

Newspaper Clips

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IITs Dangle Carrots to Attract Faculty

LURING TALENT: Institutes beef up infrastructure, offer better salaries, training & mentoring, and research opportunities to meet faculty shortage

Getting Future-ready

IIT Bombay

THE INSTITUTE will invest ₹300 crore in the next three years to enhance and augment its current infrastructure with 180 new faculty apartments, lab space, new academic blocks for computer science, nanoelectric technology, biotechnology and energy sciences

IIT Delhi

THE INSTITUTE is trying to create opportunities for teachers' spouses, who are qualified, in incubation and entrepreneurship centers as technical staff or wherever there is vacancy according to their eligibility. It is building a new housing block of 120 flats for faculty members and their families. IIT Delhi in the next two-three years plans to set up a central research facility that will house the biggest projects across domains at a cost of ₹40-50 crore

IIT Hyderabad

THE INSTITUTE has invested ₹40 crore in building R&D infrastructure in the last two years to help provide young PhDs and Post Doctorates as faculty, a good research environment. It is coming up with a state-of-the-art campus by 2013 with modern housing facilities for faculty members

IIT Gandhinagar

THE INSTITUTE reaches out to PhDs and post doctorates across institutes abroad to convince them about new opportunities at the institute. IIT Gandhinagar is hosting a conference in December where 70 PhDs and Post Doctorates will discuss how IIT-Gn can become world class. It is also offering approximately 25% higher salary to new joinees with the help of donations it receives



SHREYA BISWAS NEW DELHI

The IITs might not have reached the sanctioned strength of faculty members to make an ideal report card of 10:1 students-teachers ratio post the capacity expansion, but they are doing all they can to attract best quality talent to their campus. Be it IIT-Delhi (IIT-D), IIT-Bombay (IIT-B), IIT-Kanpur (IIT-K) or new IITs like IIT-Gandhinagar (IIT-Gn), IIT-Hyderabad (IIT-H), institutes are taking measures to attract the next generation of top quality faculty members to their institutes.

From investing in and beefing up the infrastructure in R&D, housing, helping create opportunities for the spouses of faculty members, providing lump sum grants for young faculty for research, building new state-of-the-art sports complex for new campuses, providing up to 25% higher salary through donations for new joinees to offering joining allowances for fresh recruits - institutes are leaving no stone unturned. As a result, fresh PhDs and post doctorates have started joining the system from some of the best institutes of the world including IITs, Indian Institute of Science and universities and institutes such as University of Illinois, Massachusetts Institute of Technology, California Institute of Technology, Max Planck Institute, Germany, University of South California, Carnegie Mellon University, Imperial College, London, UK.

"Incentives like these do a world of good in attracting best talent. It is a concerted effort over a period of time that shows results. We are already getting ambitious and high potential candidates who want to work with us," says Prof Devang Khakhar, director of IIT-B.

PLENTY OF ACTION

In the last four years, IIT-D, for instance, hired around 107 faculty members from across the world. To retain them, the institute is investing in better infrastructure. A new housing block of 120 flats for faculty members and their families is being built which will be ready soon. In the next 2-3 years it is planning to set up a central

research facility that will house the biggest projects across domains at a cost of Rs 40-50 crore. To retain the faculty, the institute is trying to create opportunities for teachers' spouses with requisite qualifications in incubation and entrepreneurship centres as technical staff or wherever there are vacancies, says R K Shevgaonkar, director, IIT-D.

It also aims to introduce an outreach service under faculty mentorship programme, which will create a pool of talent. "The aim is to groom world-class teachers not only for IITs, but engineering institutes in India in general. It will be a two-tier process which will train teachers for IITs and they in turn will help create a pool of faculty for engineering colleges across India," adds Shevgaonkar. IIT-B too has investment plans on the same lines. It will invest around Rs 300 crore in the next three years to enhance and augment its current infrastructure with 180 new faculty apartments, lab space, new academic blocks for computer science, nanoelectronics technology, biotechnology and energy.

The institute has also cut down on recruitment time with hiring drives being conducted throughout the year unlike once a year previously. Now positions get filled within three months of announcing a vacancy, it claims. The institute which has the sanctioned capacity of 800 full-time permanent faculty members and works with 516 faculty members who tutor 8,000 students, however, says it will never hire more than 60 faculty members every year. "If we are talking about quality, we have to be extremely cautious about who we are hiring. It just cannot be a mad rush to fill up vacancies, but merit of the individual joining IITs," says Devang Khakhar, director, IIT-B which hired around 90 people in the last four years. Agrees Sanjay G Dhande, director of IIT

Kanpur, "There has to be aggressive hiring, but not at the cost of quality. It is extremely essential to see that the candidates we hire have great potential, has done some quality research work and is adept at teaching at institutes like IITs."

Starting next January the institute will offer a joining bonus of Rs 15,000 per month for the first three years to young faculty members. For encouraging research, it has been offering a one time grant of Rs 25 lakh to fresh joinees along with a faculty fellowship of Rs 15,000 per month for three years for the best faculty on campus. And all this in addition to their salaries.

INNOVATION AT NEW IITS

One of the new IITs which came up in 2006, IIT-Gandhinagar, has devised a plan to reach out to Indian PhD/Post doctorate students, faculty members across United States and Europe to attract them. In December the institute is hosting a conference where 70 PhDs and Post Doctorates from across the world will come together to talk about how IIT-Gn can become a world class organisation. Higher salaries are also on offer. "With donations we have been able to offer up to 25% higher salary to new faculty members. So while an assistant professor might get Rs 70,000-75,000 in other IITs (the standard package), we are offering Rs 85,000-90,000 to them," says Prof Sudhir K Jain, director, IIT-G.

For its part, IIT-Hyderabad is betting on its new campus that will come up in 2013 which will provide state-of-the-art housing facilities to its faculty members. It is also building a world class sports complex which is being designed by Japanese architects. Prof Uday Desai, director, IIT-H says, "We have invested heavily on research in material science, wireless communication and high performance computer technology. We are also trying to attract donations which can be channelled for the institute's growth and quality research. It can help us in the long run if more people take interest in building world class knowledge centres."

IIT COACHING CENTRES PLAY A BOARD GAME

As IITs plan a change in their entrance examination, coaching centres tap schools to stay in business

KALPANA PATHAK
Mumbai

With the Indian Institutes of Technology (IITs) working out the nitty-gritty of the format of a new Joint Entrance Examination (JEE), IIT coaching centres are also firming up their course of action to ensure that their business does not suffer.

Kota-based Career Point Systems, for instance, will launch a school curriculum coaching division and also look at partnering with schools to train students on campus. "Seeing the kind of shift the regulatory framework might bring in, we are looking at incorporating some changes in our business model," says Pramod Maheshwari, the chairman and managing director of Career Point Systems. "We are gearing up to open a school curriculum coaching division by the next academic year. So far we have been preparing students for competitive exams, but now we have decided to partner with schools and prepare them for board exams too," he adds.

Coaching institutes say they prepare students for high-end examination and though the IITs' move will reduce the students' dependence on them, the impact will be short-term. "The changes may impact the business for the initial two



THE WORLD OVER, ADMISSIONS ARE BASED ON your overall academic performance. Unfortunately, that logic has been reduced to lip service and needs to be restored

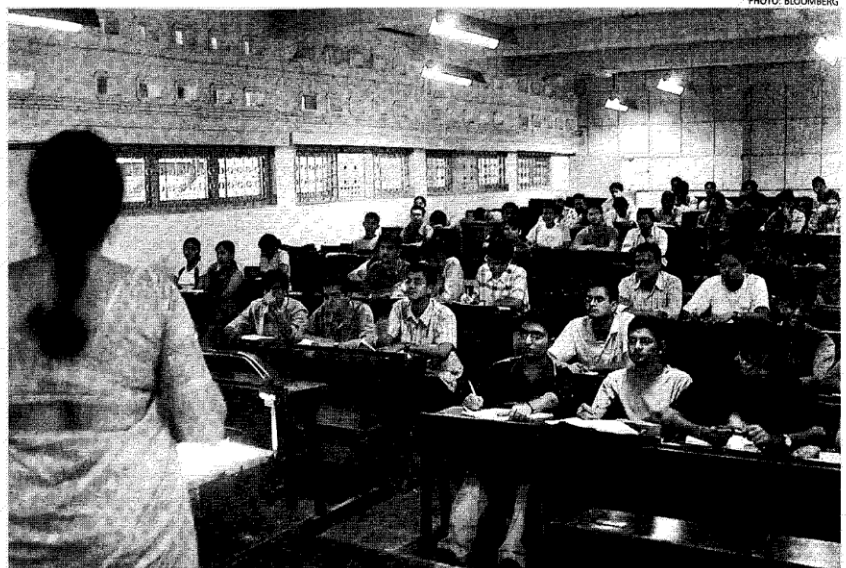
years, but things will be back to normal later," says Maheshwari. "Even today the majority of 12th standard students take tuition. Coaching institutes will now focus more on teaching students in a way that they secure more marks in the board examination as well as in the aptitude tests. Aptitude tests like SAT,

GMAT or CAT require a certain kind of training which coaching institutes have been providing," adds another director from an IIT-JEE coaching institute in Nagpur.

Last month, the IIT council accepted the recommendations of the T Ramaswami committee report on JEE reforms and also proposed a single entrance test for all engineering colleges, including IITs, National Institutes of Technology and private institutions.

The IITs say a notification will be issued in a couple of months which will give details of the format to be followed by the IITs while considering a student for a seat — whether to give 50 per cent or 60 per cent weightage to the board exams and the rest to IIT-JEE scores.

There is, however, a slight confusion and uncertainty about the new IIT-JEE pattern that will be put in place in 2013. "Two years down the line, IIT-JEE might be an aptitude test. The details, however, would be made available only after a formal notification in January 2012," says the director of an IIT who does not wish to be named. "We have also agreed that the weightage for the board exams would apply to all subjects and not a select few. We decided to implement the new system in 2013 because there will be logistical constraint and feasibility issues," he says, adding that they



File photo of IIT-Bombay. Industry experts feel that in the race to make it to these coveted institutes, students neglect school education

now have 15 months to get the new format in order.

Over a decade ago, English and engineering drawing, too, were part of the IIT-JEE examination. IITs would even accept state board toppers directly, informs an IIT director. Four IIT directors *Business Standard* spoke to said that the change in the IIT-JEE format is the need of the hour.

"The Chandy committee report had brought out the fact that there is a correlation between school performance and IIT performance," says a director. "Today, because of the culture of coaching classes, the schooling system has been thrown out of the window to such an extent that students are not even attending school because of the pressure of such training programmes. We

hope this will change that," the director adds.

IIT directors concur that when students graduate from elementary to secondary school, the elementary school performance is taken into account. And, when one goes from secondary to higher secondary, the performance in the secondary school is considered. Similarly, when one graduates from the secondary school system to the tertiary system, that score needs to be taken into account.

"The world over, admissions are based on your overall academic performance. Unfortunately, that logic has been reduced to lip service and this causes all kinds of aberration in the education system, which needs to be restored," says an IIT director.

Industry experts feel that exams like IIT-JEE have been causing difficulties at the school level because these have shifted the focus from school education. Students do not attend school and instead go to these coaching institutes.

"Today, school education and board exams are getting neglected due to the pressures of the coaching class," says Gautam Barua, director, IIT Guwahati. "Students focus only on physics, chemistry and biology and don't learn geography or English which are subjects taught in schools. The ministry has, therefore, convinced the IITs to consider school education in IIT-JEE," adds Barua.

While the IITs have given an in-principle approval for the change, the final decision will be taken by

the IIT-JEE Committee in January next year.

IIT-JEE, say IIT directors, has become a craze among students, largely because of the high-paying jobs one lands after an IIT degree. The directors say it will be an uphill task to bring in changes in the pattern. First, a mechanism will have to be put in place to normalise the school results by the numerous boards which the Indian education system follows.

While IITs believe that the changes in JEE will bring the focus back on school education, coaching institutes argue that with the standard of teachers in schools not up to the mark, that idea appears farfetched.

(With inputs from Vinay Umarji in Ahmedabad)

IIM-C widens its net to catch more students

VINIT KONERU
Mumbai

Every year over 200,000 students take the CAT examination aiming to join the premier management institutions, but only about 3,000 make it. Some enter the IIMs, a few more join other premier institutes like IMS, FMS and others. Those who do not clear the examination settle for other private management institutions, or foreign universities, or choose a different profession.

Here is an opportunity for those others to look at online courses offered by the top management institutes of the country.

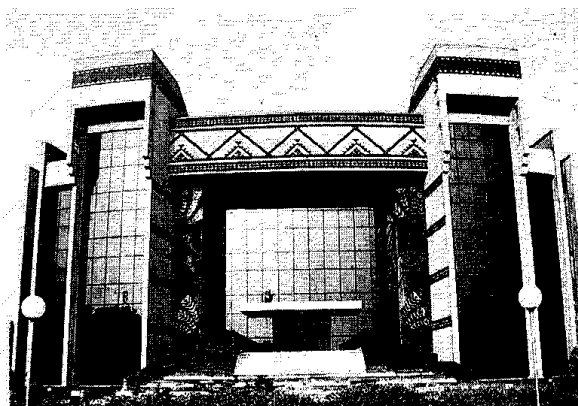
IIM Calcutta, which is celebrating its golden jubilee this year, declared an ambitious five-year plan to reach out to more students. The institution has already started offering online courses on management, and plans to do this in full measure. "We are the only institute of this repute, 10 per cent of whose

revenue is generated through online programmes," says Shekhar Chaudhuri, director of IIM-C.

The institute presently houses 462 students. Its strength can be increased to 700 in the coming years. "Yes, we are developing infrastructure to accommodate more students, and our target is to take 500 students this year. But how far can we increase the strength? We cannot accommodate the thousands of students taking the examination," says Ajit Balakrishnan, chairman of the board of governors of IIM-C. "It is not economically viable. [On the other hand,] we can certainly educate thousands

through online courses."

There are always apprehensions among students that online courses are not as effective as full-time courses. But here IIM-C is offering Internet-based courses which will enable an online education in real time. They will be in no way inferior to full-time



IIM-C faces the pressures of a traditional institute but is looking to technology and the Internet to hold on to its lead. COURTESY: IIM-CALCUTTA PHOTOGRAPHY CLUB CC BY-SA 2.0

campus courses, says Chaudhuri. "We designed the courses so that the candidate will also be visiting the campus for a few days to learn," he adds.

IIM-C has about 600 students on

its campus every year, plus about 4,500 through its distance programmes. With the introduction of Internet-based models the institute is expecting to add 2,000 more students

this year, and reach out to 5,000 more students in coming years. "The courses offered online are socially motivated to reach out to different geographies and different sections of people who would otherwise miss a quality education," says Sougata Ray, IIM-C's dean.

To address the woes of the manufacturing sector, which complains that the best management people enter the service sector, IIM-C is offering a programme titled "Visionary Leadership in Manufacturing," in collaboration with IIT-Kanpur and IIT-Madras.

The institute is also planning to develop a one-year Advanced Teachers Management programme, that will help institutions across the SAARC region to enhance the quality of their management faculties.

These teachers will also participate in doctoral programmes at the institute.

IIM-C will also tie up with other universities, foreign and Indian, to develop a diverse faculty and student body. It aims to become an international centre of excellence in management studies.

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New Director at HPL

Mukesh Rohatgi has been appointed as Independent Director on the Board of Hindustan Prefab Limited, a CPSE under Ministry of HUPA. An IIT Delhi Alumni, Rohatgi is ex-CMD of Engineers India Limited (CPSE) and also held the post of Director (Refineries) in Bharat Petroleum Corp. Ltd.

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Tripartite agreement for solar energy development

A tripartite Memorandum of Collaboration (MoC) was signed between Indian Oil, BHEL and IIT-Rajasthan to work in the Research and Development of solar energy technologies with the objectives to jointly carry out basic research, performance

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Man-made blood is here, transfusions 2 yrs away

Breakthrough To Cut Shortages, Save Millions Of Lives

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London: British scientists have developed artificial blood in the laboratory which they say is just two years away before being used in transfusions and saving millions who die every year due to blood shortages.

Heart transplant, bypass and cancer patients would also benefit from having a guaranteed supply of blood on hand for their surgery, said the scientists behind the “holy grail” of blood research.

According to them, the man-made blood, created from stem cells, would be free of infections that have blighted natural supplies and could be given to almost everyone regardless of blood group, the Daily Mail reported.

In the research, a team from the Edinburgh and Bristol University made thousands of millions of red blood cells from stem cells — “master cells” seen as a repair kit for the body — taken from bone marrow.

But with the average blood transfusion containing 2.5 million million red blood cells, this is not enough. Cells taken from human embryos in the first days of life are easier to multiply in large numbers, but the researchers have so far not managed to make such realistic blood.

If they crack the recipe, just one



Synthetic blood, created from stem cells, would be free of infections

embryo could provide all the cells ever needed for Britain’s blood supply, the researchers said.

Professor Marc Turner of Edinburgh University hopes to make a supply of cells with the O-negative blood type. This “universal donor” blood could be given to up to 98% of the population.

A supply of safe blood would also be a boon in developing countries, where thousands of lives are lost to conditions such as hemor-

rhages after childbirth. Prof Turner predicts that in two to three years, he will be ready to inject a teaspoon of man-made blood into healthy volunteers in the first trial in the UK.

Trials would follow, but the blood could be in routine use in a decade, the researchers said. Within 20 years, it may be possible to produce two million pints of artificial blood a year — enough to satisfy the UK’s medical needs. PTI

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'The 1000 Genomes Project can't become a basis for discrimination'

Eric Green, director of the US National Human Genome Research Institute, has played a key role in research aimed at decoding the human genome. He is now involved in the '1000 Genomes' research project which collects, studies and profiles the genetic maps of several diverse population groups, this complex data's destination being the public domain. Green spoke with Smita Pandey about the genetic research project, the vital contributions it aims at – and managing possible drawbacks around it:

■ What is the '1000 Genomes Project'?

The 1000 Genomes Project aims to study the genetic maps of 2,500 people from 27 populations around the world. The first phase was to sequence and genotype 1000 samples that were available. The goal is to find most human genetic variations, which will then be used to discover diverse genetic

contributions to health and disease. The data will be helpful in determining which genes contribute to the diseases.

In the project, 300 of the samples come from populations with an ancestry from India, 100 come from Bangladesh and 100 come from Pakistan.

■ Have you needed to work closely with research institutes in India in order to access genetic data on populations of Indian origin?

Q&A Samples from people of Indian ancestry are coming from other countries, like the United Kingdom and the United States, to which these people migrated. Despite considerable efforts to convince Indian researchers to participate in the 1000 Genomes Project, they were unable to agree about how to collaborate in the endeavour.

■ How will the ambitious aim of putting genetic data in



the public domain help the scientific community?

All researchers looking for genetic contributions to disease risk, protection from disease risk or response to therapies will be able to use the data for free. Researchers focussing on a specific disease will be able to compare the individuals in their study to this international reference catalogue of human genetic variants. This will ac-

celerate research on all diseases and human traits.

■ Yet, so much personal data is being made public via the project. Doesn't the move hold the potential to create discrimination based on a person's genetic profile?

The 1000 Genomes Project is not collecting any medical or personally identifiable information on the people who came forward and donated blood samples. Therefore, the project itself cannot become a basis for discrimination based on genetic profiles. But countries will need to regulate the use of the genetic risk information, so that people can utilise it productively to improve their health, rather than being afraid to use it.

In the United States, a law called the Genetic Information Nondiscrimination Act of 2008 bars the use of genetic information for decisions about employment or health insurance coverage. But regulating the

use of any information – medical or genetic or otherwise – is a sovereign right for individual countries.

■ This has been a loaded issue through history – can your research now end up stoking sentiments of racism based on popular understandings of superior or inferior genetic profiles?

There is no evidence of the 'genetic superiority' of any population. People within populations are diverse, so some people are at higher risk for some diseases and lower risk for other diseases. Some genetic variants conferring risk for particular diseases are more common in some populations while other populations have variants conferring risk for other diseases. In the end, the balance between risk-conferring and risk-protecting genetic variants averages out across populations, so none is genetically better than any other.