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Stink Operation

Uttam Banerjee not only wants to save water through his waterless toilets but also extract nutrients from urine.

The installation of one such waterless urinal pays for itself in water savings within just one month; IIT-D saves 200 litres of water a day per urinal.

The tiny room marked "gents" at the IIT campus could have smelt like a gas chamber, but it was odour-free, barely even smelling like a toilet. Before Zerodors were installed in these urinals, Banerjee tells me, the entire area right up to the cafeteria smelt worse than an Indian Railways second class compartment toilet. But today, even at 9 am, a time when the campus was buzzing with activity, classes, meetings, the cafe was thriving, without any malodorous smells to drive away customers.

Ecological Sanitation

More importantly, Banerjee told me that the installation of one such urinal pays for itself in water savings within just one month, even earlier, if you take into account costs associated with water usage – electricity to pump that water, plumbing, maintenance, effluent treatment, among others. According to him, IIT-D saves 200 litres of water a day per urinal with each installation – that’s around 120,000 litres a day. At present, only the IITs in Delhi, Kanpur and Gandhinagar have bought into this innovation, although the Indian armed forces is very interested and has installed Zerodor urinals at some locations.

"Male urinals consume on average, 8,333 litres of potable water in a month. Waterless urinals result in saving anything between 50,000 and 150,000 litres of water per urinal per year," Banerjee says. "We are working on the whole sanitation aspect of these. The dry operations of waterless urinals and touch-free operations reduce the spread of communicable diseases," says Banerjee. "People assume that water is needed to flush urine, but it isn’t. In fact, when it comes into contact with water, urine releases ammonia, which is what causes the odour. But with our technology and Zerodor kit, we can completely do away with flushing and get rid of all odour."

In fact, the Indian Railways, army and air force are also trying out Zerodor. But it is the Indian Navy that is most interested, because it needs a solution that will recycle waste productively.

It isn’t just saving water and related costs that this little product hopes to achieve. It focuses on the whole concept of ecological sanitation, which includes harvesting urine as a resource to extract nutrients like nitrogen, phosphorus and potassium from it, which can be used for farming. Beginning with waterless urinals, the company hopes to innovate source-separation toilets and nutrient-recovery reactors.

"We are in the exploration and research phase to finalise zero-discharge toilet technology for ships and submarines at present," says Banerjee. "In fact, urine contains over 50 nutrients, which we can extract. Phosphorus has many applications and is imported," he adds. Instead of importing phosphorus, India can harvest it from humans, or later even animal, urine.

Cost Factor

Towards this goal, the Ekam team is in the process of developing the prototype of a phosphate-recovery reactor that can harvest nutrients from urine. With such a device, urine can be used for drip irrigation, called fertigation, by installing separate pipes from toilets to fields.

"We are trying to harvest nitrogen, phosphorus and potassium from human waste and put it to productive use for agricultural and industrial production. If you install a separate line for urine from the toilets to the fields and drip irrigate 5-6 inches below the soil, there will be no odour," Banerjee explains.

He has set up a prototype of such a urinal kiosk at the National Institute of Rural Development, Hyderabad, at a cost of 6.5 lakh. Significantly, one of its clients is Jain Irrigation, a BSE- and NSE-listed public limited company with revenues of $50 million.

The best part about the Zerodor solution is that it uses no chemicals, sealants or gels and is low cost and low maintenance – and can be retrofitted in existing urinals. This makes Zerodor superior to its competitors. Installation of Zerodor urinals, according to Banerjee, costs anywhere between 72,500 and 85,500 depending on whether they are being freshly installed or retrofitted in existing urinals. Installing new Zerodor urinals has an additional advantage of saving on plumbing costs.

If Banerjee reaches his ambitious goal of fitting 1 lakh units by end-2014, and continues at that pace, perhaps one day the ubiquitous smell of urine in public spaces in India will become a distant memory.

The author is an independent columnist and writer
FALLOUT OF UKRAINE CRISIS

Medical students shun Russia for China

KALPANA PATHAK
Mumbai, 7 June

The Ukraine crisis, which left Indian medical students in the lurch, has led many students to look for new destinations to pursue their medical courses. Every year, about 11,000 Indian students go abroad to pursue medical education.

Educational consultants said they were advising students to opt for China, Philippines, Mexico and Brazil and avoid Russia. Admissions to medical colleges take place between August and November.

China and Russia are the most sought-after destinations for Indian students for the MBBS course, as these countries are cost effective. While it costs $3,500–$4,500 (₹21,00,000 to ₹27,00,000) a year in Russia for the five-year-and-eight-month MBBS course, at home the cost varies between Rs 50,00,000 and 80,00,000 for five years. The course costs over Rs 25,00,000 for six years in China.

The Indian mission in Ukraine has been facilitating the evacuation of 1,000 Indian nationals, particularly students, from the Lugansk region to Kiev.

The mission, arranged 1,000 train tickets for Indian students and nationals in Lugansk. “Those Indian nationals and students who have booked railway tickets for later dates must travel June 3/4 and not delay their departure from Lugansk to a later date, as the situation may deteriorate further,” the embassy said. “The mission has been evacuating students at its cost and we are not advising anyone to Ukraine for studies,” said an official from Victoria Education, Jalandhar.

There are approximately 2,500 Indian students pursuing medicine and engineering courses in Ukrainian universities, according to the Indian embassy website.

Among Indian students in Lugansk, 350 are from Kerala, 300 from Tamil Nadu, 150 from Andhra Pradesh, 60 from Punjab, 25 each from Jammu and Kashmir and Maharashtra, 20 from Uttar Pradesh and 10 from Gujarat. The total number from the other states is 200, according to an external affairs ministry statement. There is also a small Indian business community in Kiev.

According to consultants, there is an uncertainty over the future of these students. While a few agents said they could go back after the situation becomes normal, others said they were clueless about the future.

After graduation, these students have to clear a screening test in India. Generally, only 25 per cent are able to practice in India. Last year, however, 28 per cent students cleared the screening test.

CRISIS–HIT STUDENTS

- Every year between 10,000 and 11,000 Indian students go abroad to pursue their medical degrees.
- Most Indian students prefer China and Russia as it works out cheaper. The cost of studying MBBS in Russia is around ₹21,00,000 to ₹27,00,000 for the five-year-eight-month course. In India the cost varies between ₹50,00,000 and ₹80,00,000 for the five-year course. The course costs over ₹25,00,000 for six years in China.
- Agents enrolling students to medical universities are advising them to avoid Russia and instead opt for China, Philippines, Mexico and Brazil because of the crisis in Ukraine.
- The Indian mission in Ukraine is facilitating the evacuation of 1,000 Indian nationals, particularly students, in Lugansk and Kiev.
- According to the Indian embassy website, approximately 2,500 Indian students are studying medicine and engineering in Ukrainian universities.
- Among Indian students in Lugansk, 350 are from Kerala, 300 from Tamil Nadu, 150 from Andhra Pradesh, 60 from Punjab, 25 each from Jammu and Kashmir and Maharashtra, 20 from Uttar Pradesh and 10 from Gujarat.
- The total number from the other states is 200, according to an external affairs ministry statement.

“Our experience so far has been that students who study medicine in Russia find it difficult to pass our examinations. We are looking at how we could address the problem of students going abroad for a medical degree,” said a senior official from the Medical Council of India, on the condition of anonymity.

India needs 500 new medical colleges to produce one million doctors every year. However, at present, India has nearly 300 medical colleges with over 31,000 seats. Over 350,000 students sit for admission tests to these medical schools.
Scientists to lead teams abroad

All scientific delegations to foreign countries will be led by eminent scientists and not by ministers, the Centre said on Saturday.

Entrepreneurship is not the prerogative of IITs alone


HYDERABAD: So far, only premier institutes like IITs have been teaching the basics of setting up own businesses. But entrepreneurship is now on the agenda of even second-rung engineering colleges, with many of them introducing it as a subject.

"While large companies hire against attrition, startups are best positioned to create new jobs," said Padmaja Ruparel, president, Indian Angel Network (IAN). Encouraging entrepreneurship runs beyond providing incubation centres, says Ajai Chowdhry, chairman of IIT-Patna and co-founder of HCL. "Premier institutes have the best students and faculty."

During their course work they come up with interesting product ideas but there is little to nurture that," says the architect of the B Tech minor in entrepreneurship initiated at IIT Hyderabad in 2011 and now at IIT Patna. He says that he has been approached by autonomous universities as well as tier-2 colleges from Gurgaon and Bangalore for emulating the same.

"The idea is to get youngsters excited about entrepreneurship. Though there is a support system for encouraging entrepreneurs, no one tells youngsters how to go about entrepreneurship," says Ajit Rangnekar, dean, Indian School of Business. The premier B-school has initiated the Technology Entrepreneurship Programme (TEP) offered as an elective to engineering students in the third and fourth year.

The programme is adopted by 26 engineering colleges across Andhra Pradesh on-board, will train students in business education and combine technical mentorship and prototyping with the support of faculty and business mentors. "We do not expect students to turn into entrepreneurs immediately after college as it is not the first career choice for many," says Aruna Reddy, associate director of Centre for Entrepreneurship Development at ISB.

The two-year pilot programme in collaboration with the AP Society for Knowledge Networks has set a corpus of Rs 2.5 crore for seed funding business ideas selected at the end of the programme, apart from angel investors willing to participate.

Similar initiatives have been implemented by other states to encourage entrepreneurship among young graduates, such as the Student Entrepreneurship Scheme of Kerala government which incentivises student startups with incubation as well as 20% relaxation in attendance and grace marks for their initiative.

The Karnataka government's initiative to set up infrastructure facilities in tier-II and tier-III cities for development of satellite IT centres and incubators earmarks 100 crore for VC funding for tech startups in the state.
IIMs strive for gender and cultural diversity

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MUMBAI: The Indian Institutes of Management (IIM) are trying their best to break away from the stereotype of admitting students who are mostly engineers and men.

In an attempt to make classrooms diverse, authorities have whitened their admission criteria for the 2014-16 batch to include more women students, foreigners and those from non-engineering backgrounds.

At IIM Calcutta, for instance, women candidates shortlisted for interviews were given three extra marks. Similarly, IIM Lucknow gave a 5% extra weightage to women candidates and those from non-engineering backgrounds.

“The IIMs are often considered to be parochial and not women-friendly. So, we have been trying to increase the intake of women. This year too, we gave extra weightage to candidates from non-engineering backgrounds,” said Anandya Sen, dean (academics) at IIM-C.

Officials at the admissions office of the institute said the new approach had yielded results, with almost 17% of the 2014-16 batch comprising non-engineering graduates and about 30% being women.

Although IIM Bangalore and Ahmedabad have not increased the points awarded to women aspirants, there has been a rise in women shortlisted from 200 to 230 and 274 to 364, respectively.
DWARKA PILOT PROJECT

Water in Palam drain is being treated to secondary level through bio remediation. Treated water can be taken to either of the two green belts of DDA for further treatment through a soil bio technology of IIT. It will cost only ₹ 4 to ₹ 5 per kilolitre. Treated water can be disinfected either at the site or a nearby DJB water treatment plant. A pilot project of 1 MGD can be started by December at ₹ 3.5 crore. If successful, it can be upscaled to 10 MGD.

IIT-G invites students for Technothlon

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GUWAHATI: IIT-Guwahati (IIT-G) has invited students of classes IX to XII from across the country to take part in Technothlon — a school championship organized by the institute as a part of its annual techno-management festival Techniche.

"Students will get a unique exposure in the championship where the focus will be on assessing the students with questions based on logical understanding and reasoning. They require no initial preparation while appearing in the prelims of Technothlon. All that they need are spontaneity and out-of-the-box thinking,” said Abhigyan, one of the organizers of the event.
The prelims will be conducted on July 13. Students, who would make through to the mains, will be invited to IIT-G from September 4 to 7 during Technichie to face a tougher challenge. About 200 students will be invited to IIT-G.

Students from over 150 centres from across the country participated in Technotlon.

**It’s MHRD’s Punar Janma for India’s Poorna Gnana**

http://www.newindianexpress.com/magazine/voices/It%E2%80%99s-MHRD%E2%80%99s-Punar-Janma-for-India%E2%80%99s-Poorna-Gnana/2014/06/08/article2265097.ece

I am warmed up with a fresh round of disappointment with the outgone UPA’s unsolicitously logodaedalist comment on the new HRD minister. Status check: many who are formally educated with degrees (including me) do not know the meaning of logodaedalist. Used in the recently concluded Spellbee finals, it means the clever use of words. I am not against being clever but insist on being solicitous. The proponents of the “degree-only HRD minister” seem to voluntarily suffer from selective amnesia. UPA must immediately recollect the outstanding misdeeds in the last 10 years—a triple-barrelled HRD ministry that saw three ministers in its two avatars with a one-bullet ammunition: “If you can’t fix it, spoil it.” Many have listened to Smriti Irani speaking in Parliament, TV shows, live panel discussions and are amazed by her well-researched preparations that leave no stones unturned. In her attitude to always be well prepared for the occasion lies my confidence that she will not do what UPA I and II did. In short, she will not push education to its abysmal nadir. My confidence gets doubled as she allows her performance to do the talking in response to her critics’ avoidable superfluity. While I positively await her actions, there are certain UPA blunders that I am triply confident that Minister Irani will not commit.

The ministry will not allow the National Educational Policy die in cold storage, but will reheat it with modern gadgets to put India’s education journey on proper track through a Higher Education Commission insulated from neo-modern (read Western) influence.

The ministry will not undermine the role of statutory bodies created by Parliament. For instance, the University Grants Commission—supposed to be the change agent for university education—was shamefully reduced to a silent bystander by UPA.
The ministry will not survive on policy rhetoric of RTE, SSA, etc. and other flagship schemes that were excessively glorified by the world’s largest NGO—the erstwhile National Advisory Council. Such glorification resulted in school education being enrolment and not enlightenment-driven. Pratham’s annual school education reports is testimony to this.

The ministry will not reduce teacher education to a mere body-shopping exercise, but find innovative mechanisms to create a coherent synergy among various stakeholders to strengthen the future of India—its school teachers.

The ministry will not massify professional education in the name of inclusivity, affordability and accessibility—the triple tataka mantra that ensured the disappearance of the fourth dimension—quality along with other forms of higher education, social sciences, arts and humanities.

The ministry will not give step-motherly treatment to polytechnic and vocational education but ensure coordinated development that can harness the non-formal but high-quality skills of millions of artisans and tradesmen who yearn for formal academic recognition.

The ministry will not take policy decisions based on ‘expert inputs’ from third innings academics who after their two full innings are ready to play as many academic T20s as possible and in the process strangulate progressive private higher educational institutions in the name of regulations and let scot-free erring public/private institutions.

The ministry will not charitably confer deemed university status to undeserving institutions by granting ‘conditional deemed university status’ subject to review after three or five years. No licensing authority issues a driving licence with a condition that the holder learns car driving in three to six months.

The ministry will not resort to legislative gimmicks through toxic pills (read bills) but use existing regulations and statutory enactments to clean the education mess.

Conclusion: Minister Irani is MHRD’s punar janma for India’s poorna gnana. vaidhya@sastra.edu
Courses to educate foreign students about India

NEW DELHI: Five Indian universities have been selected to conduct short-term courses to help enable foreign students, mostly from the US, understand and appreciate contemporary India and help foster international relations. University of Hyderabad, University of Calcutta, University of Mysore, Jawaharlal Nehru University and University of Delhi were selected as a part of the ‘Connect to India Programme’ announced by the ministry of human resource development and the University Grants Commission.
IIMs tweaking rules to get more women, non-engineers in fold

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MUMBAI: More women, more foreigners and more students from non-engineering backgrounds—the Indian Institutes of Management (IIMs)—are trying to make their campuses more diversified with better gender parity.

To break the mould of being a bastion of engineering graduates, some of the IIMs have already modified admission norms for the academic year 2013-15.

"IIMs have been typecast as parochial and not women-friendly. We are trying to increase the intake of women candidates...the added weightage to gender diversity makes for a good decision," said Anandya Sen, dean (academics) of IIM Calcutta.

For the purpose, IIM Calcutta modified the admission process once candidates were shortlisted for the interviews—the institute awarded three extra marks to women candidates at the interviews.

This year, a healthy 17% of the batch comprise non-engineering graduates while close to 28% female candidates have been made final offers.

IIM Lucknow, on the other hand, gave a 5% weightage to non-engineering and women candidates to improve diversity in discipline and gender in its selection criteria.

Some IIMs are not just modifying admission criteria to bring more women and non-engineers to their campuses, they have also introduced programmes to attract female students to their campuses.

IIM Kashipur, for instance, invites prospective women students to visit the campus prior to confirming admission to check out the institute, campus and hostel facilities.
Decline in number of IIT seats, few courses scrapped

The total number of seats being offered for admission to IITs and Indian School of Mines, Dhanbad, through the Joint Entrance Exam (advanced) has declined this year. Some unpopular courses have been scrapped while three new ones have been added.

Some courses, including pulp and paper engineering at IIT-Roorkee, mining engineering with an MBA and petroleum engineering (dual degree) at the Indian School of Mines Dhanbad (whose entrance is also through the advanced JEE) have been discontinued.

However, some new courses have been added in IIT-Bhuwaneshwar, IIT-Hyderabad and IIT-Gandhinagar.

This year, the number of seats has declined to 9,734 as against 9,887 from last year.

Experts believe that discontinuing unpopular courses can help reduce the number of seats going vacant. Last year, around 250 IIT seats had remained vacant.

"Some of the courses in IITs are unpopular. Even if students opt for them, they don't pursue it with interest, and hence in mid-way," said an IIT professor.

Other courses that have not found favour amongst students include mineral engineering with an MBA and ocean engineering.

"Students prefer mainstream engineering. While all courses have their own benefits and a well designed job market, too much specialization at an undergraduate level is not preferred by students," said a former IIT director.
IIT Roorkee scraps unpopular courses

The pulp and paper engineering course at IIT Roorkee has been scrapped this year as it is very unpopular among students. 

Vanita Srivastava

Two very unpopular courses, one each at IIT Roorkee and ISM Dhanbad, have been scrapped this year.

Besides, the number of JEE (Advanced) seats on offer has also declined.

More than 1.19 lakh students on May 25 had appeared for the Joint Entrance Examination (Advanced) – the gateway to the Indian Institutes of Technology (IITs) and the Indian School of Mines (ISM), Dhanbad.

Official sources said pulp and paper engineering at IIT Roorkee and mining engineering with MBA at ISM Dhanbad had been discontinued.

The number of seats has also declined to 9,784 this year from 9,867 last year.

The reduction in the number of seats is partly because of the scrapping of these two courses while slight changes in the number of seats in some other courses have led to an overall reduction of 83 seats.

However, experts feel that discontinuance of these two courses will help reduce the number of seats which are going vacant.

“Some courses in the Indian Institutes of Technology are unpopular. Even if the students opt for these courses, they don’t pursue them with interest and leave the courses midway,” said an IIT professor on condition of anonymity.

Despite a mad rush for admission to the country’s premier engineering institution, around 250 JEE (Advanced) seats had remained vacant last year, largely because some courses are not popular at all among students. The total number of courses offered by the Indian Institutes of Technology is 216.

“Students prefer mainstream engineering. While all courses have their own benefits and a well-designed job market, too much specialisation at an undergraduate level is not preferred by students,” said a former IIT director.
What the HRD minister must do

Rather than focusing on the creation of new IITs, the HRD minister must focus on providing good primary secondary and even college education to the hitherto deprived rural masses on war footing

SHUBHADA SABADE

India's new HRD minister approached the finance minister asking for grants to create eight new IITs across the country. While the honourable minister was caught in an unfortunate controversy over her educational qualifications, she had an excellent opportunity to show that she understands the country's most urgent HRD needs and Narendra Modi's aspirations for inclusive growth through poverty eradication, by announcing her intent to create educational infrastructure and drastically raise the enrolment ratios in the coming 100 days. Instead, she chose to push for eight more IITs despite being informed by the concerned departments about the problems with the existing IITs.

India has the largest young population in the world which can be turned into a demographic dividend by appropriate measures in education, training and skill development, thus also benefiting the country enormously. Hence, the HRD ministry becomes the most important portfolio today. If they fail to decide and train the hitherto deprived children, the same demographics can turn into a curse going forward with unemployability turning into criminals of sorts, putting enhanced burden on other ministries in the future. The nation's eyes are set on all the ministers during these 100 days and everyone expects them to fall in sync with each other and with Modi's vision of India.

Since many IIT graduates leave India, there is enormous brain drain happening from these top-notch institutions. Is it then wise to pour the taxpayers' money into new IITs at the cost of millions across the nation who are deprived of even basic education facilities? I believe 88% of Indian population doesn't even know what an IIT is. So, in 2019, when Modi faces the electorate again, can he boast of creation of eight more IITs or the creation of extensive educational infrastructure across the country rendering the children of millions of poor and illiterate 'employable', thus raising their living standards? Remember, job creation and sustainable manpower creation are two wheels of the same chariot that will ride today's poor towards tomorrow's prosperity.

India sure needs superior engineers, scientists, doctors, teachers, managers and so on. But focusing on one at the cost of others indicates a misplaced emphasis. So, how about focusing on providing good primary, secondary and even college education to the hitherto deprived rural masses in war footing without wasting the new academic year starting soon? June—what an opportune timing for the new HRD minister? As maximum efforts for primary education are under way higher education can be provided across disciplines in phases after assessing the relative needs. So, within 100 days, the following things can be done urgently:

- Remove the corrupt regulators in the education sector;
- Free private education sector from counter-productive regulations;
- Reduce caste-based reservations of seats and so on. Meanwhile, if industries adopt all villages in India, education will spread faster. Management institutes can organise such Shramdaan Shibir's, inculcate philanthropy and cater to the need of the hour by joining hands with the government if HRD ministry takes up such laudable initiatives towards nation-building at the bottom of the pyramid.

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IS IT REALLY PRUDENT TO POUR THE TAXPAYERS' MONEY INTO NEW IITS AT THE COST OF MILLIONS ACROSS THE NATION WHO ARE DEPRIVED OF EVEN THE VERY BASIC EDUCATION FACILITIES?
Rebooting the education sector

Availability of finance for education needs urgent attention of the new HRD minister

The new HRD minister Swati Sircar is staring at multifaceted challenges in her office. For one, she needs to prioritise the gargantuan problems facing the education sector. If she succeeds in making an impact, she can truly make a big difference to this sector and ensure that India reaps the benefit of a demographic dividend of a large and young population. India is at the crossroads of opportunities and challenges and, hopefully, the new minister will grab the opportunities and make some path-breaking changes.

The BJP manifesto had covered a wide range of topics on skilling and education. Importantly, it had mentioned that public spending on education would be raised to 6% of GDP. Presently, it is around 3.5%. If the new HRD minister manages to get a budget allocation of 6%, it can truly revolutionise this sector by doubling the amount of funds. It can vastly improve access to the “last man in the line” and also the quality of education.

There is a huge shortage of teachers across all the sectors. As per an analysis done by Technopak in 2013, India requires a faculty totaling 1.35 million for all the Universities. Against this, India has a total faculty strength of 80,000, which means that there is presently a shortage of 300,000. In 2020, the shortage will rise to 1.8 million. The BJP manifesto has made a repeated mention of shortage of teachers and the need to address it. We will have to revisit the recruitment plan that failed for this.

So, what are the other initiatives which need the urgent attention of the new minister? Availability of finance for education needs urgent attention. In most developed countries, if a deserving student is unable to finance her education, she gets financing on easy terms, without collateral. In India, education financing is largely based on collateral, approved by the student—insurably by her parents. This should stop. Collateral-free financing can be made available if a robust framework of credit guarantee funds is made operational.

One Prime Minister is known to be an innovative thinker and one who comes up with bold, original ideas. In this context, it is possible to conceive the idea of allowing “for-profit” institutions in the education sector. Why not? In Gujarat, the Modi government has been aggressively pursuing privatization, even in the education sector, allowing “for-profit” institutions to become a game-changer. It will allow flow of capital in this sector and improve the quality of education. Ultimately, the student will always have a choice of joining a “for-profit” institution at a “for-profit” institution.

Skiing the youth and employment generation is a virtuous circle. The new minister should lay emphasis on developing the human skill infrastructure. The human skill infrastructure involves recognition of skills, proving the quality of present vocational delivery mechanisms, social acceptance, and interfaces with the industry for acceptance from the perspective of jobs.

If there is a moment in history when an HRD minister could reboot the education sector, it is now. A huge opportunity beckons to make paradigm changes which will impact vast numbers of Indians. With the mandate given by the people for the BJP, the opportunity for change is far greater than the challenges which the minister will face once she gets down to her work in the ministry.

The writer is CEO & MD, Ajtec. Views are personal.
Patni, Indian IT’s forgotten pioneer

NARENDRA PATNI, who died last week in the US aged 71, can be called as a pioneer at the least, and possibly the trendsetter, in information technology outsourcing.

The engineer educated in what is now IIT, Roorkee and later in the prestigious Massachusetts Institute of Technology (MIT) founded Patni Computer Systems (PCS) in 1972, and hired three people who left his company to start Infosys, which became India’s first company to list on the Nasdaq. NR Narayana Murthy, S Gopalakrishnan and Nandan Nilekani are now household names in urban India, but Patni is not. Murthy last week paid tribute to Patni, calling him a “brilliant leader”.

The technology industry, like history in general, is full of ifs and buts. There are people who seed history, but there are others who go on to make it. For instance, it was Apple that invented the desktop home computer, but it was IBM that made it a worldwide rage in team with Microsoft.

It was Tata Consultancy Services (TCS) under Faqir Chand Kohli that ushered in the rise of Indian software programmers through what was called “body shopping” of engineers shipped to the US, now known more honourably as “onsite services” for clients. Patni started outsourced software services in the US and then developed a back-end in India, which is now known as “offshore services” — something TCS also perfected in the 1970s.

PCS, which fell a victim to a feud between Narendra and his brothers, was eventually acquired by iGATE Corp. If only Patni had made Murthy & Co his business partners instead of employees, perhaps the history of Indian IT would have been different.

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Fall in Indian students studying in US

High cost, slowdown in job market cited as reasons

DEEPA NAIR
Mumbai, June 8

29-year-old Ravi Verma, decided to drop out of his plan of doing an MBA in the US, after reviewing the cost (which jumped significantly due to the depreciating rupee) and the overall return on investment.

Slowdown in the job market and opportunities in other destinations such as Singapore, New Zealand and Dubai has resulted in a continuous decline in the number of Indian students studying in the US.

According to the Educational Exchange Data released by the Institute of International Education, there has been a continuous decline in the last three years in the overall number of Indian students studying in the US.

Since 2009, the number of undergraduate Indian students in the US has declined by 16 per cent to 12,740 in 2012-13 from 15,192.

Similarly, the number of graduate Indian students in the US declined by 20 per cent to 54,607 in 2012-13 from 68,290 in 2009-10. This is also corroborated by the decline in amount spent by Indian students on studies abroad.

The amount came down from about $218 million in 2009-10 to $125 million in 2012-13, according to the RBI data.

Student, work visas

Interestingly, during the period 2009-2015, the number of Chinese students in the US rose 85 per cent at undergraduate and graduate levels. Clay Hensley, Senior Director, International Strategy and Relationships at The College Board, which administers the SAT exam for undergraduate admission in the US, said: “All international students want their college experience to convert into a job. But for Indian students that practicality seems even more important and in the US, a work visa does not necessarily come out of graduation in a US college. It’s a completely different process for getting a student visa and a work visa, whereas in some countries it is integrated.”

Similarly, after the removal of the post-study work visa for international students in the UK, data available from Higher Education Statistics Agency report shows a staggering 42 per cent decline since 2010-11.

Destination New Zealand

A recent Assocham study points out that Indian students are also looking at countries such as Germany, Norway, Malaysia, France, Sweden, Denmark, Italy, and Ireland where education is considerably cheaper and part-time jobs are easier to secure.

New Zealand, for instance, has eased its work rights programme to allow students to work part-time, up to 20 hours per week, and full-time during scheduled holidays. That has helped see a 194 per cent increase since 2007, said Ziena Jalil, Regional Director, South Asia at Education New Zealand.

According to Vineet Gupta, Director at Jamboree, which helps students’ clear proficiency tests such as GMAT/GRE/SAT/TOEFL/IELTS, the rise in entrepreneurial/job opportunities in India has seen many candidates coming back to India after studying abroad.
Courses to educate foreign students about India

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NEW DELHI: Five Indian universities have been selected to conduct short-term courses to help enable foreign students, mostly from the US, understand and appreciate contemporary India and help foster international relations.

University of Hyderabad, University of Calcutta, University of Mysore, Jawaharlal Nehru University and University of Delhi were selected as a part of the ‘Connect to India Programme’ announced by the ministry of human resource development and the University Grants Commission.

The programme, in the form of summer schools, is likely to begin from the forthcoming academic session in June-July.

The courses will be related to economics and industrial development, science and technology, communication and information technology, Indian education, history, political processes, art and culture. Students will be taken to places of historical importance, participate in cultural programmes and learn yoga.

“Until now we have heard of Indian students leaving to study abroad. But now, foreign students will come to India,” said Alka Sharma, registrar at the University of Delhi, who is the nodal officer for the programme.
चार वर्षीय डिग्री कोर्स को तीन का करने की तैयारी शुरू
एचआरडी तैयार कर रहा रिपोर्ट, भाजपा के एजेंडे में रोलबैक रहा है शामिल

रकेश नाथ/एसएनबी

नई दिल्ली। दिल्ली यूनिवर्सिटी के चार वर्षीय डिग्री कोर्स को तीन वर्षीय में बदलने की तैयारी शुरू हो गई है। एचआरडी मंडल द्वारा इस मामले में एक रिपोर्ट तैयार की जा रही है। सूत्रों के अनुसार मानव संसाधन विकास मंत्री श्रीमती ईरानी के निर्देश पर यह रिपोर्ट तैयार की जा रही है।

उल्लेखनीय है कि डीयू में तीन साल की जगह चार साल का डिग्री कोर्स सेशन 2013-14 से लागू किया गया है। इसको लागू करने को लेकर शुरू से ही विरोध होता रहा है। भाजपा के एजेंडे में चार वर्षीय डिग्री कोर्स का रोलबैक शामिल है। अभी हाल ही में शिक्षकों एवं एबीटी छात्र नेताओं ने केंद्रीय मानव संसाधन विकास मंत्री श्रीमती ईरानी से मुलाकात कर शीघ्र चार वर्षीय डिग्री कोर्स के रोल बैक की मांग की है। सूत्रों की मानों तो श्रीमती ईरानी की ओर से मंडल द्वारा चार वर्षीय डिग्री कोर्सों को लेकर एक खास रिपोर्ट तैयार की जा रही है।

मंडल के अधिकारियों को इस रिपोर्ट में उन सभी पहलूओं पर काम करने को कहा गया है, जिसमें चार वर्षीय डिग्री कोर्स को खास करने से होने वाली दिक्कतों को दूर किया जा सके। एबीटी के प्रदेश मंत्री साकेत बघुणा ने कहा कि हम चार वर्षीय डिग्री कोर्स को हटाने के लिए लगातार प्रयासरत हैं। जबकि दूसरा अध्यक्ष अमन अतवान ने बताया कि दूसरे पदाधिकारियों के सदस्य सोमवार को चार वर्षीय डिग्री कोर्स के रोल बैक को लेकर केन्द्रीय मानव संसाधन विकास मंत्री श्रीमती ईरानी से मुलाकात करने जा रहे हैं। उनसे चार वर्षीय डिग्री कोर्स को रोल बैक करने की मांग की जाएगी। बता दें कि चार वर्षीय डिग्री कोर्स के निरोध में केवल वामपंथी शिक्षक एवं छात्र संगठन एवं एबीटी ही नहीं, बल्कि पनेश्वरयूग के पदाधिकारियों भी बीते तीन दिनों अनशनरत हैं।
Amity ‘Solar Campus’ offers interesting courses

New Delhi: Locally known as ‘Solar Campus’ thanks to the fully-functional solar cars its students have helped develop, this relatively new campus of Amity University in Gurgaon is introducing 20 new undergraduate courses this year, including two three-continent B.Tech and management courses.

Spread over 110 acres in the Aravallis, this green campus is offering an interesting mix of courses from foreign languages like German, French and Spanish to engineering disciplines like laser technology and opto-electronics. Popular courses like B.Com and economics are new additions. June 18 is the last date of application.

With a focus on inter-disciplinary programmes and research, the Gurgaon campus of Amity offers 72 undergraduate courses in management, engineering, sciences, humanities and social sciences. Interesting additions this year include the three-continent B.B.A (India, USA, UK), B.Sc in dietetics and applied nutrition and allied health programme and applications in medical lab technology, audiology and speech language pathology. Applications to courses can be made both online and offline.

Amity Manesar is offering an interesting mix of courses from foreign languages like German, French and Spanish to engineering disciplines like laser technology and opto-electronics. This campus is its interdisciplinary focus and research. For example, one of the interesting aspects is our outreach programme ‘Mission Vision’ through which our students of allied health programmes have saved 100 local citizens of this area from preventable blindness, taking education beyond the classroom. This will be Amity’s first campus which is building a medical college and a hospital. The allied and public health programmes are a beginning of programme in medicine. Then there is a unique programme like laser technology and opto-electronics, which is a very specialized engineering programme not available in other campuses,” Aseem Chauhan, chancellor, Amity University, Gurgaon, said.

One of the largest private universities in Delhi/NCR, it also has a 20-acre sports complex and residential facilities. The university follows a flexible credit system where students are allowed to design their own course and curriculum. "In keeping with global practice, our students are allowed a flexible credit system and they can design their own course. They can opt for highly specialized courses and pick their own majors and minors," said Chauhan.

Another highlight of this university is that it offers a unique three-continent programme. This year, the university has introduced a three-continent bachelor in business administration. "The three-continent programmes aimed at developing global leaders. We allow students to do part of the programme in our campuses in two other countries. The confidence graduates show on completion of the programme is one of its great benefits," Chauhan said.

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Gadkari’s Ganga plan not new, NTPC already using waterway

Sanjay Dutta
, New Delhi:
TNN

Transporting Cargo On River Since October

A cargo corridor had taken off between Haldia and Allahabad along the Ganga in October last year, much before transport and shipping minister Nitin Gadkari’s announcement on Friday of a Rs 6,000-crore plan to turn the holy river into a major waterway.

It was state-run generation utility NTPC that looked at Ganga as an alternative to overcome bottlenecks in transporting coal to its eastern powerhouses by rail. After being in the works since 2007-08, the route finally opened in October.

NTPC has two major power plants in the eastern region along the Ganga — Farakka (2,100MW) and Kahalgaon (2,340MW). The two plants require 30 million tonnes of coal if the plants are run at 90% of their capacity. Against the requirement, the company has supply allocation of 27 million tonnes of coal, which is mostly of poor quality. It imports coal to make up for the poor quality and supply shortfall.

NTPC used to import coal at Haldia in West Bengal, and Paradip and Dhamra in Odisha for hauling it to its plants through rail. But traffic congestion delayed fuel delivery. Hence, Farakka and Kahalgaon weren’t able to meet their generation targets.

That is when NTPC got talking to Inland Waterways Authority of India, which was looking for firm cargo commitment to make its waterways plan viable. NTPC assured of moving an annual three million tonnes of coal on barges from Haldia to Farakka unit.

The plan took off in October, with Jindal ITF winning the global bid for waterways transport.

Buoyed by the success, NTPC recently started transporting turbines and generators weighing thousands of tonnes to Allahabad for its 1,320MW mega project in UP. Clean-up plan in a month, says Uma The Union ministries of water resource development, tourism, environment and forest, and shipping will come together to develop an integrated plan for cleaning up the river Ganga, said water resources minister Uma Bharti on Sunday, adding that a work plan would be readied in a month.

The Union minister, addressing a press conference in Haridwar, said a meeting of secretaries of the four departments was held in Delhi on Friday. A review of past projects will also be undertaken to learn from the mistakes made in their implementation, Uma said. She said institutions like IIT-Roorkee, which have evolved methods to maintain the flow of rivers without adversely affecting river-related development projects, would be part of the effort. TNN
**RIVER IS THE WAY**

**NAVIGATION AIDS**
- Tribeni-Farakka
- Diamond Harbour-Kolkata
  (Lighted buoys, lights on country boats, lighted posts on the banks)
- Bhagalpur and Swarupganj
  (Differential global positioning system reference stations)

**LEAST AVAILABLE DEPTH**

<table>
<thead>
<tr>
<th></th>
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<tbody>
<tr>
<td>Haldia-Farakka</td>
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<tr>
<td>Farakka-Patna</td>
<td>2.5 m</td>
</tr>
<tr>
<td>Patna-Varanasi</td>
<td>2 m</td>
</tr>
<tr>
<td>Varanasi-Allahabad</td>
<td>1.5 m</td>
</tr>
</tbody>
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**NTPC CARGO DEAL**
- 3 million tonne imported coal per year
- **Heavy equipment** to Allahabad for Meja power project

- Minimum depth required for safe navigation of barges 2.5 m
- Depth shrinks in March and April when water sharing between India and Bangladesh is in operation and India gets less water in a 10-day cycle
UGC asks for feedback on NET from stakeholders

Vanita Srivastava

NEW DELHI: In an effort to raise the bar of students seeking to crack the National Eligibility Test (NET) and revisit the exam to improve standards, the University Grants Commission has sought feedback from stakeholders on different aspects of the exam.

The exam, which is held twice a year to award junior research fellowship for PhD, is a prerequisite for the appointment of a lecturer in a college. The top 6,000 of those who qualify are awarded the fellowship. More than 600,000 candidates appeared for the exam in 2013.

A review committee was formed last year to have a re-look at the examination in toto. This included a re-look at the format of testing. Essentially, the committee will recommend changes on three aspects — pre-conduct, conduct and post-conduct — of the exam. The recommendations will be put before the commission in November-December 2014 and, if approved, they will be brought into force from June 2015.

"We have sought feedback from the stakeholders and will hold regional-level meetings in Kolkata, Bhopal, Chandigarh and Guwahati," D N Reddy, convener of the committee, said.
SOON, ROBOTS TO BEHAVE AS HUMANS?

Robots are good at computational tasks but fail miserably to walk, talk or recognise everyday objects. What if a robot could behave like a human? Scientists at University of California are working on a “neurotic” robot that can copy human behaviour. “We are trying to make the robot brain more like human brain,” said lead researcher Jeff Krichmar, a professor of cognitive science at University of California.

Harvard confirms antique book is bound in human skin

Scientists of Harvard University have confirmed that a 19th century French treatise in its libraries is bound in human skin, the university said this week, after a bevy of scientific testing.

Arsene Houssaye’s “Des destinees de l’ame” (On the destiny of the soul) is part of the antique book collection of the university’s Houghton Library, which specializes in rare and antique works.

Harvard conservators and scientists used several methods to test the origin of the book binding material, using microscopic samples.

Through these tests, they were able to exclude the possibility that the book cover was made from the skin of a goat, a sheep or another animal.

“They are 99% confident that the binding is of human origin,” said a post on the library’s blog.

The conclusions confirm the veracity of a handwritten note in French found in the book, which said it was bound “in human skin parchment.”

“By looking carefully, you easily distinguish the pores of the skin,” added the note, written by a doctor who was a friend of Houssaye, who lived 1815-1896. “A book about the human soul deserved to have a human covering,” explained the doctor, Ludovic Bouland.

Bouland said the skin was taken from the back of a woman who suffered from mental illness and had died of a heart attack.

The doctor said he had another book bound in human skin in his personal collection that was tanned with sumac.

Harvard said that “Des destinees de l’ame” was the only book in its collection bound in human flesh.