Newspaper Clips

August 5-6, 2012

August 5

Hindu ND 05/08/2012 P-10

A sustainable model for IITs

Dr. M.M. Mayuram

The IITs can be given the freedom to determine their fees as do the IIMs, and the additional funds generated through higher fees can be used to build research infrastructure...

The Indian Institutes of Technology (IITs) occupy an important and special position in the country, playing a crucial part in the career aspirations of lakhs of students. At the same time, policymakers are grappling with two questions on their real contribution to the nation in order to justify providing funds for maintaining the premium nature of these institutes and source these funds. Since it is market dynamics that have created this *rather ironic situation, I propose using the same market forces* to address this issue.

Let's first understand the market forces. The return on the investment for the parents, if not to the students, is the first market force that has created the enormous demand for the IITs. The brand value that almost guarantees admission with financial aid to a U.S. university for higher studies leading to a job, permanent residency and eventual citizenship or the near certainty of being placed with a higher than average salary on graduation is the primary market force that makes parents push their children into aspiring for entry into the IIT, often at as early an age as 15. The fact that most of these high paying jobs have nothing to do with engineering is neither discussed nor considered.

While assuring a higher return, the cost — fees at the IIT — is much lower than what is charged by the ubiquitous self-financing engineering colleges that do not assure students a career after graduation. Granted, parents do invest in one or more of the various coaching institutes without which none can get into the IITs nowadays, but even with that cost, the IITs make the best financial sense in terms of risk vs. reward.

This intense preparation to pass the entrance examination burns out quite a few of the successful students who have no interest in the education they are pursuing and have no incentive to excel in the studies since they are aware that the IIT brand will assure them a well-paying job if they just clear the examinations.

The second market force that leads to questions on the contribution or lack of it on the part of these bright students to national development is the skewed salary structure prevalent in today's world where the marketers of cosmetics and financial analysts earn twice or thrice as much as an engineer gets even at the entry level. While these professions' contribution to nation building may be debated, there is no question that education at a premium engineering institution deserves a better return in the form of its graduates exercising their intellect and education to address the numerous challenges facing the nation.

This, in turn, leads to the question of return on the money the nation spends on the IITs. Whether it is due to a lack of universal acceptance that investment in the IITs has yielded sufficient dividends or otherwise, the fact remains that the original five IITs have not seen increases in their funding in the last two decades commensurate with their requirement to replace their increasingly obsolete infrastructure. Whatever infrastructure development that has been funded in the recent past is mainly to cater for the increased student size that has been thrust upon the IITs to implement the social justice agenda. Both sets of the original five IITs and the newer nine ones require a large infusion of capital funds in order to renew or build infrastructure that will help them retain the premium nature of education in these institutions.

We can address all the three issues through a substantial increase in the fees paid by the undergraduate students. The IITs can be given the freedom to determine their fees as do the IIMs and the additional funds generated from higher fees can be used to build the research infrastructure. To ensure that these higher fees do not pose an undue burden on any student, a loan to cover the fees may automatically be sanctioned to each student. This loan will have no additional requirements such as collateral security, or the financial status of the parents, etc. This should not pose a problem since it's recognised that an IIT graduate will not have any issues finding a job. Increasing the fees addresses two of the three issues raised — namely the extremely attractive return on investment that encourages parents to exert undue pressure on their children to enter the IIT and the issue of funds for the IITs. By devising a scheme to convert the loan into a grant based on the nature of employment taken up by the graduates, we can address the issue of their contribution to nation building as well.

We can categorise DRDO, CSIR laboratories and other national institutions, the IITs and the NITs as the priority sector, employment in which for a specified minimum period will convert the entire loan into a grant.

Organisations that are public-funded and commercial in nature but play a vital role in building national self-sustenance may be classified as core sector, employment in which for a specified period will convert 50% of the loan into a grant. The grant can be provided by the employer itself and its financial impact can be mitigated through suitable tax concessions. This will also be an avenue for the employers to discharge their corporate social responsibility.

Private sector organisations but involved in core engineering activities may be classified as the allied sector, employment in which for a specified period will convert 25% of the loan into a grant. Teaching in AICTE-approved engineering institutions may also be classified as the allied sector.

...To ensure that higher fees do not pose an undue burden on any student, a loan to cover the fees may automatically be sanctioned to each student.

If the student opts to join organisations not belonging to these sectors, such as those in management consulting, banking and finance, and insurance, then he/she will need to repay the full loan at market rates within a reasonable period. Since salaries in these sectors are high, loan repayment should not be a major burden.

In case the graduate opts for higher education in India or abroad, a moratorium on repayment of the loan can be given and recovery may be initiated on completion of studies, depending on the nature of employment taken up.

The students can further be incentivised by linking the interest rate payable on the loan to their performance in the IIT. The rate of interest could be something like PLR-CGPA (Cumulative Grade Point Average) on a 10-point scale. Thus, the top performers will be required to pay only an interest rate of 0-3%, while even average performance will attract a rate of 5-7%. For students coming from socially disadvantaged sections, further concessions or a total waiver could be given to account for the differences in their performance due to social conditions.

Thus creating this market force of higher fees with the necessary infrastructure around it to manage its adverse effects can ensure adequate and timely funding for the IITs without burdening the government. The higher cost may discourage those who are not interested in nation building from enjoying the benefits of government subsidy and hindering imparting quality education. The performance-linked interest rate may motivate students to perform and finally the repayment options may encourage them to work in sectors that badly need them.

At this critical juncture where India needs to create substantially more capacity and quality in the engineering education sector, the way China is doing, this model may prove worthwhile to follow for the IITs and extend to the NITs as well.

The model can lead to financial and operational freedom for these institutes so that they can compete with foreign universities that are to be allowed to set up colleges in India on an equal footing.

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Deccan Herald ND 05.08.2012 P-8

Govt to again push for one-test system

IIT faculties will be part of the new panel; to set up 'fine-tune' format of CET

Prakash Kumar

NEW DELHI: In a fresh move to launch a single entrance test for engineering aspirants in 2014, the Centre is planning to bring on board faculties of IITs who played spoilsport by demanding an add-on test for entry to their system during finalisation of the Joint Entrance Examination (JEE) to be conducted in 2013.

As preparations for holding the first JEE for admissions to centrally-funded technical institutions including Indian Institute of Technology in 2013 are in full swing, the Human Resource Development Ministry is in the process of setting up a new committee to give a fresh look at one nation-one-test proposal and suggest measures for its implementation in 2014."The committee, which is likely to be headed by Prime Minister's scientific advisor CNR Rao, will comprise faculties of the IITs too," top sources in the Human Resource Development Ministry ministry told *Deccan Herald.*

The Human Resource Development Ministry ministry had proposed to hold a single entrance examination for admissions to all engineering colleges in the country, following recommendations from a committee headed by T Ramasami.

As states' participation in the proposed test remained unclear, it, later, decided to hold an Indian Science and Engineering Eligibility Test (ISEET) for centrally-funded technical institutions only, but kept it open for all the states to adopt the system.

Following demands from the IITs, the ministry later named the test as Joint Entrance Examination which was proposed to be conducted in two parts—Joint Entrance Examination-Main and Joint Entrance Examination-advance.

The proposed test also stipulated for giving weightage to candidates' class XII board marks.

Soon after the proposal got approval of the Council of the Indian Institutes of Technology and the National Institutes of Technology (NITs), a section of Indian Institute of Technology faculties started raising objections to the test formats.

Giving in to the demands of the IIT faculties, the IIT council, headed by Human Resource Development Minister Kapil Sibal, approved that only top 20 percentile holders of the respective school board will be eligible for admission to IITs on the basis of their performance in Joint Entrance Examination-Advance to be designed and conducted by the joint admission board of the premier technical institutions.

IIT faculties accepted the new format for admissions in to their institutions but this defeated the government's plan to launch a single entrance system in the country.

"The new committee, to be set up by the ministry, will examine afresh the proposal of holding a single entrance test.

The basic objective is to fine-tune the test format in which first common entrance is to be held in 2013," ministry sources said.

DH News Service

Publication: The Times Of India Delhi;Date: Aug 5, 2012;Section: All That Matters;Page: 14;

Anyone worried about what's wrong with our education?

INSIDE OUT

T T NARENDRAN

The debate on the IIT entrance examination refuses to die down. Some IITs claim that the standards will be diluted if the criteria are changed to consider school marks, while the HRD ministry disagrees. Most of the candidates are likely to enter the IIT irrespective of the mode of selection. Alas! JEE has long been defeated by the coaching factories. Those who live in regions that are close to the successful coaching factories have joined the IITs in hundreds. The best-coached students seem to be the most eligible ones to study at IIT. In this situation, an alternative way of selecting students appears relevant.

It's rarely the same individual who scores the highest in school, in JEE, IIT, CAT or IIM, lands the highest paying job and goes on to become the most successful professional. There are not many school toppers among our most successful managers or engineers. JEE ranks do not correlate well with the academic performances at IITs. Rarely has the JEE topper finished first in the BTech programme.

A far more serious question is how the "engineers" are occupied after college? Many seek MBA; a few go to US universities (IITs are not popular for post-graduation). Jobs are sought in the finance sector, "core sector" and IT (the largest recruiter of engineering graduates). Now, the core sector does not actually offer technical jobs. Managing production, procuring materials and chasing people for unfinished work are typical tasks. The engineer does not create products. Indian engineers may have put power plants or created railway infrastructure in African and West Asian countries but, in the sphere of product development, our record is dismal. In the first 35 years we bought, copied (with or without permission) and turned out the same products, decade after decade. Even after liberalization in the 90s, new products were rarely developed in India.

If the primary occupation of the engineer should be creation, design and development of new products, then the very existence of engineering education in this country looks purposeless. Any general education and training will be enough to manage shop floors and purchasing and to do most of the software jobs. IIMs want a 'eterogeneous' mix of graduates in their classes. Why are we, then, obsessed with engineering education?

There is an even more fundamental issue regarding education. The British system of schooling in India started in the 19th century, probably with the aim of creating clerical manpower for the East India Company. It progressed to create civil servants, too, but the primary purpose of education to serve "people of other countries" seems to continue! Most of the work in IT companies is to develop software for developed countries. Dull and boring jobs are dumped on us in the belief that money is the prime motivator here while essential services fail to attract people since they pay less.

There is no visible concern over shrinking labour and lands for agriculture and vanishing traditional craftsmen. Free lunch is offered to increase enrollment in schools but there is indifference to reports that children cannot read the headlines of a vernacular newspaper and cannot subtract even two-digit numbers. They learn little in the schools and miss out on learning any trade or craft that can fetch them a livelihood. Once i said to some urban college students, "Ninety per cent of the students seem disinterested in the classroom, at any level." They replied that i had underestimated the percentage! Are we then thrusting a whole lot of uninteresting stuff down the throats of millions of youngsters? What for? To receive the education that would fetch employment to serve the aliens?

Shouldn't we seek alternatives? Can we reduce the wage disparity between those who work with their hands and those who do 'mental' work? How do we bring about dignity of labour in this country? A Japanese guru of quality spoke about the "joy of sweating". Our society, too, had that joy. Why did we lose it to the pleasure of air-conditioned offices to do dumb jobs? Can we nurture those who enjoy working with their hands and not force them to learn by rote? How can we enable each individual to pursue an occupation according to one's aptitude?

I do not have answers to the multitude of questions that i have raised but my concerns remain. Will our policy-makers, planners and educationists take a re-look at the path we have travelled so far, do an honest analysis and re-define the goals of human resource development in this country? Maybe we are late but let us proceed on the assumption "better late than never".

The writer is a professor at IIT Madras

The Tribune ND 05/08/2012 P-11

'Better to be in a hurry than do nothing'

ON RECORD

Kapil Sibal, Union HRD Minister

*Union HRD Minister Kapil Sibal is ready with a raft of proposals on education to present in the coming session of Parliament. **Aditi Tandon** speaks to him on what challenges he faces in getting those through, and problems he had with some of his earlier initiatives:*

Major education reform Bills are pending for want of consensus. Any forward movement expected in the forthcoming Parliament session?

I met Leader of the Opposition in the Lok Sabha Sushma Swaraj. I don't think there would be problems now with the Bills on mandatory accreditation and prevention of malpractices in higher education institutions.

The Educational Tribunals Bill has already been passed by the Lok Sabha, and I have twice met Leader of the Opposition in the Rajya Sabha Arun Jaitley. I also reached out to Trinamool chief Mamata Banerjee on the accreditation Bill. In principle, there is no problem. Some of these Bills should be passed.

Your Congress colleagues blocked your Bill in the Rajya Sabha. Some feel you are in tearing haste.

That's political dynamics. I am glad I am in a hurry, because the easiest way out in life is not to do anything. The easiest thing in the world is not to take any decisions.

Are you working on any new laws?

This Monsoon Session, we will introduce a Bill to give statutory powers to the CBSE. We are working on a draft Bill to prevent unfair practices at school, such as overcharging of fees, denial of admission and discrimination on the basis of caste or religion. Besides, we plan to reintroduce the National Academic Depository Bill. I will first take it to the Cabinet after incorporating the changes recommended by a Parliamentary committee. We'll take up the other Bills later.

How would it help to give the CBSE statutory powers?

The nature of prescriptions by the CBSE would be far more objective if it is made a statutory body. Statutory status will make it independent of the government. It will also give the CBSE a greater handle on schools in case of aberrations such as the one where a Chandigarh school expelled molestation victim Ruchika Girhotra but didn't act against the erring teacher even after an inquiry revealed that a wrong had been done. Once an inquiry establishes that a teacher had a role to play, it is incumbent on the school to take action.

The RTE Act bans corporal punishment, but students continue to commit suicides due to harassment by teachers. What are you doing?

Monitoring teachers is the responsibility of school administrations but we need to be cognizant of these facts. Schools must adopt measures to ensure teachers have the sensitivity towards students' concerns. Unfortunately, the extent of sensitivity required in teachers is missing. Our teacher training programmes must include the fact that teachers substitute parents at school. Unless attitudes change, aberrations will happen. And you can't possibly penalise the whole school for one teacher's act unless the complicity of the school is established.

The RTE Act requires private schools to reserve 25 per cent seats for weaker sections but neither compensates them enough nor gives them time for transit. Private schools are feeling the pinch.

About 90 per cent of the private schools charge less fee than what we are giving them as subsidy against the 25 per cent quota. It will take schools eight years to fully implement the reservation from Class I to VIII, as the inducted batch moves up. This transition period is enough. Let us remember what the objective is: quality education for every child. Hopefully a time will come when government schools will impart quality education and these 25 per cent students will not need to seek private education. But till such time, this is the least we can do. Crème de la crème will always crib. But states can help them. Now the Supreme Court has also upheld the reservation as legal. It is the law of the land.

The Act bans detention but states feel this is leading to indiscipline.

The intent behind no detention under the Act has been misunderstood. It's a matter of clarification in the definition and we are open to it. The intent was to give a weak student the confidence to move up and not demoralise him by detaining him in class. But that does not mean a child who never comes to school gets to be promoted or a child who deliberately acts in a manner that destroys the harmony of the school gets promoted. That was certainly not the intent. These issues need clarification.

Do you think the single engineering test issue could have been handled better with the IITs?

I don't know how else I could have handled it. Never before has a two-and-a-half-year discussion preceded an IIT Council decision on exam reform. If I had any indication from IIT directors that the council's unanimous decision would trouble someone, I would have resolved matters further. When I got an indication, I met the IIT faculty. I opted out of the final council meeting and let IITs decide what they wanted.

You still didn't get one test for engineering.

Only in the IIT case we didn't get one test. NITs, deemed varsities and AICTE colleges are on board. States are joining. In principle, we have succeeded. I am also setting up a new committee to suggest modalities of a single test. IIT faculty will be on it. What we have not succeeded in doing is curbing coaching. That can only happen when we have a single test and Class XII weightage.

What about ordering a review of the NCERT cartoons?

I had to set up the review committee. It was the commitment of the Leader of the House in the Lok Sabha, what could I do? The cartoons had been there since 2006. I never said anything. But when the whole Parliament opposed and there was not a single dissent, I could not have ignored it. Personally, I think cartoons in themselves can't be objected to. But if there is a series of cartoons which get a different connotation when put in a textbook — than the context that was there when they originally came up — people have the right to say the cartoons must be removed, just as you have the right to say they should not be removed. Both sides have the freedom of expression.

IIMs plan to engineer a level playing field

MAIL TODAY EXCLUSIVE

By **Ritika Chopra** in New Delhi

STUDENTS from the humanities stream may finally be able to 'bell the CAT'.

The Indian Institute of Management (IIM) is willing to tweak the Common Admission Test (CAT) to enroll students from diverse academic backgrounds, and not just engineers.

Currently, classrooms of the premier B-school have a skewed composition, with as much as 80 per cent of students from engineering background (see box). At IIM Ahmedabad, for instance, 95 per cent students, for the past three years, have been tech graduates.

Though unwilling to divulge when the changes are likely to be made, some IIM directors confirmed to MAIL TODAY that the B-school is keen to revisit the CAT format to make it more "inclusive" and tap brilliant students from the humanities stream as well.

The idea was mooted by the heads of old IIMs at a meeting held in Kochi last month to discuss the future roadmap for the test.

"Engineers have been able to adapt to this format of the exam because of the continuous assessment during each semester in college. We are not against admitting engineers. The test will not be changed to prevent them from qualifying. The idea is that there should be a level playing field, in terms of the test, for students of all disciplines. But I must add that no changes are being made this year," said Debashish Chatterjee, director of IIM-Kozhikode, which is organising CAT 2012.

They want to tap brilliant students from humanities stream as well

"Look at how CSAT (Civil Services Aptitude Test) has been revamped. I am not saying the changes in CAT will be similar, but it's a good idea to review the test system," said Devi Singh, director of IIM-Lucknow.

The two directors, however, did not elaborate on how the entrance test could be tweaked to widen the scope for students from all streams. "We are thinking on those lines, but I can't say more unless a consensus is reached on it," Chatterjee added.

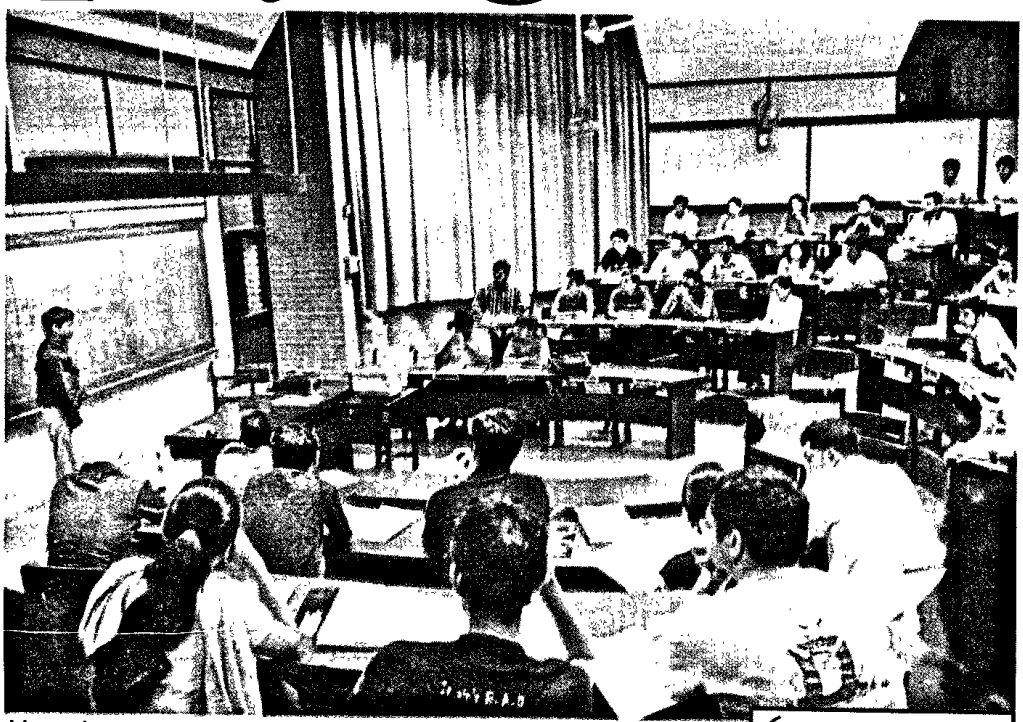
For the uninitiated, the 13 IIMs use CAT as an important component in selecting students for the business administration programmes. The test is conducted every year by one of the old IIMs on a rotation basis.

CAT, which is rated among the toughest tests in Asia after UPSC and IIT-JEE, has two sections (quantitative and verbal) which test quantitative ability, data interpretation, verbal ability and logical reasoning.

Although the institutes haven't revealed how a level playing field could be provided for humanities students, experts feel this can be done by simplifying the quantitative section.

"The results of GMAT (Graduate Management Admission Test), which also tests quantitative and verbal ability, do not show a bias for engineers. This is probably because the mathematics part of the test is not as difficult and that helps non-engineering students do better. Although the maths topics tested by CAT are of Class X and XII level, the questions are more difficult than the ones in GMAT," said Ulhas Vairagkar, director of T.I.M.E, Delhi, a coaching institute.

According to Vairagkar, another possible solution can be to make CAT computer adaptive like GMAT. In computer adaptive tests, the questions are selected by the computer to match the ability level of each student. The real-time results can better gauge the student's individual growth and knowledge than any type of testing previously available.



A lesson in progress at IIM Ahmedabad, which draws the maximum engineers.

ENGINEERS IN THE CLASS

INSTITUTE	2010	2011	2012
IIM AHMEDABAD	95%	95%	95%
IIM BANGALORE	93%	90%	89%
IIM CALCUTTA	94%	94%	94%
IIM LUCKNOW	88%	84%	79%
IIM KOZHIKODE	91%	87%	88%
IIM INDORE	NA	NA	73%

Himanshu Rai, former convener of CAT and a professor at IIM-Lucknow, does not think changing the format of CAT could break the dominance of engineers in the IIM classrooms.

They can simplify the quantitative section or make the test computer adaptive like GMAT

"I have serious doubts about how this can happen. Engineers do well in both verbal and quantitative sections of CAT. So even if you increase the weightage to verbal ability by one-and-a-half times, engineers will still do better. Let's not forget that what the IIMs want as their input (good quantitative and verbal ability) is what usually engineers are good at," said Rai, who has analysed CAT data of the past few years.

"What the IIM directors have in front of them is a big challenge. I don't think it's feasible to change the content of CAT as the study of management does require a fair degree of quantitative skills. Adding subjective questions is also not an option as evaluating the papers of 2.5 lakh students will be a nightmare. So the options are limited," Bakul H. Dholakia, former director of IIM Ahmedabad, said.

According to him the only solution is to develop some kind of parity between the top 10 per cent humanities students and top 10 per cent engineering students. "Everyone's blaming the testing system for being biased. The directors should first find out if this hypothesis is even valid or if there is a basic deficiency in potential and ability of the non-engineering students," he added.

> "We are not against admitting engineers... (but) there should be a level playing field for students of all disciplines"
> — **DEBASHISH CHATTERJEE**, IIM Kozhikode director

> "GMAT results don't show a bias for engineers. This is probably because maths is not as difficult as in CAT"
> — **ULHAS VAIRAGKAR**, T.I.M.E Delhi director

> "I don't think it's feasible to change CAT content as study of management does require a fair degree of quantitative skills"
> — **BAKUL H. DHOLAKIA**, IIM Ahmedabad ex-director

The unitary approach

Instead of daydreaming about setting up world-class seats of learning in India, the Union HRD minister would do well to revive the country's decaying traditional universities first, writes
arunabha bagchi

TEACHERS of government colleges in West Bengal started demanding another university to which their colleges should be affiliated soon after the chief minister promised to accord Kolkata's St Xavier's College the status of a university. This is, of course, a natural corollary to bestowing university status to the erstwhile Presidency College. The idea of upgrading Presidency was mooted in the early 1970s and came to fruition only recently after years of shadow political boxing between the former and current chief ministers of West Bengal. But it could open a Pandora's box and could lead to an inflation of universities with each passing election. Could we bring some order to this haphazard development?

The euphoria generated with the christening of Presidency University, shared by all ex-Presidentians, made us conveniently forget that we were all students of Calcutta University once. Not only had we received our first degrees from Calcutta University but also completed our post-graduate education there. In 2009, Calcutta University was named by the *Times Higher Education Supplement* among the world's top 50 arts and humanities universities. It has one of the most illustrious research traditions in India. The university has had some of the greatest scholars on the faculty — from Brojen Seal and Sarvepalli Radhakrishnan to CV Raman and SN Bose — during its long and cherished history. It is incredible how effortlessly we ditched our loyalty to our alma mater in the wild expectation of a miracle happening to our favourite college.

The reason lies in the fact that innumerable colleges are affiliated with Calcutta University, thereby making it difficult for post-graduate students to have an emotional bond with the university. This is in sharp contrast to the bond they forge with the undergraduate college which they enter right after finishing high school. It is while at college that they cross over to adulthood and the post-graduate phase is considered just an extension of their college experience. It is high time that we seriously consider making Calcutta University a unitary university along with four others in the metropolis of Kolkata. This will give a huge morale boost to the varsity's current post-graduate faculty members who have been completely ignored in the sudden excitement over Presidency University, Bengal Engineering and Science University and even Jadavpur University. It was indeed heartening to read in *The Statesman* that Calcutta University is thinking of starting five-year integrated courses in order to "pick bright students straight from schools".

The model of a university with affiliated colleges that we inherited from London became obsolete elsewhere in the world a long time ago. With the Central government setting up unitary universities/institutes at a feverish pace, the model has lost its significance in India as well. Starting with a couple of Indian Institutes of Technology (IITs) and a limited number of Central universities till early 1960s, we now have 15 IITs, five Indian Institutes of Engineering, Science and Technology (IIEST), five Indian Institutes of Science Education and Research (IISERs) and as many as 40 Central universities. The list is by no means exhaustive, with many Central research institutes functioning de facto as unitary universities. With Central largesse, these Central universities/institutes offer far better pay, facilities and infrastructure than even the best of traditional Indian universities. While the rest of the world was busy improving their traditional universities, we were determined to make ours uncompetitive. It was a devious way of the bureaucrats in New Delhi to keep a finger firmly inserted in the education finance pie. After letting good traditional universities decay over many years, Union human resources development (HRD) minister Mr Kapil Sibal announced last year his intention to set up new world-class universities!

Since late 1950s, we have heard disparaging comments about private engineering and medical colleges in south India that charge high tuition fees and obscene initial payment for educating well-heeled students. In my long residence in the West, I do not remember any new private university being established there during this period. I, therefore, watched in horror as these private institutions mushroomed all over India on the back of our 'great economic liberalisation'. Some time ago, the university where I teach now started receiving applications from Indian students for post-graduate studies with undergraduate engineering degrees from colleges that were "deemed universities". When the admissions office asked me about it, I was completely at a loss. On further enquiry, I was shocked to learn that as many as 126 institutions, most of them private, had been accorded that epithet, with the idea that they would be full-fledged universities in due course. A PhD student of mine explained that it was a gigantic fraud. Sure enough, next year, the HRD ministry, under the newly-appointed Mr Sibal, submitted in the Supreme Court that only 36 such institutions should be granted the status of a university, 44 others should be placed on the watch list for another three years and that the remaining 44 should be derecognised. The delisted "deemed universities" included some run by political luminaries in various states. Nobody, of course, questioned how and why such tags came to be given to those institutes in the first place.

Against this background of a plethora of unitary universities, the states must device strategies to revitalise their languishing traditional universities. The only logical step is to delink all state universities from affiliated colleges that offer undergraduate degrees. In short, states should make all universities unitary, with students entering them right after finishing their higher secondary-level schooling. Every district with a certain population must have at least one unitary university. Each university should accommodate a large number of students. In West Bengal, many government and district colleges have large enough campuses to build capacities for 10,000 students or more. In a more rural district, a university must have a strong agricultural sciences programme, while in a more industrial district, an engineering programme must be offered. The latter should offer four-year BTech and/or five-year integrated MTech programmes. These steps are essential for indigenous economic development of districts. Each university should also have a medical school, naturally attached to the district hospital. One must give special preference to students of the district for admission to their local university by carving out quotas for local students. Students from outside the districts could be charged higher tuition fees. This could be a much more effective education apparatus than the one that is currently based on the caste-based quota system.

In the metropolitan cities, this model may face logistic challenges. Let us take the case of Kolkata as an illustration. If Calcutta University were to be made unitary, there would be five such universities in the metropolis. Given its large local population, it may even need a few more. One possibility would be to group some good undergraduate colleges and elevate them to the status of a university. The obvious ones that come to mind are Scottish Church and Bethune, as well as St Xavier's and Lady Brabourne. The resulting loss of autonomy may be semantic, given that the state government practically finances these colleges entirely. The combined staff of such colleges would be adequate to set the ball rolling till a fully functional faculty is set up. Space being a major problem, vertical expansion seems the only viable means to cater to a large number of students.

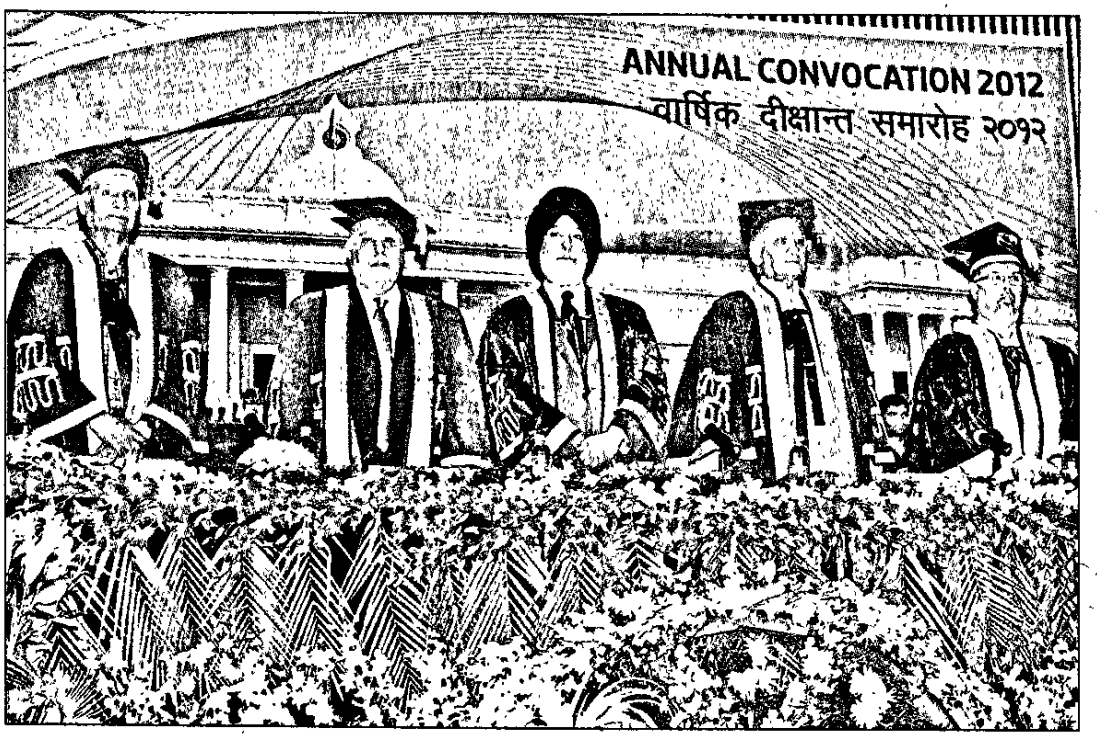
What would then happen to the remaining colleges? They would at last be relieved of their obligation to offer general-degree courses leading nowhere. It would create an opportunity for them to initiate the complementary path to higher education by developing advanced professional disciplines, as is the common practice in Continental Europe. The professional bachelor degrees awarded there are recognised throughout the European Union and are greatly valued by employers. Developing unitary universities and transforming existing colleges into higher professional degree-issuing institutions need not be completed in a hurry. A slow process of transition would be not only necessary, but also desirable. Gradually, some of the existing staff of the general-degree colleges, those with research credential/potential, would naturally move to the unitary universities. Others would continue to teach basic subjects necessary for balanced training of students pursuing higher professional disciplines. The possibilities of developing professional disciplines are vast, ranging from engineering and medical technology to communication and management.

There are a vast number of general degree colleges in all states in India. Students are often kept busy for three years in these colleges without any clear career prospect in sight and their parents are made to pay for the privilege. They are also politically useful and follow the same logic that encourages New Delhi to set up new universities all the time to stave off the spectre of unemployment. In the new scheme, these colleges would continue to offer BA/BSc/BCom degrees in a vast array of fields that would require the knowledge of existing general subjects, supplemented by additional courses for professional advancement in some specific areas.

This model could finally free India from the legacy of colonial education and give a new spurt to a more uniform economic development. It might be desirable to have an organisation that would affiliate these colleges, set the standard for courses, prescribe appropriate textbooks, conduct examinations and confer degrees. Each district may form such an entity that would have no teaching programme of its own. The graduates of these colleges must have the opportunity to enter universities laterally at appropriate levels. Judging by the market demand of students following focused professional courses in private institutions in India at present, it is safe to presume that only a minority of these professional graduates would be interested in seeking a lateral movement to universities.

Unshackling state universities from the burden of affiliated colleges would make them administratively manageable and give a new impetus to improving their quality. Offering infrastructure to enable them to enroll a large number of students, as is the case with public universities in the USA, would make it economically feasible for them to hire a considerable number of highly-qualified staff by making attractive offers comparable to those extended by Central universities/institutes. The remaining existing colleges could be transformed to provide higher professional-degree programmes of immediate interest to industry and society. These programmes must be thorough, but solidly grounded to practice. Universities would then be able to concentrate on analytical and creative thinking. A dual educational system would thus be born that would give us a competitive advantage over many other developing countries in the future.

The writer is ex-dean and professor of applied mathematics at University of Twente, the Netherlands



आईआईटी, रुड़की के 12वें दीक्षांत समारोह में केंद्रीय मानव संसाधन विकास मंत्री कपिल सिब्बल और अन्य। फोटो : नेशनल दुनिया

आईआईटी, रुड़की का 12वां दीक्षांत समारोह संपन्न

रुड़की (सं)। केन्द्रीय मानव संसाधन विकास मंत्री कपिल सिब्बल ने आईआईटी रुड़की के दीक्षान्त समारोह में बतौर मुख्य अतिथि कहा कि उपाधि पाने वाले छात्रों के लिए असाधारण मौके प्रतीक्षा में है, लेकिन इस में वही छात्र सफल हो सकते है, जो चुनौतियों से निपटने में दक्ष है।

केन्द्रीय मानव संसाधन मंत्री आईआईटी रुडकी के बारहवें दीक्षान्त समारोह को समबोधित कर रहे थे। इस मौके पर पद्मविभूषण प्रोफेसर चार्ल्स कोरिया व प्रोफेसर गोबर्धन मेहता को संस्थान ने डा. ऑफ साइंस मानद उपाधि प्रदान की। सन् 2012 के लिए खोसला राष्ट्रीय पुरस्कार मुंबाई के प्रोफेसर गनपति डी यादव को, बी.एन.एम. पुरस्कार रूडकी के डा. देविन्द्र कौर, गोपाल रंजन सोध पुरस्कार रूडकी के डा. रजनीश गोयाल को, समशेर प्रकाश सोध पुरस्कार खडकपुर डा. कौशिक देव को प्रदान किए गये। दीक्षान्त समारोह में 1639 छात्र-छात्राओं को स्नातक व स्नातकोत्तर की उपाधियाँ प्रदान की गई। जो गत वर्ष की तुलना में 303 अधिक थी। इस वर्ष का प्रेसिडेंट गोल्ड मेडल बी.टेक मेकेनिकल के छात्र तरूण वार्मा को प्रदान किया गया। बी.टेक व बी.आर्क के छात्रों में सर्वोत्तम आलराउंडर के लिए निदेशक का स्वर्ण पदक बी.टेक धातुकर्म एवं पदार्थ इंजीरियरिंग के सौरव प्रकाश को दिया।

समारोह में संस्थान के 21 छात्रों को रजत पदक, 11 छात्रों को संस्थान पदक व 52 छात्रों कों विभिन्न क्षेत्रों में अन्य पुरस्कार प्रदान किए गए।

Deccan Herald ND 05.08.2012 P-4

Don't cancel admissions over honest mistakes: HC

Court bats for students who make errors in forms online

NEW DELHI: The Delhi High Court has ruled that students should neither be deprived of their right to education on bonafide mistakes nor penalised to the extent that their admission is cancelled.

Bonafide mistakes of students while submitting entrance form online can be ignored, said the court, particularly if the students belonged to areas where proper computer and internet facilities were unavailable. And more so when they had secured a seat in the entrance exam.

Justice G S Sistani, allowing a student from a village in Haryana to join the National Institute of Technology (NIT) in Kurukshetra, has observed that bonafide mistake of the student cannot be penalised to the extent that the admission granted to him should be cancelled.

The court's observation came while hearing a plea by Rohit Yadav who, while applying online for All India Engineering Entrance Examination (AIEEE) 2012 conducted by the Central Board of Secondary Education wrote the wrong date of birth mistakenly.

Justice G S Sistani has observed that student's admission granted to him should not be cancelled for inadvertent mistake

Yadav, after clearing the AIEEE, secured a seat in NIT. But the institute denied him admission citing discrepancy in date of birth. The court, passing the order, said: "Having regard to the facts of this case, I am of the view that on account of the bonafide mistake of the petitioner (Yadav), the petitioner cannot be penalised to the extent that the admission granted to him should be cancelled".

The court observed that "on account of this mistake to debar him would amount to travesty of justice". "The petitioner had no intention to mislead the NIT or gain any unfair advantage. The certificate from CBSE is a genuine document. Thus the petitioner cannot be debarred," the order stated.

Justice Sistani said students from villages who do not get continuous electricity cannot be deprived of their right to education. "The court cannot lose track of the fact that Delhi is not India. There are lakhs of students in rural areas, like the petitioner herein, who have potential. Students from rural background are not less intelligent than students from affluent background," the court said.

The court took note that Yadav came from a humble background, lived in a village and did not have access either to a computer or internet. "In towns, people are familiar with computer, laptop, iPads and other forms of computers, which provide them access to vast information at their fingertips. On the contrary, students from remote villages, who do not get continuous electricity, cannot be deprived of their right to education, more so when the student has secured a seat," the court said.

IANS

COUNTDOWN TO MARS

Nasa Rover Set For Touchdown On Monday, Will Explore If Planet Can Support Life

Srinivas Laxman | TNN

Nasa's 900-kg SUV-sized Mars Science Laboratory (MSL) rover — Curiosity — is slated to land on Mars on Monday to explore whether the Red Planet had an environment to support microbes and survey it as part of the preparations for its human exploration.

The event is being billed as a path-breaking one which, if successful, promises to be as significant as the landing of humans on the Moon in 1969.

Curiosity would operate for 98 weeks (nearly two years) and is about five times larger than earlier Mars exploration rovers — Spirit and Opportunity. Scientists hope that Curiosity, equipped with a suite of 11 advanced instruments, will better success of the earlier explorations. It would cover nearly 570 million km distance before touching down on the Red Planet's Gale Crater and its heat shield will reach more than 2,000 degrees C as it takes off.

An on-board laboratory on Curiosity will study rocks, soil and the local geological settings to detect chemical building blocks of life and see what the Martian environment was like in the past. The nearly $2.5 billion mission carrying Curiosity was launched from the Cape Canaveral Air Force Station in Florida on November 26, 2011 on-board the powerful 58-m-tall Atlas V rocket as part of Nasa's long term robotic Mars exploration programme.

Around 80 pyrotechnic devices will be activated on the spacecraft in quick succession to ensure that it lands safely during the final few minutes of Curiosity's flight. An instrument on-board Curiosity — the Mars descent imager or Mardi — will record a full color video of the ground below and give space buffs an unprecedented sense of riding a spacecraft to a landing on Mars.

Indian engineer Ravi Prakash, helping Curiosity to manoeuvre complex entry, descent, and landing, said the mission is full of challenges and requires thousands of events to happen successfully in a matter of minutes.

He said the event is being called "seven minutes of terror" as it will take as much time for the spacecraft to halt on Mars after travelling from the top of the Martian atmosphere at a speed of 21,000 km per hour or five times as fast as a bullet.

"During those seven minutes, the spacecraft will be on its own, automatically deciding when to perform each of the thousands of actions required for the landing," he said.

Prakash said the nerve-wracking part of the event would be that while Curiosity would be on the surface of Mars, they will not know if it had survived the unforgiving atmosphere of Mars for 14 minutes. "It takes 14 minutes, travelling at the speed of light, for Nasa to send a signal from the Earth to the spacecraft and vice versa."

The engineers and scientists working on the mission would monitor these developments at the mission control room at Nasa's jet propulsion laboratory in Pasadena near Los Angeles.

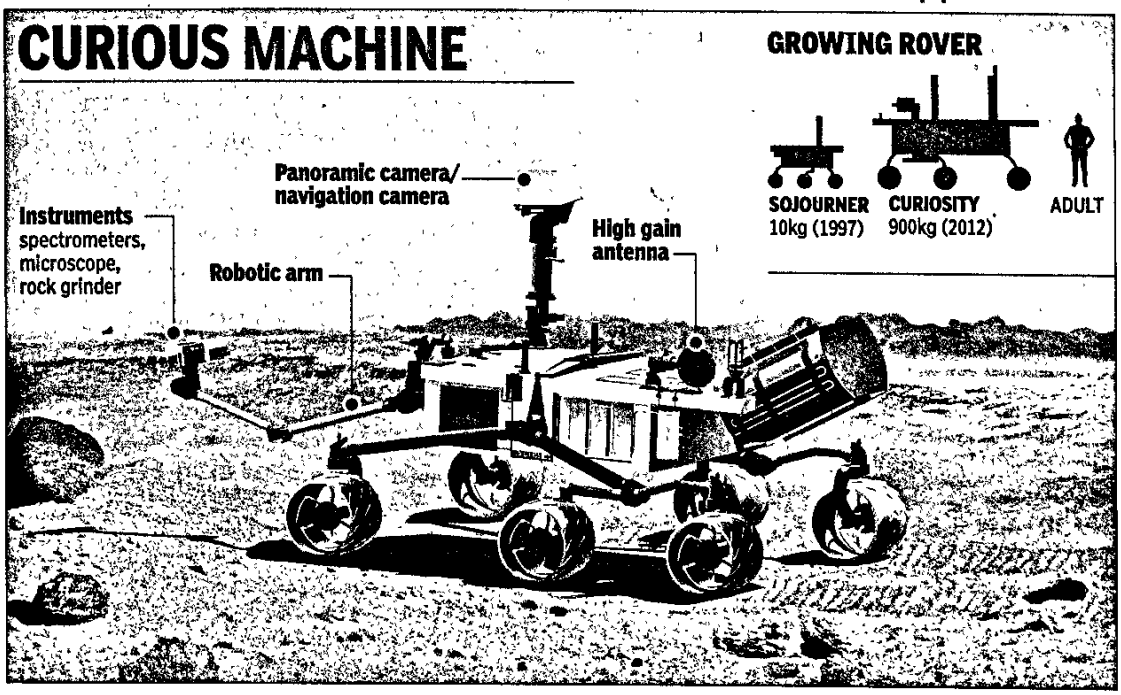
Prakash said millions of simulations of the landing have been performed to make sure that entry, descent and landing are properly choreographed and to find out what could cause its failure. "The mission remains difficult and success cannot be guaranteed."

But MSL deputy project scientist Ashwin Vasavada is optimistic that everything would go smoothly. "I am pretty confident. We have done all we can to make it successful. But it is risky. I will be nervous on the landing day." He said they have been living on Mars time for three months. A day on Mars is about 24 hours and 40 minutes.

Vasavada said they expect the first images from the rover about 90 minutes after the touchdown. "Colour images would follow a few hours later."

Prakash said several technological firsts such as guided entry and precision landing on another planet as well as the entire sky crane manoeuvre to land the largest rover yet on the surface of Mars have been employed for the first time.

The new technologies are being tried especially during the critical entry, descent and landing phase. This makes it the most challenging manoeuvre ever fraught with risks like never before.

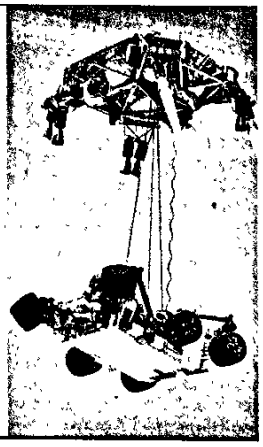


Mars mission's desi connection

A number of Nasa scientists and engineers of Indian origin are participating in the Mars Science Laboratory (MSL) mission. But apart from this, India ranks third in the world and first among the developing nations in terms of the names being sent to Mars on MSL's Curiosity rover to the Red Planet. The names have been etched on a microchip which Curiosity is carrying to Mars. The US has sent 5,29,386 names followed by the UK's 77,329. Next to the UK is India with 59,041 names. Nasa had invited people from all over the world to participate in the mission by sending their names to be etched on the chip. The response has been overwhelming, according to Nasa.

COLD WAR RIVALS RUSSIA, US WARM UP TO SPACE JV

- Cold war rivals Russia (then USSR) and the US have collaborated for the mission
- The Federal Space Agency of Russia has contributed an instrument - dynamic albedo of neutrons (Dan) - to the rover that will detect water in the soil of the Red Planet
- Dan consists of two blocks - one is a neutron generator and the other is an on-board micro computer
- Dan's neutron beams will be shot on the metre-deep Martian surface to detect water



Business Standard ND 05/08/2012 P-14

Students play it safe, choose jobs over higher education

M SARASWATHY
Mumbai, 4 August

Swaroop Chatterjee, a 24-year-old who graduated in electronics engineering from a Kolkata-based institute this year, was determined to pursue further studies abroad.

However, now, he has decided to join a Bangalore-based information technology firm. "Early last year, I had decided to pursue an MS (master of science) course in the US. But looking at the environment, I thought it was too risky. I will join work later this year," he said.

Chatterjee is not alone. Instead of pursuing higher education, many of his classmates have decided to accept job offers.

With the absence of attractive scholarships for foreign institutions and multiple job offers absent in the market, this year, students have decided to choose a safer option.

This was observed by major recruiters, which have seen a positive impact in their joining ratios. According to industry estimates, joining ratios rose 10-15 per till the quarter ended June.

Joining ratio is the ratio of the number of job offers accepted by the candidates to the number of jobs offered to them in a year's time.

Ajoy Mukherjee, executive vice-president and head (global human resources), Tata Consultancy Services (TCS), said, "Joining ratios have gone up this quarter (ended June). This clearly shows students want to join companies instead of going for higher studies. Though it is too early to give a number, an increase has been noted."

Deepak Jain, senior vice-president and global head (workforce planning and development), Wipro Technologies, said there was an uptrend in the joining ratio this year—for both engineering and BSc (bachelor of science) streams. He added a definite reason for this was over the last year, the company had conducted various engagement programmes to ensure students remained connected with Wipro after the offer was rolled out.

Placement officers at various colleges attribute the rise in joining ratios to the gloomy economy.

S R Pullabhotle, director (placement and training), Vellore Institute of Technology said the rise was due to the fact that other economies, including those in Europe and the US, were witnessing a slowdown.

"Big, fat scholarships are lacking in this scenario. Students do not want to take a risk by rejecting a job offer," he said.

Another placement head of a technology institute in West Bengal said after completing their engineering degrees, students usually went abroad for a master's course. Since the economies abroad were bleeding and were in a scenario worse than India, students were playing it safe, he added.

Human resource consulting firms confirm this trend. Sunil Goel, director, GlobalHunt, said apart from the slowdown hitting the economy, a change in the importance given to industry exposure could also be a reason for students choosing jobs over higher studies.

"In recent times, companies have started choosing candidates with industry exposure of about two years, rather than candidates with fancy degrees. Students have quickly caught on to this fact, and have chosen to join companies for add-on experience, instead of studying further," he said.

E Balaji, managing director and chief executive, Randstad India, said keeping in mind the difficult market conditions, students were trying to consolidate their position by taking on job offers that came their way.

"Students no longer have the luxury of choosing from multiple job offers that were available to them earlier. This could explain the joining ratios rising in some companies," he said.

According to industry estimates, if the current market conditions prevail, this trend would continue for the next few quarters.

Some consultants say joining ratios could rise further if students start sensing the slowdown in the economy and the job market.

JOB MATTERS

- Joining ratios refers to the ratio between the number of job offers accepted by candidates vis-a-vis number of job offers given to the candidates
- Placement officers at colleges attribute the increase in joining ratios to the gloomy economic scenario. Students do not want to take a risk by rejecting a job offer
- With the absence of attractive scholarships for higher education in foreign institutions and absence of multiple job offers, students prefer a safer option
- Importance given to candidates with industry exposure could also be a reason for students opting for a job instead of higher studies

MENTORING SUCCESS

Two Indian entrepreneurs who provide opportunities to bright but economically disadvantaged students manage to get seed funding from a US programme, emerging among the top 20 among thousands of applicants

Sukalp Sharma

WITH A citation that says "visionaries with ideas so bold and convictions so strong they could shake the world", any entrepreneur would be on top of the world. But Krishna Ramkumar of Avanti Fellows, an educational social venture that was recently awarded the prestigious Echoing Green fellowship, prefers to be modest. "Echoing Green gets more than 4,000 applications a year and it's really a matter of pride to have received it. But it's the work that we're doing that matters really," he says. The fellowship led to a grant of $90,000 from the New York-based organisation, operating in the area of early-stage social sector investing.

Every year, Echoing Green's highly competitive global fellowship provides more than $2 million in seed support to a diverse group of emerging social entrepreneurs. From thousands of applicants, fewer than 1% are ultimately selected to receive up to $90,000 over two years to support the launch of their new organisations. This year, the fellowship was awarded to 36 ventures. There are just four awardees from around the world in the education sector, and Avanti is one of them.

The $90,000 (₹45 lakh approximately) received in fellowship will go to Avanti's corpus for covering operational costs and implementing expansion plans. "Of course this sort of recognition to an extent vindicates what you're doing, at least, in the public eye, and also opens up several opportunities as more people are now aware of what we're doing and are showing interest in having an association with us," says Ramkumar. He adds that there are a few partnerships that are in the works after the fellowship, and at least a couple of them should be finalised by September.

Avanti Fellows was founded by Ramkumar and his friend Akshay Saxena, both IIT Bombay graduates, in 2010. Quite comfortable in their lives and corporate careers, both decided to risk it all with Avanti.

The problem they chose to deal with was not easy and something with which successive governments and scores of institutions have been grappling with since decades—to create a level playing field for disadvantaged students in India by removing the economic and social barriers to attending top colleges. They founded Avanti Fellows, a not-for-profit organisation that identifies bright but economically disadvantaged students and provides them active educational support and guidance to help them crack entrances to professional institutes.

Today, an idea that took shape just two years ago is now spread over eight chapters across seven cities, with a team of eight full-time employees to manage operations, strategic alliances, funding, marketing, course structure and mentor support. These eight chapters are run on the ground by 225 volunteer-mentors, who are already studying at various IITs and medical colleges. And, as Ramkumar says, "it's just the beginning".

Avanti's founders were inspired by a friend at IIT Bombay who came from a low-income family in a village and taught himself math and science from borrowed books. Despite his drive and intelligence, he found his career hampered by lack of confidence, guidance and connections. Saxena at that time was pursuing his MBA from Harvard Business School, while Ramkumar was working with the Boston Consulting Group in Mumbai.

"It's one of those things that you observe around you; the fact that it's very difficult for children coming from humble backgrounds to get access to knowledge and guidance. We know how difficult it is to crack, say the IIT-JEE, or any other entrance for that matter. The intense competition and their extremely limited resources put these students in a position of disadvantage. We saw it happening with a few of our friends," says Ramkumar.

He adds that while in the first year of their operations, Avanti was limited to helping its chosen students or "fellows" crack engineering entrances, particularly the JEE, they've broadened their horizon this year. "Now we've started our medical chapters as well and of the 220 fellows selected this year who will sit for entrance exams in 2014, 180 are for engineering and 40 for medical. We are now working towards helping deserving students score to their potential in other entrances like AIEEE as well," he says. Avanti selected the first batch of fellows, 120 in number, in 2011. These fellows will be seeking admissions in 2013. "That's when we'll be able to really assess our initial impact," says Ramkumar.

Here's how it works. Avanti identifies bright students from poor backgrounds and provides them free places at their partner coaching institutes to prepare for entrance exams. Avanti's volunteer student-mentors support the fellows with setting goals and effective study. Avanti works with government schools, education NGOs and partner coaching institutes to identify eligible students. Applicants to Avanti, all of whom must be from families with less than ₹2.5 lakh in annual household income, sit for an academic test and are also interviewed at home with their family. So far, 9,000 students from over 400 schools across India (4,000 in 2010-11 and 5,000 in 2011-12) have taken the aptitude test for becoming a fellow. The fellows also benefit from a tutoring, academic monitoring and guidance programme designed and implemented by Avanti's student teams. They conduct regular doubt solving sessions, help design study plans, track test scores and set goals for the fellows during the two-year preparatory process.

The Avanti team feels that while they provide access to top coaching classes to their fellows, the intense competition even at these classes puts a lot of pressure on these children and hence it's essential to have a mentorship programme as well. While they started out with a 1:1 mentor, student ratio, Avanti is now aiming to have a uniform ratio of 1:2 across all its chapters to maximise reach without compromising on time and quality.

As far as funding is concerned, Avanti has received a little over ₹1 crore in the past two years, including the ₹45 lakh they received from Echoing Green. They rely on a simple NGO funding model and most of their funds come from individual and institutional donations. So is funds a problem? "Not really. Since our programme is run by volunteer mentors on the ground and the partner coaching classes allow our fellows to study and use their resources absolutely free of cost, we actually don't incur a big operational cost," says Ramkumar. However, he adds that in future they would be looking at generating operational revenue by applying a small cost to their services.

"Once we assess our actual impact in terms of results, we might apply a small fee that the fellows can easily afford. We must remain not-for-profit and hence it'll be a token fee to take care of the operational costs," he says.

But isn't a volunteer-based system prone to inconsistencies and problems in terms of motivation? "We select a very small section of students as mentors to ensure that only those who are highly motivated come into the programme. Then since it is a three-tier system that we have, feedback and constant monitoring also keeps everyone on their toes and make the programme effective," he responds.

But dreams are still taking flight in Avanti. They are now working to set up e-learning centres in partnership with government schools so that students who couldn't become fellows can still access knowledge and assistance through technology. "Of course, it can't substitute everything in the programme, especially the human interface and mentors. But it will help them in a big way. We are looking at partnering with government schools for this," says Ramkumar. As far as tangible plans for expansion are concerned, Avanti aims to have presence through its chapters in 25 cities across India. In addition to that, while it's still an idea, the Avanti team is kicked up about an idea of creating a peer-to-peer lending model for students who are not able to pay fees.

"It's just an idea but we are thinking of having a model with a combination of having individuals lending to deserving and needy students and also help in facilitating loans for them from banks and financial institutions. But it still is a long way away," says Ramkumar.

The Avanti programme

- Started operating in 2011, with its first batch of 120 fellows, who will be sitting for various competitive exams in 2013
- The second batch selected recently consists of 220 students (40 for medical, 180 for engineering)
- Their network consists of 225 mentors and eight chapters across seven cities, with a team of eight full-time employees to manage operations strategic alliances, funding, marketing, course structure and mentor-support
- 9,000 students from over 400 schools across India (4,000 in 2010-11 and 5,000 in 2011-12) have taken the aptitude test for becoming a fellow

(Above) Avanti founders Krishna Ramkumar (left) and Akshay Saxena

(Left) Avanti's team of volunteers at IIT Bombay when they started out in 2010. Now, it has 225 volunteer mentors catering to 340 'fellows' across the country, through its various chapters

A fellow-mentor contact session in progress. The fellows benefit from a tutoring, academic monitoring and guidance programme designed and implemented by Avanti's student mentor teams

Business Line, ND 05/08/2012
P-16

Asian graduates name Google 'most ideal employer'

Our Bureau

New Delhi, Aug 4

What do students fresh out of college want in a new job? A study conducted by Universum, a global employer branding research firm, finds that the preferences of students in different geographies differ vastly.

Business students in India, China and Singapore consider high future earnings as one of the most attractive features of a job, unlike those in Hong Kong and Japan. Indian students place more emphasis on employer reputation than peers in other markets.

Further, Universum named Google the 'most ideal employer' in Asia at the 2012 Employer Branding Awards held in Singapore, on Friday on the basis of inputs received from 37,800 business and engineering students in the continent.

The other top companies at the first annual Universum Awards Asia in terms of employer branding included Sony and Toyota.

Google received the maximum votes from both categories of students.

However, while business students nominated KPMG as the second-best employer, engineering students voted for Microsoft.

Rachele Ferri, Senior Vice-President of Talent Strategy and Employer Branding, APAC and Global Brand Advisor, Universum, said, "To win the war for talent, especially in a highly competitive region like Asia, it is important that employers understand these students' preferences and expectations.

Otherwise, it would be like going for their campus recruitment blindfolded — they risk not communicating the right messages to the right target groups."

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August 6

Pioneer ND 06/08/2012 p-5

IIT TEST FORMAT ROW

JAB opts for subjective type questions for Advanced test

PIONEER NEWS SERVICE ■
NEW DELHI

Ending the uncertainty over the pattern of questions in the entrance examination for prestigious IITs, the Joint Admission Board (JAB) on Sunday decided for a Subjective Question type Advanced test.

The shortlisted 1,50,000 candidates, who also come within the stipulated 20 percentile bracket, will be eligible for this Advanced test.

The JEE-Main, the filtering tests in which around 11 lakh students are likely to appear, will be a multiple choice objective type paper. The CBSE will conduct the JEE-Main test and provide logistical support to IIT to conduct the Advanced test.

The JAB accepted "as it is" the IIT council's decision in view of the urgent need to remove uncertainties surrounding JEE-2013. The JAB meeting was called to examine IIT Council's decision of June 27. The Council had adopted the Common Entrance Test under a compromise formula for admission to undergraduate programme based on percentile ranking of students in their boards.

Sources said the number of students to be filtered for the advance exam in 2013 under the new two-tier format will be decided on the nature of the test. As per the format adopted by IIT Council, about 1.50 lakh students are to be screened for the advanced test. "The JAB decided the test pattern would be of subjective type since any changes now would affect the potential aspirants which includes those who entered class 12th in the year 2011," sources said.

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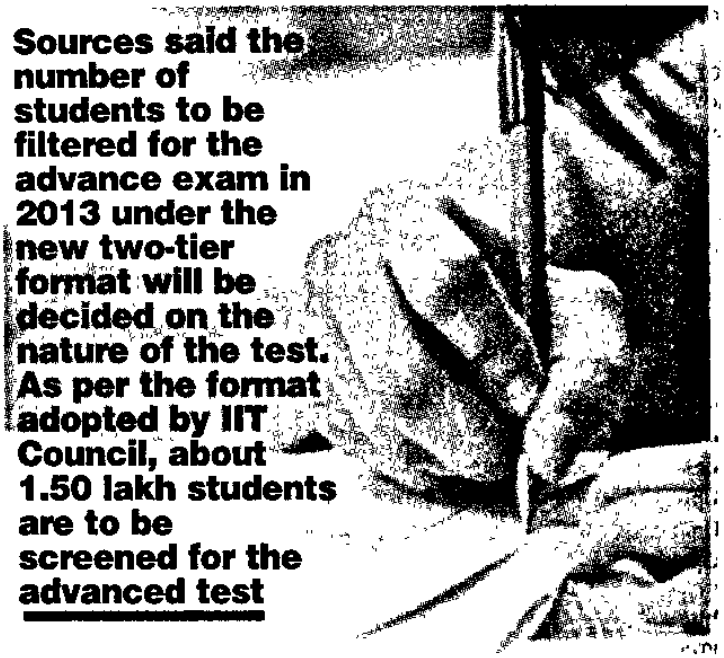

The JAB also decided that students who have passed their board exam in 2012 should not be disturbed with the new format and allowed to appear as per the existing eligibility condition in 2013 also. As per the existing criteria, students are given two chances to clear the IIT-JEE.

Sources said that with time running short, the JAB took a decision not to waste any time further and consider the subjective pattern of exam. The decision also takes into account the opinion of IIT students who suggested only minor changes following the Senate of IIT Delhi asking the Council of IIT to consider the opinion of the student community as it is they who would finally sit for the competitive exam.

This year the JAB is headed by Delhi IIT and it also has on board representatives of NITs, IIITs and CFTIs. After widespread resentment from within the IIT fraternity, the JAB had conveyed to the HRD Ministry about these minor changes in the modalities.

Sources in the HRD Ministry confirmed that the JAB had sent a suggestion that the main contention to give weigthage to class 12 results to screen the IIT aspirants should be scrapped.

Hindustan Times ,
ND 6/08/2012
P-11

IIT ADMISSION BODY STICKS TO 20 PERCENTILE

Vanita Srivastava
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NEW DELHI: Despite some important suggestions by various IITs, the Joint Admission Board (JAB) of IITs that met on Sunday made no changes to its earlier resolution on the 20 percentile formula for 2013 eligibility. The resolution had been accepted by the IIT Council on June 27.

Over the last one month, the senates of different IITs had given suggestions to make the eligibility criteria more flexible especially for the students who had to appear for boards in 2012. IIT Delhi had suggested that for 2013, both 60% and 20 percentile should be considered. IIT Delhi and Kanpur had proposed that for those who had cleared the boards in 2012, the eligibility criteria should be 60%.

But the JAB is believed to have not incorporated any of the proposals. According to sources, JAB has decided to keep number of students filtered for advanced exam at 1.5 lakh.

Even for the advanced exam, the pattern and syllabus would the same as in 2012.

The IIT JEE 2013 will be a two-tier exam — main and advanced. Main exam will be a screening exam. Final rank will depend on the performance in the advanced exam.

Dainik Jagran, ND 6/08/2012 p-9

प्रवेश परीक्षा पर आइआइटी की मुहर

- जेईई एडवांस परीक्षा दो जून को
- जेईई : 2012 की तरह भौतिक, रसायन व गणित के दो पर्चे

जागरण संवाददाता, कानपुर : भारतीय प्रौद्योगिकी संस्थानों (आइआइटी), आइटी बीएचयू एवं आइएसएम धनबाद में प्रवेश के लिए दो जून 2013 को होने वाली संयुक्त प्रवेश परीक्षा (जेईई एडवांस) का खाका दिल्ली में तय हो गया। यह भी तय हुआ कि आइआइटी सीनेट से समन्वय स्थापित करने को संयुक्त प्रवेश बोर्ड (जेएबी) उपसमिति भी बनाएगा।

वर्ष 2013 से आइआइटी, एनआइटी व आइआइआइटी आदि सभी केंद्र सरकार पोषित इंजीनियरिंग संस्थानों में प्रवेश के लिए मानव संसाधन मंत्रालय के राष्ट्रीय एकल परीक्षा के प्रस्ताव को आखिरकार मंजूरी मिल गई। पर्सेंटाइल पर आधारित इस परीक्षा के आयोजन पर आइआइटी के जेएबी ने मुहर लगा दी। आइआइटी मामले में यह परीक्षा सिर्फ पात्रता तक सीमित रहेगी। आइआइटी संस्थानों में प्रवेश के लिए पात्रता परीक्षा पास करने वाले परीक्षार्थियों को जेईई एडवांस में सफलता पानी होगी। आइआइटी सीनेट ने जो संस्तुतियां दीं, उनमें से कई को आइआइटी दिल्ली के निदेशक की अध्यक्षता में रविवार को दिल्ली में आयोजित जैब की बैठक में मंजूरी दे दी गई। सूत्रों के अनुसार बैठक में तय हुआ कि आइआइटी में प्रवेश के लिए चयन प्रक्रिया द्विस्तरीय हो। पहले चरण में पात्रता परीक्षा से दूसरे चरण में होने वाली जेईई एडवांस के लिए छात्रों को छांटा जाए व आइआइटी की प्रणाली (भौतिकी, गणित व रसायन शास्त्र ज्ञान का मूल्यांकन) का अनुसरण करने वाला हो।

होगी संयुक्त प्रवेश परीक्षा : जैब की बैठक में तय किया गया कि जेईई एडवांस : 2013 आइआइटी के तत्वावधान में ही होगी। उस पर एकेडेमिक एवं प्रशासनिक हस्तक्षेप का अधिकार आइआइटी के पास ही होगा।

Hindu Nd 06-08-2012 P-3

"Varsities supported by IGNOU ex-VC earned Rs. 1,500 crore"

Staff Reporter

NEW DELHI: The two private universities, which according to the Central Bureau of Investigation were favoured by former IGNOU Vice-Chancellor Rajasekharan Pillai in granting permission to run distance learning programmes in violation of rules, have so far earned a total of over Rs.1,500 crore from these courses.

The agency registered a case against the former IGNOU Vice-Chancellor about a week ago accusing him of having misused his position to grant approval without any authority to the two universities -- Punjab Technical University and Sikkim Manipal University -- to run two distance education courses. Subsequent searches at his residence in Thiruvanthapuram led to seizure of documents revealing huge investments made allegedly by Prof. Pillai. "We have questioned Prof. Pillai, who was also holding the post of Distance Education Council chairmen, to ascertain how he granted permission to the two universities to run the courses. Investigations are also under way to find out if he had received any illegal gratification in lieu of the favour extended to the universities. Documents are also being collected from the universities for verification," said a CBI official, adding that the courses could not be run in the distance education mode.

Sikkim Manipal University earned Rs. 300 crore; PTU nearly Rs.1,200 crore, says CBI

The former Vice-Chancellor had in 2007 given provisional approval to the two universities to run the courses, following which it was regularised. It is suspected that the permission was granted through manipulations, despite certain deficiencies highlighted by the Expert Committee.

The agency has so far found that Sikkim Manipal University had recorded an earning of over Rs. 300 crore and Punjab Technical University earned nearly Rs.1,200 crore through enrolments in the courses under scrutiny.

Hindustan Times , ND 6/08/2012 P-4

No major changes in CAT format: Panel

THREE MONTHS TO GO The most challenging of management tests will continue to be divided into two sections of 30 queries each

Shaswati Das
■ shaswati.das@hindustantimes.com

DATESHEET

- **Last date of registration:** September 17
- **The test will be held between:** October 11 and November 6
- The test has two sections. Each section has 30 questions
- CAT scores are accepted by almost 135 B-schools in India
- **Other entrances:** IIFT on November 25. Last date for applications is September 3

NEW DELHI: Management aspirants across the country are gearing up to brave the most challenging of entrance tests, the Common Admission Test, which this year is spread over three weeks, from October 11 to November 6.

The committee in charge of conducting CAT has promised that there would be no "significant changes" in the format. Last year, the test threw up several surprises with a new structure and fewer sections.

"There are no significant changes this year. Over the past three years, we have been reviewing and improving the processes to provide a smooth experience for candidates. This year, our focus remains on conducting the test in a fair and secure manner," SSS Kumar, the convener of CAT 2012, said.

The paper last year had been divided into two sections — quantitative ability and data interpretation, and verbal ability and logical reasoning.

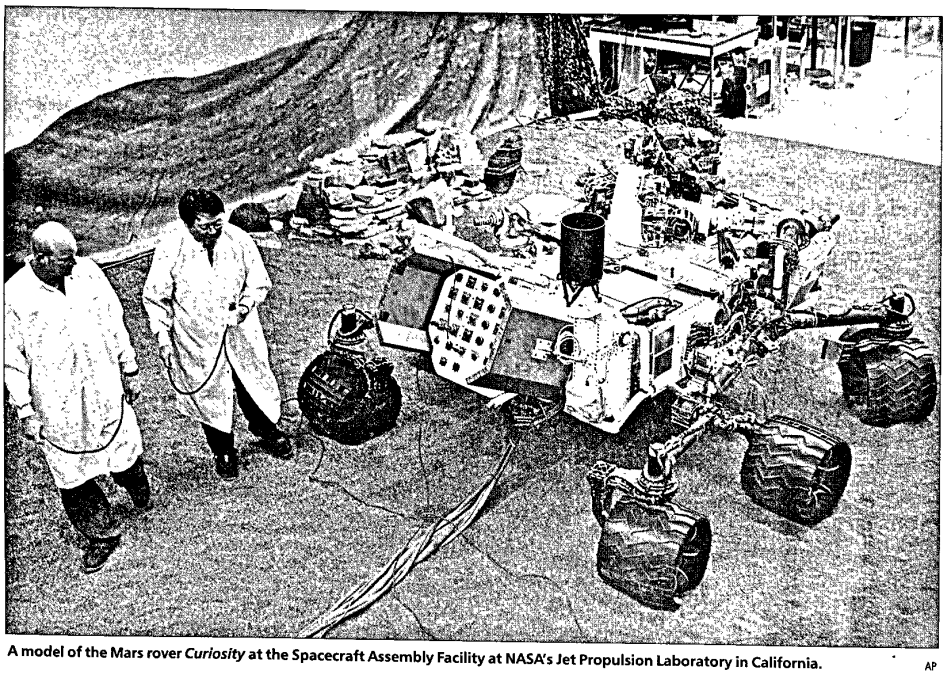
This, the committee members said, had been done to test an examinee's capability to juggle both sections with equal dexterity.

"Earlier, examinees deft at quantitative and data interpretation would quickly finish and move to the next sections and get stuck. By dividing the paper into two sections, we get a fair idea of the examinees who are good at both as they have no option but to spend the same 70 minutes on each part," Janaki Raman Moorthy, convener of last year's CAT, said.

Aspirants can get CAT 2012 vouchers at select Axis Bank outlets. While registration will continue till September 17, results of this year's test will be announced on January 9.

The online test has been bogged down by glitches since its introduction in 2009. Last year, when 2.05 lakh aspirants appeared for the test, there were hardly any glitches that were reported.

Institutes such as the Indian Institute of Foreign Trade (IIFT) will conduct its entrance test on November 25. While the last date of sale of forms is August 20, the last date for online registrations is September 3.



A model of the Mars rover *Curiosity* at the Spacecraft Assembly Facility at NASA's Jet Propulsion Laboratory in California. AP

EXTRA-TERRESTRIAL LIFE

Closer to encounter

As the latest rover arrives on Mars to assess its hospitality, astronomers are learning more about possibly habitable worlds beyond the solar system

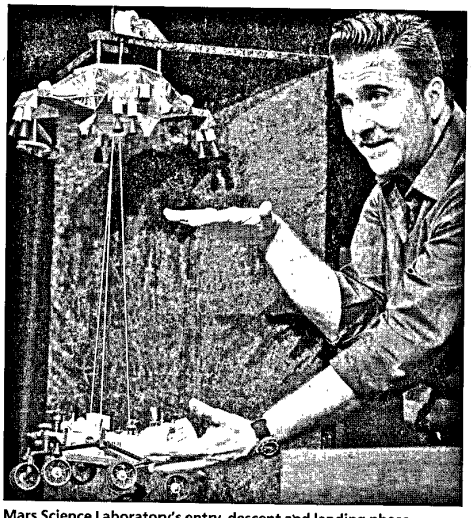
IF MARTIANS exist, then any in the vicinity of Gale Crater on the Martian equator are in for a treat. On August 6th, assuming its complex landing system works, a plutonium-powered rover the size of a car will be set down on the surface. This is NASA's Mars Science Laboratory (MSL), the biggest and most sophisticated rover sent anywhere in the solar system. It is going to Mars for several reasons, but the most publicised part of its mission is to continue the hunt for signs of extra-terrestrial life.

Thirty-six years after the arrival of America's Viking landers, which were designed to see if the Martian regolith hosted alien microbes, astronomers are still unsure if the planet has ever been habitable. The consensus is that Viking found nothing. And Mars is certainly an inhospitable place; temperatures can fall below -100°C, far below those in Antarctica, and an extremely thin atmosphere does little to dampen the solar radiation that bombards a surface as dry as any earthly desert.

There are reasons to believe that the Red Planet was not always as barren. Data from previous missions left planetary scientists convinced that, in its distant past, Mars was much wetter than it is today. Water is widely thought to be vital for life, thanks to its properties as a solvent. A thicker atmosphere, less eroded by the solar wind, might have allowed large bodies of water to persist for long periods on or near the surface.

That may have been enough for life to get started. Geology suggests that primitive life, at least, gets going fairly easily. The first traces of living organisms on Earth date back 3.8 billion years, not long after the planet had cooled sufficiently for liquid water to condense, and soon after the Late Heavy Bombardment, a rain of meteorites that lasted hundreds of millions of years, had begun to slacken off. Some scientists — inspired by the discovery in the 1980s and 1990s of "extremophiles", bacteria which will happily tolerate blistering heat, crushing pressure, sizzling radiation and other insults on Earth — hold out hope that a few hardy Martians may cling on today, perhaps beneath the surface.

If they do, not even *Curiosity*, as the rover is called, is likely to find them. It carries high-tech instruments, including a laser for vaporising chunks of rock (the better to analyse their chemical composition) and a drill for probing below the surface to explore the chemical record and hunt for any organic molecules that may have survived. It will also examine the atmosphere, paying particular attention to methane levels, which some scientists think may be high enough to suggest metabolic activity of some sort. If it turns up persuasive evidence that Mars could once have supported life, it would be a big discovery and would raise hopes for future missions designed explicitly to look for living cells, such as Europe's ExoMars rover. Even if *Curiosity* finds nothing, there are other possibilities within the solar system:



Mars Science Laboratory's entry, descent and landing phase leader Adam Steltzner uses a scale model to explain the landing procedure of *Curiosity*. AP

Saturn's moon Enceladus, for instance, seems to have an underground ocean rich in organic compounds.

But these days the search for habitable worlds is not confined to the solar system. On July 28th NASA released the latest batch of data from its *Kepler* space telescope. This is designed to look for "exoplanets" that orbit other stars. Their existence is given away by a tiny drop in brightness caused when a planet transits in front of its parent star, as seen from Earth. Launched in 2009, *Kepler*'s mission is to stare at around 150,000 stars in the constellation of Cygnus, tallying all the planets it can see to discern just how common Earth-sized, temperate, habitable planets may be.

STRANGE NEW WORLDS

ALTHOUGH their presence had long been assumed, not a single exoplanet was known to exist until 1995, when the first one was found by a team using a ground-based telescope. Now *Kepler* and the European Space Agency's *COROT* mission are both actively searching for more. Together with ground-based observations, this has led to a revolution in empirical astronomy, as speculative theories about how many planets might be out there are replaced with a wealth of hard data.

Those data neatly illustrate the dangers of relying on theories. "Theorists have been left completely in the dust by the stuff that *Kepler* has found," says Alan Boss, an exoplanet expert at the Carnegie Institute in Washington, DC. For instance, exoplanet surveys suggest that stars with a low concentration of "metallic" elements (astronomer-speak for anything besides hydrogen and helium) are just as likely to host rocky planets as stars with a high metallicity. Since stars and planets both condense out of the same disc of interstellar dust, astronomers had expected that discs with high levels of metallic elements, like iron and silicon, would be more likely to form rocky planets. *Kepler*'s data indicate otherwise.

As of July 31st a website maintained by Jean Schneider, an astronomer at the Paris Observatory, lists 777 confirmed exoplanets; *Kepler* alone has discovered another 2,321 possible alien worlds. Such large numbers allow, for the first time, statistical analysis to replace speculation. Of *Kepler*'s candidates, 246 are 1.25 times the radius of Earth or less; another 676 are between 1.25 and two times as wide — substantially larger, but probably still with rocky surfaces.

A total of 46 candidate planets have been found orbiting within the habitable zones of their stars, where temperatures should allow the presence of liquid water; of those, ten are close to Earth's size. And that number is likely to rise in the coming year or so. Since three transits are required to declare the discovery of a candidate, any truly Earth-like planets — those within the habitable zone of a sun-like star and whose orbital period is therefore roughly one Earth year — will only now start appearing in *Kepler*'s data.

BILLIONS AND BILLIONS

SOME astronomers already feel confident enough to start extrapolating from *Kepler*'s data to determine just how many Earth-like planets may be out there. Seth Shostak, an astronomer at the SETI Institute in California, speculated in 2011 that there could be 30,000 habitable worlds within 1,000 light-years of Earth, a minuscule distance by galactic standards. A paper by Wesley Traub, the chief scientist at NASA's Exoplanet Exploration Programme, estimated that 34% of sun-like stars could host habitable planets. That would imply that tens of billions of such worlds exist in the Milky Way alone. William Borucki, *Kepler*'s chief scientist, does not give numbers — those will be provided over the coming few years as *Kepler* gathers more data. But he is encouraged: "The data so far suggest that most stars have planets, and we see quite a few of those in the habitable zone. So I suspect there's nothing particularly special about planets at such distances."

Of course, just because a planet is the right distance from its star does not imply that it will host life. More is required than a balmy climate. It is, for instance, an open question as to whether planets in the habitable zones of red dwarves — small, dim stars that make up most of the stars in the galaxy — are in fact habitable, since for water to remain liquid they must be so close that they will be "tidally locked" to their stars, with one hemisphere in permanent light and one in permanent darkness.

Other factors come into play, too. A survey of planets, using a different technique to *Kepler*'s, concluded that 90% of exoplanets have less circular orbits than do those in the solar system, suggesting that many may wander in and out of their stars' habitable zones. *Kepler* cannot directly detect these eccentric orbits, but a recent paper by Stephen Kane, a NASA exoplanet specialist, used statistical techniques to suggest that *Kepler*'s planets may have similarly elongated orbits — although the effect seems to be smaller for smaller planets. And, of course, there is the little matter of biology: exactly how life arises in the first place remains a mystery.

Nevertheless, exoplanet surveys are providing real data to a field long starved of them. And they give strong suggestions about what to do next in the quest for life elsewhere in the universe. *Kepler* is designed to find out how common habitable planets are, but its target stars are too distant for their planets to be studied directly.

The next step is to survey stars closer to the sun, looking for habitable worlds in Earth's own galactic neighbourhood. The Transiting Exoplanet Survey Satellite, which aims to do just that, could be approved by NASA next year. And a University of California project called the Automated Planet Finder hopes to achieve something similar using ground-based observations over the coming decade.

The culmination of all these efforts was supposed to have been the launch of a giant telescope — like NASA's *Terrestrial Planet Finder (TPF)*, or the European Space Agency's *Darwin* — to take pictures of these planets directly. That could provide images that allow astronomers to determine the composition of the planets' atmospheres. And they could hunt for "biomarkers", mixtures of gases thought to be indicative of life, as *Curiosity* will do with Martian methane. Oxygen, for instance, is a reactive gas that ought to end up quickly bound within rocks. Its presence in large quantities in a planetary atmosphere (as on Earth) would be enormously suggestive to alien-hunters.

But the *TPF* has been on hold since 2006; *Darwin* has been on ice since 2007. NASA's budget is flat for the foreseeable future, and with projects like the James Webb space telescope, a successor to the *Hubble* that is many times over its planned budget, eating all the existing money, there seems to be no room for such ambitious (and pricey) follow-ups. "We're actually further away from launching the *TPF* than we were 20 years ago [when it was first mooted]." Dr Boss notes gloomily. Still, he says, hope springs eternal: if satellites like *Kepler* keep delivering their intriguing data, these grounded missions may one day fly.

Microsoft's B'lore lab draws talent from all over

Rhik Kundu | TNN

Bangalore: Humanities student Katherine Sydenham, an American researcher of French origin, was recently introduced to coding, courtesy her stint with Microsoft Research Lab India.

The 27-year-old PhD student from the University of Michigan, School of Information, is a summer intern at the company's research facility in Bangalore, where over 60 graduate, postgraduate and research students from eight countries are currently doing their internship.

"I am doing an ethnographic study of technology evangelists (for proprietary software and free/ open source software) and religious evangelists to look at similarities and differences in the way groups approach. The study will help me find out advocacy efforts put in by groups for their products and/or belief system," said Sydenham. She is working on her thesis, 'Technology in developing countries', gathering valuable inputs from the internship course.

"I have a background in religious studies and am interested in how individuals, who do not consider themselves 'tech-savvy' or capable of learning about computers, are included or excluded from conversations about technology, especially software," she added.

Another 27-year-old PhD student from the University of Austin, department of computer science, Vacha Dave, is working on detecting and defeating click fraud. "The experience has been great," she said.

Microsoft Research Lab has 35 researchers and 10 developers who mentor interns on areas like algorithms and modeling, cryptography and complexity, machine learning and optimization, mobility, networks, and systems, multilingual systems, programming languages and tools, security and privacy, technology for emerging markets, vision and media. The lab takes interns for a period of two to six months. "Getting fresh blood is an integral part of research. We are exposed to new ideas that the interns bring with them," said Sriram Rajmani, AMD, Microsoft Research-Bangalore.

HT, New Delhi

INDIAN STUDENTS IN VISA SCAM NET

NEW DELHI: In a repeat of the TriValley case, 400 Indian students in the US are staring at an uncertain future after the CEO of their university was arrested for visa fraud.

Most of the Indians at Herguan University in Sunnyvale, California are from Andhra Pradesh — as was the case at Tri-Valley University. Herguan hasn't yet been declared illegal but it is unclear if students will be allowed to continue there. It is also unclear if any of the Indians are on fake visas. NEW DELHI: Around 400 Indian students in the US are staring at an uncertain future after the CEO of their university was arrested for visa fraud.

Jerry Wang, CEO of Herguan University in Sunnyvale, California, was arrested Thursday and has since been charged with 15 counts of visa fraud, Indian officials confirmed. Homeland Security officials also raided a building that houses both Herguan and the University of East-West Medicine, another school headed by Wang.

Initial court documents suggest Wang faked letters from three accredited universities, claiming they recognised academic credits earned at the unaccredited Herguan.

He then sent these letters to the US immigration department to facilitate visas for students. Investigators are trying to find out how much he charged students.

Most of the Indians at Herguan are from Andhra Pradesh — as was the case at Tri Valley University, also in Sunnyvale, that was shut down last January after its CEO was similarly arrested for visa fraud.

Herguan hasn't yet been declared illegal, but it is unclear if students will be allowed to continue there or if they'll have to move to another school.

Most good universities are unlikely to welcome students from a tainted institute. It is also unclear if any of the Indians at Herguan are on fake visas. If they are, they could face criminal charges themselves.

Several of the 2,000-odd Indians at Tri Valley were initially charged with criminal conspiracy. The charges were later dropped and most have had to return to India.

Mint ND 06/08/2012 P-5

PETER VARGHESE/AUSTRALIAN HIGH COMMISSIONER

We want more Indian students in universities, not vocational training

By Elizabeth Roche & Prashant K. Nanda

NEW DELHI

Ramesh Pathania/Mint

Learning curve: *Varghese says Australia is shifting the migration programme from a supply-driven model to a demand-driven one.*

To get highly skilled Indian workers, Australia is planning to encourage postgraduate and doctoral students. The focus is on what it needs to do to boost labour gaps, especially in medicine, engineering and accountancy, and cut down its focus on vocation education, a favourite with the majority of Indians.

Australian High Commissioner **Peter Varghese** said in an interview that his nation has no problem in giving residency to highly skilled workers. Edited excerpts:

Australia has emerged as one of the top education destinations for Indian students. How has this happened?

Of the top 100 universities in the world, we have four in Australia. And of the top 500 universities in the world, we have 19. Across the board our university sector is a high-quality sector. The internationalization of education in Australia is also very strong. We have on an average 25% of our university students international students.

Is there a particular category of students that you are looking to attract to Australia?

We would like to focus the education relationship to Indians coming to Australia much more on the university and higher education sector. If you look at the profile of the Indian students in Australia at the moment, it's dominated by vocational education.

I am not in any way suggesting that is inappropriate. But what we would like to see is broadly a strategy, Indian students coming to Australia to focus on the university sector and that the vocational skills' training is done more and more in India.

mint INTERVIEW

And I think that makes sense for both countries. We want to see more collaborative research work done between Australian and Indian universities; we would like to see more Indian students come to Australia for postgraduate work. We want to get away from the language of numbers and more talk about an education partnership. On the vocational side, I think it's really finding the right model that works for India. In Australia we have a high-expense, low-volume model. India needs the opposite—high-volume, low-cost model.

Why are you not focusing on numbers when your country gets sizeable revenue from education?

What I am talking about is finding a model that better meets India's requirements. India wants to upscale 500 million people. You are not going to upscale 500 million people by sending them off to Australia. The best way of doing that is to do more vocational training in India. I am not saying that education as a services export is not important to Australia. Clearly, it is. It is the third-largest source of export revenue. But my view is you cannot treat education simply as a commodity. It is more than a trade in services.

You need to design a strategy that meets the needs of the country that you are focusing on. And that is why the vocational training focus in India and the higher education focus in Australia make better sense.

Is the change in strategy in the vocational training sector due to the attacks on Indian students in 2009-10?

I wouldn't see the changes as being driven by the unfortunate events in 2009-10. What's happening here is a much bigger story. We are shifting the migration programme from a supply driven model to a demand-driven model and that means what we are going to do is we are going to identify what our skills gap in Australia are and then go after people who have those skills rather than people self nominating on the basis of list that maybe out of date very soon.

So there is a bigger shift in our policy settings here, which is then reflected in the way in it translated to how an education pathway and a labour market pathway come together. Partly what we saw in 2009 and in 2010 was a complete fusion of an education and labour market pathway. What we want to do is to separate the two more clearly not to hermetically seal them.

We want to make it clear that you choose to come to Australia to study then that is your primary objective and that your primary objective isn't a backdoor means to the labour market.

Which are the areas where you would like to see Indian students come to study?

The areas where we will need are healthcare, age care, accountancy, information technology, medical sciences, engineering. Bear in mind, we are going through an infrastructure mining project boom so all of the skills that you need to bring that half trillion dollars of pipeline investment in the resources and mining sector to fruition are the skills that we are going to have a shortfall.

Do you think Australian institutes are capable of providing the skills to Indians knowing that the focus of both the countries is different?

I don't think it will be problem in terms of the skills that are required because the skills you would require are the skills of the modern economy. The issue is how you scale up... the issue is how do you deliver the skills in such a large scale. And it's going to require a very different model than what we do in Australia.

Just to take the Australian model and transplant, in my view is unrealistic. I don't think we are going to set up bricks and mortar, 100% Australian-owned and operated vocational education system in India. What we will probably do is to have joint venture between Australia and India with the Indian vocational training institutions would draw on Australian course, quality control, train the trainer programs...there are many permutation and combinations.

Indian has started opening up its higher education space. If not in skill education, can we see some Australian university setting up a campus here?

Some of our universities have campuses in other countries—in Southeast Asia and Africa. They have a mixed experience. They have to make a judgment on whether they want to come to India. I don't get a sense from talking to our university chancellors that they are going to rush into anything. My feeling is that they are watching the development of the Indian policy carefully.

When you came to India, it was a difficult time following attack on Indian students. Do you think Australia has been able to leave behind that image of unsafe student destination for India?

It was a very intense period of negative publicity. That's going to leave a certain legacy. I don't see it as an insurmountable legacy. I see it as a diminishing legacy. That's going to be reflected what I see as a rebuild in applications from India. On the tourist side there is very strong growth.

In 2012—two years or so after the peak of this very bad publicity for us—India has been the No. 1 in terms of permanent migrants, No. 2 in temporary skill market, India coming in No. 2 in terms of international students.

I think what we went through is a very unfortunate phase in relationship. What I am keen to do is to convey a better sense of contemporary Australia... particularly on issues of race and multiculturalism.

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