Newspaper Clips
October 12-13, 2014

October 12

Rashtrya Sahara ND 12/10/2014 P-1

सीबीएसई ने शुरू की उड़ान योजना

नई दिल्ली (एसएनबी)। इंजीनियरिंग कॉलेजों में दाखिले की चाह रखने वाले छात्राओं के लिए राहत भरी खबर है। केन्द्रीय माध्यमिक शिक्षा बोर्ड (सीबीएसई) स्कूलों के ग्यारहवीं व बारहवीं की छात्राओं के लिए उड़ान योजना शुरू की गयी है। इसके तहत इंजीनियरिंग कॉलेज व स्कूलों की परीक्षाओं के बीच की खाई को पाटा जाएगा। साथ ही साइंस व मैथमेटिकस के पठन-पाठन को और सशक्त बनाया जाएगा।

- ग्यारहवीं एवं बारहवीं की छात्राओं के लिए होगी योजना
- योजना के तहत 1 हजार छात्राओं की होगी ऑनलाइन कोचिंग

इंजीनियरिंग कॉलेजो की प्रवेश परीक्षा की तैयारी के लिए बोर्ड ऑनलाइन संसाधन उपलब्ध कराएगी। इस योजना का मकसद देश के प्रतिष्ठित इंजीनियरिंग कॉलेजों में छात्राओं के घटते अनुपात को कम करना है। बोर्ड की इस योजना के तहत प्रतिवर्ष एक हजार छात्राओं की मदद की जाएगी। योजना के तहत 50 फीसद सीटें एससी-एसटी व बैकवर्ड कैटेगरी की छात्राओं के लिए होगी। छात्राओं का चयन मेरिट के आधार पर होगा। छात्राओं को ऑनलाइन व ऑफलाइन फॉर्मेट का व्यापक कोर्स निशुल्क प्रदान किया जाएगा। आईआईटी, जेईई परीक्षा की तैयारियों के लिए ट्यूटोरियल, लेक्चर्स व स्टडी मटेरियल ऑनलाइन उपलब्ध होगी। छात्राओं को टैबलेट भी दिया जाएगा, जिसमें यह मटेरियल होगा। छात्राओं का मूल्यांकन भी होगा, जिसके आधार पर उन्हें प्वाइंट्स मिलेंगे। अर्जित किये प्वाइंट्स के आधार पर छात्राओं को आईआईटी यार एनआईटी की फीस में छूट भी मिल सकेगी। इस योजना के तहत ग्यारहवीं व

(शेष पेज 4)

सीबीएसई ने शुरू...

बारहवीं के पीसीएम स्ट्रीम की छात्राएं ही आवेदन कर सकते हैं। आवेदन करने वाली छात्राओं का दसवीं में कम से कम 70 पर्सेंट ब ग्यारहवीं में पीसीएम में 75 फीसद अंक होना अनिवार्य है। विद्यार्थी के पास 8 सीजीपीए व साइंस व मैथ्स में 9 सीजीपीए होना जरूरी है। बारहवीं के विद्यार्थियों के लिए ग्यारहवीं के पीसीएम में 75 फीसद होना जरुरी है। इस योजना का लाभ उठाने के लिए छात्राओं को सीबीएसई की वेबसाइट पर ऑनलाइन आवेदन करना होगा। छात्राएं वेबसाइट पर ऑनलाइन आवेदन फॉर्म डाउनलोड कर सकते हैं। आवेदन करने की लास्ट डेट 27 अक्टूबर है।

Hindu ND 12.10.14 P-5

Tribute concert for Nusrat Fateh Ali Khan

NEW DELHI: Saaz, a tribute concert for late legendary Pakistani Qawwali singer Nusrat Fateh Ali Khan, is set to take place at the Indian Institute of Technology (IIT) here October 15.

The event is being organised by IIT Delhi Alumni Association with the Board For Recreational and Creative Activities (BRCA) of IIT—Delhi, a statement said.

The House of Symphony, a Capital-based independent music ensemble, will present the tribute along with performances with other bands and singers including Advaita, Gaurav and Tarun Balani and Hasya Shayari Sammelan by five Urdu poets.

"The late maestro's contribution to Qawwali and other forms of singing is unparalleled and we are immensely thrilled to pay a tribute to the indomitable legend through this concert," said Ashok Kumar, president, IIT Delhi Alumni Association. — IANS

Row over site selection delays work on Central University, IIM

http://timesofindia.indiatimes.com/home/education/news/Row-over-site-selection-delays-work-on-Central-University-IIM/articleshow/44787694.cms

SHIMLA: Site selection for two reputed institutes has become a political issue in Himachal Pradesh. With leaders having difference of opinion, these institutes are witnessing delay in finalization of sites for their permanent campuses.

In 2010, the Central University was shifted to a temporary campus in Shahpur but till date, no permanent campus has come up as politicians have failed to evolve a consensus on the final site. Same is the fate of IIM, sources said.

For the last four years, the Central University is running from the transit campus at Shahpur as government has yet to make up its mind whether the permanent campus should come up at Dehra or Dharamshala. Amid prevailing confusion, BJP leaders from Palampur are demanding opening of the campus of Central University at a vacant land near the agriculture university there.

Sources said that initially there was a proposal to open two campuses of Central University at Dehra and Dharamshala. While campus at Dehra was to be known as "Beas campus," the other at Dharamshala was to be called as "Dhauladhar campus." But after a prolonged wait, none of the campuses came into existence while politics on Central University intensified once again.

Another major institute awaiting land allotment in Himachal Pradesh is about Indian Institute of Management (IIM). During his visit to Delhi in September, Himachal Pradesh chief minister Virbhadra Singh had requested Union human resource development minister Smriti Irani that a site selection committee may be sent to finalise the site for IIM so that work on this prestigious institution could be started at the earliest. Land measuring 188

acres situated at Mauja Kolar near Paonta Sahib in Sirmaur district had been identified for the IIM, Singh said.

With BJP heading the government at Centre, people of the state are eagerly waiting to see where exactly the IIM comes up as BJP leaders also have their choice of sites for the project. While Congress is planning to set up IIM in Sirmaur district, there are others who want to see the prestigious institution in their respective district. Within Congress, there is demand to open IIM either at Shimla or Bilaspur district while some want it at Solan or Hamirpur district.

With the dispute over IIM persisting, former chief minister Prem Kumar Dhumal had even requested the Union government to conduct a survey to identify the location. "Congress leaders are fighting over the issue of opening IIM in their area. As such, survey is the only option left to defuse the situation and do justification with the institutes of national repute," he had said.

Times Of India ND 12/10/2014 P-25

Brain scans explain DIY investing

A new field of neuroeconomics is giving investors insight into brain chemistry that is responsible for their market moves

Ben Steverman

September was "hell on earth" for Walter Ribeiro. A 29-year-old resident of Dublin, Ribeiro is heavily invested in Brazilian stocks that were slammed last month. A 21% gain for his portfolio year-to-date turned into a 10% loss.

"I really started to doubt myself. Why did I do that? Am I really doing the right thing," said Ribeiro.

This is why people hire financial advisers — they help shoulder the stress. At the same time, they can be expensive, they can have conflicts of interest and it's hard to know which ones to trust. Fortunately, the services and tools available for do-it-yourself investors are better and more useful than they've ever been. New research is helping investors understand what drives their financial decisions, so they can prevent emotions from costing them money.

The new field of neuroeconomics is giving investors insight into the brain chemistry behind their market moves. When volunteers for a lab experiment contemplate risky investments, brain scans show it lights up their anterior insula, the deep part of the brain that processes fear and anxiety. Other studies show the more anxious a subject becomes in a lab — anxiety can be induced more conveniently with scary images than with junk bonds — the less confident they are in identifying investment opportunities." So even contemplating investments can make people basket cases — and then their moods undermine their decisions.

"It's a double whammy," says University of North Carolina finance professor Camelia Kuhnen. A stressful day at work, or a fight with a spouse, can make an investor overly cautious. And research on the brain chemical dopamine and the so-called "reward center" of the brain shows that the opposite is also true: A great meal or successful date can push investors to pile on the risk. Genes may even play a role, says Kuhnen. Some people have a gene that predisposes them to be more anxious investors, while others have a gene associated with risk-taking.

© Corbis

GETTING A GRIP: Mental health professionals and financial planners are helping investors master their emotions through "financial therapy"

Without some radical and very stupid surgery, there's no way to turn off the anterior insula or the dopamine. But if investors don't trust themselves to stay cool, they have more online tools today to help them keep emotions in check.

These tools prevent do-it-yourselfers from screwing up by limiting how many decisions they have to make. Target-date funds, for example, automatically buy fewer stocks and more bonds as retirement approaches. Online brokers can take clients through a questionnaire, suggest an appropriate portfolio of cheap index funds or exchange-traded funds and then re-balance those funds regularly – all without more than a few clicks of the mouse – for little more than you'd pay if you bought the funds on your own.

Those who want more active control of their money need to accept that they're not as rational as they think, and work harder to master their emotions. A small but growing group of mental health professionals, financial planners and academics is trying to help through a field they call "financial therapy."

Therapists can teach calming techniques. They can also plumb a patient's past to help him understand why he behaves irrationally about money. A parent's credit card problems may leave an adult child petrified of debt, for example. People find it easier to change their behavior when they understand what's really motivating it, says Kristy Archuleta, a Kansas State University professor and editor-in-chief of the four-year-old Journal of Financial Therapy.

Ribeiro doesn't have a therapist. But he does occasionally email about investing with a former teacher. Those conversations helped him hold on to his stocks rather than panic and sell at what might be a bottom. "I'm trying to stay calm," he says. He reminds himself he's saving for retirement, not trying to make a quick profit.

That's smart. It's also a difficult attitude to maintain when markets are crashing and savings are evaporating. The upside is that it gets easier the more you do it. And mental stamina – the discipline to stick with well-laid investing plans — is a big part of being a successful investor. BLOOMBERG

October 13

The Hindu ND 13/10/2014 P-2

IIT-D is all set for 'Rendezvous' this week

Vijetha S.N

NEW DELHI: Conversations with Chetan Bhagat, music concerts with Arjit Singh and KK as well as tributes to Nusrat Fateh Ali Khan are some of the features of this year's "Rendezvous," IIT-Delhi's annual cultural fest with an average footfall of 60,000 people is scheduled to begin this week. The Engineer turned author will be returning to his alma mater on invitation of IIT-Delhi's alumni association.

"He is also the guest of honour for the festival itself. And his lecture on the topic, "from institute to Bollywood," on Saturday is part of the distinguished alumni lectures. There is also an open house session in which students will be able to talk to him," said alumni association president Ashok Kumar, adding that the event will be followed by an introduction to his latest book "Half Girlfriend."

The tribute concert to Nusrat Fateh Ali Khan, also being organised by the alumni association has been titled "Saaz," and is all set to take place on Thursday with the 'House of Symphony', a city-based independent music ensemble, along with performances by other groups.

An "International cultural festival-Confluence," is also on the cards, with performers from across the world participating.

Then, there is kick-start, a first-time event for students interested in acting. The winners of these events get an internship opportunity.

IISc Scientist Bags International Award for Work on Urban Floods

BANGALORE: Prof Pradeep Mujumdar from the Department of Civil Engineering, IISc, has been awarded the prestigious Alexander von Humboldt Medal by the European Geosciences Union. The award is 'reserved for scientists who have undertaken research in developing countries, for the benefit of the people and society, and have achieved exceptional international standing'.

The main focus of Mujumdar's work is to develop a conceptual framework to deal with complex water resource systems. Combining cutting edge research with application on the ground, his group has played a role in policy formulation and institutional capacity building.

His latest research has looked at assessing the impact of climate change on hydrology (water resource systems). Complex computational models that predict the effect of climate change usually do not assess the impact on hydrology; this is a loophole Prof Mujumdar has been attempting to fill.

His career has focused on bringing practical solutions to urgent problems related to managing India's water resources. "Mujumdar experimented with application and adaptation of novel statistical and non-statistical methods in areas as diverse as floodplain planning, waste load allocation, reservoir control, wave routing, attribution of hydrological change and climate change adaptation, reflected in his prolific scientific career," says the release.

"It is for the ability of marrying excellent scholarship with a direct impact on people's lives, that I have nominated Pradeep Mujumdar for the Humbolt medal," said Prof Wouter Buytaert from Imperial College, who nominated Mujumdar.

"For the last decade, Prof Mujumdar has been influencing the study of hydrology and water resources in India and the rest of Asia. Biological sciences struggle to find answers because of the sheer complexity of hydrological research, and analyse the water cycle." With his engineering background, the scientist has effectively raised the bar for hydrological research in India.

"The medal, comes as a compelling motivation to those working in developing countries," he said.

He also thanked his Indian and international collaborators, and students who worked in his group, for their contributions.

IIT-Madras seeks to be in top 50 in all disciplines

http://www.business-standard.com/article/management/iit-madras-seeks-to-be-in-top-50-in-all-disciplines-114101200673_1.html

The IIT-Madras, has laid out a 'Strategic Plan 2014-2020'. The Vision, under the plan, is to be in the top 50 in all disciplines, by being a global leader in research and education.

Pawan Goenka, chairman, IIT Madras and Executive Director, Mahindra & Mahindra Ltd, said the key pillars to achieve this vision would be course programmes, research, engagement with industry, internationalisation and entrepreneurial activity.

Another key focus for is to incubate 'blockbuster' companies that will create high-value intellectual property. IIT Madras figured on the QS World university ranking at 321 , but did not figue on the Times Higher Education ranking. The strategic plan is expected to help it to perform better in the rankings.

"Modern India has a strong need for robust and innovative technology solutions, be it to improve the quality of life or to be on a par with global standards. Given the growing expectations and complexities, IIT-Madras will face the challenges in meeting this plan," said Goenka. However, he said, the plan has been thought through well, and keeping in mind the Institutes's robust ecosystem and team, it will make rapid progress towards

achieving its vision.

Indian Express ND 13/10/2014 P-10

Faking it

UGC guidelines on academic fraud should go beyond plagiarism

PUSHKAR

PLAGIARISM is by far the most common form of research fraud. Widely practised by faculty and students at India's higher education institutions, it is, for the most part, not even considered unethical. A high-level, UGC-appointed committee, headed by Sanjay Dhande, former director of IIT-Kanpur, is looking to change that. The committee is currently finalising a set of rules and regulations that will clearly outline what plagiarism is and recommend different levels of punishment — including salary cuts and even dismissal — for different degrees of plagiarism. With the adoption of these new rules, higher education in India would have taken an important step towards improving its research culture.

A fairly large number of PhD dissertations submitted at our universities are plagiarised, often with the blessings of faculty members. Many teachers themselves plagiarise quite freely, as they dish out journal articles and books, because there are no adverse consequences. In most cases, offenders actually benefit from it.

Plagiarism, however, is an archaic form of research fraud. The academic world has moved on, embraced new techniques of dubious research and discovered fresh avenues to publish that research. While the UGC's new initiatives are necessary and welcome, they are not sufficient to address the larger problem of research fraud. Let us consider just two new offences that have become prevalent in recent times to understand the limitations of the current anti-plagiarism initiatives.

Over the past few years, hundreds of fake academic journals, most of which are primarily online publications, have proliferated. These journals exist for the sole purpose of making money from authors. They are labelled "fake" because one can literally publish gibberish in these journals for a small "processing" fee. Academics and students worldwide routinely receive emails from publishers, soliciting contributions. Following in the footsteps of faculty members, and sometimes inspired by them, undergraduate students also have taken to publishing in order to pad up their CVs. For fresh PhDs, the easy option of publishing their dissertations with foreign publishers without any academic review is all too tempting.

"I didn't know" is the most convenient excuse one hears from those doing business with dubious publishers. However, many faculty members are faking it on purpose for potential benefits, usually career advancement. Others are doing it to show that they have utilised research grants from the UGC or other organisations. There really are no excuses for "I didn't know". Jeffrey Beall, an influential voice speaking up against predatory publishers, maintains a blog which lists and updates all dubious publishers. All one needs to do is verify with his blog whether the publisher or journal is genuine or not.

The second form of research offence, one that is not common in India yet but is likely to catch on in future, is the use of software to generate academic papers. In 2005, Jeremy Stribling, a computer science graduate from MIT, and his colleagues developed a computer science paper generator that could stitch together nonsense papers with impressive graphs and such.

Over the past few years, hundreds of fake academic journals, most of which are primarily online publications, have proliferated.

The papers produced by their SCIgen software read genuine enough to make it to big conferences and established journals. SCIgen has been utilised by several academics, many of whom are affiliated with Chinese universities, to publish more than 100 articles in journals and conference proceedings by reputed publishers such as Springer (Germany) and the Institute of Electrical and Electronic Engineers (IEEE, US). It took some chasing by Cyril Labbé, a French computer scientist, to bring down SCIgen papers. Incidentally, Labbé also maintains a website where one can screen for SCIgen-created papers.

Computer-generated papers are not limited to computer science and related disciplines. Les Perelman, a former director of undergraduate writing at MIT, and his students at Harvard and MIT have developed the Basic Automatic BS Essay Language Generator or Babel. Perelman is at war with essay-grading automatons, which are increasingly being used to grade humanities and social science papers. The Babel generator is primarily designed to fool the machines but such programmes may soon be able to create authentic-enough papers that dupe humans as well.

How long will it be before geeks develop "Babel Plus" to generate papers that get past human scrutiny? That is hard to say but what is certain is that such programmes will become popular for preparing papers in the humanities and social sciences unless specific rules are laid down to check this kind of academic fraud.

The current anti-plagiarism initiatives are absolutely necessary, but it is clear that they will address only a small part of the problem. The UGC will have to do more to clean up the research environment in the country.

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Financial Express ND 13/10/2014 p-12

Building employable skills

While India produces over a million engineers every year, in today's knowledge-based economy the quality of workforce is more important than quantity

KISHORE JAYARAMAN

The government has announced its vision of making India a manufacturing hub with international standards in production and quality. This is backed by the 'Make in India' campaign, which is expected to spur economic activity, create jobs and boost India's share of global manufacturing that currently stands at 2%, compared to China's over 22%. Our National Manufacturing Policy envisages creating 100 million manufacturing jobs and raising manufacturing's contribution to GDP from 16% today to 25% by 2022. Thus, there could not have been a better time to push for manufacturing, as India needs to grow faster to increase per capita income and create jobs. And to create jobs, the country needs to focus on manufacturing-driven growth.

Let's look at how countries such as the US, Japan and Germany become major manufacturing economies. They built their economies on the back of innovation, focusing on harnessing science and technology, and capitalising on their immense wealth of creative and highly skilled talent. Of these, I will focus on the importance of skilled talent in achieving manufacturing excellence.

We have the talent already

India produces about 1 million engineers every year. We have enough engineering talent to meet our needs and also help the rest of the world. The future of the world is technology-inspired—from retail to aerospace to finance to transportation. Thus, it makes perfect sense for India to produce a vast amount of engineers and technicians.

However, in today's knowledge-based economy, the quality of workforce is more important than quantity. While having a million engineers is an attractive proposition, we need to recognise that there is a gap in applicable knowledge. Despite the stress laid on education and training in this country, there is still a shortage of skilled manpower to address the mounting needs of the economy. It is not surprising that out of a remarkable 60% of total population available for working and contributing towards GDP, only 25% of the talent pool is employable. At the entry level, there seems to be good supply of talent across sectors, but as markets grow, leading to an increase in jobs and skilled talent, there is a scarcity of employable workforce.

This lack of adequate skills has a huge impact on India's ability to absorb new technologies and solutions. The severity of the skills gap of the country can be estimated by the fact that, as per some recent studies, only 17% of engineering graduates of the country are employable and the same is true for MBA graduates, where this number is just 10%.

The battle for talent exists across all industry sectors dependent on innovation and creative thinking. As per a report, about three-fourths of Indian businesses face the challenge of shortage of technical or specific skills. The aerospace and defence industry is no different, as it employs rare and specialised skill-sets with niche qualification requirements.

Bridging the engineering skills gap

The backbone of the aerospace and defence industry, as is true for most skills-led manufacturing industries, is its human resource and, in turn, the skills and technical abilities of the workforce. India's skills and competencies in areas such as precision engineering and quality production have been successfully harnessed by foreign automobile companies outsourcing manufacturing work to India. A lot of this success can be replicated by filling the skill reservoir with employable talent. This is where India's real and sustainable advantage exists.

Our competencies in areas such as precision engineering and quality production have been successfully harnessed by foreign automobile companies outsourcing manufacturing work to India. A lot of this success can be replicated in other sectors by filling up the skill reservoir with employable talent

To handle high-end and high-value work, there is a growing need to develop highly skilled talent. At the bottom of the aerospace and defence industry talent pyramid are basic engineers handling non-core, low-end work, mostly using tools, methodologies and processes. The country has a little over 50,000 people working in this layer. The mid layer of the pyramid is the product space where skills, product knowledge domain expertise, end-user/market understanding and product delivery capabilities are crucial. Currently, people in this space are in the 4-5 years' experience category; such functions globally are handled by professionals with over 15-20 years of domain experience.

Aerospace and defence being a niche sector, it is important to develop training grounds for the manpower so that they are 'sector ready' for application of these skills. The concern is this lack of talent will dampen business productivity, threatening growth and profitability.

Gear up for the next level

With a huge challenge to upgrade skills and improve the education standards to meet the demands of the job market, the government has taken steps such as the formulation of the National Policy on Skill Development, upgrading existing institutions, setting up of the National Skill Development Corporation and establishing 50,000 skill development centres. The urgency to put skill development at the core of the development agenda is reflected in the vision of "skill, scale and speed". But these efforts will bear fruit if a partnership between the university/academia and business is maintained.

India's aerospace and defence sector is building capabilities to emerge as a preferred destination for manufacturing of aerospace components. Certainly, an opportunity exists in demonstrating the country's manufacturing expertise, beginning right from initial design and ending with the final manufacture.

The author is president for India and South Asia, Rolls-Royce

Illustration: ASIT BAGCHI

HT.COM ND 13/10/2014 P-8

HARVARD-INDIA CONFERENCE

STUDENTS UNITE

Pupils from different countries unite to address India's most pressing issues

Shradha Shahani

To foster relations between college students from the United States and India, Harvard University is organising its fourth annual Harvard US-India conference in New Delhi on January 9 and 10. Here, students from the US, UK and India will address some of India's most pressing social, political and economic issues. Students from Mumbai can also apply to participate.

This year, delegates will discuss issues of accessible education, reservation, business incentives and innovation in India's colleges, among other subjects.

With 50 student members in the organising committee, the conference is managed entirely by students, from Harvard and other popular colleges in the United States, United Kingdom and India. The committee has two Mumbai students, one each from Jai Hind College and Boston University.

Speakers at the conference include Piyush Goyal, the minister of State with independent charge for power, coal and new and renewable energy in the government of India; Hemant Bakshi, executive director, Hindustan Unilever; Zia Mody, a legal consultant; and William Mark Tully, the former bureau chief of BBC.

"As final-year students at Harvard, we get the opportunity to participate in several discussions on critical issues," says Upasna Sharma, 20, conference co-chair and a student at Harvard, who hails from Delhi. "We would like to participate in similar dialogues to improve situations back home as well."

The conference will be an entirely student-run initiative; (above), the organising committee members, students from Harvard FILE PHOTO

Students will meet some of India's best minds and leaders, and learn from the network they will build with other delegates" says Disha Verma, 21, president of the Harvard US-India Initiative and a student at Harvard College.

Along with panel discussions, students will also engage in essay sessions, photography, case competitions and networking events. "The aim is to push students to think bigger, dig deeper, challenge beliefs and come out of this conference better informed and prepared to tackle India's challenges," says Verma.

"We want to bring out India's incredible diversity, help students learn about challenges that confront us and how we can equip ourselves to deal with them with the help of these experts," says Verma.

To streamline the procedure, the organising committee is divided into four departments—finance, outreach, operations, and marketing and design. Students say that being part of the committee has helped them gain employable skills too.

"This conference has given me a chance to work with people from across the globe and has honed my networking and organisational skills," says Shriyans Bhandari, 20, a member of the finance committee and a management student at Jai Hind College. "I presented business proposals to top marketing heads to sponsor our event," he says.

Register

Students between ages 16 and 25 are eligible to apply to participate in the conference. Applicants need to provide detailed information about their contribution to their educational institutions and their future plans in the applications they send.

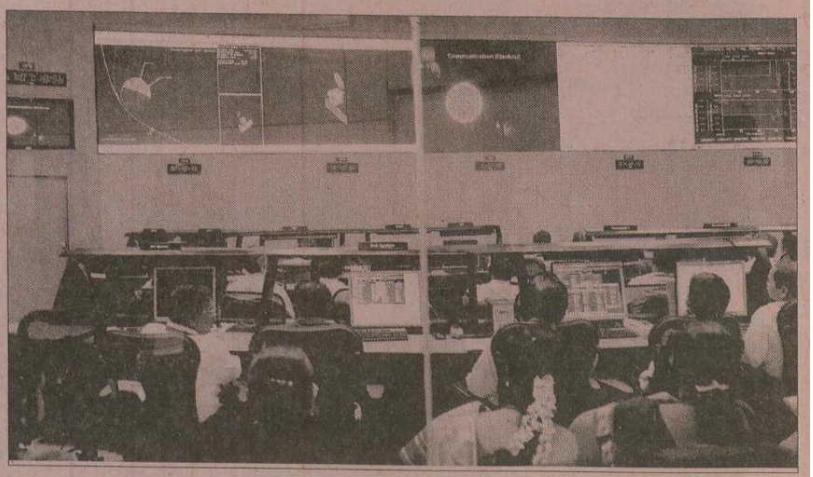
While the participation fee is ₹6,000, some applicants will be provided a scholarship under The Global Education and Leader Foundation programme, a non-governmental organisation (NGO) based out of Gurgaon. The selection of students depends on their academic and economic background.

Financial Express ND 13/10/2014 p-9

High performance computing moves mainstream

Research institutes and businesses now view high performance computing, also known as supercomputing, as a value investment, rather than a cost, in the design of a new car, airplane or even the latest mission to Mars

BV Mahalakshmi



THE US chipmaker Intel is betting big on high performance computing (HPC) business in India. Be it for pharmaceutical companies or car manufacturers or even the recent Indian Mars Mission, design engineering among research institutions and industry is changing for a better tomorrow and for faster reach to the market. Intel is in talks with several academic and research institutions in the country to help them develop their own simulations in a faster mode.

As part of its growth strategy, Intel is moving away from a hardware-driven infrastructure approach to a software-defined approach. It is doing this by bringing innovative technologies in the realm of high performance computing for partners to build solutions and lay the foundation for a digital infrastructure in the country. One of the major advantages of high performance computing is the lower power cost consumption. "The application of HPC uses lower power for designing of products," says Sanjiv M Shah, vice-president, Software and Services Group, Intel. A classic example is ISRO's Mars Orbiter Mission (Mangalyaan) for which HPC solutions played a vital role for designing, planning and management in a cost-effective manner.

High performance computing enables researchers to do simulations faster instead of physical models and uses tools to generate design with higher quality. It uses lesser number of resources and gives direct benefit to the user. "The demand is increasing for higher quality product and simulations always help in designing faster," says Shah, who is also the general manager, Technical and Enterprise Computing Software Tools at the US microprocessor firm, Intel. The adoption of HPC is boosted by government spending, primarily by the department of science and technology, towards budgeting for development of computing capabilities for the whole range of high performance applications by various labs.

According to Shah, the demand for high speed computing market is driven by factors such as advancements in cloud computing, convergence of Big Data, development of new technologies and solutions for embedded processors. HPC has wide applications in various fields such as weather forecasting, molecular modeling, physical simulations, and quantum mechanics. Factors such as economic competitiveness and new product innovations are driving the demand for high performance computing market.

In fact, some of the recent developments in HPC include cloud-based approach for SMEs in the market. SMEs using high performance computers would minimise the initial investments for building infrastructure, hardware implementation and thus the high performance computing market is expected to grow exponentially in near future.

An IDC report says that pricing is a key factor which would determine the future potential of high performance computing market. Other factors such as power and cooling among others are restraining the market growth. Some of the prominent players in the high performance computing market include IBM, HP, Intel, Microsoft, Cisco, AMD, Bull, Dell, and Oracle among others.

As Shah points out, the technology landscape is evolving and areas like high performance computing, Big Data and analytics are expected to converge to offer a conducive environment to realise transformation in digital services economy. These trends of convergence in Big Data and HPC will accelerate with government of India's digital infrastructure initiatives such as the vision of smart cities.

Specifically with regard to convergence of HPC and Big Data, Intel expects to focus beyond the traditional HPC verticals such as space, weather and life sciences to three emerging technology verticals to drive growth in 2015. Financial services, automobile and e-commerce—each of these verticals is expected to get a major boost over the next 12-24 months. The recently launched Pradhan Mantri Jan-Dhan Yojana for financial inclusion is expected to put tremendous pressure on the current IT infrastructure at banks and the risk management infrastructure, says Shah.

"The ability to simulate complex real world problems allows manufacturers to better predict actual behaviour before investing time in the actual manufacturing process—be it cars, airplanes, down to the airbag material and mechanism used to land a space probe on Mars. Each of these requires a high level of sophisticated HPC solutions that enables environments to do so.

Prime Minister Narendra Modi's 'Make in India' campaign is expected to be a propeller to the manufacturing segment to adopt HPC solutions that can alter the way the design to development process works, Shah summarises.

Mint ND 13/10/2014 p-10

BRITT WADE & SOUMITRA ROY/PROMETRIC

We wouldn't know whether CAT is going to be a very valid test

By Prashant K. Nanda
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NEW DELHI

US-based education company **Prometric Inc.**, which helped the elite Indian Institutes of Management (IIMs) shift to computer-based testing five years ago, has lost out to **Tata Consultancy Services Ltd** in the race for the contract to conduct the Common Admission Test (CAT) from this year onward. Prometric India country manager Britt Wade and general manager, global business development, Soumitra Roy, spoke about the development and the company's Indian operations in an interview. Edited excerpts:

Ramesh Pathania/Mint

Quality check: *Britt Wade (left) and Soumitra Roy.*

mint INTERVIEW

How is your India business shaping up?

Roy: It's shaping up very well. We are trying to focus ourselves on a lot of indigenous businesses as much as global clients.

Wade: Certainly, over the last 18 months, we have tried to put in place a lot of infrastructure. We have created Prometric-owned testing facilities in eight major cities: Gurgaon, Hyderabad, Mumbai, Chennai, Bangalore, Ahmedabad, Kolkata and Trivandrum. We are investing a lot of energy putting in a world-class footprint in the country and, of course, as business continues to grow, we would expand our reach further.

You said earlier you would like to associate Prometric with the conduct of important exams as that would set the standard for yourself in India. What are the big tests you are now conducting?

Roy: Being a global company, we don't have much of a play in the high-volume market, but we definitely have a play in the high-stake exams. We continue to play in the high-stake space—that's why we are investing in our mega centres, which I would say none of our worthy competitors have.

Wade: We are conducting 400 exams in 160 countries across the world, but we don't talk about individual clients.

Why be secretive? For example, your association with the IIMs was well-known.

Roy: The IIMs were in public knowledge. They made it public. Many organizations don't want to make it public. That's our non-disclosure contract with them. So, we don't want to make it public. It's not secretive, but it has its own dos and don'ts attached to it. We are a testing and assessment company and we do test development also. But none of the IT (information technology) companies do that.

From this year, you won't be delivering and assessing the CAT exam for IIMs. What happened?

Roy: You should ask them (IIMs). I will tell you what we feel probably may have happened. Probably they took a decision based on price. In the market we are not one of those... we are expensive. When I am saying expensive, it comes with security and quality, not quite like what others are providing. We are high-priced and we cater to that level of high stake testing.

And, of course, something, which probably IIMs were expecting us to do, we felt that was not valid testing. We did not propose a solution which probably could reduce the number of days of testing. We did not go for that. Our recommendation was multi-day testing anyway.

So IIMs were thinking of reducing the number of testing days?

Roy: In a way, I would say, yes.

You said you are a bit expensive. Please explain.

Roy: At some point of time, you really need to differentiate. We are a global assessment and testing player, not a leading software developer. We use IT as an enabler. Software and testing solutions, as you know, are quite different. Testing is so much of operations.

How would you like to see CAT as an exam? What should be done to take it to a new level?

Roy: If you say what I would personally like CAT to be: for the candidate community, I would like it to be very fair, valid and a reliable test (smiles), which rewards meritocracy, which candidates vie for. That's where CAT should aspire to be.

I am really, really not very sure whether that's going to happen from now on.

Why do you think so?

Roy: First of all, I wouldn't know whether it is going to be a very valid test. Even if you come down on the number of testing sessions, still you need to equate. Without equating, no test is valid on a multiple session format. Even if there are two. I am not sure what their methodology is going to be. Yes, it would certainly reduce a lot of effort for them (IIMs). Costs have definitely come down.

Your contract period with IIMs had a fair share of criticism, 2009 for glitches in the first year of computer-based CAT and then the score tampering case in 2012. Your view?

Roy: The 2012 (episode) has nothing to do with us.

Wade: We gave them (IIMs) the score and they gave it to (another party). We cannot control what they do with the information.

Some legal cases are still on. Did the court ask you for something like how do you equate marks, etc.?

Roy: We have given everything to the IIMs. We handed them raw scores—that's what the court was asking. I don't know why IIMs were not giving them. If you have a problem, challenge us. Please tell us where we are wrong.

What would you tell TCS, which has bagged the CAT contract?

Roy: Good luck.

Deccan Herald ND 13/10/2014 P-9

Snake robot to aid search and rescue

WASHINGTON: Inspired by the amazing ability of sidewinder snakes to quickly climb sandy slopes, researchers have created a robot that can climb sand hills better, an advance that may aid search-and-rescue operations.

Researchers report that sidewinders improve their ability to traverse sandy slopes by simply increasing the amount of their body area in contact with the granular surfaces they're climbing.

As part of the study, the principles used by the sidewinders to gracefully climb sand dunes were tested using a modular snake robot developed at Carnegie Mellon University.

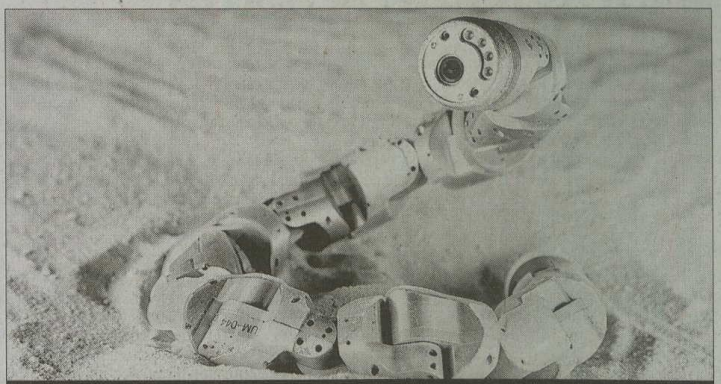
Before the study, the snake robot could use one component of side-winding motion to move across level ground, but was unable to climb the inclined sand track the way the real snakes could readily ascend.

In a real-world application — an archaeological mission in Red Sea caves — sandy inclines were especially challenging to the robot.

However, when the robot was programmed with the unique wave motion discovered in the sidewinders, it was able to climb slopes that had previously been unattainable.

"Our initial idea was to use the robot as a physical model to learn what the snakes experienced," said Daniel Goldman, an associate professor in Georgia Institute of Technology's School of Physics.

"By studying the animal and the physical model simultaneously, we learned important general principles that allowed us to not only understand the animal, but also to improve the robot," said Goldman.The detailed study showed that both horizontal and vertical motion had to be understood and then replicated on the snake-like robot for it to be useful on sloping sand.



A sidewinder rattlesnake robot, on which experiments have been conducted to learn precisely how sidewinder rattlesnakes are able to climb sandy hills, then applied the reptiles' repertoire to an existing snake robot so it could do the same thing. REUTERS

The modular snake robot used in the study was specifically designed to pass horizontal and vertical waves through its body to move in three-dimensional spaces.

The robot is two inches in diameter and 37 inches long; its body consists of 16 joints, each joint arranged perpendicular to the previous one.

That allows it to assume a number of configurations and to move using a variety of gaits — some similar to those of a biological snake, researchers said.

The robots appear well suited for urban search-and-rescue operations in which robots need to make their way through the rubble of collapsed structures, as well as archaeological explorations.

The study was published in the journal *Science*. **PTI**

Times Of India ND 13/10/2014 p-15

Pill with human faeces to help fight ailments

Can Cure Dangerous Bacterial Infection That Kills 14,000 Americans Every Year: Study

Pam Belluck

This pill goes down easier if you forget what is in it.

Inside the experimental capsule is human faeces — strained, centrifuged and frozen. Taking them for just two days can cure a dangerous bacterial infection that has defied antibiotics and kills 14,000 Americans each year, researchers said Saturday.

If the results are replicated in larger trials, the pill, developed at Massachusetts General Hospital in Boston, promises an easier, cheaper and most likely safer alternative to an unpleasant procedure highlighted in both medical journals and on YouTube: faecal transplants.

Studies show that transplanting faeces in liquid form from healthy people to patients with stubborn Clostridium difficile infections can stop the wrenching intestinal symptoms, apparently by restoring healthy gut bacteria.

But faecal transplants are not easy. The procedure requires delivery of a faecal solution via the rectum or a tube inserted through the nose. As with colonoscopies, patients must flush their bowels first.

Finding and screening donors is time-consuming and can delay the transplant. And the costs can be significant, certainly higher than taking a simple pill.

"Capsules are going to replace the way we've been doing this," said Dr Colleen Kelly, a gastroenterologist with the Women's Medicine Collaborative in Providence, RI, who was not involved in the study.

Dr Kelly performs five or six faecal transplants a month, but demand is so great she is booked through January.

"It's so labor-intensive," she said. "You have to find a donor, have to screen a donor. If you can just open a freezer and take out a poop pill, that's wonderful." While the pills are not being marketed yet, the authors of the study, published in JAMA, are making them available to qualified patients without requiring participation in trials.

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FORGET ABOUT WHAT'S IN IT

Their study was small and preliminary, but results were striking: 19 of 20 patients with C difficile infections were cured of diarrhea and related symptoms. Most saw improvements after one two-day round of pills, the rest after two or three rounds, said Dr Ilan Youngster, the lead investigator.

Other teams, and at least one private company, are developing and testing faecal pills. Currently, the Food and Drug Administration effectively permits doctors to give faecal transplants to qualified patients with recurrent difficile infections. Pills marketed commercially would have to meet FDA drug-licensing regulations. NYT NEWS SERVICE

Financial Chronicle ND 13/10/2014 11

To get good ideas, pay for them

William Pesek

WINNING MOMENT: Scientist Shuji Nakamura demonstrates a blue LED light after sharing a Nobel Prize for physics for invention of blue LED light October 7 in Santa Barbara, California

EARLIER this week, Japan's media were exultant over a Nobel Prize in physics award to three native sons. So it came as a shock when, rather than pop another champagne cork, co-honoree Shuji Nakamura poured cold water on the fete.

From his perch at the University of California at Santa Barbara, the 60-year-old scientist unloaded to a pack of giddy Japanese reporters about how Japan stymies the kind of innovation for which he was honoured by the Nobel committee. In Silicon Valley, where he moved in 1999, "everyone has a chance to dream the American dream," he said. "Everyone has the chance if you work very hard."

Not so in Japan, he said, where failures to internationalise, take risks and value employees by merit have led to years of stagnation in the fields of computers, smartphones, semiconductors and solar panels. Oh, and as if to throw off Japanese conferenced in from Tokyo, Nakamura delivered his verdict in English. "It's the main reason why American and Chinese producers took over these markets," Nakamura told Kyodo News after his press conference. "If Japanese companies don't reform drastically and implement English as their daily business language, the economy will only continue to contract."

This month, as the current Diet session gets underway in Tokyo, prime minister Shinzo Abe faces an ideal opportunity to catalyse the kind of changes Nakamura is advocating. Abe has pledged to day out the specifics of his structural reform drive, which relies heavily on corporate tax cuts and reducing red tape. But he's been quiet on one reform that truly would encourage the risk-taking culture Japan needs so badly: making sure employees get paid for their inventions.

Nakamura's experience tells the story. Before heading to the US, where he's now a citizen, Nakamura spent 20 years at Nichia, a small lighting-product company on the southern island of Shikoku. It was there that he made a major breakthrough in blue-LED technology, for which he shared the Nobel. In 1990, Nichia patented Nakamura's advances, and the profits rolled in.

For his contribution, the company gave Nakamura a bonus of, get this, $180. In 2001, Nakamura sued over the rights to his discovery, which a Tokyo court ruled in 2004 could be worth, conservatively, $1 billion. In a settlement with the company, Nakamura got $8 million, a pittance by western standards.

In a 2000 interview with Scientific American, Nakamura described how poorly equipped many Japanese labs were at a time when Apple and Microsoft were changing the world. Because his work initially garnered little revenue, he recalled, "gradually my company became mad at me." Today still, Japanese companies are reluctant to take risks with research and development or to compensate workers' intellectual property. That reduces incentives to conjure up the next big thing, as the Sonys of Japan once did.

Technically, Japanese patent laws hold that in-house inventions belong to employees. In practice, though, that's rarely the case: Executives use any number of loopholes to deprive workers of proper compensation for their ideas, or just assume a salaryman loyal to the company won't demand his rights. Nakamura's legal victory really panicked the Japan business federation, or Keidanren, which then lobbied Tokyo to clarify that patent rights belong to companies, period.

Last year, Abe hinted he might do just that. But if he really wants to fuel innovation, Abe should do the opposite: change Japan's patent law to ensure workers get a fair share of their contributions. Why not spell out a 50-50 or 60-40 split between the visionary who dreams up the next big thing and the company that commercialises it? If a new generation of researchers like Nakamura were motivated by the almighty yen sign, Japan's entire economy would benefit.

When Abe talks about Japan's technological potential, he rarely misses a chance to mention robots. Yet far greater prosperity and economic growth would come from encouraging workers not to act like automatons. Abe should do so.

—*Bloomberg*

(William Pesek is a Bloomberg View columnist based in Tokyo and writes on economics, markets and politics throughout the Asia-Pacific region)

Times Of India ND 13/10/2014 p-15

Soon, gadgets that dissolve fully in water

Washington: A new generation of electronic devices that dissolve completely in water, leaving behind only harmless end products may soon become a reality.

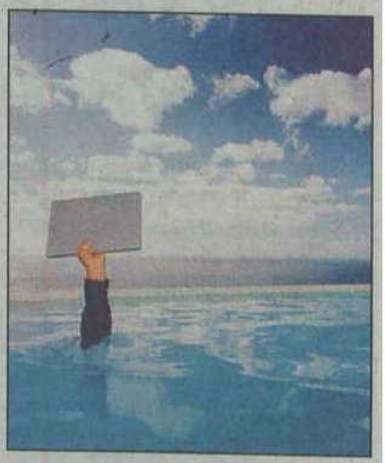
Pioneering research at the University of Illinois at Urbana-Champaign may bring in devices that range from green consumer electronics to biomedical sensor systems that do their work and then disappear.

John A Rogers' research group at the Department of Materials Science and Engineering Frederick Seitz Materials Research Laboratory is leading the development of such concepts, along with all of the required materials, device designs and fabrication techniques for applications that lie beyond the scope of semiconductor technologies that are available today.

"Our most recent combined developments in devices that address real challenges in clinical medicine and in advanced, high volume manufacturing strategies suggest a promising future for this new class of technology," said Rogers.

Practical applications might include: bioresorbable devices that reduce infection at a surgical site. Other examples are temporary implantable systems, such as electrical brain monitors to aid rehabilitation from traumatic injuries or electrical simulators to accelerate bone growth.

Additional classes of devices can even be used for programmed drug delivery, Rogers said.



Research at the University of Illinois at Urbana-Champaign are designing devices that range from green consumer electronics to biomedical sensor systems that do their work and then disappear

The devices would provide robust, reliable, high performance operation, but only for a finite period of time dictated, for example, by the healing process - they would not only be biologically compatible, but also biologically punctual, performing when and as the body needs them.

After their function has been fulfilled, they would disappear through resorption into the body, thereby eliminating unnecessary device load, without the need for additional surgical operations.

The research will be presented at the AVS International Symposium & Exhibition next month in Baltimore. PTI