

Newspaper Clips

October 7, 2011

Mail Today ND 07/10/2011 P16



by Dinesh Mohan

IITs must get over their silo mindset

THE INDIAN Institutes of Technology (IITs) have been in the news lately because of comments made by the Infosys chairman emeritus N R Narayana Murthy at a gathering of hundreds of former IITians at a 'Pan IIT' summit in New York.

He is reported to have said that "the majority of the students fare poorly at jobs and global institutions of higher education" and that IITs should "transcend from being just teaching institutions to reasonably good research institutes".

We are told that the audience applauded with gusto. The most quoted response from India came from Chetan Bhagat, "Mr Murthy had a point, but wish he wasn't so sweepingly high handed. Fix the system. No point judging students" and also "that such comments should not have come from a person who runs a "body shopping" company and calls it "hi-tech."

It is interesting to note that both of them are former IIT students and so were those applauding them. Ample proof that many of those who have graduated from an IIT are in ignorance of how the system functions, its accomplishments and its role in the development of science and technology in India. Chetan Bhagat provided us with an entertaining account of the rambunctious life of students at an IIT in his novel *Five Point Someone*, but displayed complete ignorance in matters concerning how the system runs.

Performance

Mr. Murthy claims that IITians don't perform well in global institutions of higher education and that IITs should graduate from just teaching institutions to research institutions. The first comment has no basis in fact or a study, and the second ignorant of the present output of IITs. At their annual convocations last year all the older IITs awarded about 1,500-1,700 degrees each. Of these 60-70 per cent were post graduate degrees including about 180 PhDs each. Bachelor degrees constituted only about a third of the IIT production.

In terms of student population and faculty interest, IITs have already become research institutions but all ill-informed discussion focuses only around the undergraduate students. This is probably because our research oriented graduates cannot occupy high positions in industry or write novels.

The quantity of research being done in IITs today is much more than double that just ten years ago. On an average, the research capability of faculty members today is also far superior to the kind who taught me in an IIT over four decades ago. A study done by the Department of Science and Technology a few years ago showed that more than 80 per cent of all employees in the research departments of both public sector and private sector large

companies mostly came from IITs. But these are the employees who don't get to speak at CII or FICCI annual meetings.

Today the main problem lies not in the quality of students or the faculty of IITs. The problem is much more basic. There is very little demand for real research either from the public or the private sector, including Mr. Narayana Murthy's company. This shows in the low number of jobs available for PhD graduates every year. India produced less than 700 PhDs in engineering last year, and China more than 5,000. Indian PhDs have a hard time getting a good job, especially in the private sector, but all Chinese PhDs are absorbed in their own country. Unless there is a much greater demand for technical research in the country, it will be difficult for IIT faculty or students to improve the quality of their work.

Problem

Demand for research comes from three sources: infrastructure and public sector needs, private corporations, and defence departments. All three sources in India are sub-critical and don't employ people who understand how research is funded and managed. Very typically, they demand results in months, don't have a professional knowledge in the topic involved and don't have a network of researchers they consider friends.

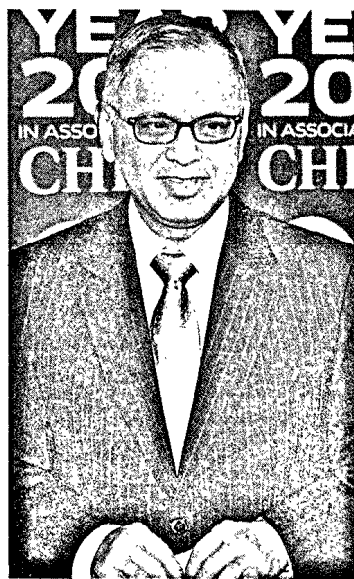
Analyses done in Europe and the USA show that academic-industry or academic-government collaboration takes place more often when the people involved know and trust each other from university days, or have met each other in some other social context also.

This has a greater chance of happening when all organisations involved employ MTEchs and PhDs. Since Indian industry,

and the public sector do not have many respectable job openings for PhDs, the possibility of human contacts developing for collaborative work becomes minuscule. Most collaborative projects are ordered from above and the project monitors have little understanding on how to deal with their academic counterparts.

We also have to understand what kind of human beings opt for research careers anywhere in the world. They usually come from the middle or lower middle class, have spent nothing on their education, do their post graduate studies on scholarships, and then look for stable jobs. It is the same in India. We recently received a tearful email from a student declining an offer of a PhD scholarship. He said he could not spend more time without a high paying job because both he and his father had taken loans for his education and they had to be paid back. He added that a research career was his first option and not the job which he knew was going to be boring. But he had no option and knowingly decided on a course of life not to his liking. This is not an isolated case.

As long as the quality of school education is based on the ability to pay, we will ensure that all the potential researchers who are not able to attend high fee schools will not be able to find admission to IITs. After that, those students who go to private colleges and shell out significant amounts of money for their undergraduate education will certainly opt out of science and research careers. Even if fees are low, many students find paying for hostels and food a signifi-



cant drain on their family funds. Data from USA show that availability of educational loans generally helps children of middle class families, as those who are poorer generally consider a loan a lifelong burden and so don't even apply for one.

Evolution

Therefore, an equal school education and very inexpensive college education are pre-conditions for encouraging research careers. This is why in most European countries, college is free and scholarships are given for living expenses. Even in the USA, all the top universities take pride in announcing that no deserving candidate will be denied an education for financial reasons.

IITs themselves will also have to change a great deal to compete internationally. The recent Shanghai rankings of world class universities show that most of those included are largely government funded and not discipline based like the IITs. To enter the international league in research output, IITs must evolve into full fledged universities to promote interdisciplinary research and escape from their silo mindsets at present. But this will certainly not happen if we follow Mr. Narayana Murthy's advice to shift from the tenure system for its faculty to a five year contractual appointment system.

This will ensure greater corruption, lack of vision and serious researchers opting out of the system. I guess I should not fault Mr. Murthy much. If I had to give advice on how to run his company, I am sure they would go bankrupt quite soon.

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Mail Today ND 07/10/2011 P7

IITs & IISc fail to woo aspirants for online CAT

THE addition of the IITs and the Indian Institute of Science to the list of institutes accepting CAT score has failed to create an impact on the total number of applicants registered for the online test this year.

Registration for CAT 2011 stands at 2.05 lakh candidates, which is just 1,000 applicants more than last year's figure. The registration process was closed on Tuesday night.

Though the number of CAT aspirants has witnessed a steady decline since 2009, it was expected to pick up this year. In anticipation, the organisers had also added three new test centres in Bhillai, Dehradun and Jammu.

But a marginal, almost insignificant, increase in registered candidates has come even when reputed B-Schools such as the Faculty of Management Studies of Delhi University, MICA,

Ahmedabad, along with IISc and six of the best IITs joined the CAT camp this year.

The main reason for the decline in the registration, according to CAT convener Professor Jankiraman Moorthy, remains the same as the last few years — the economic slowdown.

“Youngsters would work for a few years and then quit to pursue an MBA degree. With the job market taking a hit in 2009, the number of aspirants decreased. Things are not looking so great for the economy once again,” Moorthy said. “More importantly, two lakh candidates is still a large number as we (the 13 IIMs) absorb just 3,000 out of them. That's just .5 per cent of the total.”

CAT 2011 will be conducted over 20 days this year between October 22 and November 18.

Mail Today/New Delhi

Harvard out, Caltech is new varsity No. 1

London: There is now a fresh name at the top, unseating long-time leader Harvard.

California Institute of Technology (Caltech) knocked the famous Massachusetts institution from the summit of the Times Higher Education league table for the first time in eight years, with US schools claiming 75 of the top 200 places.

Not a single Indian university — not even the celebrated IITs and IIMs — figure in the latest ranking of the world's top 200 universities, with American varsities dominating the list. AGENCIES

Indian Express ND 7/10/2011

P-2

No Indian university in world's top 200: Report

PRESS TRUST OF INDIA

LONDON, OCTOBER 6

NOT a single Indian university — not even the celebrated IITs and IIMs — figure in the *Times Higher Education* magazine's ranking of the world's top 200 universities, with American varsities dominating the list.

US institutions have grabbed seven spots in the top 10 despite President Barack Obama warning American students of stiff competition from their counterparts in India and

China.

Three British universities, Oxford, Cambridge and Imperial College London, continue to make the cut with a university in China also making the grade. The magazine places 75 US universities in the top 200. UK has 32 universities in the list, followed by Germany (12), the Netherlands (12) and Canada (9).

The list of top 200 includes universities in Taiwan, Brazil, Singapore, South Africa and China, but this year repeats earlier trends about India — no In-

dian university is deemed good enough to be included in the elite list, in spite of India claiming to have substantially increased its spending on higher education in recent years.

The top 10 in the list of 200 universities are: California Institute of Technology, Harvard University, Stanford University, University of Oxford, Princeton University, University of Cambridge, Massachusetts Institute of Technology, Imperial College London, University of Chicago and the University of California,

Berkeley.

Britain's Universities Minister David Willetts said the list showed that relative to its size, the UK's university system was the "world's best-performing".

"With as many as seven million students predicted to be studying outside their home country within the next few years, and with international research collaboration at the top of government agendas, these world university rankings are more important than ever," said Ann Mroz, editor of *Times Higher Education*.

Mint, ND 7/10/2011 P-5

MANAGEMENT COURSES

Registrations for CAT rise after falling for two years

BY PRASHANT K. NANDA
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NEW DELHI

After seeing a drop in aspirants for their elite management courses the past three seasons, the Indian Institutes of Management (IIMs) have a bit to cheer about this year—there's been a small increase in registrations for their entrance tests.

While some of this can be attributed to an improved summer training season and a recovering economy, a few experts say the adoption of the Common Admission Test (CAT) by other top institutes, including the management departments of the Indian Institutes of Technology (IITs), also weighed in.

"The number of CAT registration was falling for the last few years, but this seems to have changed this time," said Janakiraman Moorthy, convener of CAT 2011.

The small increase in registrations is a sign that management is still a sought-after career choice, he said.

Registrations for the test improved to 205,000 from about 202,000 who sat for the entrance last year. But that's still a steep drop from 242,000 candidates in 2009 and 270,000 the year before.

"The good thing is that the number has stabilized now instead of falling, and in future it will consolidate. I believe these days candidates are mature and they take a conscious decision to choose a management career," said Moorthy, a professor at IIM-Calcutta.

IIM students are top picks

every year for leading international and Indian companies, but the courses are expensive and entail rigorous training.

Manek N. Daruvala, founder-director of the TIME chain of coaching centres for CAT aspirants, says students not serious about taking up the courses are staying away from CAT.

"Appearing for CAT is directly linked to the country's economy and placement. Thus, it's a return-on-investment kind of decision," said Daruvala. "Those who are ready to spend ₹13 lakh for an MBA course will definitely look for a better return through a better job."

Vinayak Kudva, product head at Mumbai's IMS chain of test-prep centres, agreed. "After the economic slowdown and poor job scenario in 2008 and 2009, many gave a rethink to management courses and only serious candidates opt for it now."

He added that CAT got a push this year as other leading business schools have adopted the test to screen students for their courses.

In August, the IITs at Mumbai, Delhi, Kanpur, Kharagpur, Chennai and Roorkee, and the Indian Institute of Science decided to scrap their own joint management entrance test to adopt CAT, *Mint* reported on 23 August. The six IITs run two-year, full-time postgraduate management programmes

with an intake of about 600 students. The 13 IIMs admit around 3,300 students every year.

The Faculty of Management Studies at Delhi University, the Delhi School of Economics, and the Mudra Institute of Communications in Ahmedabad, too, have adopted CAT.

Moorthy of IIM said this may not have contributed significantly to increased registrations. "These are leading B-schools, and anyway CAT aspirants must have been applying for them earlier," he said.

In-campus placements of IIM students into leading companies in 2010

Registrations for the test improved to 205,000 from about 202,000 who sat for the entrance last year

and an improved pre-placement scenario also helped, said Kudva.

In the 2011 placement season, IIM-Lucknow received 528 offers for a batch of 366. Of the 206 recruiting companies,

53 were first-time recruiters. IIM-Calcutta has already received 45 pre-placement offers for the 2012 batch.

The US-headquartered **Prometric Inc.** that conducts CAT for the IIMs said it is focusing on the delivery of the exam.

"Our global experience of providing self-service, online registration and scheduling capabilities, coupled with our capacity planning expertise, have allowed us to manage such a large number of registrations," said Soumitra Roy, managing director, Prometric India.

Marginal Rise in CAT Applications

Nearly 2.05 lakh candidates register this year versus 2.04 lakh last year

MAHIMA PURI
NEW DELHI

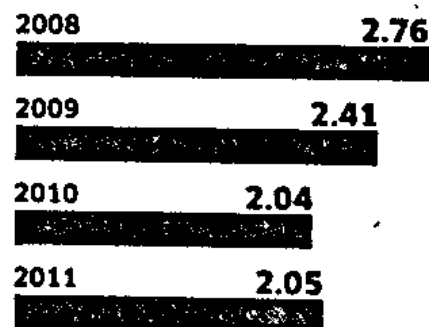
The number of applicants who registered for the Common Admission Test or CAT, the gateway to the Indian Institutes of Management (IIMs), has remained almost stagnant this year. CAT convenor Janakiraman Moorthy told ET that about 2.05 lakh candidates have registered for CAT this year, compared to 2.04 lakh candidates in 2010. This reflects that the number of registered applicants has stabilised or remained stagnant.

According to data provided by Prometric, the US-based agency that conducts the computer-based exam, CAT 2010 saw 2,04,267 candidates registering for the exam.

Prof Moorthy said, "There were about 2.06 lakh vouchers sold this year, of which about 2.05 lakh candidates have registered. The number of CAT applicants seems to have stabilised. The good thing is that the number has not declined further."

CAT registrations have been declining since 2009 when the new format of computer-based test was launched. About 2.41 lakh candidates registered for CAT in 2009, which fell to a little

Flat Growth



CAT Registrations (in lakh)

over 2.04 lakh in 2010. However, in 2008 the number of registrations was close to 2.76 lakh.

On the stagnant numbers of aspirants, Moorthy said the current economic situation and the future expectations were impacting the numbers to a great extent. "For instance, those in the IT industry seem to be holding on to their jobs, rather than going for MBA studies. Once the economic outlook improves, we may see the number going up again," he added.

Asked if students and professionals are losing interest in MBA studies, he said, "It seems there are more focused candidates that have been taking CAT in the past two years, compared with those who would attempt CAT just for the sake of it a few years ago."

The number of applicants has not gone up, despite the fact that this year IIMs are offering more than 3,100 seats. Besides IIMs, six IITs, three NITs and other major B-schools would also consider CAT scores for admissions this year.

Stagnant B-Schools Need Reforms

POOR GRADES: CAT is biased in favour of engineers, the curriculum is fixated on exotic subjects and there is scant respect for faculty in industry circles

K RAMKUMAR



During the past 50 years, we have never had an open and transparent debate on the state of our B-schools. The backlash from administrators, faculty and the alumnus is what daunts even a well-intentioned person.

There are three areas which demand an urgent debate and a meaningful course correction, if B-schools are to be true to their primary stakeholders, the students. These are, selection process, curriculum and pedagogy, and quality of faculty. I am restricting myself to raising the issues and am not going to be prescriptive with solutions.

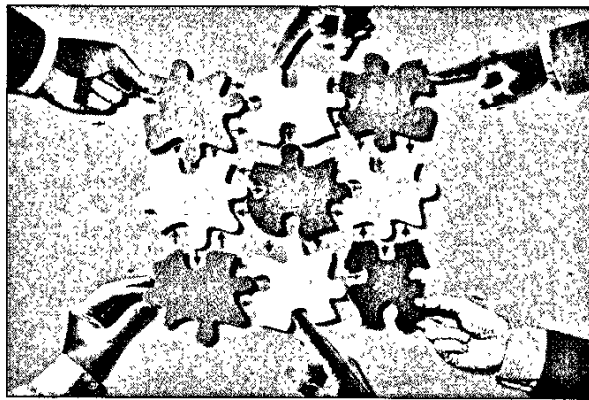
COGNITIVE INTELLIGENCE OR BUSINESS INTELLIGENCE?

Take a glance at the CAT or any B-school entrance test. There is serious confusion on what they are selecting the candidates for. If entrepreneurship and management is largely a general skill with a broad specialisation in knowledge, why is there a reliance on mind-bending quant?

I am afraid, if CAT were to be administered to the successful 500 CEOs/entrepreneurs in India, the results may not be flattering. The same will be true of the faculty.

When was the last time that any one tested and published reliability and validity data on these tests? The less said the better, about the English testing in CAT. Such an anachronistic and irrelevant approach has built a huge bias in selection.

This system is designed for engineers, as is proven by 90% of any MBA class. It excludes very bright commerce, economics, science, sociology or psychology graduates. Are we to buy the logic that other than engineers, no one else has the intellect or skills required to be an entrepreneur or manager?



The sham called GD, whether done for B-school selection or placement adds insult to injury. Fifteen people, shouting at each other on exotic topics and the evaluators scoring them whimsically, cannot be any indicator for checking out personality traits or social skills. Finally, an unplanned interview, reduced to a rambling chat, rounds off what most of us believe to be great meritocracy. Selection-related reform is the most important one. The moot point is: Can we overvalue cognitive ability but give less importance to other aspects such as judgment and social skills?

A MESS CALLED CURRICULUM AND PEDAGOGY

B-schools give, contemptuous treatment to operational areas such as distribution, supply chain, customer service, business analytics, selling skills and channel management, product/process/system design, managing performance of people, management accounting etc. You will find an obsessive fixation with exotics like marketing, advertising, corporate governance and ethics, CSR, a variety of strategy and international prefixed courses, structured finance, derivatives, change management etc. The key issue is, only a small fraction, who join consulting firms, ever get to even sight these exotics. I have never seen more than 10 people in departments which purportedly do these exotics.

Thousands work in the areas I have listed in the first set. Any conversation I have tried to have with the evangelists at the B-schools, leads to a dismissive remark from them, to the effect that they do not dabble in the despicable domain of skills.

B-schools delude themselves in serving industry and the country, in building higher-order humans and intellectuals

B-schools delude themselves in serving industry and the country, in building higher-order humans and intellectuals

oriented knowledge and skill as vocational education. The quality of case writing and teaching is abominable. Consider the fallacy in testing application-oriented knowledge and skill through the conventional memory-based or cognitive testing and confirming proficiency. Can you recollect the last innovation in pedagogy? Can you believe that the only professional education in the world, which has an apology of an internship, is B-school education?

Two months of a general walk-through in a place of work, passes off for internship. Compare this with medicine, law, chartered accountancy, even engineering. How can a course which is supposed to build perspectives, application-oriented knowledge, problem-solving skills, leadership and creating economic sur-

plus, be imprisoned in a classroom for 90% of the course? This is the second moot point to be debated for B-school reforms.

IN SEARCH OF QUALITY FACULTY

Less than one-fourth of the faculty in any campus is respected by students and industry. Contemplate the reality of a faculty doing the mandatory PhD in say corporate governance and then teaching marketing or economics. This, unfortunately, is the reality. What is the worth of any PHD done 20 years back? The worm-eaten notes, the cases from economies which are non-descript and the good old HBR, pull the faculty along. Why do they not intern in industry, to sharpen their appreciation of the context? This is seen beneath their dignity.

Unfortunately, many who bandy their corporate background, were misfits and ineffective in the corporate world and hence chose teaching. Or this is a post-retirement assignment. This may not be true of all, but a significant many fall in this category. They have no motivation in investing further in their own learning. The fact that so few faculty members are considered worthy of a consulting assignment by Corporate India is testimony to their atrophy.

There are very few faculty of repute in the Indian B-schools whose views matter, in the public domain on issues as important as state of the economy, economic policies, industry outlook etc. Name the last book published or the last globally noteworthy case published by a member of the faculty from an Indian B-school. Where is the CK Prahalad of the Indian B-school and what will it take to produce such a mover and shaker of CEOs, from an Indian B-school? This is my third moot point.

I contemptuously refuse to deal with the sordid sage of placement. My guess is as good as yours, on whether anyone is listening.

The author is executive director on the board of ICICI Bank. He is responsible for human resources, customer service and operations

Asian Age, ND 07/10/2011 P-13

'Give OBC seats to general students'

AGE CORRESPONDENT
NEW DELHI. OCT. 6

A single-judge bench of the Delhi high court has directed the Delhi University to convert 50 unfulfilled Other Backward Castes (OBC) seats into general category in the LLB course for the academic year 2011-2012 and give admission to students who are in the waiting list.

Pulling up Delhi University for not complying with the apex court's direction, Justice Kailash Gambhir said, "Courts have consistently held that every endeavour by the university and all other institutions should be made to fill all the seats as wastage of seats is not only at the cost of the public exchequer but at the cost of depriving a number of aspiring students struggling to get admission in coveted institutions and universities such as Delhi University which is a dream of many."

Justice Gambhir directed the Delhi University to convert 50 Other Backward Castes seats, which have

been vacant since completion of admission process, into general seats and hold a special counselling session for the students after notifying the candidates belonging to the general category through notice board and also on the website.

"...At least seven days time shall be given to the candidates through such a notice inviting them to participate in the special counselling," the court said while asking the Law Faculty to give wide publicity to make the students aware of the new development.

Rejecting the university's argument that the students would suffer as the session has already begun since August, the court said that admission be given at this stage.

The court's direction came on the plea of a group of students seeking direction to the university to convert the unfulfilled Other Backward Castes seats into general category as many students have been waiting to get admission in the LLB course.

COURT: CONDUCT SUPPLEMENTARY EXAM IN 6 MONTHS

AGE CORRESPONDENT
NEW DELHI. OCT 6

A division bench comprising Justices A K Sikri and Siddharth Mridul of the Delhi high court has sought a response from the Delhi University after hearing a plea of a law student for direction to hold supplementary examination in each semester to give another opportunity to students to clear their papers.

Issuing a notice to the DU, the court asked it to file an affidavit within three weeks, and said, "Why will LLB students, who are in IInd and IVth semester, not be allowed to appear in supplementary examinations?"

The court also asked the counsel for the DU to make its stand clear by October 24, the next date of hearing in the case.

Don't be book worms: DU V-C tells students

STAFF REPORTER ■ NEW DELHI

Within three months after going into the semester mode, Delhi University on Thursday launched its B Tech/BS in Innovation in Mathematics and Information Technology (IT). Unlike other courses that lay down stress on merely reading from the books, the BTech course promises to its students more innovation and experimenting with mathematics and science. The course also promises students' faculty from IIT Mumbai and an exchange programme with a Singapore University.

Addressing the first batch of students on its day one, the Vice-Chancellor of the university Dinesh Singh encouraged the students to move out of the classroom and instead of being book worms, experiment with the surroundings. He insisted that the students should not just study for knowledge of the mind, but listen to and recognise the voice of their soul. Singh also insisted that use of hands and use of mind and intelligence are equally important to excel.

"In India an educated mind is given more important than a skillful hand. However, knowledge and skill of both mind and hand is equally important to excel," he said.

Singh also said that if great men like Mahatma Gandhi and Isaac Newton had gone to the universities, they would not have been what they are today. "If Newton had gone to the university, we would have missed out on his contributions," said Singh. It was during the year 1665 that the Cambridge University was temporarily closed as a precaution against Great Plague that Newton developed his theories on calculus, optics and law of gravitation. Singh also insisted that the students should strive to learn to attain knowledge. "The quench for knowledge should

never die away. The search for knowledge should go on all throughout the life," added the Vice-Chancellor.

He further said that the students should listen to and recognise the voice of their soul and should work for the betterment of the society like these great men. The new course that is

Students should not just study for knowledge of the mind, but listen to and recognise the voice of their soul
Dinesh Singh

being run by the Cluster Innovation Centre (Institute of Life Long Learning) promises the students more innovation through experiment. Singh, who is a professor of mathematics himself, said that mathematics is "with us, no matter where we go" and said that the course would encourage students to do more experiments with mathematics.

Forty students have enrolled themselves for this course. The students on their day one were given a chance to meet the Vice Chancellor and introduce themselves. "I opted for this course because I was convinced that through this course, I will get to learn more beyond mathematics and engineering," said a student Geetika. Geetika had taken admission in first year Mathematics Honours in Maitreyi College and had later quit to take admission in this course. Though the course does not have a planed out faculty so far, professors from various departments will be teaching in this programme. Faculty from IIT Bombay has been roped in for a paper on Robotics. The students of this course will also participate in an exchange programme with a Singapore University.

DU innovation course set to blaze a trail

JYOTI RAJ
TRIBUNE NEWS SERVICES

NEW DELHI, OCTOBER 6

With the introduction of the path-breaking course under the cluster of innovation concept, Delhi University faculty members today welcomed the first batch today.

The course aiming to challenge the "rote learning" in schools is the first of its kind. The course B Tech / BS innovation in IT and Mathematics will have association with some of the world's best universities with visiting lecturers and researchers coming in over the next four years.

Interacting with students, vice-chancellor Dinesh Singh today said that the four-year undergraduate programme will be an interdisciplinary degree focus-

ing on application and hands-on training.

"Maths and IT are two fields that will pave the way for any career that students wish to embark upon. From genetics, electronics, astrophysics to molecular biology, zoology, these two courses will help students discover themselves beyond their curriculum," Singh said.

Among the teachers who comprise the faculty are professors from multiple disciplines like informatics and communication, zoology, mathematics, physics, electronics and finance.

Spread across eight semesters, the programme requires students to undergo internships in the industry and undertake projects in communities at regular intervals. They will also get to implement the new ideas

they have in an 'engineering kitchen'.

Speaking more of his pet project, Singh said, "Visiting lecturers from IIT Bombay, IIMs, University of Singapore and the prestigious Yale University will associate themselves with the course. The president of the Indian National Science Academy has promised to be regularly associated with the course."

A river-rafting enthusiast himself, Singh said he would make sure the students are taken for such adventure sports.

"I will take them personally to these trips. This will be a fun course. It's a heavy course that students have to worry about. We want them to enjoy this course thoroughly for four years and be involved completely in the process. That will not be

possible without some fun," said a smiling Singh.

"The course will not practise the existing teaching mechanism prevalent in colleges across the country. The course will be just 30 to 40% theory, while the rest will be project-based. Students will be taken out on the field to various locations. They would adopt semi-slum areas and help with whatever they can. They would be given the freedom to choose from an array of projects. They will have the freedom to innovate, research and learn with some of the best minds. "Blackboard teaching" is a thing of the past now, outdated methods of teaching will no longer do any good to the students," said DU proctor, HP Singh, associated with the course as a physics professor.

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Obama tasks ex-DD man to sell US colleges

Chidanand Rajghatta | TNN

Washington: Suresh Kumar's passage to the United States and its citizenship was different from the standard route. A former Doordarshan newscaster — a contemporary of Salma Sultan and Kabir Bedi — Kumar, an alumnus of Delhi's Hindu College, studied management in Mumbai and worked his way

through Greece, Indonesia, Singapore and Canada before coming to the US in the 1980s to teach at Thunderbird School of Management and Rutgers University. "So my model is a little different," he muses, "most people come to US to study and then go to India to teach."

Early next week though, Kumar will travel to India to hawk the virtues of an American edu-

cation system of which he was not a beneficiary but is now certifiably an expert. As the US assistant secretary of commerce and director general of the US and Foreign Commercial Service, he is one of the Obama administration's highest ranked Indian-Americans, a spectacular rise in government. Tasked now with leading a Department of Commerce Education Indus-

try Trade Mission to India, he is also pointman for an education export initiative that will take 21 US colleges and universities to New Delhi, Chennai, and Mumbai to connect US educational institutions to potential Indian students and universities.

Not that US education system needs much salesmanship in India. For nearly a decade, India among all countries has been

sending to the US the highest number of students, whose population is now upwards of 105,000. But the inflow has tailed off during the last year, and China has retaken the lead.

It's a statistic that has furrowed some brows in both academia and government, considering that Indian students pour in more than \$ 2 billion annually into the US economy.



THE SCEPTIC

Sandipan Deb
is a senior journalist and
editor who is interested
in puzzles of all forms.

A prize for what can't be known

Notwithstanding grand theories, science has little to say on puzzles ranging from the universe's origin to turbulence

The Nobel Prize for physics has gone to three scientists for their discovery—one that they themselves were astonished by initially—that the universe is expanding at an accelerating pace. No one has still figured out why, but they have given the reason a name: dark energy. And when everyone redid their math, they reached a truly amazing conclusion: that 70% (that's right, 70) of the universe is dark energy. Now add to that what cosmologists call "dark matter" (stuff that is invisible to us because it neither emits nor scatters light or any other electromagnetic radiation), which constitutes another 25%. So all the normal matter—that is, what our instruments can detect—makes up about 5% of the universe. To quote the National Aeronautics and Space Administration (Nasa) website: "Come to think of it, maybe it shouldn't be called 'normal' matter at all, since it is such a small fraction of the universe."

Yes, we don't have a clue about 95% of the universe.

That's the really big stuff—for the guys with unruly beards and genius IQs to ponder over. But what about the smaller stuff, things that could mean the difference between life and death?

Last month, one of the strangest murder trials in history began in Italy. Over four months in 2008-09, the city of L'Aquila was rocked by a series of seismic tremors. The government set up a team of seven experts to assess the risk of a major earthquake. In March 2009, the team declared that there was no such danger, but six days later, a 6.3-magnitude earthquake hit, killing 308 people. The team has been indicted for manslaughter. The logic: if it had not assured the populace, many people would perhaps have left their homes and not been killed. The scientists say that L'Aquila is situated in a highly

seismic zone, and they decided, after studying the data, that the possibility of a powerful earthquake striking the city remained essentially the same, with or without the series of small tremors. They saw no reason to take emergency action. The prosecution argues that all seismologists know that a series of small earthquakes increases the probability of a major one. True, say the accused, but the absolute probability still remains very low, in the range of 1 in 1,000. Is that enough to take an alarmist stance and evacuate thousands of people?

It's staggering when we think of how ignorant we actually are about how the world works. Our textbooks teach us all sorts of theories, but we actually know almost next to nothing.

At the subatomic level, we are still confused as hell about what's going on and how. What quantum physicists call the Standard Model—described elegantly by writer Bill Bryson as "essentially a sort of parts kit for the subatomic world"—is accepted very grudgingly: after all, it's unwieldy, gives a sort of slapdash celloped feeling about the world's fundamentals, and is quite obviously incomplete. So, some brainiacs came up with the, superstring theory, which explains (mostly) everything, except for a small problem: the math work perfectly only in an 11-dimensional universe. So we don't know what the action is at the cosmic level, and we don't know what's playing out in the building block league.

The truth is, our science textbooks lie. They give us a sense of false security. Ask a simple question: How old is the universe? The most popular estimate currently is from Nasa: 13.75 billion years, give or take 110 million years. But Nasa, in true scientific spirit, also warned that



PHOTO COURTESY PALMAR OBSERVATORY

its conclusion was "based on the fact we have assumed the underlying model we used is correct". Which, in layman terms, roughly means fitting observational data into already concluded results. So we are not really certain.

Ask another simple question: Will it rain tomorrow? Human beings have been trying to predict the weather for thousands of years, from studying animal behaviour to whether the sky remains red after sunset, to chaos theory. At the end of it all, we have a fairly good grip on whether it's going to rain tomorrow, but beyond that, it's anyone's guess. Beyond one week, it is nearly impossible to predict anything with any certainty, because the impact of extremely small errors in the initial input doubles every five days. It's good sense to keep an umbrella handy.

All of us have been on aeroplanes (for all I know, you're

reading this at 40,000 feet above sea level), and have experienced turbulence. The plane bumps around, the old lady next to you starts muttering prayers, you clutch your seat handles tightly. But no one has a clue why turbulence happens suddenly in a clear zone. Richard Feynman termed it "the most important unsolved problem of classical physics".

And the story goes that Werner Heisenberg (whose "uncertainty principle", one of the foundations of quantum physics, Einstein never believed), when asked what he would ask God, given the opportunity, replied: "Two questions: Why relativity? And why turbulence? I believe he will have an answer for the first."

Have a nice flight. And don't trust scientists.

Comments are welcome at
thetrview@livemint.com

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e-paper

An iCon Who Revolutionized Mobile Communications, Music, Movies And Modern Culture, Made Technology Beautiful, Ended The Reign of Personal Computers, And Changed Our Lives

Jobs Takes iWay To Heaven

At 56, Loses Battle Against Cancer

Chidanand Rajghatta | TNN

Washington: Steve Jobs, who brought joy to the world by simplifying computers and phones, logged out of life on Wednesday following an enervating seven-year battle with pancreatic cancer. The founder of Apple Inc and tech visionary is being mourned worldwide by millions whose lives he uniquely touched. He was just 56.

A gizmo-God to geeks and gearheads, but also worshipped by Luddites for introducing beautiful form, elegant function and simplicity to workday electronics, Jobs died peacefully surrounded by his family, including his wife of 20 years and three children.

JOBS, WELL DONE: P 18, 21 & 22

► **A tech '21-gun salute', P 22**

Presidents, CEOs and other luminaries sent in glowing tributes, but a timeless sentiment came from an Applehead who tweeted, "Life is smoother since we can touch instead of push."

It was a reference to the feather-light, touch-driven operating process Jobs introduced that changed the look and feel of today's devices, brought aesthetics to electronics, and made it accessible to all. Another compared him to Gutenberg, the inventor of the movable type, while yet another called him the "Michelangelo of our times".

President Obama summoned his trademark eloquence in a tribute, calling Jobs "among the greatest of American innovators—brave enough to think differently, bold enough to believe he could change the world, and talented enough to do it".



This logo tribute, titled "Thanks, Steve", was created by 19-yr-old designer Jonathan Mak Long of Hong Kong

APPLE OF OUR i

- 1976: Steve Wozniak & Steve Jobs start Apple
- 1984: Macintosh PC debuts
- 1985: Jobs leaves Apple
- 1986: Founds Pixar Animation Studios
- 1997: Rejoins Apple as interim CEO
- 1998: iMac desktop computer unveiled
- 2001: iPod unveiled
- 2007: iPhone launched
- 2010: Apple begins selling iPad
- Aug 9, 2011: Apple briefly becomes world's most valuable company
- Aug 24: Jobs steps down as Apple CEO
- Oct 5: Jobs dies after battle with cancer

“No one wants to die. Even people who want to go to heaven don't want to die to get there... Yet death is the destination we all share... Death is very likely the single biggest invention of life. It's life's change agent. It clears out the old to make way for the new

STEVE JOBS | 1955-2011

WORLD WIDE WOE

Three apples have changed the world. The one offered to Adam, the one that fell on Newton, and the one of Steve Jobs

ONLINE CHAIN MAIL

For those of us lucky enough to get to work with him, it's been an insanely great honour. I will miss Steve immensely

BILL GATES | MICROSOFT FOUNDER

Simply the greatest CEO of his generation

RUPERT MURDOCH | CEO, NEWSCORP

The greatest inventor since Thomas Edison

STEVEN SPIELBERG | FILM-MAKER

Steve, thank you for being a mentor and a friend. Thanks for showing what you build can change the world. I will miss you

MARK ZUCKERBERG | FACEBOOK FOUNDER & CEO

The Michelangelo of the computer era. He demonstrated that genius does not need an expensive, elite education

N R NARAYANA MURTHY | INFOSYS FOUNDER

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e-paper

Steve Jobs died on Wednesday after a battle with cancer. Hailed as one of the greatest CEOs in history, Jobs handed the reins over to long-time operations chief Tim Cook and many analysts believe the company is well-positioned for the future. But his death still leaves many questions.

Can the company succeed without Jobs?

Jobs was famous for keeping an iron grip on every step of the product development process, from conception to execution. Still, investors and consumers have grown accustomed to the idea of Apple without its visionary leader. Since January 2011, when Jobs went on his third medical leave and Cook again took over, most observers expected that Jobs would not return to full-time duty. Yet investors and customers remained

confident in the company. Apple has plenty of new products in the pipeline, and there should be few bumps in the short term. But it's not clear if Jobs' brilliance—both as a product visionary and a super-salesman—was transferable. The lukewarm reaction to Cook's first big product introduction on Tuesday could be seen as a warning sign.

What will happen to Apple's share price?

Jobs' health had been an issue with investors for years (he was diagnosed in 2004), but that has not stopped Apple shares from marching higher. The stock moved little when Jobs announced in August that he was stepping down as CEO, and it moved little in after-hours trad-

ing after the announcement of his death on Wednesday. The biggest factors affecting the stock currently are the reliability of its iPhone and iPad product lines,

What is Jobs' legacy?

Jobs is counted among the greatest CEOs in history, mentioned in the same breath as Henry Ford. One of his most unique achievements was vaulting Apple to world leadership not just once, but twice. There are few examples in any field of such a brilliant second act.

Jobs in 1986 bought Pixar, which was then little more than an experiment in digital animation technology. The company became a juggernaut, and when it was acquired by Disney

in 2006. There are few examples of a CEO turning a side project into a world-class innovator and business success story.

Will Apple change under Cook?

While both Cook and Jobs have earned reputations as hard-driving perfectionists, Jobs' successor is considered easier to



work with. While Jobs was in famous for chewing out employees, Cook is said to be better at forging consensus. Whether and how Apple will transform under his stewardship is an open question. But Cook's success at Apple is due in large part to his sharing many of his boss's traits.

Who else is important to the company's future success?

Design guru Jonathan Ive, marketing chief Phil Schiller, and mobile-software head Scott Forstall are three of the most important players.

What will be Apple's next big thing?

Jobs had already laid the foundation for Apple's "Next Big Thing". Industry speculation centres around some sort of an attempt to shake up the living room, and TV. REUTERS

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Tough India visit led him to question many illusions

► From P 1

Steve Jobs' trip to India was eventful, to put it mildly. He arrived in India, accompanied by his friend Dan Kottke, who later became Apple's first employee.

Soon, he had swapped his jeans and T-shirts for lungis as he set out from Delhi for the Himalayas. Along the way, Jobs and Kottke slept in abandoned buildings and survived on local food. "He looked at prices everywhere, found out the real price, and haggled. He didn't want to be ripped off," Kottke was quoted as saying in the book 'iCon: Steve Jobs, The Greatest Second Act In the History of Business'.

While he was searching for Neem Karoli Baba, Jobs chanced upon a mendicant who laughed uproariously at the sight of him, led him up a mountain path, dunked his head in a pond at the top of

Most valued tech co

On May 26, 2010, Apple became the most valued technology company in the world. Its m-cap hit \$222 billion, putting it ahead of its Redmond rival Microsoft, which had a market cap that day of \$219 billion. Only Exxon-Mobil, with a m-cap of \$280 billion then, remained ahead of Apple. **TNN**

the mountain and shaved his head. Jobs and Kottke then set off to meet one Harikan Baba, but came away unimpressed. On the way back, while sleeping in a dry creek bed, they were trapped in a fierce thunderstorm. As Kottke narrates in 'iCon', "I remember us praying to any god that could hear us, 'Dear God, if I ever get through this, I'll be a good person, I promise'."

Having picked up lice and dysentery, the two set off to see Tibet, but contracted scabies

near Manali. Worse, Kottke's traveller's cheques got stolen, which ended their trip.

"The hot, uncomfortable summer made Jobs question many illusions he had nursed about India. He found India far poorer than he had imagined and was struck by the incongruity between the country's condition and its airs of holiness," author Michael Moritz wrote in Jobs' biography, as he was quoted as saying in his biography, 'The Little Kingdom — The Private Story of Apple Computer'.

However, Jobs retained his interest in spirituality. In fact, he suggested the name Apple to Steve Wozniak after a visit to a commune in Oregon which he referred to as an "apple orchard".

More than a quarter century later, Jobs thought of setting up a facility in India. But it didn't pan out as he found the costs higher than expected.



jobspeak

"Remembering that you are going to die is the best way I know to avoid the trap of thinking you have something to lose... There is no reason not to follow your heart." At Stanford University, 2005

"Your time is limited, so don't waste it living someone else's life. Don't be trapped by dogma. Don't let the noise of others' opinions drown out your own inner voice." At Stanford University, 2005

"I didn't see it then, but it turned out that getting fired from Apple was the best thing that could have ever happened to me." At Stanford University, 2005

"There's nothing that makes my day more than getting an e-mail from some random person who just bought an iPad... (and thinks) it's the coolest product they've ever brought home in their lives." At AllthingsD Conference, 2010

"I don't think I've ever worked so hard on something, but working on Macintosh was the nearest experience of my life." Interview to Playboy, 1985

"Innovation comes from people meeting up in the hallways or calling each other at 10:30 at night with a new idea." Interview to Business Week, 2004

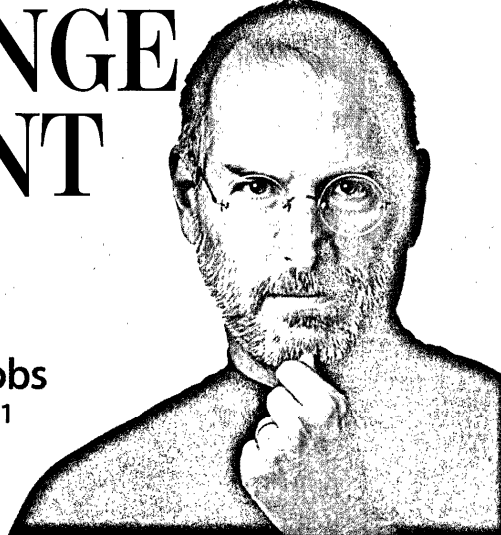
"We're always thinking about new markets we could enter, but it's only by saying no that you can concentrate on the things that are really important." Interview to Fortune, 2000

"My position coming back to Apple was that our industry was in a coma." Interview to Fortune, 2000

"You think I'm an arrogant b...d who thinks he's above the law, and I think you're a slime bucket who gets most of facts wrong." To New York Times, 2008

CHANGE AGENT

Steve Jobs
1955-2011



THE COMMUNICATOR The man credited with the iPhone, iPad, iPod and desktop PC, transformed the worlds of computing, music and mobile phones for us

Reuters
■ letters@hindustantimes.com

SAN FRANCISCO: Passionate, prickly, and deemed irreplaceable by many Apple fans and investors, Steve Jobs made a life defying conventional expectations. And despite years of poor health, his death on Wednesday at the age of 56 prompted a global gossamer as many people remembered how much he had done to the world of computing, music and mobile phones, changing the way people communicate.

With his passion for minimalist design and marketing genius, Jobs changed the course of personal computing during two stints at Apple and then brought a revolution to the mobile market. Charismatic, visionary, ruthless, perfectionist, dictator

— these are some of the words that people have used to describe Jobs, who may have been the biggest dreamer the technology world has ever known, but he also was a hard-edged businessman and negotiator through and through. The iconic iPod, the iPhone — dubbed the "Jesus phone" for its quasi-religious following — and the iPad are the creations of a man who was known for his near-obsessive control of the product development process. Jobs created Apple twice — once when he founded it and the second time after a return credited with saving the company, which now vies with Exxon Mobil as the most valuable publicly traded corporation in the US. But the inspiring Jobs came with a lot of hard edges, often

alienating colleagues and early investors with his my-way-or-the-highway dictums and plans that were generally ahead of their time. How did he do it? Design fans, Apple staff and Jobs acquaintances credit a natural design sense drive to simplify. Jobs' return to Apple was a study in reduction. A new product or feature begins with a sketch — good ideas, no also-rans, which are presented as "pixel-perfect" mockups. Apple sells the 10 or three, which are tried out for months more, before a final star is chosen. Meanwhile, the design team meets for two types of weekly meetings — one to brainstorm with no limits, and one to focus on getting the product out of the door. BusinessWeek described the most important decisions you make are not the things you do — but the things that you decide not to do, former Apple CEO John Sculley told the CullomMac news website in 2010.

Dropout, vagabond, visionary

Nicolas Brulliard
■ letters@hindustantimes.com

WASHINGTON: Steve Jobs, the brilliant, mercurial co-founder of Apple, made computers simple and elegant. As a 21-year-old college dropout entrepreneur, Jobs led Apple to multimillion-dollar success in five years. Forced out of his own company by the time he was 30, he started another computer firm, Next, whose technology was used to create the World Wide Web. Jobs also took over a computer animation company and turned it into the Academy Award-winning Pixar. He returned to save Apple in his 40s, restoring the company to both profitability and leadership in innovation. But Jobs, a famously private man, didn't discuss his pancreatic cancer diagnosis and surgery in public for more



A file photo of Jobs and co-founder Steve Wozniak during Apple's early days

Schiele and a Syrian exchange student, Abdulfattah Jandali. He was adopted shortly after birth by Paul and Clara Jobs. He attended Reed College in Portland, for two years before dropping out. He worked part time at Atari Computers to raise money for a trip to India in 1974, studying meditation. But with dysentery and was forced to return to the US. In 1975, he began associating with a group called Homebrew Computer Club. There he met Steve Wozniak who was trying to build a small computer and became fascinated with its potential. In 1976, he and Wozniak formed their own company,

pany making high-end computers. Buys Pixar from Star Wars maker George Lucas for \$10 million.



1995: Pixar's Toy Story, the first commercial computer-animated feature, hits theatres. 1996: Apple buys Next for

\$430 million. 1997: Jobs returns to Apple as advisor and then interim CEO after the company records losses of more than \$1.8 bn. 1998: Apple returns to its profitability. 2000: Jobs is named CEO of Apple. 2001: Launches iPod. 2002: Launches the iTunes music store with 200,000 songs at 99c each.

Tweets to smash Internet records

Agence France-Presso
■ letters@hindustantimes.com

SYDNEY: The death of Apple founder Steve Jobs provoked an online outpouring of grief likely to smash records, an Australian firm said on Thursday as mourners took to the Internet to pay tribute to the tech guru.

Social media sites sagged under the weight of Jobs-related posts, with five of the top ten topics trending worldwide on Twitter about the Apple pioneer, including #ThankYouSteve and #Sad. Two of his catchphrases, "Think Different" and "Stay Hungry" were also top of the trends, with the chatter so intense it caused Twitter to seize up, dispatching its famous "fall whale" to indicate a traffic jam.

It was likely to break records for the most talked-about Internet event of all time, with monitoring agency SRT estimating it had hit a massive 10,000 tweets per second and was likely to rise, social media analysts said. "It has the potential to pass the all-time social media interactive record, particularly on the Twitter platform where it will probably be in excess of 10,000 tweets per second," said Peter Fraser, co-founder of Australian social media monitoring agency SRT. "We're awaiting the official Twitter data to be released, however, from the numbers that we've been monitoring through the day since the announcement it's certainly been trending to break that record." The present record — 8,865 tweets per second — was set when US singer



The iTunes logo, Jobs revolutionised the way people consume music

Beyonce announced her pregnancy at the MTV awards. By comparison, the killing of Osama bin Laden saw about 5,000 tweets per second, and Michael Jackson's 2009 death produced about 498 tweets per second. The response to Jobs' death was an "extraordinary phenomenon", driven by posts from an unprecedented number of celebrities, politicians and other influential figures — each with massive online followings of their own, said Fraser. "What you're seeing across platforms is a remarkable level of interactivity," he said. "When you look at the kinds of people that are commenting... it is a plethora of highly influential people around the world, each of whom have enormous followings in their own right, who are really building that momentum," he said. And it was not likely to have peaked yet, he added, with the news breaking late at night in the US. "One would expect that the trend again picks up when the rest of the world comes online," said Fraser.

From India, all he really sought was inspiration

Samar Halanikar
■ letters@hindustantimes.com

BANGALORE: "Here's to the crazy ones. The misfits. The rebels. The troublemakers... because the people who are crazy enough to think they can change the world, are the ones who do." It was in 1987 that Steve Jobs, stood before a giant image of Mahatma Gandhi and to these words launched the company's epic recovery from corporate has been to global icon. Fleeing inspiration was about all Jobs ever sought from India, a place, which according to his unauthorized biography, he found "intense and disturbing" when he visited 37 years ago. The first expansion of his mind, so to say, also came in India, where in 1974 he used the drug LSD.

Jobs started Apple after returning from India. In the years that followed, he was alone among the world's technology maven to ignore India's engineering talent. There was to be no Bangalore development centre, he paid no quasi-state visits and sang no paens to India and its importance to Apple. Gandhi briefly featured in Apple's memorable "Think Different" advertising campaign, greatly admired for its creativity as it drew public attention

to the company's new products. Some of the inwards of an early iPhone were developed by Hyderabad engineers working for Portal Player India, the India arm of a US technology company, but that was about it. In 1996, Apple abandoned a plan to hire hundreds of engineers for a technology development centre in Bangalore, where it did, briefly, run a customer support call centre. Apple India is mainly a website that offers support for the company's products. On Thursday, its home page had only an image of Jobs and a simple tribute: "Steve Jobs, 1955-2011"

Jobs dabbled early in eastern mysticism. His first experience of Indian culture came when as a penniless college dropout he had his largest meal of the week at a Hare Krishna temple in Oregon. In 1970, when working at the video-games developer Atari, Jobs tried to persuade his boss to fund a trip to India. He was given money to reach Germany, where he fixed Atari machines. When he did reach India with Daniel Kottke, a hippie friend, the search for spiritual enlightenment flopped. The guru they sought, Neesh Karori Baba, died before they reached him.



An Apple store in Mumbai on Thursday

Teen's sombre design an instant cyber hit

Reuters
■ letters@hindustantimes.com

HONG KONG: A Hong Kong design student's somber tribute to Apple founder Steve Jobs became an Internet hit on Thursday with its minimalist, touching symbolism and brought a job offer and a flood of commemorative merchandise using his design. Nineteen-year-old Jonathan Mak, a student at Hong Kong's Polytechnic University School of Design, came up with the idea of incorporating Steve Jobs' silhouette into the bite of the Apple logo, symbolising both Jobs' departure and lingering presence at the core of the company. The design spread like wildfire in cyberspace, drawing hundreds of thousands of posts, and even commemorative caps and T-shirts peddled on eBay featuring his design. With the news breaking late at night in the US, "One would expect that the trend again picks up when the rest of the world comes online," said Fraser. "It's been a crazy day for me," said Mak. "My both



excited and terrified." Mak said he had received a job offer because of the design. "I really am speechless," he said in a Twitter post. Mak, who first created the logo after Jobs stepped down as Apple's head in August, said it hadn't made much of a splash until he reposted it on Thursday. "Originally, I was going to put a black modified logo against a white background," he said. "It just didn't feel sombre enough. I just wanted it to be a very quiet commemoration. It's just this quiet realisation that Apple is now missing a piece. It's just kind of implying his absence."

ALL YOU WANTED TO KNOW ABOUT STEVE JOBS

FULL NAME: Steven Paul Jobs
BORN: February 24, 1955, in San Francisco
BIOLOGICAL PARENTS: University of Wisconsin graduate student Joanne Carole Schieble and a Syrian exchange student, Abdulfattah "Zogbi" Jandali
ADOPTIVE PARENTS: Paul and Clara Jobs

Oregon, but drops out after six months. **CAREER:** Works for video game maker Atari before founding Apple with Steve Wozniak in 1976 in his garage. **1980:** Jobs takes Apple public, raising \$110 million. **1983:** Launches "Lisa", a desktop computer with a graphical user interface. **1985:** Jobs ousted as chairman in a boardroom coup. **1996:** Jobs founds Next, a com-

pany making high-end computers. Buys Pixar from Star Wars maker George Lucas for \$10 million. **1998:** Apple returns to its profitability. **2000:** Jobs is named CEO of Apple. **2001:** Launches iPod. **2002:** Launches the iTunes music store with 200,000 songs at 99c each. **2004:** Jobs undergoes surgery for a rare but curable form of pancreatic cancer. **2006:** Disney buys Pixar for \$7.4 billion. Jobs becomes Disney's largest single shareholder and much of his health is derived from this sale. **2009:** Jobs returns from medical leave in June after undergoing a liver transplant. **2011:** Jobs resigns as CEO on August 24.

2004: Jobs undergoes surgery for a rare but curable form of pancreatic cancer. **2006:** Disney buys Pixar for \$7.4 billion. Jobs becomes Disney's largest single shareholder and much of his health is derived from this sale. **2009:** Jobs returns from medical leave in June after undergoing a liver transplant. **2011:** Jobs resigns as CEO on August 24.

2004: Jobs undergoes surgery for a rare but curable form of pancreatic cancer. **2006:** Disney buys Pixar for \$7.4 billion. Jobs becomes Disney's largest single shareholder and much of his health is derived from this sale. **2009:** Jobs returns from medical leave in June after undergoing a liver transplant. **2011:** Jobs resigns as CEO on August 24.



DISEASE: Jobs underwent surgery for a rare but curable form of pancreatic cancer in 2004. **FINAL STRETCH:** Took third medical leave in January 2011 and resigned as CEO in August. Elected Apple chairman. **FAMILY:** Wife Laurene Powell; their three children, Reed Paul, Erin Srienna and Eve; plus daughter, Lisa Brennan-Jobs, from a different relationship

\$8.3 billion (₹ 40,860 crore) Jobs' net worth according to Forbes, making him the joint 39th richest man in the US. **DIED:** Wednesday at 56. Apple announced his death without giving a specific cause. Experts believe he probably died of cancer.

goodbye steve

A TRIBUTE

\$413.45
20 sep 2011



NUMBERS TELL THE APPLE STORY

\$350.7bn (₹17.3 lakh crore) Apple's market capitalisation as on Thursday

\$5bn (₹22,500 crore) Apple's market value in 2000

\$65.2bn (₹3.2 lakh crore) Apple's turnover as on September 2011

\$1.8bn (₹8,858 crore) Losses recorded by Apple in 1997. (Before Jobs returned as CEO)

\$19.3bn (₹94,956 crore) Apple's profit during the first three quarters of this year

\$76bn (₹374,000 crore) Apple's current cash chest

250mn Number of iOS devices — iPods, iPhones and iPads — sold so far.

58mn Number of users using Mac

357 Total number of Apple stores

\$1bn Total number of apps (applications) downloaded from online Apple app stores so far

20mn Number of songs in iTunes; buyers have already 16 billion times

GOING THROUGH THE ROOF

Apple's share prices have risen more than 12-fold over the last 11 years

1989 Dec: Apple launches IPO \$9.31

2000 \$32.58

2011 \$214.01



File photo of Jobs with the original Macintosh

Extraordinary man with exotic origin, enigmatic ways

The man who gave us iPads, iPhones and desktop PCs, himself never designed a computer in his life.

Steve Jobs' biological parents were Abdulfattah John Jandali, a Syrian immigrant and a graduate student named Joanne Simpson. Unmarried when her son was born Feb 24, 1955, Simpson gave him up for adoption. She later married Jandali and had another child, award-winning novelist Mona Simpson.

Jobs had travelled to India in the late 1970s, with money he had saved working as a technician at a video games manufacturer in the US.

Apple had briefly surpassed energy major Exxon Mobil in August to become the country's most valuable company with a market capitalisation of about \$346 billion before slipping back to the second slot.

As an eighth grader, after discovering that a crucial part was missing from a frequency counter he was assembling, Jobs telephoned William Hewlett, the co-founder of Hewlett-Packard. Hewlett spoke with the boy for 20 minutes, prepared a bag of parts for him to pick up and offered him a job as a summer intern.

Jobs death, with 10,000 tweets per second, broke records, causing a technological seizure on microblogging site Twitter, dispatching its "fail whale" to indicate a traffic jam.



File photo of Apple's design head Jonathan Ive during a conference in California

Ive to now lead product vision

Peter Burrows
letters@hindustantimes.com

WASHINGTON: Apple lost its technology visionary in Steve Jobs, who passed away on Wednesday, leaving head product designer Jonathan Ive with the responsibility to fill the creative gap.

Ive, has been Jobs' foremost creative partner within Apple, according to Eric Chan, who runs Ecco Design, an industrial design firm. Ive oversaw the development that led to devices such as the iMac, iPod, iPhone and iPad, honing a close working relationship with Jobs after the late co-founder returned to Apple in 1997.

A design prodigy who won a British student award while attending Northumbria University in the 1980s, Ive said in a 2006 speech that his goal "is not self-expression. It's to make something that looks like it wasn't really designed at all, because it's inevitable."

That's been the case since his college days, according to Clive Grinyer, who went to school with him. Grinyer recalled visiting Ive's apartment, and being shocked to see hundreds of foam models of a single product. Each one was good enough to have been the final product, said Grinyer, who later formed a design firm with Ive called Tangerine.

After Jobs returned to the helm of Apple, Ive had to lead the yet-to-be-released iMac to be a hit. To make sure it stood out, Apple approved Ive's plan to use a candy-colored translucent plastic enclosure, a major expense given the falling prices for computers at the time.

"Victories from your ability to sell are very short-lived," Ive said in the speech. "Victories from things you've really worked hard at can have a lasting impact."

The highest-ranking executives. The British native is known to travel to Asia for weeks, studying intricacies of metal-bending equipment, according to former Apple designer Thomas Meyerhafer. The result is that Apple's products have unique shapes, textures and thinness. The solid feel of products such as the iPhone is due in part to Ive's insistence on minuscule tolerances, the tiny gaps around each part and screw in a product.

Ive lacks operations, marketing and sales skills, something he doesn't regret, according to his 2006 speech.

"Victories from your ability to sell are very short-lived," Ive said in the speech. "Victories from things you've really worked hard at can have a lasting impact."

Jobs's legacy will stalk successors

HOPE AND SCEPTICISM

The responsibilities of the Apple founder fall on new CEO Tim Cook and design head Jonathan Ive

Michael S Rosenwald
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WASHINGTON: The death of Steve Jobs comes at a crucial period in the history of personal computing. Apple has \$76 billion (₹3,874,844 crore) in the bank, but it faces challenges from seemingly every corner.

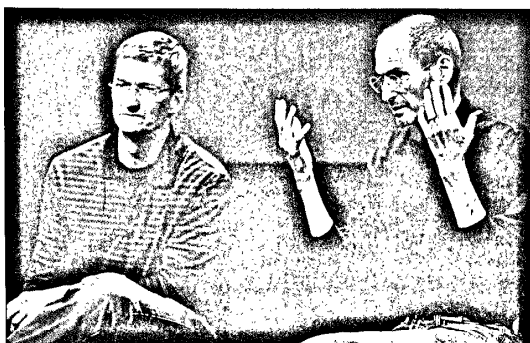
Google wants to crush the iPhone with its Android system. Netflix wants to dominate the world's living rooms, leaving iTunes behind. Facebook wants to be the window to the Internet, controlling just about everything. And now Amazon is jumping into the tablet business.

Apple comes at this battle not with Jobs, who gave up day-to-day control in August, but with the soft-spoken CEO Tim Cook, who debuted the new iPhone this week to mostly tepid reviews.

Cook will battle Google and the other challengers with Jobs' legacy stalking his every move on Wall Street, in Apple's stores, and in the hearts and minds of technology users around the world.

There were rumblings in the tech world that there wouldn't have been such a tepid response to the new iPhone if Jobs, not Cook, had been onstage.

To be fair, Apple maps out its projects years in advance so Jobs was involved with this announcement and probably many to come.



File photo of Apple CEO Tim Cook (left) and Steve Jobs during a news conference on antenna problems in California

IN EXCLUSIVE PARTNERSHIP WITH

The Washington Post

Where Jobs was a visionary, Cook is an operations guru. Nobody is expecting Cook to stand on a stage any time soon and articulate computing's future.

Apple's defenders will say Cook has a deep and talented executive team, with luminaries such as industrial design

master Jonathan Ive. But the company recently lost its head of retail to JC Penney, and it remains to be seen whether Apple, without Jobs, will have the same power to attract other executives.

Jobs seemed to know how much he would be missed. Fortune recently reported he

had set up a mini-university inside the company to teach up-and-comers how Apple thought and made decisions. But the way Apple thinks and makes decisions is really the way Jobs thinks and makes decisions. Can that be taught?

The new iPhone, dubbed the XS, will hit stores on October 14. He will camp out for days in advance to get one.

But for Apple without Jobs, the question is: Will they line up someday for the iPhone 5?

voices

"Three apples have changed the world. One seduced Eve, the second awakened Newton, the third one was in the hands of Jobs."

A widely circulated message on Twitter and Facebook

"I am deeply saddened to learn of the demise of Steve Jobs. He was a truly innovative man."

Prime Minister
MANMOHAN SINGH

"Steve was among the greatest of American innovators... The world has lost a visionary."

US President
BARACK OBAMA

"Steve Jobs was simply the greatest CEO of his generation."

News Corp CEO
RUPERT MURDOCH

"His untimely death is a huge loss to us all. The world has lost a great business leader and a great visionary."

Tata Group chairman
RATAN TATA

Charm offensive remembered

Yashwant Raj
yraj@hindustantimes.com

WASHINGTON: They filed in slowly, not speaking much, heads bowed in reverence.

The users spoke in the hushed tone, urgently moving people to their seats. There was a sense of urgency in the air as people willed the clock to move faster. And then a hush fell on the audience as the auditorium lights dimmed.

The year was 2005, and the venue was the Moscone Center in San Francisco and the occasion was the Macworld Expo, Apple's bi-yearly pilgrimage for its devotees to check out new products and listen to their oracle, Steve Jobs.

Jobs then strode on to the stage wearing his trademark turtle-neck and jeans.

The audience was ecstatic, and Jobs had not even started. And then he was off, selling the Shuffle. The small device never looked as good as it did with Jobs behind it.

The props on the stage acted up, interrupting the presenta-

THE MOMENT JOBS WOUND UP, PEOPLE RAN OUT OF THE HALL TO JOIN A QUEUE... THEY HAD HEARD THEIR MAN, NOW THEY WANTED THEIR SHUFFLE

tion — funnily, friend and rival Bill Gates had experienced a similar technical glitch at a Microsoft expo around the same time — but Jobs, the consummate showman, kept going.

The error was soon fixed and Jobs continued.

The audience struggled to stay still as Jobs went through some of the best acting speeches. But they dare not leave, not when the oracle was on stage, not when he was not through yet. No one had to tell them.

The moment Jobs wound up, people ran out of the hall to join a queue of people at the nearby Apple Store. They had heard their man, now they wanted their Shuffle.

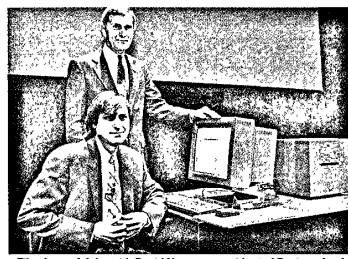
Jobsism: Stay hungry. stay foolish

Valerie Strauss
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WASHINGTON: Steve Jobs, also referred to as the Thomas Edison of his time, revealed in a commencement speech at Stanford University in 2005 why he dropped out of college — and why he thought it was one of the best things he ever did. Yet he had other advice for the students.

Jobs started that speech by telling about being adopted as a baby, and why, 17 years later, he attended Reed College in Oregon for only six months before dropping out.

"My biological mother was a young, unwed college graduate student, and she decided to put me up for adoption," he said. "She felt very strongly that I should be adopted by college graduates, so everything was all set for me to be adopted at birth by a lawyer and his wife. When she later found out that my mother had never graduated from college and that my father had never graduated from high school, she refused to sign the final adoption papers. She only relented a few months later when my parents promised that I would someday go to college.



File photo of Jobs with David Norman, president of Businessland, beside a NeXT work station in San Francisco

"And 17 years later I did go to college.

"But I naively chose a college that was almost as expensive as Stanford, and all of my working-class parents' savings were being spent on my college tuition. After six months, I couldn't see the value in it. So I decided to drop out and trust that it would all work out OK. Looking back it was one of the best decisions I ever made."

"It wasn't all romantic. I didn't have a dorm room, so I slept

on the floor in friends' rooms, I returned coke bottles for the 5 cent deposits to buy food with, and I would walk the seven miles across town every Sunday night to get one good meal a week at the Hare Krishna temple. I loved it. And much of what I stumbled into by following my curiosity and intuition turned out to be priceless later on."

At the end of the speech, his advice to the students went like this:

"Your time is limited, so don't

waste it living someone else's life. Don't be trapped by dogma — which is living with the results of other people's thinking. Don't let the noise of others' opinions drown out your own inner voice. And most important, have the courage to follow your heart and intuition. They somehow already know what you truly want to become. Everything else is secondary."

"When I was young, there was an amazing publication called *The Whole Earth Catalog*, "which was one of the bibles of my generation. It was created by a fellow named Stewart Brand and he brought it to life with his poetic touch. On the back cover of their final issue was a photograph of an early morning country road, the kind you might find yourself hitchhiking on if you were so adventurous. Beneath it were the words: 'Stay Hungry. Stay Foolish.' It was their farewell message as they signed off. Stay Hungry. Stay Foolish."

"And I have always wished that for myself.

"And now as you graduate to begin anew, I wish that for you. 'Stay Hungry. Stay Foolish.'

FANS PAY TRIBUTES

iSad: grief sweeps across the world

Sarah McBride and Liana Baker
letters@hindustantimes.com

CUPERTINO: Apple fans from New York to Australia gathered to mourn the death of Steve Jobs, leaving Apple products, bouquets and heartfelt messages in tribute to the man who transformed their lives.

Flags outside Apple's headquarters at 1 Infinite Loop in Cupertino, flew at half-mast as a group of mourners flocked to a nearby lawn. Distraught Apple fans left flowers in tribute and a man played the bagpipes.

"In my mind there is no difference between him and a Pasteur," said Chitra Aboladze, a healthcare worker in Cupertino, in reference to French chemist Louis Pasteur.

Engineer Ben Chess, 29, a former Apple intern, drove to the Apple HQ from San Francisco after



Tributes to Jobs are left outside the Apple Store in London.

work. He laid a bunch of flowers. "It's the right thing to do," he said.

At the downtown San Francisco Apple store, people held up pictures of Jobs on their iPads and taped greeting cards and post-it notes to the store window saying "thank you Steve" and "I hate cancer".

In New York, a makeshift memorial made out of flowers featuring pictures of Jobs was established outside an Apple store on Manhattan's Fifth Avenue.

अंतरराष्ट्रीय स्तर का होगा डीयू का बीटेक

नई दिल्ली (एसएनबी)। दिल्ली विश्वविद्यालय के बीटेक-बीएस इनोवेशन विथ मैथमैटिक्स एंड आईटी में विद्यार्थियों की क्लासेज अंतरराष्ट्रीय स्तर की होंगी। बीटेक कोर्स में न केवल डीयू के शिक्षक विद्यार्थियों को शिक्षित-प्रशिक्षित करेंगे, बल्कि विदेशी विश्वविद्यालय व आईआईटी मुंबई के एक्सपर्ट भी विद्यार्थियों को कोर्स को बेहतर तरीके से पूरा करवाएंगे। काफी इंतजार के बाद बृहस्पतिवार को डीयू के बीटेक-बीएस इनोवेशन विथ मैथमैटिक्स एंड आईटी पाठ्यक्रम में विद्यार्थियों को दाखिला मिल ही गया। बृहस्पतिवार को इन पाठ्यक्रमों में कुछ विद्यार्थियों को छोड़कर ज्यादातर विद्यार्थियों ने दाखिला ले लिया। यहां खास यह रहा कि विश्वविद्यालय में दशहरा की छुट्टी होने के बावजूद बीटेक के विद्यार्थियों की दाखिला प्रक्रिया पूरी की गई। पहले दिन कुल 41 विद्यार्थियों में से 38 विद्यार्थियों ने दाखिला लिया।

इस मौके पर डीयू कुलपति प्रो दिनेश सिंह बीटेक के नए बैच से रू-ब-रू हुए। विद्यार्थियों की दाखिला प्रक्रिया के मौके पर समकुलपति प्रो विवेक सुनेजा, डायरेक्टर साउथ कैम्पस प्रो उमेश राय, डीन ऑफ कालेज प्रो सुधीश पचौरी, प्रॉक्टर प्रो एचपी सिंह व रजिस्ट्रार आर के सिन्हा उपस्थित थे।

अपने संबोधन में कुलपति प्रो सिंह ने कहा कि डीयू द्वारा शुरू किया जा रहा बीटेक एक खास तरह का बीटेक है, जो देश के किसी भी विश्वविद्यालय में उपलब्ध नहीं है। उन्होंने कहा कि बीटेक को सर्वश्रेष्ठ कोर्स के तौर पर बनाने के लिए इसकी क्लासेज न सिर्फ डीयू के शिक्षक लेंगे, बल्कि सिंगापुर की येल यूनिवर्सिटी व आईआईटी मुंबई के एक्सपर्ट भी विद्यार्थियों को कुशल बनाएंगे। विद्यार्थियों से रूबरू होते हुए और उनकी

शंकाओं को दूर करते हुए प्रो सिंह ने कहा कि विश्वविद्यालय ने डीयू के बीटेक कोर्स को इस तरह से बनाया है कि भविष्य में उनके लिए कई रास्ते उपलब्ध होंगे। इस कोर्स में जेनेटिक्स,

▶ पहले दिन 41 में से 38 विद्यार्थियों ने लिया दाखिला
▶ सिंगापुर की येल यूनिवर्सिटी व आईआईटी के एक्सपर्ट जुड़ेंगे
▶ दशहरा की छुट्टी के दिन भी धली दाखिला प्रक्रिया

मॉल्युक्लर बायोलॉजी, इलेक्ट्रॉनिक इंजीनियरिंग, मैथमैटिक्स, कम्प्यूटर इंजीनियरिंग व फाइनेंस क्षेत्र को शामिल किया गया है। प्रो सिंह ने कहा कि पाठ्यक्रम में गणित, कम्प्यूटर विज्ञान, फिजिक्स और जूलॉजी के अलावा कम्प्युनिकेशन स्किल्स भी जुड़ा हुआ है। चार साल के इस कोर्स में ध्योरी के अलावा प्रायोगिक ज्ञान पर भी जोर दिया गया है। उन्होंने कहा कि इस कोर्स में विद्यार्थियों को रोबोटिक्स में प्रशिक्षित करने के लिए विशेष रूप से आईआईटी मुंबई के एक्सपर्ट आएंगे। इसके अलावा येल यूनिवर्सिटी के साथ स्टूडेंट्स एक्सचेंज को लेकर भी

2012-13 में एआईईईई ब आईआईटी-जेईई से मिलेगा बीटेक!

नई दिल्ली (एसएनबी)। इस बार तो डीयू द्वारा लिखित परीक्षा और फिर साक्षात्कार के जरिए केवल डीयू के विद्यार्थियों को बीटेक-बीएस में दाखिला दिया गया है। लेकिन अगले साल से इस कोर्स में एआईईईई या आईआईटी-जेईई जैसे प्रमुख इंजीनियरिंग प्रवेश परीक्षा के रैंकों के आधार पर दाखिला दिए जाने पर गंभीरता से विचार किया जा रहा है।

उल्लेखनीय है कि डीयू ने अभी हाल में ही फैकल्टी ऑफ मैनेजमेंट साइंस के एमबीए कोर्स में दाखिला आईआईएम-कैट परीक्षा स्कोर के माध्यम से देने का फैसला लिया है। दरअसर डीयू में सभी स्नातक पाठ्यक्रमों में सेमेस्टर सिस्टम लागू होने के कारण परीक्षा विभाग का भार हल्का करने के लिए एफएमएस की परीक्षाएं करवाने के बजाए आईआईएम-कैट के जरिए दाखिला लेने का फैसला किया। इस कड़ी में बीटेक में भी किसी इंजीनियरिंग प्रवेश परीक्षा के माध्यम से दाखिला देने की योजना बनाई जा रही है।

बातचीत चल रही है। इस मौके पर समकुलपति प्रो विवेक सुनेजा ने कहा कि डीयू के बीटेक में व्यवहारिक ज्ञान पर ज्यादा जोर रहेगा। छुट्टी का दिन होने के बावजूद बृहस्पतिवार को कुल 41 विद्यार्थियों में से 38 विद्यार्थियों ने पाठ्यक्रम में दाखिला ले लिया। पहली सूची के तहत विद्यार्थियों के लिए दाखिले अंतिम तारीख 12 अक्टूबर है।