IIT Kgp celebrates shy student they knew would make it big

Jhimli Mukherjee Pandey | TNN

Kolkata: IIT Kharagpur was a tad disappointed with this alumnus after he gave its convocation a miss last Sunday. His name had been publicized as the star presence that day for a distinguished alumnus award. On Tuesday, 5 am onwards, when news went viral across the globe that Sundar Pichai had become the new Google CEO, everyone at IIT Kharagpur knew why this old boy didn't return home.

The IIT Kgp community got over their disappointment and erupted in joy. Faculty and students across batches and cities started calling each other and posting on Facebook. It was a virtual reunion.

So what if he's 71 and one of the most senior professors on campus, Sanat Roy was part of the melee celebrating his favaourite student's achievement. Hadn't he prophesied that P Sundarajan of the 1993 batch was an uncut diamond? That was the name Pichai was known by. So when he metamorphosed into Sundar Pichai, initially it left his institute confused.

Roy's voice choked with emotion. "I had seen this coming. Three years ago when the boy became Google's vice-president, didn't I tell you this is the beginning, he'll make it straight to the top? Sundar proved that an experiment we conducted with the metallurgy department in 1985 had clicked!" Roy said proudly. The switchover from pure studies in metal to material sciences, including polymers, ceramics and electronic materials was what perhaps acted as a buoy for Pichai, Roy felt. "He was the class topper, meticulous with sharp native intelligence that went much beyond the curriculum. He stood head and shoulders above the rest. Yet, he was unassuming, always looking to be part of the class fabric," Roy remembers. The fact

> India has always had potential but it's now moving to have a big impact...

> Aspirations of Indians are unique and unparalleled. They're very demanding, regardless of background

PRINTLINE PICHAI

New sense of excitement in India: Google's Pichai

SUNDAR RERUN: Pichai featured in TOI's Sept 16 edition last year... a collection of top quotes

'Many powerful people in mobile, I am fortunate to be one of the group'

Google moves to shake up smartphones with Android One

> Things like Android One have been conceived with India in mind. We want to do it right here and then use that as a template to take it outside

> The impact of giving someone a connected smartphone is no different from giving them a computer.... What it is to get the power of knowledge in everyone's hand. It's a levelling of the playing field on a scale never been done

that Pichai went to Wharton for his masters in computer science doubly proved this, Roy says.

That he was shy was a refrain one heard from his friends too. That he could fall in love with a girl from the campus was something

▶ **Related Reports: Times Business**

that even his closest friends didn't believe for a long time till they saw 'Sundy' marry Anjali from the chemical engineering department of the same batch. "Today, when he has become the world's most sought after CEO, I was tempted to tell friends this was easier achieved than expressing his feelings for Anjali," laughed batch mate Phani Bhushan, who was a resident of Nehru Hall with Pichai. But in the right company, he could crack the wildest of jokes. "He was good at

carom and TT, but we had to drag him out of his perch to play. He loved gossip. Those days we neither had mobile phones nor computers/laptops to hold us to ourselves," Bhushan said from Mumbai where he now owns three IT companies.

Friends expected him to be a scientist. The lanky boy with a tilak on his forehead in true Tamil style was a picture in brilliance, felt Sourav Mukherjee, another batchmate, now dean of academics at IIM Bangalore. "He was way ahead of us. In the first year he had a serious leg injury that forced him to stay away from campus but he bounced back making up for the loss and more…We were amazed… Yet, he didn't study much…not the typically studious kind…just plain brilliant. My wife, who is also a batch mate, and he remain close. We saw this coming."

Times of India ND 12/08/2015   p-1

Alpha Bet On G-Male: IIT Grad Is Chief Of Revamped Tech Titan

This Google Search Had Only One Answer: Sundar Pichai

Company To Be Subsidiary Of Larger Entity Called Alphabet

Chidanand.Rajghatta
@timesgroup.com

Washington: In 2004, Sundar Pichai was trying to persuade one of his colleagues at management consultancy McKinsey not to leave the firm to join Google. The chat ended when Pichai realised that it made sense for him to join Google too.

Eleven years later, the India-born Pichai's gamble has paid off, and how. On Monday,

GOOGLE TURNS PAGE TO PICHAI: P 7, 16 & 17

he was named CEO of Google by the company's founders Larry Page and Sergei Brin after they created a mother company called Alphabet to take care of a growing portfolio.

Pichai, 43, a Chennai native who went to IIT Kharagpur and later to Stanford and Wharton, will helm a slimmed-down Google that Larry Page said will be stripped of companies "that are pretty far afield of our main internet products." Page will be Alphabet's CEO.

Alphabet will include, besides Google, units such as Calico (which focuses on longevity), X lab (which incubates new efforts like Wing, Google's drone delivery effort) and units dealing with life sciences (such as the one

INTRODUCING GOOGLE.CEO.IN

Sundar Pichai | 43, Born In **Chennai**, 1972
➤ Alumnus IIT Kharagpur, graduated 1993, studied metallurgical & material engineering
➤ Won scholarship to Stanford, then got an MBA from Wharton School of Business (2002)

WHY GOOGLE MADE HIM CEO

➤ Pichai has been Google co-founder Larry Page's trusted lieutenant for some years now. As Google's product chief, he has proved an effective manager despite his low-key, affable style
➤ Said to have encyclopedic knowledge of Google's products

> I'm humbled to be in this position of responsibility where I can do stuff that I feel passionate about, and which can impact so many lives. It's a privilege I cherish
>
> —**PICHAI** TO TOI IN A RECENT INTERVIEW

EARLY YEARS

➤ Pichai's mother was a **stenographer** before she had children; his **father was an electrical engineer** for British conglomerate GEC
➤ The family lived in a **two-room home,** Sundar and his younger brother slept in the living room
➤ During much of his childhood, the Pichais **didn't have a TV or a car.** For transport, the choice was either a bus or the family's blue Lambretta scooter, with Sundar standing in front
➤ Pichai has an **amazing memory;** said to be able to remember phone numbers he dialled years ago
➤ Married to **Anjali, who was in his batch at IIT Kharagpur** but studied chemical engineering. They have two young children

THE ABC OF ALPHABET

➤ Google's money-spinning, internet-centric services like Search, Maps, YouTube, Chrome and Android will report to Pichai
➤ 'Moonshot' projects like Calico (life-extension biotech research) and X lab (research incubator that includes projects like self-driving cars and delivery drones) will be spun off under Alphabet

The Rationale | Google's bread-and-butter business will remain highly profitable, even if the Alphabet projects fail to make profits for years. The **new structure will bring transparency** to Google's finances
➤ At a later stage, more companies could be spun off from Alphabet, creating more CEO slots

> **"** Sundar has a talent for creating products that are technically excellent yet easy to use — and he loves a big bet...Sergey (Brin) and I have been super excited about his progress... it is clear to us and our board that it is time for Sundar to be CEO of Google —**LARRY PAGE**

Congratulations @sundarpichai. My best wishes for the new role at @google
—PM **NARENDRA MODI**

Congrats @sundarpichai well deserved!
—**SATYA NADELLA** MICROSOFT CEO

working on smart contact lens that detects blood sugar level). Google's investment arms, Ventures and Capital, will also be part of Alphabet.

A straight elevation for Pichai would have meant two of the world's five largest companies by market cap would be headed by executives of Indian-origin — Pichai at Google which is ranked 4th, and Microsoft, which is ranked 5th, helmed by Satya Nadella.

But it won't be so straightforward. Page explained that Alphabet Inc will replace Google Inc as the publicly-traded entity and all shares of Google will convert into the same number of shares of Alphabet, with all of the same rights. Google will become a wholly-owned subsidiary of Alphabet, which Page will head.

▶**Page: Google lucky, P**22

Google's lucky to have Pichai, says Page

▶**From P 1**

Sundar Pichai's elevation is a milestone for Indian-origin CEOs, of whom there are at least half dozen in Fortune 500 companies, including Indra Nooyi at Pepsi (43), Ajit Banga at Mastercard (326), and Sanjay Mehrotra at SanDisk (422). There is a good chance that the third ranked Berkshire Hathaway too could be headed by a PIO with Ajit Jain strongly tipped to succeed Warren Buffett. Apple and Exxon Mobil are the world's number 1 and number 2 ranked companies respectively.

"We've long believed that over time companies tend to get comfortable doing the same thing, just making incremental changes. But in the technology industry, where revolutionary ideas drive the next big growth areas, you need to be a bit uncomfortable to stay relevant," Page said in a blog explaining the rationale for the restructuring, adding that the "new structure will allow us to keep tremendous focus on the extraordinary opportunities we have inside of Google."

Still, Google will remain the biggest piece of Alphabet. Explaining Pichai's elevation, Page said he (Pichai) has really stepped up since October of last year, when he took on product and engineering responsibility for Google's Internet businesses.

"Sergey (Brin) and I have been super excited about his progress and dedication to the company. And it is clear to us and our board that it is time for Sundar to be CEO of Google. I feel very fortunate to have someone as talented as he is to run the slightly slimmed down Google and this frees up time for me to continue to scale our aspirations," he wrote.

He said he has been "spending quite a bit of time with Sundar, helping him and the company in any way I can, and I will of course continue to do that."

ROAD AHEAD

Pichai's top challenges
➤ Will have to take on the challenge from Windows 10 and Bing Search to keep desktop search with Google
➤ Will have to contend with Apple's planned search engines. Google earned 75% of its $11.8 billion from mobile search ads that came from iPhones and IPADs
➤ Will need to ensure that YouTube stays on top. Besides battling direct competitors like Vimeo, and OTT video subscription services like Netflix, Hulu, Amazon Prime, Pichai will have to deal with Facebook – which in the mobile space is ahead of YouTube in smartphone app rankings

Times View

It is a cause for celebration that so many Indians have made it to the very top of some of the world's most valuable companies. At the same time, however, it should make us pause and ask an obvious question – why is it that they make their mark in the US but not in the land of their birth? Clearly, the conditions here are not ripe for the best entrepreneurial and managerial minds to achieve their full potential. This is where governments need to play the vital role of creating the enabling environment in which they can thrive and create value for themselves and millions of others. Successive governments have promised much on this front, but sadly delivered at best a fraction of the promise.

FEW TAKERS

Incubators evoke little CSR interest

There are multiple reasons for tepid corporate interest in incubators; among them is lack of awareness

BY ARUNDHATI RAMANATHAN
arundhati.r@livemint.com

BENGALURU

There is a list, officially called Schedule VII, which tells companies what they can do under corporate social responsibility (CSR) as prescribed by the Companies Act, 2013. Of the 10 possibilities, from eradicating hunger to promoting education, the penultimate item in that list is funding technology incubators attached to academic institutions. In the first year of implementation, few companies put CSR money into these incubators.

Incubators help start-ups survive in their very early stages when most of them rely on funding from family and friends. Incubators are valuable to start-ups because besides grants, they give them an office to work out of and act as a platform for networking. The grants to fledging start-ups are anywhere between ₹25 lakh and ₹50 lakh.

There are about 100 incubators associated with academic institutions and many of them are funded by the department of science and technology (DST), the ministry of micro, small and medium enterprises and the Small Industries Development Bank of India (Sidbi). About 10-12 start-ups are incubated at each of these centres, and they could be involved in developing clean technology, healthcare solutions and creating information technology (IT) innovations.

Among the eight incubators *Mint* spoke to, five have received CSR funding of under ₹2 crore in total.

So far, prominent incubators like the one attached to the Indian Institute of Management (IIM) Ahmedabad got a total of ₹75 lakh from **Mahindra and Mahindra Financial Services**

Ltd, Take Solutions Ltd and **Bajaj Electricals Ltd**; the ones at Indian Institute of Science (IISc) and Indian Institute of Technology (IIT) Delhi got ₹50 lakh each from two multinationals under a non-disclosure agreement; IIM Calcutta and BITS Hyderabad received about ₹5 lakh each from a software company and **Sidbi Venture Capital Ltd**, a venture fund run by Sidbi, from its own CSR funds.

Other well-known incubators associated with institutions like IIT Madras, IIM Bangalore and IIM Calcutta have so far not got any CSR funding. They said they are in talks with a few companies, and expect to sign a few memoranda of understanding.

But all incubators admit the interest from companies has been tepid and the reasons for this are multifold.

The first is lack of awareness. "Traditionally this is not CSR. The idea of CSR is associated with doing social good; so this concept of funding incubators as CSR is alien," says J. Salim Vali, vice-president, Centre for Innovation, Incubation and Entrepreneurship (CIIE), at IIM-A.

Vali said they were expecting to raise ₹3 crore in CSR funding but were able to get commitments worth only ₹75 lakh last year.

PHOTOS COURTESY CIIE
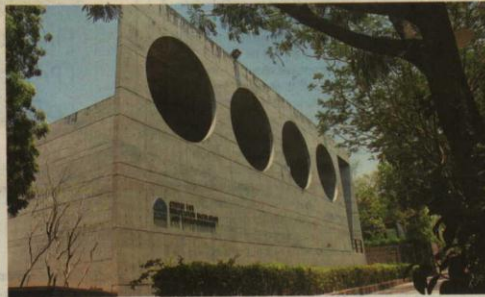
Necessary factor: *(Top and above) Start-ups incubated at the Centre for Innovation, Incubation and Entrepreneurship, IIM-A. These start-ups rely on incubators for not just grants but also as platform to network.*

Second, many companies fund start-ups and get returns on that investment. But when they give CSR grants to an incubator, which in turn diverts some of that money into start-ups, they get no returns.

For instance, **Cisco Systems Inc.** has an investment arm called Cisco Investments, which will invest $40 million (around ₹241 crore) in early-stage firms under its India Innovation investment programme, and the investment arm typically takes a stake in these start-ups. For Cisco, these start-ups are a way to foster ideas, which will benefit its business too.

"CSR funding in incubators is an interesting option but may not be sustainable for building a start-up ecosystem for the longer term. That is better done by capital that will look for returns also, as that will ensure more competitive start-ups take root," said Alok Bardiya, director, corporate development, Cisco.

Third, CSR funding is limited to approved academic incubators but companies are not aware which academic incubators are approved, said C.S. Murali, chairman, entrepreneurship cell, society for innovation and development, IISc.

This, even though DST lists 90

approved incubators on its website.

To tackle this problem, Divya Rajput, head, Centre for Business Innovation at the Indian Institute of Corporate Affairs, Delhi, the think-tank that drafted the CSR rules, said it is preparing a list of eligible incubators that companies can give their CSR funds to.

Originally, incubators were included in the CSR list as they promote innovation. While the law does not specify if incubators should channel funding to start-ups, most have done so.

On their part, founders of start-ups are divided on whether CSR funding makes sense. Some like Nitin Gupta, founder of Sickle Innovations, a farming solutions company, believes CSR funding is valuable, especially for start-ups that are still getting their feet wet. The start-up, incubated by CIIE at IIM-A, makes farm implements that can be used by small farmers.

Gupta said even impact funds (funds that invest in social start-ups) don't invest in the prototype stage. "You need to get to a certain level to get their attention." So, CSR money is a much-needed source of seed funding. "With this money, it will be easier to scale and build credibility and with that we can chase after impact investors," he said.

Sickle Innovations got ₹18.5 lakh in CSR funding from the ₹25 lakh grant Mahindra and Mahindra Financial Services made to CIIE. The company made another grant worth ₹23 lakh towards Sustain Earth, a start-up incubated by Villgro, a DST-approved incubator.

Piyush Jaju, founder of ONergy, which sells solar equipment to rural households, said it is difficult for incubators to get CSR funding. "Companies do not like to mix what they do for profit and what they do with a social motive. For CSR, companies are focused on charity. Changing that mindset is very difficult," said Jaju. " We cant rely on this as a source of funding," he added.

ONergy got ₹20 lakh from CIIE

as part of a ₹25 lakh grant from Bajaj Electricals.

Executives from Mahindra and Mahindra Financial Services and Bajaj Electricals said they are funding incubators as an experiment and if it yields results they will look to increase CSR funding to them.

Businesses can benefit from this, insisted Sanjay Kallapur, director of the fellow programme in management at the Indian School of Business, Hyderabad. He said using CSR to give to social enterprises can spark innovation that can stoke research and development (R&D) in their own companies. He called this a Responsible Business Framework.

"Companies anyway have to do CSR. If they encourage social enterprises in their line of business, through incubators, it could be a win-win situation," he said.

But to attract CSR funding, incubators will also need to show that they are accountable and producing results with their graduates, said Will Poole, managing partner, Unitus Seed Fund.

"I do not believe CSR grants will be large enough to both support an incubator and flow-through incubators in any material way to the organizations they train and support", Poole said.

CSR consultants such as Noshir Dadrawala, CEO of Centre For Advancement of Philanthropy, wondered why this criteria was included in Schedule VII in the first place. "No company has expressed interest in this. CSR funding in incubators sticks out like a sore thumb from the rest of the areas listed."

Also, the wording is very vague, Dadriwala said. "As the law discourages CSR funding to any form of for-profit enterprise, funding incubators means encouraging for-profit enterprises."

He said the criteria needs rewording and clarification from the ministry on its exact meaning.

Till then, few companies are considering this route.

अब तक बिना इमारत चल रहे आइआइटी-आइआइएम

वर्षों से चालू 36 शीर्ष संस्थानों में सिर्फ सात की इमारतें तैयार

मुकेश केजरीवाल, नई दिल्ली

एक तरफ सरकार जहां आइआइटी और आइआइएम जैसे नए शीर्ष केंद्रीय तकनीकी संस्थान खोलती जा रही है, वहीं अधिकांश में संसाधन बेहद खस्ताहाल है। पिछले कुछ वर्षों के दौरान खोले गए ऐसे 36 नए संस्थानों में से अधिकांश अभी तक बिना इमारत के ही हैं। इसी तरह कई नए संस्थानों में अध्यापकों की आधी संख्या से ही काम चलाना पड़ रहा है।

छह से सात साल तक पुराने आठ आइआइटी में सिर्फ पटना का ही परिसर पूरी तरह बन कर तैयार हो सका है। इसी तरह वर्षों से चल रहे दस नए राष्ट्रीय तकनीकी संस्थान (एनआइटी) में से आधे में तो अब तक कैंपस बनाने का काम शुरू भी नहीं हो सका है। रायपुर और रांची के आइआइएम भी अभी तक जमीन की झंझट से पार नहीं पा सके हैं। इसके बावजूद केंद्र सरकार ने इस साल पांच नए आइआइटी और छह नए आइआइएम खोलने का एलान कर दिया है। केंद्रीय मानव संसाधन मंत्रालय में नए संस्थानों के काम-काज पर नजर रखने वाली इकाई में उपलब्ध दस्तावेजों के मुताबिक कुल 36 नए केंद्रीय तकनीकी संस्थान (एनसीएफटीआइ) संस्थानों में सिर्फ सात के कैंपस पूरी तरह बन कर तैयार हो गए हैं।

- ◆ आठ नए आइआइटी में सिर्फ एक तैयार, आधे नए एनआइटी में काम शुरू ही नहीं

- ◆ आइआइटी में सिर्फ पटना का ही परिसर पूरी तरह बन कर तैयार हो सका

नए खुले	कैंपस	तैयार
आइआइटी	8	1
आइआइएम	7	0
आइआइआइटी	4	1
एनआइटी	10	2
आइआइएससीईआर	3	3
एसपीए	2	0
अन्य	2	0

नए खुले आठ आइआइटी में हैदराबाद, जोधपुर, रोपड़, पटना, भुवनेश्वर और गांधीनगर के आइआइटी में वर्ष 2008 से और मंडी व इंदौर के आइआइटी में वर्ष 2009 से अस्थायी परिसरों से पढ़ाई शुरू की जा चुकी है। इनमें मंडी और गांधीनगर के बारे में बताया जा रहा है कि यहां जल्दी ही काम पूरा हो जाएगा, जबकि हैदराबाद, रोपड़, इंदौर, भुवनेश्वर और जोधपुर में लंबा

वक्त लग सकता है।

इसी तरह चार नए भारतीय सूचना प्रौद्योगिकी संस्थान (आइआइआइटी) को नए स्थायी परिसर में स्थानांतरित तो कर दिया गया है। मगर ग्वालियर को छोड़ कर बाकी में अभी विभिन्न ब्लाक का काम चल ही रहा है। सात नए आइआइएम में से रायपुर और रांची में तो अब तक चाहरदीवारी तक नहीं बन सकी है। जबकि शेष पांच भी अस्थायी कैंपस से ही चलने को मजबूर हैं। इनमें से उत्तराखंड के काशीपुर का आइआइएम गन्ना विकास आयुक्त के दफ्तर से चल रहा है तो रांची आइआइएम की पढ़ाई सूचना भवन से चल रही है।

ऐसे कई संस्थानों में शिक्षकों की भी भारी कमी है। आइआइटी भुवनेश्वर में फैकल्टी के 170 पदों में से 71 खाली है। इसी तरह आइआइटी जोधपुर में 90 में से 42 पद खाली हैं। इसी तरह मंडी, पटना और रोपड़ के आइआइटी में भी 90-90 अध्यापकों में से क्रमशः 24, 15 और 22 पद खाली हैं। एनआइटी पुडूचेरी में 38 अध्यापकों के पद मंजूर होने के बावजूद यहां सिर्फ 23 ही उपलब्ध हैं। आइआइआइटी, इलाहाबाद में 109 में सिर्फ 49 यानी आधे से भी कम अध्यापक उपलब्ध हैं। यही हाल कांचीपुरम का है, जहां 42 की बजाय सिर्फ 19 अध्यापक उपलब्ध हैं।

अब तक बिना इमारत चल रहे आईआईटी-आईआईएम

वर्षों से चालू 36 शीर्ष संस्थानों में सिर्फ सात की इमारतें तैयार, आठ नए आईआईटी में सिर्फ एक तैयार

मुकेश केजरीवाल >> नई दिल्ली

एक तरफ सरकार जहां आईआईटी और आईआईएम जैसे नए शीर्ष केंद्रीय तकनीकी संस्थान खोलती जा रही है, वहीं अधिकांश में संसाधन बेहद खस्ता हाल है। पिछले कुछ वर्षों के दौरान खोले गए ऐसे 36 नए संस्थानों में से अधिकांश अभी तक बिना इमारत के ही हैं। इसी तरह कई नए संस्थानों में अध्यापकों की आधी संख्या से ही काम चलाना पड़ रहा है।

छह से सात साल तक पुराने आठ आईआईटी में सिर्फ पटना का ही परिसर पूरी तरह बन कर तैयार हो सका है। इसी तरह वर्षों से चल रहे दस नए राष्ट्रीय तकनीकी संस्थान (एनआईटी) में से आधे में तो अब तक कैंपस बनाने का काम शुरू भी नहीं हो सका है। रायपुर और रांची के आईआईएम

- ■ **नए खुले आधे से अधिक आईआईटी में काम शुरू नहीं**
- ■ **अधिकांश नए संस्थानों में पढ़ाने वाले भी आधे ही हैं**

भी अभी तक जमीन की झंझट से पार नहीं पा सके हैं। इसके बावजूद केंद्र सरकार ने इस साल पांच नए आईआईटी और छह नए आईआईएम खोलने का एलान कर दिया है। केंद्रीय मानव संसाधन मंत्रालय में नए संस्थानों के काम-काज पर नजर रखने वाली इकाई में उपलब्ध दस्तावेजों के मुताबिक कुल 36 नए केंद्रीय तकनीकी संस्थान (एनसीएफटीआई) संस्थानों में सिर्फ सात के कैंपस पूरी तरह बन कर तैयार हो गए हैं।

नए खुले आठ आईआईटी में हैदराबाद, जोधपुर, रोपड़, पटना, भुवनेश्वर और गांधीनगर के आईआईटी में वर्ष 2008 से और मंडी व इंदौर के आईआईटी में वर्ष 2009 से अस्थायी परिसरों से पढ़ाई शुरू की जा चुकी है। इनमें मंडी और गांधीनगर के बारे में बताया जा रहा है कि यहां जल्दी ही काम पूरा हो जाएगा, जबकि हैदराबाद, रोपड़, इंदौर, भुवनेश्वर और जोधपुर में लंबा वक्त लग सकता है।

इसी तरह चार नए भारतीय सूचना प्रौद्योगिकी संस्थान (आईआईआईटी) को नए स्थायी परिसर में स्थानांतरित तो कर दिया गया है। मगर ग्वालियर को छोड़ कर बाकी में अभी विभिन्न ब्लाक का काम चल ही रहा है। सात नए आईआईएम में से रायपुर और रांची में तो अब तक चाहरदीवारी तक नहीं

बन सकी है। जबकि शेष पांच भी अस्थायी कैंपस से ही चलने को मजबूर हैं। इनमें से उत्तराखंड के काशीपुर का आईआईएम गन्ना विकास आयुक्त के दफ्तर से चल रहा है तो रांची आईआईएम की पढ़ाई सूचना भवन से चल रही है।

शिक्षकों की कमी से जूझ रहे

ऐसे कई संस्थानों में शिक्षकों की भी भारी कमी है। आइआइटी भुवनेश्वर में फैकल्टी के 170 पदों में से 71 खाली हैं। इसी तरह आईआईटी जोधपुर में 90 में से 42 पद खाली हैं। इसी तरह मंडी, पटना और रोपड़ के आईआईटी में भी 90-90 अध्यापकों में से क्रमश: 24, 15 और 22 पद खाली हैं। एनआईटी पुड्डूचेरी में 38 अध्यापकों के पद मंजूर होने के बावजूद यहां सिर्फ 23 ही उपलब्ध हैं। आईआईआईटी,

यह है स्थिति

संस्थान	नए खुले	कैंपस तैयार
आईआईटी	8	1
आईआईएम	7	0
आईआईआईटी	4	1
एनआईटी	10	2
आईआईईएसईआर	3	3
एसपीए	2	0
अन्य	**2**	**0**

इलाहाबाद में 109 में सिर्फ 49 यानी आधे से भी कम अध्यापक उपलब्ध हैं। यही हाल कांचीपुरम का है, जहां 42 की बजाय सिर्फ 19 अध्यापक उपलब्ध हैं।

Cyber security centre to come up at IIT-K

KANPUR: A first of its kind cyber security facility, the Centre for Cyber Security and Defence of Critical Infrastructure, would soon come up at the computer science department of the Indian Institute of Technology-Kanpur with help from two Israeli universities.

It would aim at saving critical infrastructure such as sensitive database of banks, railways, power industry, telecom and AADHAR from cyber attacks or hacking. The cyber security experts of IIT-Kanpur would assist the Central government so that the database of the country facing vulnerability from hackers in Pakistan and China does not fall in their hands or other foreign governments.

The experts believe that in the cyber age, threat from arms and ammunition is less in comparison to the cyber attacks.

IIT-K director Indranil Manna said, "The senate of the institute had last month approved the setting up of a cyber security centre, where a team of faculty members would be engage in cyber security research. The idea of setting up a cyber-security centre was proposed by Sandeep Shukla of computer science and engineering department."

"Any of the critical systems such as the financial system, power generation/transmission/distribution systems, railway system, manufacturing and logistics management system, air traffic control system are subject to cyber attacks and require measures in defending them, detecting on-going cyber attacks, attribution of attack sources and prevention of attacks by taking preemptive measures. Protection of critical infrastructure from cyber attacks is matter of concern for most of the nations and same is the case with India. We would provide solutions to safeguard the sensitive data of national importance," said Shukla.

Citing example of July 30 and 31 in 2012, when entire North India, North East India and East India had plunged into darkness owing to malfunction in the grid, Shukla said that power grid had tripped, affecting a major part of the country but this had then happened due to technical glitches. "The same situation can be repeated by hackers and it could be an induced one and not a malfunction. They can actually hack the power generation/transmission/ distribution network," he elaborated.

Citing another example of cyber attack on Iran, Shukla said that in 2009, Iranian nuclear plant was attacked by some foreign entity. As Iranians were not prepared for this worst scenario, they could not realise for a while that they have been cyber-attacked.

"Talks are on with National Critical Information Infrastructure Protection Centre in Delhi for assisting us in the making

the most advanced cyber security lab. Also talks are going on with Prime Minister Office (PMO), home ministry, department of science and technology about the importance of this centre and also for the funding. The centre is expected to start functioning in next 4-5 months," Shukla said.

The cyber expert also mentioned that the Centre for Cyber Security and Defence of Critical Infrastructure at IIT-Kanpur will collaborate with Tel Aviv University and Bengurian University in Israel as they are experts in cyber security.

Senior professor of IIT-K Manindra Agarwal, who is also the part of the centre, said, "Cyber security and defence centre will undertake research in cyber security, educate and train students through undergraduate and graduate courses and also engage in consulting the critical infrastructure sector and the government."

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IIIT student ends life in Andhra

KADAPA : A final year female student from the Edupulapaya campus of the Indian Institute of Information Technology (IIIT) here allegedly committed suicide by consuming pesticide, police said on Tuesday. V Bharathi, a native of Kurnool district and student of Computer Science and Engineering, took the extreme step last evening at her hostel room following which she was rushed to the doctor in the campus. **PTI**

'We have a huge crisis in higher education in India'

Jamboree, which started from a garage in Delhi, is now coaching 15,000 students across 14 cities in India a year for GMAT, GRE and SAT and also assisting students to gain admission in foreign universities. Concerned at the growing exodus and lack of credible options in India, Jamboree's co-founder and managing director **VINEET GUPTA** slowly got involved in Ashoka University as founder and trustee. He spoke to **Anjuli Bhargava** about the trends in overseas education options, the numbers and the lack of regulation for private universities in India. Excerpts:

Q&A

VINEET GUPTA
Co-founder and managing director, Jamboree

How many students leave India every year for higher studies overseas?

The English-speaking Western countries attract the chunk - so the US, the UK, Australia, and Canada remain big. Ireland and New Zealand have been later entrants. In the past seven to eight years, the big surge has been to Singapore, while Dubai and Middle East have also emerged as options. However, the numbers remain small. Singapore, for instance, has only three large universities and the seats are limited.

Of late, we have started seeing students going to mainland Europe. Both France (Ecole) and Germany have started various courses in English.

The other big change is that students are not restricted to Delhi, Mumbai and other metros. In smaller cities like Jaipur, we (Jamboree) train almost 700 students a year, of which 200-300 manage to get admission. Other small cities like Dehradun, Chandigarh (we coach around 1000 a year) have also come up. We are now in 14 cities in India.

As per our assessment, at the undergraduate level around 40,000 students leave in a year. This was around 15,000 in 2008. This is of course a total change from the time when we graduated. In the early- to mid-1990s, it may have been a couple of thousands. Affordability, loan availability, exposure and the inability to make it to universities here are some of the push factors.

At the undergraduate level for a certain socio-economic lot, applying overseas is almost a backup. It's a given. Our own system is to blame. What do you do with a student who gets, say, 91 per cent or even 85 per cent? The country has virtually no education to offer them. Then if the option is between, say, a Rajdhani college or Wisconsin or UC Berkeley, there is a stark difference in the education gained.

At the postgraduate level, the numbers are far larger. In my opinion, almost 120,000 Indian students leave every year. A large proportion of this go for management courses - I would say around 30,000 - and the rest are for master's courses. Within the master's, a substantial number are for higher degrees in computer science, electrical engineering and biotechnology.

At the master's level, a lot of middle-class families take loans and send students since at this stage the vacuum in India is even higher. There are very few seats at the master's and doctorate level. Also, rates of return for a masters in a technical field are very high. Students typically take a loan of ₹20 lakh (for a course that costs ₹30 lakh over two years) and when they gradu-ate they earn salaries of roughly $80-90,000 a year. In two years, they manage to pay off their loan. So the rate of return is high.

At the undergraduate level (four years), it is more affluent families who send their children. The rates of return are lower and it is costlier and riskier.

One of the reasons I got into Ashoka is that the penny dropped for me very early on. I would see students who were bright but even with 90 per cent, they would not make it into any of the good Delhi University colleges. The need for credible Indian options was very evident to me even back then.

What about regulation of the innumerable private universities that have come up?

It's a classic case of being over-regulated but not governed. The law is there. But there is a problem with the criteria for evaluation itself. Inspectors focus on how much area or land you have, how many departments, how many faculty members. It is an input-based evaluation and that too quantitative, not qualitative. So it is how many teachers not what kind of quality in teachers.

We need output-based evaluation of these universities. There is too much focus on building, infrastructure, the number of teachers (as opposed to quality), number of laboratories and so on. If the focus shifts to quality, many of the new universities will face problems in getting notified.

With over 60 per cent of high education in private hands, it's high time someone started looking into this. At present, the government's attitude is: 'oh, that is private, what can we do?' Why can't bodies like CRISIL or CARE come up and rate private universities? Why can't we have an Education Regulatory Authority of India? I personally believe we have a huge crisis when it comes to higher education in India on our hands.