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IISc OPENS DOORS TO UNDERGRADS

Sruthy Susan Ullas/ TNN

Come August 1, walking down the corridors of the Indian Institute of Science (IISc), Bangalore, will be a group of 17-year-olds. For the first time in its 101-year-old history, the institute has opened its doors to undergraduate students.

The admission process for the four-year Bachelor of Science programme is almost half way through, with the third round of counselling scheduled for June 23. The students who have got their ranks through IIT-JEE and Kishore Vaigyanik Protsahan Yojana (KVPY) have been sent offers. The much-awaited four-year programme had received an overwhelming response with over 16,000 applications for 120 seats. Out of this, around half of them were from the CBSE.

"The programme is different from the standard BSc programmes available as you will usually find only three-year BSc plus two-year MSc for pure science subjects. The objective is to teach students in an atmosphere of research. Faculty will be academicians who are engaged in research. It is designed in such a way that it is interdisciplinary. The programme is offered in six major disciplines — physics, chemistry, maths, biology, materials and environmental science. It is also mandatory to study a minimum number of courses in engineering and humanities. Students, at the end of the course, will have a foundation in all the subjects," says Chandan Das Gupta, dean, UG programme, IISc.

"Science education in India has many problems. There's a lot of interest but not enough opportunities. So we are trying to start a new trend. The bunch of young bright students will be stimulating for the others in the campus that is known for its research activities," he added.
IIMs expect CAT enrolment rise after two-year dip

VINAY UMARI
Ahmedabad, 12 June

AFTER a fall over two years in the numbers taking the computer-based Common Admission Test (CAT), the Indian Institutes of Management (IIMs) say they expect to see a growth this year in the number of aspirants. The third computer-based edition of the yearly test, conducted by the IIMs through partner Prometric, is expected to witness a 10 per cent rise in applications this year.

In 2008, around 276,000 aspirants appeared for CAT. This fell to 240,000 in 2009, further coming down to 206,000 in 2010.

"This is a year of consolidation for us. In the past two years, a lot of learning has taken place. We would be working on stabilising the conducting of the test and build on it. However, given the improvement in the economy, we expect a five to 10 per cent rise in applications," says Janakiram Moorthy, convenor, CAT 2011 and faculty member at IIM, Calcutta (IIM-C).

Expectations of such a rise in applications may also be due to an almost glitch-free CAT last year, after a bumpy start in 2009, when IIMs and Prometric had to conduct the CAT in two phases, after thousands of candidates suffered technical glitches at several centres. Prometric also discontinued its partnership with NITI after the first stint and moved on to a tie-up with MeritTrac and Evenon.

Having taken the mantle of CAT from his predecessors, Satish Deshdar of IIM, Ahmedabad (IIM-A) and Himanshu Rai of IIM, Lucknow (IIM-L), Moorthy says he is fortunate. "I got all the (benefit of the) learning that my predecessors had. I keep in touch with them and consult them about the whole process," he adds.

In terms of expansion, the CAT Committee is looking to create a buffer of 10-15 per cent in terms of test centres this year.

According to Moorthy, a few more centres may be set up, depending on the requirement. Moreover, apart from the 180-odd, non-IIM B-schools being part of CAT, IIMs may be adding a few more.

"We have been getting a lot of enquiries from other domestic as well as international B-schools. While we will be allowing a few more domestic B-schools to use CAT scores, we are yet to decide upon the international ones. Nevertheless, it may not happen this year," says Moorthy.

Meanwhile, the IIMs seem to be on their way to make CAT a round-the-year test.

"Many challenges have been taken care of since the first two computer-based tests. The one challenge that remains is of conducting the CAT in such a short testing window of 20 days for such a large number of students. We may not be able to change that this year but making CAT a round-the-year is the way forward," Moorthy adds.
Tale of computerising CAT

Conducting the exam and processing the results are cumbersome affairs, and one of the solutions is a higher fee.

D. MURALI

he conducting of the computerised CAT (Common Admission Test) will go down in the annals of management education as a unique phenomenon, recounts Satish Y. Deodhar in one of the essays included in Nurturing Institutional Excellence: Indian Institute of Management Ahmedabad, edited by Vijaya Sherry Chand and T. V. Rao (www.macmillanpublishersindia.com).

The core competency of management schools around the world is the teaching of, and research into, management sciences, and they do not specialise in the development and conducting of aptitude tests, he reasons. "Similarly, the Graduate Management Council (GMAC) which conducts GMAT, and Educational Testing Services (ETS) which owns GRE, do not get involved in college and/or university teaching, and research."

Reminiscing about the first-ever computerised CAT, conducted in November 2009-January 2010, the author compares the peak load it took – about 2.4 lakh candidates in just a few days – with that of GMAT where the numbers are about the same but the test delivery load is spread quite thinly and evenly over the entire world and throughout the year.

For the first time, as Deodhar narrates, the IIMs did not print any booklets and bulletins – a single year's print order used to weigh more than 50 tonnes. "No envelopes, stamps, or franking were required for dispatch of admit cards, score cards, or any other information. All communication with candidates was handled through email, and the professionally-managed official CAT Web site.

Of value is the cost comparison mentioned in the essay – that GMAT and GRE charge about Rs 10,000 for their test, while CAT was made available at merely Rs 700 to the Scheduled Caste and Scheduled Tribe candidates, and at Rs 1,400 to general candidates. Also, the CAT score is made available to all IIMs and about 150-plus non-IIM institutions, whereas GMAT/GRE scores are made available only to about four to five universities, with a hefty fee of Rs 1,300 charged for each additional score reporting.

The author, therefore, feels that if only the IIMs could charge even half of what GRE and GMAT charge, we would be in a position to set newer standards in computerised test development and delivery.

Deodhar draws attention to the fact that there are no dedicated computerised test centres in India to handle large loads such as what CAT entails. "For GMAT, it is easy to register a candidate for a test at any of the dedicated test centres. For CAT, one had to build and scale up the computerised test centres for a brief period, and dismantle them after the test." Since this peak load arrangement can be very demanding on technology and logistics operations, he hopes that when a greater number of institutions (IITs, NITs, universities) opt for computerised tests, dedicated computerised testing centres would be available throughout the country.

Worthy collection of insightful essays.

Obsolescence built into our minds

The law of life cycles is one of big forces behind hyper-consumption, write Rachel Botsman and Roo Rogers in What’s Mine Is Yours: How Collaborative Consumption is Changing the Way We Live (www.landmarkontkenet.com).

A section devoted to the above law opens by stating that mobile phones have now achieved the dubious status of having the shortest life cycle of any electronic consumer product. The authors inform that the average person in the US and UK discards his or her mobile phone within 18 months of purchase, even though mobile phones will last for ten years on average; in Japan the time span from purchase to discard is merely a year. It can be startling to know that every year more than 130 million still-working mobile phones in the US and 15 million in the UK are retired, but it is only a small fraction of the phones assembled for resale.

The iPod, in the authors’ view, is not far behind the mobile phone in claiming the “shortest life cycle” crown. We are addicted to new products, say Botsman and Rogers. Thieves make Colin Campbell, a professor of sociology at the University of York, for the diagnosis – that we suffer from “nepophilia,” where novelty-seeking is the new phenomenon. "Pre-modern societies tend to be suspicious of the novel. It is a feature of modernity that we are addicted to novelty."

As a stark example of how obsolescence was built into our minds, the book traces the tale of how GM’s Alfred Sloan launched Chevrolet by convincing his team to "restyle the body covering of what was essentially a nine-year-old piece of technology under the banner of product innovation." The Chevrolet was a remarkable success and the idea of "perceived obsolescence" and "change for change’s sake" was born, the authors note.

"GM went so far as to define its strategy as "choreographed cosmetic upgrades" to "keep the Consumer Dissatisfied!" In 1929, Charles Kettering, director of research for Sloan, wrote an article declaring, "The key to economic prosperity is the organised creation of dissatisfaction...""

Prescribed pick for a joint reading session.

Primer on practical CNC

Numerical control is defined as a form of programmable automation in which the process is controlled by numbers, letters, and symbols, introduces K. Thanizharasan in CNC Programming & Operation. He delineates the basic components of numerical control system as program instructions, controller unit, and machine tool.

In a chapter on "part programming," the author takes one through the different types of NC words, such as the N-words, as in the case of sequence numbers. "The program is executed from the lowest block number to the highest. It is customary to start with block N0005 or N0010 and proceed in steps of 5 or 10... Among the other types or words are the G-word (preparatory function); X, Y, and Z words (coordinates); F-word (feed function); S-word (spindle speed function); T-word (tool selection function); and M-word (miscellaneous).

The author, who started off as an apprentice in Ashok Leyland, is currently a Worker Education Teacher in the company, and has trained about 3,500 employees in CNC operations.

Laudable effort.

"Our design software is so creative that..." It creates modern art? "No, it writes the accounts just the way we want, along with all the supporting vouchers!" BookPeek.blogspot.com
Time for IIMs to assert themselves

Mr. Jairam Ramesh's remarks are a wake-up call. However, 80 per cent of the IIM faculty is world-class. India can, perhaps, create its own Harvards and Stanfords.

M. J. Xavier

The Environment Minister, Mr. Jairam Ramesh's statement on the IITs and IIMs being less than world class has triggered debate on the quality of faculty and students in these 'institutes of excellence'.

STUDENTS A MIXED BAG

Are we getting the best students, or are we getting the best-coached students? While it is easy to point fingers at the poor quality of teachers, there is no running away from the fact that the students' quality too could be suspect.

Today, coaching institutes make more money than the IITs and IIMs. They thrive on the demand-supply gap for quality education in this country. Students are ready to pay any amount to get coached for entry into these prestigious institutions. They, in turn, teach short-cuts and quick-fix methods to crack the entrance examinations. A person of above-average intelligence can be coached for 95+ percentile score, if he/she takes the entrance test many times. While it is a fact that we have students who do not deserve a seat, we also miss out on a number of bright ones who should have made it to the IIMs.

Students who make it to the IIMs are aggressive and better motivated. At the same time, they look for short-cuts and easy methods to obtain laurels, thanks to the hangover of coaching institutions. The amount of money spent by these prestigious institutions on checking plagiarism, copying in exams, and controlling proxy attendance is on the rise. The erosion of morals and values among the youth could also be a reason for this malaise.

The 80-20 rule applies in every walk of life, and the IIMs are no exception. Maybe, 20 per cent of the students account for all the successes we see around the world. We need a serious study on the remaining 80 per cent of the students. Is it wrong selection or wrong training at the institute that is responsible for their poor performance?

QUALITY OF FACULTY

When it comes to teachers, the ratio gets reversed, with 80 per cent of the IIM faculty being world-class. The students cannot become world-class, unless the faculty imparts world-class education. We Indians are generally good in knowledge dissemination. The IIM faculty tend to read the latest case studies from Harvard and impart excellent American education that helps the students find jobs in MNCs around the world. If a faculty can get a good rating from IIM students, he/she can teach anywhere in the world. It is not that the students are so demanding, but the fact is that they are exposed to better teachers and the benchmarks set are very high.

Since the IIMs place considerable emphasis on student ratings, the teaching quality has gone up. For example, IIMA has a tradition of publishing faculty ratings on the hostel notice boards. In every IIM, the senior students pass on information about faculty quality to the junior students, which has a direct bearing on enrolment in the elective courses offered by faculty members.

This has led to the creation of a large pool of excellent teachers in IIMs.

FIXATED ON PUBLICATIONS

In the Western context, a faculty member who fails to publish (however good a teacher he/she may be) is considered a brain-dead person. Western institutions operate in a 'publish or perish' kind of environment. Institutions of higher learning in India have failed to place that kind of emphasis on research and publications. Unfortunately, the global rankings are based on the net knowledge created by the institutions.

No weightage seems to be accorded to student feedback on teachers in any of the ranking surveys. It is no wonder that we have been gradually sliding in the global rankings, and China, Singapore and Hong Kong have been steadily climbing up the ladder. There is a fundamental flaw in the metrics used to measure the performance of faculty in India.

Despite all these limitations, our faculty have been doing research and publishing in journals in India and abroad. But the number of such active researchers is far too few. The IIMs have started incentivising research by announcing cash awards for publications in reputed journals. Not many have taken advantage of the same. But there has been a gradual increase in the number of papers published by IIM faculty.

OPPORTUNITY FOR INDIA

Unlike IITs, IIMs have a choice; while engineering and scientific research has to be aligned with global research trends, management research has the option to move in very different directions, primarily because management education is at the crossroads even in the West. The recent global financial crisis has exposed the short-sighted and greedy approach of management graduates.

Western authors have been criticising management education for its excessive focus on competition and profit-orientation. There is, therefore, a great opportunity opening up for the IIMs in India. We can work on an alternative management curriculum that the West can adopt.

In sum, Mr. Ramesh's comment is a wake-up call to all institutions in India. It is time we become net knowledge exporters. Currently, our textbooks are from the West, our concepts are western, and our study methods are also borrowed from the West. We should instead produce Harvards and Stanfords (or recreate Nalandas and Thakshillas) in India.

(The author is Director, IIM, Ranchi.)
Scientists develop technology to manage ballast water

P. Sunderarajan

DONA PAULA (GOA): A group of Indian scientists may have found the solution to an issue of global concern: disturbance of eco systems because of the growing maritime traffic across the world.

The International Maritime Organisation (IMO) had been perennially concerned over the transportation of marine species between different parts of the world because of discharge of ballast water from ocean-going ships.

Over the years, it had been taking several measures to address the issue. But, so far, none of them had been totally effective. Incidences of invasion of alien species in coastal water due to ballast water discharge continue.

In the new development that promises to be of far-reaching significance, the scientists have got a patent from the United States Patent Office for a treatment technology for the ballast water that is not only highly effective, but is also all more eco-friendly as it does not use any chemicals.

A.C. Anil, Scientist at the Council of Scientific and Industrial Research's Goa-based National Institute of Oceanography (NIO), who developed the technology in collaboration with his colleagues at the Pune-based National Chemical Laboratory and University of Bombay's Institute of Chemical Technology, said the technology is based on the principle of 'hydrodynamic cavitation.'

Speaking to a group of journalists from Delhi, he said the NIO had prepared specific action plans for management of ballast water for four ports — two in Bombay and one each in Goa and Visakhapatnam — in collaboration with the Directorate-General of Shipping and the Port Authorities.

The action plan included an electronic reporting system, whereby ships sailing in and out of these ports would have to declare where they were coming from, the quantum of ballast water and other such details.

The exercise would be expanded to create a national integrated action to cover the remaining eight major ports in the country by 2016.
Back to the class

The education sector offers Britain and India much scope for collaboration

have to create 40 million new university
places, and that the prime minister has set
a target of 500 million people to be trained
in vocational skills over the next 12 years.

Britain has a clear
interest in India’s realis-
ing this ambition a reality.

As major investors in
one another’s economies
and growing trade part-
ners, strong sustained
growth in India will have
a positive effect on
Britain’s own growth.

But our interest goes
beyond GDP figures.

Last year, Cameron set out his vision for a
new relationship with India that goes
“stronger, wider, deeper”. I can think of no
other area of our collaboration that has such
unlimited potential to go stronger, wider,
and deeper than education.

Last year, Sibal had written in a publi-
cation that “the innovative ideas and good
practices of the UK have great significance
for India as we enter a new era of reforms
in the education sector”. I, of course, agree
with him. One innovating British institution is the Open
University, which is actively developing plans to offer
online teacher training in India. But I have also seen
how much Britain can learn from India and its innovative
approaches.

Which is one reason why
I am determined that the
new phase of UKIERI will
include opportunities for more British stu-
dents and researchers to spend time in India.

The British Council is working with sev-
eral state governments on a train-the-train-
ers programme through Project English:
English for Progress. It aims to reach
750,000 teachers across 29 states over five
years. In vocational skills, the UK-India
Skills Forum brings together business skills
providers from our two countries.

Science is also part of my ministerial
responsibility. Here too, some of the best
researchers from our two countries are
working together in programmes funded
by Britain’s research councils and the Indian
government in areas as diverse as food secu-
rity, water, health and renewable energy. In
March, we added cooperation in space to the
list, with a new agreement between the
UK Space Agency and the Indian Space
Research Organisation (isro).

As well as the government-supported
programmes, British educational insti-
tutions are making themselves accessible in
India. It is possible to study for a British
qualification in India itself through a growing
number of partnerships between Indian and
British institutions. Over 5,000 students
are already studying this way in India.

Indeed, the attractiveness of British insti-
tutions to overseas students is an impor-
tant ingredient — and confirmation — of
their quality. It is part of the reason that
9 of the top 100 universities in the world
are British.

David Willet is Britain’s minister of state
for universities and science

The views expressed by the author are personal

Centre to set up
5 univs for PIos

The Indian government will
set up five PIO universities
in the country to cater to the
diaspora students of Indian
origin. Announcing this at the
just concluded mini Pravasi
Bharatiya Divas, Didar Singh,
secretary in the Ministry of
Overseas Indian Affairs, said,

“The Indian government pro-
poses to set up five PIO univer-
sities in different cities to
deepen its connectivity with the
diaspora.” IANS
UNIVERSITY COLLABORATION

A delegation from the University of Dayton, Ohio, led by Joseph Saliba, provost, recently visited Delhi Technological University (DTU) to explore possibilities of collaboration between University of Dayton (UD) and DTU. The delegation met the vice chancellor, heads of the departments and deans of the university and also visited the DTU centre for biofuels research and research centre in optical communication. During the interaction with the faculty, common areas of collaboration have been identified such as new materials and composites, electro-optics, sensor integration and remote sensing, image processing and data compression, and clean energy technologies. It was decided to develop collaborative linkages for joint PhD programmes, student exchange for international experience and also knowledge partnership in selected areas for collaborative education.