from teaching you a lot of new things must also look good on the resume. Again, what you will pursue after your graduation helps you determine what sort of PT will add value.

An advantage in doing a shop-floor internship is the fact that you will work in close proximity (also physical) with people rather than computers. I would say with no prior experience as a CG or a manager, I learnt the basic rudiments of handling people (both your superiors and the workers) through my internship. Another aspect of your personality that is bound to develop through such an experience is the ability to clearly and precisely express your thoughts. With the managers taking out valuable time from their busy sched-

Training Grounds

The kind of practical training to opt for is a question that haunts many. Harsh Roy, Koustubh Vachhani, Sundhar Ram and Shreya try to recollect their summer assignments to give you an idea what different work experiences have in store.

Your 20 years of standing innocent on the charges of eating any animal receives a death blow when at a McD you are told that they don't serve anything vegeterian. You also get valfi profile matter when midway through a seemingly innocent cup of coffee with a friendly man who seemed so curious about India, he tells you that he has just broken up with his male life partner. You break the standing 100 meters record on your way to the door!

On a serious note, a research PT abroad is your perfect chance to know what postgraduate life abroad is exactly like. On the positive side you observe the great research facilities. The infrastructure is awesome and incomparable to our labs here and you have great academic flexibility and freedom. The very informal social environment and the freedom and quality of living are huge incentives. On my way back the American guy sitting next to me who did not get a job of his liking after graduating in Computer Science, worked as a waiter for a year and collected money to now go on a Europe tour. That for you, sums up a typical American attitude towards life, live in the moment. On the negative side you observe that its only Indians and Chinese who make up most of the PhD workforce in US because they are workhorses working late into the night and even showing up on weekends slogging to meet deadlines, good bye to your assignment cogging days, here even the slightest indication of manipulation or academic dishonesty is enough to get yourself thrown out not to mention that you are no longer in India. A feeling that needs some getting used to and which grips your heart only when you are away from home. An overseas PT is not just an addition to your resume, another project you do, another reco you get, its much more than that, its a huge experience, it broadens your horizons.

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ule to talk and guide you through, getting the point across in the smoothest manner becomes essential. The wide exposure to different people of different ages, different economic backgrounds, different educational backgrounds is definitely going to provide you with new and fresh inputs and hence broaden your perspective.

Specific takeaways, I would say in such an internship program are more non-technical than technical. The huge diversity in the ideological beliefs among people one gets to see in a company like ITC definitely broadens your perspective. The apparent contradictions and diversities in the system offer great scope for self introspection and provide a fresh angle and a new set of inputs and you definitely come out as a much more enriched and mature man.

In an alien situation effective communication skills are imperative for survival and the situation simply forces you to develop these skills. With the ITC brand name and heaps of money thrown in, well this is one assignment a guy is going to love.

A very important thing one might pick up through the process is a feel for how a huge corporation manages to sustain and grow

IBM Software Labs
-Koustubh Vachhani

I did my summer internship in IBM Software Labs, Bangalore. This was my first exposure to software industry and gave me a first hand experience of the culture and work in big software firms. IBM software labs does a lot of research work in the field of Linux, e-commerce and Operating Systems besides integrating solutions for its customers. Whereas IBM global services does BPO kind of work and does not focus on research. IBM software labs has a work culture in which it gives a lot of time to its employees to do research and puts a lot of effort into publishing and patenting its work. Most of the employees I interacted with in IBM were involved in some or other kind of research along with there normal routine work.

Apart from knowledge of software development tools, what one gets to learn is the way this industry works. How clients are approached, how a base is prepared and how the software is built and released.

Like most other software firms IBM doesn't have any fixed office hours and most of the projects involve groups of 5-8 people. Working five days a week with no rigid timings is a major advantage of a software PT. Many of us are nocturnal creatures and we don't have to disturb our biological clock for a software firm.

Another take-away is high speed access to the network. I don't think I need to elaborate further on this one. If you can finish your work for the day early, you get to chat and surf over coffee all day. And now an important funda: Most companies have rules which allow you to enjoy music on headphones but you can't download songs. On top of this, the sys-ads are pretty active so you'll get caught if you try downloading stuff. But you need not rely on the local music server, just rename all your mp3s to pdfs and download them, nobody will

and the forces that shape an organization. In short it can be quite a steep learning curve especially if one is inclined towards doing a MBA later. Well one of the other interns succinctly put this as "It is my first step in becoming a true manager from an engineer".

Well agreed such a PT will help me develop a lot of skills but will I actually need them? Well at this point in time all I can do is simply speculate and hence I shall refrain from passing judgments. But if you are clearly undecided as to what you want to do at the end of your IIT life or whether you wish to pursue a management degree or sit through for a non-tech company such an internship will help you immensely. But if by the beginning of your third year you have decided that a MS or a PhD is what you will be doing then you may safely look towards the other options. This internship has very little to offer in that case.

All said and done, apart from all these things the two months will throw up enough opportunities for you to let your hair down and freak out. One thing all fourth yearites unanimously agree upon is 'It is the best way to spend the summer'.

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come to know. One problem I faced was that the food in the canteen was worse than the mess food in IIT. Overall it was a good internship and gave me a first hand experience of the kind of work going on in the software industry. It definitely is an excellent opportunity for someone who wants to enter the software industry later. Most of the software PT's can add value to your resume and have bright chances to fetch a pre-placement offer too. With a handsome stipend and coffee vending machines at every floor what more can you ask for?

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An increase in number of students from 60 to 90 may not be justified. However, this is not due to the lack of job opportunities. Instead, the concern is that this may lead to a compromise on quality.

Discounting the people who are genuinely interested in non core jobs like S/W, a huge percentage of people take up such assignments due to higher payscales. It is a case of misinformation rather than anything else. In a core technical company, the chances for vertical movement are higher than bulk S/W recruiters and it is just a matter of

Black & White

sticking with and proving your worth before tech jobs start paying as much or in fact more. IIT can only do and should do what it is best at, i.e. provide education and an atmosphere for development. How the students use it should be left to their competence. After all, for all the years that you spent there, did your school guarantee you a college admission of your choice?

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Disclaimer: The views expressed here are purely those of the authors and are not subscribed to by InsIghT.

In a world as competitive and complex as ours, every decision that you make almost always depends on what decisions the people in your immediate neighborhood have already made or on what decisions they are most probably going to make. Such decisions, you would think, are entirely dependent on the particular situation the individual faces. And since there can be an infinite possible situations, you wouldn't really expect any kind of generalization for the process of decision-making. But all this changed in 1947 when Jon Von Neumann, one of the greatest mathematicians of his era, proposed a theory of decision-making and went on to give it a fancy name as well. In his book Theory of games and Economic Behaviour Neumann presents a mathematical formulation of the process of decision-making. In this formulation, every event which involves a decision making process between a group of people is called a game. Hence the name- game theory.

How does this theory help?
So we have a theory for decision-making. Does this mean it can predict what decisions should be made, given a particular situation? Of course it does. It would be such a waste of resources and time if game theorists wrote reams and reams on the subject only to tell us that decision-making is entirely unpredictable. But again, game theory is not always deterministic and one only talks of the most probable decisions and most probable outcomes. The best approach to understand what this theory would be to consider a particular game and see how game theory helps. So let's start right away

The Prisoner's Dilemma
This is probably the most popular of all the games that have been studied using game theory. The situation is this. Alice and Bob are two prisoners. A judge is questioning both of them separately about a theft they allegedly committed. Now this judge is a really weird guy with weird notions. If both Alice and Bob confess that they did indeed commit the theft, he is ready to let them go scot-free. If neither of them confesses to committing the theft, the hearing will go on and they could now get convicted or could equally well be acquitted. The problem however is that if one of them confesses and the other does not, the one who doesn't confess stands to loose. And the judge will not let them communicate before they make their decision.

It is common practice to tabulate such a situation in what is called a pay-off matrix. The pay-off matrix for the current game is as given in the figure. In the figure C and D represent 'cooperate'

The Prisoner's Dilemma

In his regular column Prashant Pawan attempts to bring out the intricacies of game theory through the celebrated example of the Prisoner's Dilemma.

and 'defect' (or confesses and not confesses), the two strategies of Alice and Bob. It can be seen from the matrix that when both of them cooperate they stand to gain the most and when both of them defect they gain lesser.
If they do not play the same strategy, the one who cooperates will be in big trouble. It may be noted that the game is symmetric with respect to both the players. What holds for one, holds for the other as well.

The Dilemma
A dominant strategy of a player is that strategy, which will give him a better pay-off than any other strategy, irrespective of what the other player does. In the present case, Alice would observe that if Bob cooperates, she would gain more by defecting rather than by cooperating. If Bob, however defects, she would still be better off defecting rather than cooperating. The same of course holds for Bob as well since the game is symmetric. So assuming that both Alice and Bob have the gift of common sense, they would both end up defecting and thus gain a pay-off of 1 each. This is known as the Nash Equilibrium of the game, named after the famous game theorist John Nash (made more famous by Russell Crowe in A Beautiful Mind). A look at the matrix however reveals that both could have done much better had they cooperated instead. Thus common sense prevents Alice and Bob from using the best strategy available to them. This is why the situation is called the Prisoner's Dilemma. Classical Game theory has never been able to solve the dilemma.

The Applications
There exist many interesting applications of the game theory formulation of the prisoner's dilemma since it closely resembles many real life situations. For instance it has been suggested that all the nations fighting terrorism would tend to cooperate lesser than they actually should with each other, for the exact same reasons that Alice and Bob do not cooperate with each other. Then again people have worked out buying and selling strategies in stock markets using game theory principles. A large number of studies in economics are based on game theory principles. And possibly the most interesting application found to date falls in the field of biology. It has been suggested recently that at the microscopic level genes and other biological species are actually deciding strategies in a way very similar to Alice and Bob's participation in the prisoner's dilemma. So are the genes in a dilemma too? Do they not cooperate? Well, not quite. The kinds of games played at that level are entirely different from the games just discussed.

Non-Classical Games
In the game of Prisoner's Dilemma discussed so far, the two strategies used were classical. To put it in other words, Alice and Bob could either confess or not confess. They cannot play both these strategies together. This statement might seem redundant and totally unnecessary. But a little thought will ring a bell. Such behaviour is very characteristic of the world of the very small, the atoms, genes and other such matter. It is known as non-classical behaviour or quantum behaviour. So, ridiculous as it may seem, the fact is that in a non-classical game, the players play a superposition of both their strategies. They thus confess and not confess at the same time! If this made no sense to you whatsoever, you are not to be blamed because Einstein himself could never come to terms with such behaviour. At one point he even refused to understand it! This however need not be a cause of worry because what we are concerned with is the pay-offs and when the pay-off is being decided all non-classical behaviour collapses to classical behaviour.

Resolving the Prisoner's Dilemma
When Alice and Bob play the non-classical game they have at their disposal a bigger strategy space than that in the classical game. In addition to the two classical strategies of cooperating and defecting, they can also play the infinite number of linear superposition of these strategies. As a result their dominant strategies change and so does the Nash Equilibrium. In 1999, Eisert et.al showed that if the Prisoner's Dilemma is played using non-classical strategies, a new Nash Equilibrium pops up where Alice and Bob play a superposition of their classical strategies and gain the best possible result, which is a pay-off of 3 to each of them. The dilemma is thus resolved! It was later suggested that this is exactly what happens in the case of biological games. The organisms ultimately end up cooperating as a result of non-classical strategies. Soon many other games were reformulated to include non-classical strategies and it has been observed in almost all these cases that the pay-offs turn out to be way better than those obtained in the classical games. A few examples are Rock-Scissors-Paper, The Stag Hunt, The Monty Hall problem and many more. There is also one set of games called the Parando's games where losing two games consecutively leads to a much bigger victory in the next game! So is it possible somehow to extend these kinds of games to the macroscopic domain? Is it possible for human beings to use non-classical strategies? It definitely seems so if the success rate of current research going on in the field is any indication. So let's wait and hope that the "games" will soon begin!

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07

Enrico and Lora Fermi made one of the most celebrated pair of physicists. Once during a chilling winter, Lora discovered a hole in the bedroom roof and asked Enrico to mend it. Enrico, very confident about his calculations, declared that it would be useless mending the hole since it will cause a difference of only 10ºC in the room temperature. Showing immense trust in her husband's calculations (as wives always do) she never tried to recheck his calculations. The winters passed, shivering. Then one fine day during the summers Enrico comes running Lora and says "Lora, I just found a mistake of decimal place in my calculations for the roof-hole, guess you would have been right in mending it!" Poor Lora, all she could say was "always do your calculations yourself!"

Questech has been a good food to the hungry brains, and to make it more palatable we promise a fundoo treat at coffee shack for the early birds! So hurry!

Questech

Shweta Shah and Varun Kanade present another set of puzzles. So get your gray cells ticking. Coffee shack treats are up for grabs for the early birds.

Gambler
A wheel of (mis?)fortune with 12 sectors has 1,0,1,0,0,0,0,1,0,0,1,0 written in the anticlockwise sense. At each trial you are allowed to add or subtract 1 from 2 consecutive sectors. You win the fortune if you finally make all numbers 0. Is it possible to win the fortune? What if the numbers are in the order 1,0,1,0,0,0,0,1,0,1,0,0?

Fly bird fly
Four birds of equal weight are positioned at four corners of a square. A bird can fly to a new position such that the centre of mass of the other three birds forms the midpoint of the segment joining the initial and final position of the bird. Is it possible that two birds will fly to the same tree (i.e. the same position)? Justify your answer.

Coloring a Chess Board
Asterix and Obelix decide to play a game. They pick up a 4x4 board and decide to color it alternately. Asterix colors white and Obelix black. You can color only fresh squares, i.e. those which have not yet been colored. Whoever is forced to form a 2x2 square of one color is the loser. Asterix, aware of Obelix' intelligence, allows him to choose who plays first. Your job is to help Obelix choose what to do, so that he does

not lose.

Killing a Beast
In a land far away, there is a village, threatened by an hundred headed beast. This beast can only be killed by cutting of all the hundred heads. Legend says that any brave warrior can cut off exactly 10, 20, 30 or 40 heads at one time. However with each of these, 40, 2, 60 and 4 new heads appear respectively. The village has lost several brave warriors against this beast. Can you save the village from this beast ?

Last Month's Winners
Congratulations to Rohan Joshi and Sudhanshu Tungare for cracking last time's Questech.

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

Questech is also accessible at http://insight.iitb.ac.in

*"I shall be telling this with a sigh
Somewhere ages and ages hence:
Two roads diverged in a wood, and I.
I took the one less traveled by,
And that has made all the difference."*

Robert Frost's 'Road Not Taken' is probably one of the most popular pieces of poetry. And most apt to all of us too, at some stage or another of our lives. Choosing engineering over other career options, IITs over RECs, IIT Bombay over other IITs, job over app - doesn't that solitary decision make all the difference in our lives?

For instance, how much difference did choosing IIT-B over, say, IIT-M make? Or did it? IIT-M has a strong sports culture, while it is common knowledge that IIT-B students excel in other extra-curricular and organizational activities. IIT-B is known for its job placements while one would agree that IIT-M has a strong record in apping [app = applying to foreign universities for MS/ PhD].

Coming to a more relevant issue, if it had been your dream to pursue your MS or PhD at a good university abroad, then the choice probably made all the difference. Why? Let's take a quick glance at a few numbers from last year.(refer table)

Only 4 students from IIT-B Civil dept managed to get a schol, 2 of whom went to schools in Canada. While at the same dept in IIT-M, 14 of the 15 students applying got scholarships. The only student who missed was DR6 who had clashed all his applying univs with DR3. Quite similar trends are observed in the other departments as well. Hence, there is little debate as to who does it better when it comes to apping. The questions that come to the mind are - How do IIT-M students fare better in apping? And what are the reasons?

Addressing the latter part first, the reasons

and goes about applying. There is very little coordination and since the only source of information are the individual seniors, the guidance is less reliable and unsystematic. Consequently, the fundaes of apping especially of writing SOP, identification of university and the professor, procuring good recommendation, gauging one's chances of getting a scholarship are decreased.

The System of IIT Madras
Focusing on the question as to how IITM students fare better, here is a preview of

dates and deadlines, informs the interested junta and collects their app packets. All the app packets to a univ then go together. If a person gets a schol from his dream univ, he has to withdraw asap. There is a good roll-on history in IIT-M. i.e. as soon the top DRs withdraw, the lower ones get a schol. This definitely ensures that students do not get rejected just because of non-coordination with their own classmates.

What can be done?
The point is, can't we do something similar in our campus? If we have a good placement system today, we owe it to an initiative taken a few years ago to coordinate the entire procedure. Similarly, we can have an apping cell in the campus that coordinates the activities. We need initiative!

This need now is even more severe because from next year, placements start from December and it is during the same time that one has to app. So many students who would have dropped off after they get a job would also be applying.

It's easy to blame GSAA for not having such a system in place. But it's difficult to establish one. The GSAAs from the past few years have promised to establish such a cell but before something can materialize his tenure ends and all the good work done in this regard is washed away. If we hope to have such a cell then strategic planning and its implementation must start right now involving third year students. There has been a good amount of effort for this in the Chemical dept. But we still have a very long way to go. Robert Frost had two roads in front of him. He had to choose one. But what if we never had another road to choose at all?

AN APPATHETIC SCENARIO

The establishment of an apping cell has long been an integral part of the GSAA manifestos. Zishaan, Nishant Patni and Sriram Emani look at how things stand.

could be many. The most evident of them all is the presence of a strong apping cell in IIT-M as opposed to a good placement office but no apping cell in IIT-B. While IIT-M students prefer good apps and prepare for it accordingly, the trend in IIT-B continues to be towards the job. Of course, the reasons for this could be many more.

their systematic apping process. The informal introduction to apping begins in the third year itself when seniors organise fundae sessions during farewell parties. Once in their fourth year, the apping junta forms an apping cell and appoints a secy. They create a list of univs to be applied to. Each student is then assigned to look up into the univs of interest. They make a database of the univs and profs, and get to know more about it through seniors from that univ. After this begins the co-ordinated apping. All the students meet about once a week to express their choice for univs. It begins from top to bottom in accordance with DR (Department Rank). The good point is there is an upper limit on the univs you can apply to and a student is allowed only a single buffer. There are negotiations and bargaining while selecting the univs.

For recos (recommendations) from professors, there have been instances when policies were formulated for that too. The students decide among themselves as to who should take recos from whom. In case the prof doesn't differentiate between the students and gives recos to all and sundry, they fix the number of recos a prof can give. The BTP student under this prof is given first priority. The app secy keeps track of the

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What have we been doing?
Each student who wants to apply does all his homework of identifying appropriate universities and the professors individually. He gathers a couple of SOPs (Statements of Purpose) from the seniors he knows

	IIT Bombay	IIT Madras
Dept	Civil	Civil
Class Strength	33	28
Apping Junta	5-6	15

DR	Univ	Univ
1	MIT	UC Berkley
2	Purdue	UC Berkley
3	Toronto	MIT
4	Didn't App/No Schol	Cornell
5	British Columbia	Wisconsin Madison
6	Didn't App/No Schol	Didn't App/No Schol
7	Didn't App/No Schol	UTA
8	Didn't App/No Schol	UIUC
9	Didn't App/No Schol	UTA
10	Didn't App/No Schol	UTA
11	Didn't App/No Schol	U Michigan
12	Didn't App/No Schol	UTA
13	Didn't App/No Schol	U Michigan
14	Didn't App/No Schol	OSU
15	Didn't App/No Schol	SU NewYork

Through this column, we (the much harrowed eds) shall attempt to present a follow-up on issues raised in previous editions of InsIghT.

From the Editors' Desk

Almost a month has gone by since extracurricular activities came to a standstill at IIT Bombay. The past few days have seen a revival of sorts, with clubs being allowed to function. There is still however, a certain dullness that abounds, like when you've just taken a blow to the head. For those who had become accustomed to being a part of the proverbial 'hostel cultgiri' or 'sports giri' there isn't really much to do. No night-outs spent mugging dialogue.

No pep talks for hostel crossy. No cheering. It feels strange when the most pressing issue on hand is nothing more than a lab submission. Those who've read the novel '1984' by George Orwell might find an uncanny resemblance.

As more and more time passes, people will tend to become increasingly impassive to the sheer dearth of things to do (non -academic). Perhaps, in a few months no one will really care anymore. Problem solved?

We shall move on to other issues before this starts sounding like valfi senti.

Our report on construction work at IIT drew plenty of flak. Some from most unexpected sources. An extended conversation over tea with sources who wish not to be named :) led to certain revelations. While it is often easy to lay the blame on the construction company, it is important to realise that the hostels 12 and 13 were built in record time. Perhaps too fast for

a project of such magnitude. The original blueprints of the recent mess renovations show certain oversights arising once again from hurried planning.

The tum -tums are still missing. People are still walking and still grumbling. Sophies still stare longingly as seniors drive past them on bikes and are perhaps hatching complicated plots to manage to own them. The authorities are still rolling about in red tape. It almost seems like our institute is frozen in time.

The article on relationships generated more feedback than all the others combined. The 10 o' clock rule (the ignorant visit http://insight.iitb.ac.in) may have just nipped a lot of plans in the bud. H3 was quick to take corrective measures and aptly came up with the theme 'come fall in love'. Sadly most men had to dance alone as the 'H10 H11 men' apparently had other plans (see 'Sterotypes').

As the semester draws to an end, there are many things to look forward to. Rising nbd levels, long walks to the reading room ending up at staffIC, dandiya!

With the inter-IIT sports meet around the corner, poor geeky IITians will be pushed to the limits of their physical endurance in an attempt to replicate the performances of the swimming team and InsIghT editors will lose more sleep and hair off their heads attempting to bring out the November issue :). See you in November
-eds

Baloney
-by Sandhya