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आईआईटी में पीजी एजूकेशन रिसर्च की फीस बढ़ेगी

काउंसिल ने कमेटी गठित की, जल्द आएगी रिपोर्ट

अमर उजाला ब्यूरो
कानपुर।

आईआईटी से पोस्ट ग्रेजुएट (पीजी) और रिसर्च करने वाले स्टूडेंटों की फीस बढ़ेगी। इस सिलसिले में आईआईटी काउंसिल ने एक कमेटी गठित कर दी है। रिपोर्ट आने के बाद फीस बढ़ोतरी का अंतिम फैसला होगा। शैक्षिक सत्र 2017-18 से ही फीस बढ़ोतरी संभव है।

देश की 23 आईआईटी की बैचलर ऑफ टेक्नोलॉजी (बीटेक) और बैचलर ऑफ साइंस की सालाना फीस बढ़ाकर दो लाख रुपये कर दी गई है। यह व्यवस्था चालू शैक्षिक सत्र (2016-17) से लागू है। अब एमटेक, एमएससी, एमबीए, एमएस, एमडैस और वीएलएफएम की फीस बढ़ाने पर सहमति बनी है।

इंटर आईआईटी स्पोर्ट्स मीट में शिरकत करने कानपुर आए आईआईटी दिल्ली के निदेशक प्रो. राम गोपाल राव ने बताया कि पीजी और रिसर्च की फीस काफी कम है। स्टूडेंटों को स्कालरशिप भी दी जाती है। इसीलिए फीस बढ़ाने का दबाव है। इस पर तीन निदेशकों की एक कमेटी काम कर रही है। सभी आईआईटी का बजट कम हो

सरकारी कंपनियां भी देंगी जॉब

सरकारी क्षेत्र की कंपनियां भी आईआईटी कानपुर के स्टूडेंटों को जॉब देंगी। स्लै, भेल, एचएएल, गेल, आईओसी, बीपीसीएल, एचपीसीएल सहित तमाम कंपनियों ने रिटैन टेस्ट, ग्रुप डिस्कशन (जीडी) और पर्सनल इंटरव्यू (पीआई) के लिए रजिस्ट्रेशन कराए हैं। ये कंपनियां जनवरी से अप्रैल 2017 के बीच कैम्पस सेलेक्शन करेंगी। प्लेसमेंट अधिकारी प्रो. श्याम नाथर ने बताया कि सरकारी कंपनियों में जाने वाले स्टूडेंटों की संख्या अच्छी है।

विदेश जाने वालों की संख्या कम

आईआईटी से बीटेक, बीएस, एमटेक, एमएस, एमएससी, एमबीए और पीएचडी करके विदेश जाने वाले स्टूडेंटों की संख्या कम हो गई है। अब बमुश्किल 10 फीसदी स्टूडेंट ही विदेश जाकर जॉब कर रहे हैं। 90 फीसदी स्टूडेंटों की इच्छा भारत में काम करने की है। तमाम स्टूडेंट उद्यमिता अपना रहे हैं। यह सकारात्मक पहलु है। उद्यमिता अपना से रोजगार की संभावना बढ़ेगी। बेहतर निवेश की गुंजाइश रहेगी। आईआईटी दिल्ली के निदेशक प्रो. राम गोपाल राव ने बताया कि 1988 तब बीटेक, एमटेक करने वाले 70 फीसदी आईआईटीयंस विदेश जाना पसंद करते थे लेकिन अब ऐसा नहीं है। यह संख्या कम हुई है। अब देश में रहकर खाने, कमाने की प्रवृत्ति बढ़ी है।

चुका है। अब आर्थिक संसाधन बढ़ाने का दबाव पड़ा है। इसका रास्ता निकालने की कोशिश चल रही है। इसी क्रम में ही बीटेक और बीएस के बाद पीजी एजूकेशन, रिसर्च की फीस बढ़ाने पर सहमति बनी है। कम से कम 25 फीसदी फीस बढ़ाने की योजना है। हालांकि अंतिम फैसला कमेटी को लेना है। पूर्व छात्रों की

मदद से भी आर्थिक संकट कम किया जा रहा है।

नोट बंदी का असर : इसका असर आईआईटी के कैम्पस सेलेक्शन पर भी पड़ा है। दिल्ली, कानपुर और मुंबई सहित अन्य आईआईटी में आने वाली कंपनियों की संख्या इस बार कम रही। सेलेक्शन करने पहुंची कंपनियों ने जॉब देने में कंजूसी दिखाई है।

Business Line ND 16.12.2016 P-15

IIM-A gets ₹190-cr funding for research, infra

Deploying it effectively is a challenge, says Director Ashish Nanda

VINAY KAMATH

Chennai, December 15

IIM-A, the country's top B-school, is on overdrive to raise funds for student life, research and infrastructure. By all accounts, its efforts are paying off as in the past three years it has received total commitments of close to ₹190 crore, which is greater than what was raised from private sources cumulatively in the past 50 years.

Funds for Chairs

"People have been willing to contribute once we acknowledge their contributions publicly and provide them an accounting of how their contributions are being spent," said Director Ashish Nanda in an interview to *BusinessLine*.

One challenge is raising funds, the other lies in effectively deploying them. "We raised funds for 15 Chairs but then we have to ensure the Chairs are assumed by internal- or external individuals who various stakeholders feel are eminently qualified. Finding people who are highly qualified and are willing and able to grace those Chairs is not easy at all. After almost a year-and-a-half of intense effort, we have been able to fill only four of them. We are continuing our efforts," Nanda said.

IIMA has also been raising money from its alumni, many of whom have excelled in corporate life. "Our alumni have contributed individually, or through their organisations, to all three initiatives of supporting research, student life, and infrastructure. I would point particularly to our alumni's growing contributions to the extremely challenging and import-



Ashish Nanda, Director, IIM-A

ant project of conservation and restoration of our heritage buildings," Nanda said.

IIM-A's iconic red brick buildings, designed by American architect Louis Kahn, needs restoration as they are over 50 years old and suffered grievously from the earthquake of 2001.

New IIMs

Commenting on the six new IIMs being added and its impact on

the IIM brand, Nanda said, "For a country with a growing economy and young demography, there is tremendous need for high quality institutions of higher learning. But, the question is whether capacity should be added exclusively by building new institutions or whether we should also look at scaling up existing institutions. Building a new institution is challenging. The easier part is getting land and erecting the buildings. Academic institutions are much more than physical infrastructure. The challenging part is building a vibrant educational environment with good faculty, eager students, and an atmosphere of learning. You cannot compress time beyond a point to achieve quality."

Nanda said academic institutions require a minimum scale to be vibrant. "Even at IIMA, we are sub-scale. Our student population is close to 1,000 full-time

students and the faculty strength is just under 100. Take Harvard or Wharton, where full-time student strength is over 2,000 and faculty is over 200. Their greater scale brings efficiencies and benefits. Administrative fixed costs are distributed over larger size, making per student burden smaller. Faculty size is larger, allowing faculty members to bounce ideas off, and collaborate with colleagues in their area of specialisation," he said.

Nanda lamented that over the past few years, while the government has invested heavily in new IIMs, the established ones such as IIM-A, B and C, haven't received any funding for expansion.

"My concern is that in our haste to grow capacity, primarily by establishing new institutions, the nation should not end up with a number of sub-scale institutions," he said.

December 15, 2016

Pioneer ND 15.12.2016 P-02 Business Line ND 15.12.2016 P-17

IIT to search for faculty from Ivy League universities

New Delhi: The Indian Institute of Technology, Delhi is going to conduct road shows in various Ivy League universities across the United States from February 2017 to get the faculty to bring world-class quality to its teaching methods.

"A delegation of deans and heads of different departments will go to Ivy League institutes in the east coast, and to institutes in other US cities, to hire graduating students as faculty members in IIT-D," said an IIT official. The delegation also plans to interview a few PhD candidates over Skype and then travel to meet them personally. They have been coordinating with various institutions, and getting information about scholars who are finishing their academic work. Post the relaxation of norms by the Government in recruitment of the foreign faculty in IITs, they can work as contractual employees for five years in India's IITs. The contract is renewable and though they are not offered permanent positions, they get paid at par with faculty members in India. **SR**

70-acre free land for IIT Palakkad

Thiruvananthapuram, December 14

The Kerala government today decided to hand over 70 acres of land at zero cost in Palakkad district for setting up the permanent campus of Indian Institute of Technology. A Cabinet meeting chaired by Chief Minister Pinarayi Vijayan here decided to assign 70.02 acres at Pithiest west village in the district, an official release said. The land will be given free of cost for the IIT, which is now functioning at a temporary campus. **PTI**

Rastriya Sahara ND 15.12.2016 P-15

रैंकिंग सुधारने के लिए शोध में ज्यादा प्रवेश देंगे आईआईटी

■ नई दिल्ली (एसएनबी)।

देश भर के भारतीय प्रौद्योगिकी संस्थानों (आईआईटी) की सीटों को मानव संसाधन विकास मंत्रालय के द्वारा एक लाख तक ले जाने की मंशा पर कुछ पुराने आईआईटी ने मंत्रालय के समक्ष असमर्थता जाहिर की है। हालांकि अब सभी पुराने आईआईटी पीएचडी में सीट बढ़ाएंगे। सीट न बढ़ाए जाने की पीछे संस्थानों में इंफ्रास्ट्रक्चर और फैकल्टी की कमी का हवाला दिया गया था। दूसरी तरफ अब नए आईआईटी के पास ज्यादा से ज्यादा सीट बढ़ाने का दारोमदार रहेगा।

मंत्रालय के सूत्रों ने बताया कि पुराने भारतीय प्रौद्योगिकी संस्थानों में शोध छात्रों की संख्या बढ़ाई जाएगी और पुराने भारतीय प्रौद्योगिकी संस्थानों ने इस संबंध में मंत्रालय के आईआईटी कौंसिल समेत विभिन्न संबंधित फोरम पर सूचित कर दिया है। जबकी बाकी सीट को बढ़ाए जाने का जिम्मा नए आईआईटी और सेकेंड जनरेशन आईआईटी की होगी। दिल्ली आईआईटी के अधिकारी ने यह स्वीकार किया कि मंत्रालय को इस संबंध में सूचना है कि पुराने भारतीय प्रौद्योगिकी संस्थानों में अंडरग्रेजुएट सीट को बढ़ाना संभव नहीं है जबकि दिल्ली आईआईटी की शोध की सीट 2500 से बढ़ाकर 4000 हजार किए जाने की योजना है।

दिल्ली आईआईटी के एक अधिकारी ने बताया कि शोध में छात्रों

की संख्या बढ़ाए जाने के पीछे भारतीय प्रौद्योगिकी संस्थानों की मंशा यह है कि शोध कार्य को ज्यादा से ज्यादा बढ़ाया जा सके जिससे कि देश भर में भारतीय प्रौद्योगिकी संस्थानों में फैकल्टी की कमी को पूरा किया जा सके। दूसरी बात यह कि इससे इन संस्थानों की विश्व रैंकिंग सुधारने में भी मदद मिलेगी जिसके लिए मंत्रालय समेत सभी उच्च शिक्षण संस्थान प्रयासरत हैं।

आईआईटी रोपड़ के निदेशक सरित दास ने राष्ट्रीय सहारा को बताया कि हम नई आईआईटी हैं और हमें सीटों को बढ़ाने में कोई अड़चन नहीं है बल्कि हम आने वाले वर्षों में मानव संसाधन विकास मंत्रालय के निर्देशानुसार सीटों को बढ़ाएंगे। अभी आईआईटी रोपड़ में 800 प्रवेश दिए जा रहे हैं जिसे हम एक-दो

साल में बढ़ाकर 2500 तक करने की योजना है और हम उस दिशा में सही ढंग से आगे बढ़ रहे हैं।

एक अन्य नए आईआईटी जम्मू एंड कश्मीर में भी इसी तरह से इस काम को किए जाने की बात अधिकारियों ने बताई। प्राप्त जानकारी के अनुसार इस वर्ष जम्मू एंड कश्मीर आईआईटी में 90 छात्रों को प्रवेश दिया गया है जिसे अगले साल 120 किए जाने की योजना है और उसके बाद उसे 200 तक ले जाने की योजना है। इसी तरह की योजना देश भर के अन्य नए आईआईटी में भी लागू किया जा रहा है और यह काम मंटर आईआईटी की देखरेख में हो रहा है।

नए खुले आईआईटी में होगा अंडरग्रेजुएट में सीटें बढ़ाने का जिम्मा

Economic Times ND 15.12.2016 P-20

Drawing Water Out of Thin Air

Devices that capture water from the atmosphere are common, but an IIT team is developing one that would perform the task faster and at an absurdly low cost, writes Hari Pulakatt

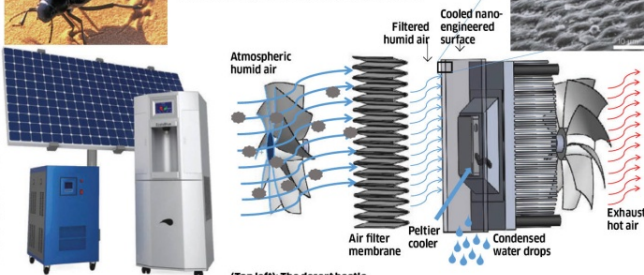
When T Pradeep, professor at IIT Madras, began to work on solving the world's water scarcity problem, one of his first inspirations was the darkling beetles living in deserts. These tiny creatures have learned to live in the driest of environments, by developing a mechanism to draw water out of thin air. Humanity will have enough water if it learns to mimic the insects, and yet do it in a large scale with minimum energy consumption. It is a tall order, but Pradeep and his team set to work on the problem two years ago.

Pradeep is a chemist who develops and probes nanostructures, surfaces that show their properties at scales of a few billionths of a meter. He had made a surface on which water droplets would collect, and was working on developing a device when he heard about an XPrize challenge to draw water from the atmosphere. IIT Madras quickly assembled a 30-member team with Pradeep as the lead. They would have two years to develop a product that can draw 2,000 litres of water from the atmosphere in one day.

The XPrize challenge was announced late last month, and its parameters went well beyond what anybody could do at the moment. The winning team has to use only renewable energy, and has to produce 2,000 litres of water costing two cents (roughly 14 paise) per litre. There are a large number of water capture devices selling around the world, but none that could work at this efficiency and cost. "To make water at two cents a litre is audacious," says Zenaia Tata, executive director of global development at XPrize. Several companies around the world make



Proposed design of the atmospheric water capture (AWC) device



(Top left): The desert beetle

and sell atmospheric water capture devices. In India, the first product was launched in 2004 by WaterMaker, a Mumbai-based company. It had bought the technology initially from a US company called Air Water Corp that later closed down. WaterMaker was primarily an exporter of water capture device to the middle-east, but set up its first plant in Jalimudi in Andhra Pradesh. Last year, it set up another plant at Gandhinagar in Gujarat, and it produces 2,400 litres of water a day.

The smallest device of the company is about four feet tall, and can make 120 litres of water in a day. In the last few years, WaterMaker has been joined by other startups. Electrowater Technologies, founded in Mumbai by IIT Delhi graduate Amit Asthana and a partner, had a prototype that is being developed into a commercial product. WaterMaker and Electrowater produce water at costs between ₹2 and ₹8 a litre, depending on the humidity and

electricity cost. The costs are well above the requirements of an XPrize, primarily because of the costs of electricity. Making water at 2 cents a litre would require free electricity, apart from cheap raw materials. And an efficient process too.

Difficult Task

So making water at 14 paise a litre is a big technical challenge that requires deep science and engineering. Engineers will

have to apply knowledge from many fields, and yet find a way to make the materials cheaply. The IIT Madras team has two other professors apart from Pradeep: material scientist TG Thomas and applied mechanics professor AP Baburaj. It has students from other institutions as well. "Large-scale engineering of the device is a big challenge," says Pradeep.

The atmosphere holds enough water for humanity's use. Even dry air has plenty of water that condenses on the surface of leaves at night. Plants and insects often depend on this water for survival, and nature has solved the problem through some intricate engineering. Grass, for example, has tiny pointed tips that are cooler than the rest of the surface, allowing water to condense. Insects have surface with tiny bumps where water droplets can condense, and troughs nearby where the condensed water runs off and collects. It is exquisite and efficient, but nature works at slow speeds. It also had hundreds of millions of years at its disposal.

Engineers try to solve the problem in many different ways. Some companies use a cool surface without nanostructures, some use a nanostructure, and some others use a solvent in which water can dissolve. Electrowater Technologies uses a solvent and then a membrane to separate the water from the solvent, and the company has three patents on its process. It is a method used by other companies and organisations around the world. For example, Sanakvo, a not-for-profit foundation based in Switzerland, uses a liquid that can absorb the water and then heats up the liq-

uid to release the water. "Making water at 14 paise a litre is a challenge that requires deep science and engineering. Engineers will have to apply knowledge from many fields and try to make the materials cheaply

Sanakvo's device collects the water at night in the solvent and releases it during the day using the sun's energy. "We use technologies that can be used at economies of scale," says Jan-Marc Lehky, cofounder of Sanakvo and member of its board. The device needs no electricity, and can make five litres of water a day per square metre. The product is not commercially launched, and is aimed to work without using electricity.

Pradeep's team, on other hand, uses no solvent but tries to mimic nature. One of his students has made a small glass torch that can make a silver metallic grassland where water can condense. They have published the work recently in the journal *Advanced Materials*, and is beginning to develop a refrigerator-like device that can dispense water collected from the air. The XPrize challenge has now speeded up the development.

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Economic Times ND 15.12.2016 P-01

Fabled Esops no Longer Tell Fairy Tales at IITs

Stock options for overseas posts shrink by up to 75%

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New Delhi: Foreign recruiters at the Indian Institutes of Technology (IITs) have slashed the value of stock options by up to three-fourths for overseas posts this placement season. Companies aren't using such sweeteners to the extent of last year following the shift to an employer's market from one in which candidates had greater clout, said experts and people at the country's premier engineering schools.

Employee stock options on offer are down from ₹1 crore to a fourth of that figure on average at IITs in Kharagpur, Guwahati, Varanasi (Banaras Hindu University) and Roorkee. As a result, top salaries for global postings are at about ₹1.2 crore on average inclusive of base pay, stock options and bonuses compared with over ₹2 crore last year offered by the likes of Google and Oracle.

"The talent market has shifted from the

employee till about a year ago in favour of the employer," said Anandrup Ghose, partner, talent and rewards, Aon Hewitt. "Globally, Esops are not being doled out by companies as easily as last year to attract talent and this is what we are seeing at the IIT campuses too."

Compensation levels for international profiles have declined, said NP Padhy, IIT-Roorkee's professor in charge of placement.

"The highest international offer is down from last year. This could be due to large component of Esops offered by companies till last year," he said.

With Google skipping placements this year, the scramble for talent has eased, said a faculty member at IIT-Kharagpur in charge of placement who did not wish to be named.

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MNCs' fear of economic uncertainties, protectionist policies hit job offers

'Not Right Yardstick to Judge Placements'

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"The highest international offers by Oracle this year included only about 1,000 stock units compared to over 4,000 stock units last year," said an official at the IIT BHU (Banaras Hindu University) placement cell. Google and Oracle have in the past offered options worth about Rs1 crore to new IIT recruits.

Among top international recruiters at IITs this year are Uber, Microsoft and Oracle.

"The CTC (cost to company) this year among the international offers has just crossed Rs 1.2 crore this year (inclusive of bonuses and stock options)," said Padhy. He however added that top international offers weren't the right yardstick by which to judge how well placements were progressing.

"Struggling global economy, uncertainty over work permits/visas and policy announcements around protectionism have possibly resulted in corporates being wary of offering international placements in high numbers," said Rohin Kapoor, director at Deloitte.

While students are disappointed, the schools don't take into account stock options while considering offers. "IIT Bombay considers only the base salary component. Valuation of ESOPs, bonus etc. is considered in addition to the minimum base salary," said a faculty member who's part of IIT Bombay placement cell.

December 14

Nav Bharat Times ND 14.12.2016 P-15

आधार के बिना एग्जाम अब मुश्किल!

■ एजेसी, नई दिल्ली : संयुक्त प्रवेश परीक्षा (जेईई) में आधार कार्ड को अनिवार्य बनाने के बाद सरकार अन्य प्रतियोगी परीक्षाओं में भी इसे अनिवार्य करने पर विचार कर रही है। फिलहाल आईआईटी जेईई में आधार कार्ड को जरूरी कर दिया गया है।

एचआरडी मिनिस्टर प्रकाश जावड़ेकर ने सोमवार को कहा कि आधार कार्ड को जल्द ही अन्य परीक्षा के लिए अनिवार्य कर दिया जाएगा। सरकार का यह कदम परीक्षा में होने वाली धांधली को रोक देगा। इसके अलावा सरकार प्रतियोगी परीक्षाओं में अन्य सुधार की योजना भी बना रही है। केंद्र योजना बना रहा है कि जिन परीक्षाओं को अब तक सीबीएसई करवाता आ रहा है अब उन सभी परीक्षाओं को विरोधतौर पर एक अलग संस्था 'राष्ट्रीय परीक्षण संस्थान' करवाएगा। 2017 में होने वाली आईआईटी में और एनआईटी परीक्षा में असम, मेघालय और जम्मू-कश्मीर को छोड़कर पूरे देश में जेईई की परीक्षा में आधार को अनिवार्य कर दिया गया है।

Financial Express ND 14.12.2016 P-10

Amar Ujala ND 14.12.2016 P-13

MobiKwik to power digital payments at JNU, IIT-Delhi

Digital payments platform MobiKwik said it has partnered with entities across the Jawaharlal Nehru University (JNU) and the Indian Institutes of Technology (IIT), Delhi to help college students pay for daily meals and basic amenities at the campus using its mobile wallet. "We are proud to support India's leading universities, where students from across the world come to study. Our association will facilitate digital payments for students, making their life hassle-free," Mobikwik chief operating officer Mrinal Sinha said.

सभी आईआईटी दिसंबर अंत तक हो जाएंगे कैशलेस

नई दिल्ली (ब्यूरो)। देश के प्रतिष्ठित इंजीनियरिंग संस्थान आईआईटी दिसंबर 2016 के अंत तक कैशलेस हो जाएंगे। आईआईटी में सभी लेन-देन डिजिटल पेमेंट के माध्यम से होगा।

खास बात यह है कि वित्तीय साक्षरता अभियान में महज 13 दिनों में 26 हजार छात्रों ने रजिस्ट्रेशन किया है, जिसके माध्यम से प्रति छात्र अब आगे दस-दस को डिजिटल पेमेंट की ट्रेनिंग देगा। वहीं, अब सांसद भी डिजिटल पेमेंट से जुड़ने का अनुरोध करते दिखेंगे। मंत्रालय ने एक दिसंबर को नोटबंदी के तहत कैशलेस योजना से उच्च शिक्षण संस्थानों को जोड़ने के लिए वित्तीय साक्षरता अभियान का उद्घाटन किया था। वित्तीय साक्षरता अभियान की वेबसाइट पर 26 हजार छात्रों ने रजिस्ट्रेशन किया है।