Newspaper Clips
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IIT-D has smart solutions to make lives better, simpler

WHAT AN IDEA! IIT Delhi students showcase innovative projects that have practical solutions and implications

bright sparks

IIT INNOVATIONS

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> NOT ONLY DOES THE E-HEALTH KIT ALLOW REGISTRATION OF AUTHENTIC MEDICAL DATA, IT FOLLOWS TRENDS LIKE SPREAD OF DISEASES, OCCURRENCE OF DIET-LINKED DEFICIENCIES

PROFESSOR SUBRAT KAR, department of electrical engineering, IIT delhi

■ **Vijay Rao, a PhD student at the department of electrical engineering, IIT Delhi, with the e-health kit for rural paramedics.** SUSHIL KUMAR

An electronic travel aid for the visually challenged, an intervertebral disc tissue using silk biotechnology and an e-health kit for rural paramedics. As many as 400 innovative projects - the result of hard work and bright ideas - were showcased by IIT Delhi students at the annual IIT Delhi Open House last week.

Elaborating on his project that could work wonders for patients with back problems/injuries, Sumit Murab, a PhD scholar at the department of textile technology, says: "Millions of elderly persons around the world are suffering from lower back pain, due to intervertebral disc (IVD) degeneration. This results in problems such as disability and symptomatic pain. The current surgical treatments involve removal of disc and fusion of two vertebra or insertion of metallic implants, which hinder the patient's movement and pose a threat of post-operative trauma to the patients.
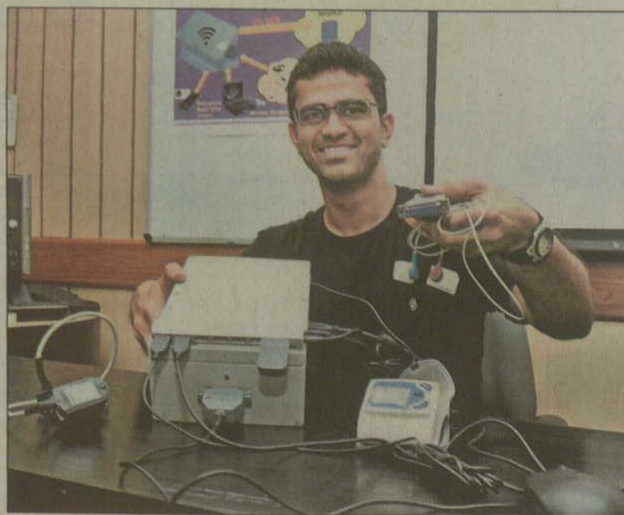
"We have developed an injectable hydrogel system of N-acetylglucosamine (GlcNAc) loaded silk hollow spheres embedded in silk hydrogel for therapeutic release and enhanced mechanical strength. Controlled release of GlcNAc holds potential for the treatment of degenerative disc diseases. To the best of our knowledge, this is the first system demonstrating the effect of controlled release of medically relevant dose of GlcNAc," says Murab.

Another innovative device, developed by students of the computer science and engineering department, is called SmartCane. "It is an electronic travel aid which fits on the top fold of a smart cane stock used by visually-challenged persons. It overcomes its limitations by detecting obstacles. For safe mobility, it is important that such obstacles are detected early. The cane has other uses. It doubles as a spatial awareness device and can detect presence/absence of objects in the surroundings. It can detect objects in the range of three metres. It vibrates at different intensities and informs the user about the presence of objects in its path. These vibrations con-vey the distance information and thus enable the user to negotiate the obstacles from a safe distance. With simple orientation and training, any visually-challenged person can benefit from this," says Kunal Kwatra, one of the students working on this project.

Another revolutionary project is an e-health kit which has been developed as a simple easy-to-use medical diagnostic backpack for paramedics-on-cycles to carry into villages and allow them to collect medical data, then use available communication networks (2G/3G/WiFi) to flow into a cloud database called WiSeKAr. This data can then be used for medical profiling.

"We integrate a pulse oximeter, electronic blood pressure monitor, air flow sensor for pulmonary capacity/chronic obstructive pulmonary disease (detection, blood sugar level monitor for diabetes screening, ECG, a portable ultrasound system and a smartphone-based urine analysis kit into one convenient solar-powered package with an intuitive user interface. The data collected in our database (WiSeKAr) is available for big data analysis. With the use of the e-health kit, medical profiling becomes possible. Trends such as diet-induced deficiencies and diseases can be picked up in communities and the spread of diseases can be detected," says Professor Subrat Kar of the department of electrical engineering, who is part of the project.

Kar says that the significance of this equipment is that it truly takes only a paramedic with this equipment in a backpack and travelling on a two-wheeler/bicycle to collect several vital medical parameters from the heart of India's villages. "Our other partners in this project are IIT Hyderabad and University College London, the DST in India and the EPSRC in UK," he adds.

Nai Duniya ND 22.04.2015 P-1

बॉर्डर होगी सुरक्षित डीआरडीओ के साथ मिलकर आईआईटी दिल्ली तैयार कर रहा है अत्याधुनिक गुब्बारा

अब दुश्मन की निगरानी करेगा गुब्बारा

शैलेंद्र सिंह >> नई दिल्ली

बात पाकिस्तान की हो या फिर चीन की, सरहद पर होने वाली हर हलचल भारत की सुरक्षा के लिए अहम हो चली है। आतंकी घुसपैठ हो या फिर भारत-चीन सीमा के पार पड़ोसी देश की सैन्य गतिविधियां, अब वह दिन दूर नहीं, जब अपनी सीमा में रहते हुए महज एक गुब्बारे की मदद से भारत सीमा पार की गतिविधियों पर नजर रख पाएगा। रक्षा अनुसंधान एवं विकास संगठन (डीआरडीओ), एरियल डिलीवरी रिसर्च एंड डेवलपमेंट स्टेबलिशमेंट (एडीआरडीई) और भारतीय प्रौद्योगिकी संस्थान (आईआईटी), दिल्ली मिलकर ऐसे गुब्बारे का निर्माण कर रहे हैं जिसे विभिन्न अत्याधुनिक तकनीकों से लैस कर सरहद की निगरानी की जा सकेगी।

आईआईटी, दिल्ली में इस प्रोजेक्ट पर डिपार्टमेंट ऑफ टेक्सटाइल टेक्नोलॉजी के डॉ. बीएस बुटोला, प्रो. एम जोशी व पीएचडी छात्रा उपासना चटर्जी काम कर रहे हैं। अभी तक इस तकनीक को विकसित करने में सबसे बड़ी परेशानी हीलियम गैस से भरे गुब्बारे को सालोसाल समुद्र तल से करीब 3 हजार फीट ऊंचाई पर उड़ने के काबिल बनाना रही है। दरअसल, भारत में मौसम के बदलते रंग और सूरज की पराबैंगनी किरणें गुब्बारे को भारी नुकसान पहुंचाती है। इसलिए वूवेन फेब्रिक व पॉलिमर का इस्तेमाल कर गुब्बारे का वो हिस्सा तैयार किया है, जिसमें हीलियम गैस भरेगी। इसके बाद लेयर्ड स्ट्रक्चर पॉलिमरिक नैनो कम्पोजिट मटेरियल का इस्तेमाल किया जा रहा है और गुब्बारे की सबसे बाहरी सतह को पॉलिमर कोटेड मैटीरियल से तैयार किया जाएगा।

नैनो मटेरियल रोकेगा गैस को अधिक समय

प्रोजेक्ट में शामिल उपासना चटर्जी के मुताबिक, पॉलिमरिक नैनो कम्पोजिट नैनो मटेरियल की मदद से हम हीलियम गैस को गुब्बारे में अधिक समय तक रखने का प्रयास कर रहे हैं और इसका लेयर्ड स्ट्रक्चर का इस्तेमाल कर इस दिशा में सफलता मिल रही है। हमारी कोशिश है कि हम एक बार इस एयरक्राफ्ट को हवा में छोड़ने के बाद पांच साल से अधिक समय तक इसका लाभ उठा सकें। उपासना बताती हैं कि गुब्बारे का निर्माण अंतिम दौर में है और जल्द ही इसके देश की सुरक्षा संबंधी प्रयासों में इस्तेमाल किया जाने लगेगा। इस प्रोजेक्ट के अंतर्गत तैयार किए जा रहे एयरक्राफ्ट सरीखे 2 हजार वर्गमीटर के गुब्बारे को करीब एक लाख रुपए के खर्च में तैयार किया जा सकेगा।

आपदा प्रबंधन में भी उपयोगी

गुब्बारे का इस्तेमाल न केवल सरहदों की सुरक्षा में किया जा सकता है बल्कि अन्य कई क्षेत्रों में भी बेहतर निगरानी व परिणामों के लिए किया जा सकेगा। इसकी मदद से कमांड एंड कंट्रोल सेंटर तैयार हो सकता है। इसका इस्तेमाल इलेक्ट्रॉनिक इंटेलीजेंसी में हो सकता है। युद्ध क्षेत्र में सर्विलांस के काम में ये गुब्बारा बेहद उपयोगी साबित हो सकता है। इसी कड़ी में ब्रॉडकास्टिंग एंड कम्युनिकेशन में भी इसका इस्तेमाल किया जा सकता है।

Scientist back on IIT panels

Our Special Correspondent

Kakodkar

http://www.telegraphindia.com/1150422/jsp/nation/story_15965.jsp#.VTdNY0alhWU

New Delhi, April 21: Nuclear scientist Anil Kakodkar appears to have restored his relations with the human resource development ministry by associating himself with two fresh search panels after expressing displeasure over the way some IIT directors were selected recently.

Kakodkar is part of the search panels set up for selecting the directors of IIT Mandi and IIT Indore. As

chairman of the standing committee of the IIT Council (SCIC), Kakodkar has agreed to cooperate in the selection of the two new directors.

The former chairman of the AtomicEnergy Commission had last month resigned as chairman of IIT Bombay, apparently unhappy after the ministry scrapped the shortlisted candidates for directors for IIT Bhubaneswar, IIT Patna and IIT Ropar. He did not attend the final interview held on March 22.

Kakodkar was a member of the three search panels set up for selecting the directors of the three IITs. The panels had interacted with 37 candidates and shortlisted 13 for interviews. The interviews were held on February 16 but the ministry directed that the shortlist be scrapped on the ground that no "right" candidate could be found.

All the 37 candidates were later called for a fresh interview on March 22.

The ministry has requested Kakodkar to continue as IIT Bombay chairman till his tenure gets over next month. Ministry sources said Kakodkar has agreed.

Kakodkar couldn't be reached for comments. Repeated calls to his mobile phone went unanswered.

The terms of IIT Mandi director Timothy A. Gonsalves and IIT Indore director Pradeep Mathur ended in December last year. Both have been given six-month extensions.

The HRD ministry has set up two search panels headed by minister Smriti Irani. The other members on the panel on IIT Indore are its chairman Ajay Piramal, industry expert Kiran Mazumdar Shaw and academic T.D. Dogra. The committee on IIT Mandi, Himachal Pradesh, includes its chairman M. Natarajan and academic Anil Sahashrabudhe.

According to the existing practice, incumbent directors are given the opportunity to present their vision for the institute for the coming five years. The search panel visits the institute, interacts with the director and other stakeholders and recommends if the director should get a second term.

If the search panel gives a negative report, the post would be advertised and fresh applications sought.

While the search committee on IIT Indore would visit the institute on April 29, the committee on IIT Mandi would visit the campus on May 7, official sources said.

Amar Ujala ND 22/04/2015 P-13

आईआईटी पैनल का हिस्सा होंगे काकोदकर

नई दिल्ली। आईआईटी के साथ जुड़े रहने के तमाम कयासों को विराम देते हुए परमाणु वैज्ञानिक अनिल काकोदकर ने इंदौर जाने वाले आईआईटी के पैनल में रहने का निर्णय किया है। यह पैनल इस महीने के बाद आईआईटी इंदौर की प्रगति और इसके निदेशक के कार्यों का मूल्यांकन करेगा। काकोदकर आईआईटी के प्रमुखों का चयन करने वाली सर्च कम सेलेक्शन कमेटी का हिस्सा होंगे। इस कमेटी में उनके साथ टीडी डोगरा और किरण मजूमदार शॉ जैसे विशेषज्ञ होंगे। वह मई में प्रगति और मूल्यांकन करने आईआईटी मंडी भी जाएंगे। दोनों ही कैंपस के निदेशकों का चयन जल्द ही किया जाएगा। एजेंसी

Deccan Herald ND 22/04/2015 P-10

The IITs don't warrant interference

The Indian Institute of Technologies are among the few institutions in the country that have earned a name for setting global standards in education. And, much of the credit goes to their managements and faculty besides the pedagogical process that make them much-coveted for students. The IITs were conceived to be autonomous, implying little or no interference from the government. It is therefore alarming to see the way the Human Resource Development Minister Smriti Irani has gone about interfering with the selection process of directors to three IITs – Ropar, Bhubaneshwar and Patna. After the search and selection committee had shortlisted 13 candidates, the minister intervened and the original list of 36 candidates were recalled for a fresh round of interviews. More shocking were the interviews which reportedly lasted not more than 10 minutes, based on which the minister selected the directors. For similar positions in US universities, candidates reportedly need to spend at least a day or two each with the selection panel to enable a thorough assessment.

Anil Kakodkar, eminent nuclear scientist and chairman of IIT – Bombay, resigned in protest and refused to participate in the interviews. Though he withdrew his resignation later, he had made his point. Dheeraj Sanghi, professor at IIT-Kanpur, blogged that the selection process that reduced the prestige of the director, was a "lottery", and the outcome of "connections". In other words, the HRD minister, in one move, has diluted the standing of the IITs and reduced their status to that of several other institutions that seriously suffer from mediocrity because of incessant interference from politicians and the bureaucracy. Bharat Ratna awardee and top scientist C N R Rao too expressed dismay and said IIT director selections should remain the prerogative of the search and selection committee. Indeed, Dr Rao echoes the sentiments of those who would like to see the IITs continue to excel. The interference by the minister, unwanted and deeply damaging, is the latest in a series of contentious decisions taken by the HRD ministry under Smriti Irani.

That the issue has serious dimensions is reflected by the fact that four opposition Rajya Sabha MPs – D Raja, D P Tripathi, Rajiv Shukla and K C Tyagi – were moved to write to President Pranab Mukherjee asking him to intervene and save the IITs from governmental interference and attempts to erode their governance. While on the one hand, the Modi government states that it is committed to the development of India as a nation to be counted, on the other, systematic efforts are being made to undermine reputed institutions in the country. The IITs are the latest example.

"Smriti Irani's interference has diluted the standing of IITs."

HT.COM ND 22.04.2015 P-6

IIT directors selection process arbitrary?

■ The selection process is being blamed for being hasty.   HT PHOTO

The appointment of directors for three Indian Institutes of Technology (IITs) has found itself in controversy, over the hurried way in which the appointments were made.

Dheeraj Sanghi, former dean of academics at IIT Kanpur has questioned the arbitrary process of selection. "The current selection process reduces the prestige and respect of the director. It is clear to all stakeholders that the selection as directors is partly a lottery, and partly a result of connections," Sanghi said in a blog post. Sanghi is presently a professor of computer science at IIT Kanpur. He, however, clarified that he is not questioning the credentials of the people appointed but the process.

Human resource minister Smriti Irani conducted a fresh round of interviews of 36 candidates for the post of directors on Thursday and appointed RV Raja Kumar as director of IIT

THE HRD MINISTRY HAS ADMITTED THAT THE INTERVIEWS FOR THE POST ONLY LASTED 10 MINUTES

Bhubaneswar, Sarit Kumar Das for Ropar and Pushpak Bhattacharyya for the post of director of Patna.

According to Sanghi, during the first round of interviews conducted last month, one of the candidates was given five minutes to make a presentation and another five minutes to answer questions. "How are ten minutes enough to select people for such a crucial post?" he asked.

Eminent nuclear scientist Anil Kakodar had resigned from the post of board of governors of IIT Bombay last month citing 'casual approach towards appointments'. A former dean of academics at IIT Bombay, on condition of anonymity, said that both governments, UPA and the current one, did not pay much heed to IIT directors selections.

"It has been taken too casually for too long, the results of which will be reflected in the performance of the institutions. The IIMs have a better selection process, which should also be extended to the IITs."

For IIMs, the governing boards of each IIM select names and send them to the HRD ministry. The name is then forwarded to an 'appointments committee' for approval.

APPOINTMENT CRISIS

What's stopping work in IITs, IIMs and other universities?

WAITLISTED No appointment of directors and vice chancellors in top educational institutes is hampering their day-to-day work and leading to postponement of crucial decisions

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How important is it for a university to have a head? Not very, going by the fact that 12 out of 40 Central universities (Karnataka, Himachal Pradesh, Haryana, Bihar, Kashmir, Odisha, Rajasthan, Tamil Nadu, Jharkhand, North-East Hill University, Guru Ghasidas Vishwavidyalaya and Dr Harisingh Gour Vishwavidyalaya) have been functioning without vice chancellors (VCs) for almost a year now.

The IITs in Ropar, Bhubaneswar and Patna were also without directors since June 2014 (the new directors were appointed last week) and the IIMs in Lucknow, Kozhikode and Ranchi are being run by officiating directors since 2013.

"Officiating directors just hold posts and ensure that administration and academic matters on a day-to-day basis don't suffer. No long-term decisions can be taken. Anything with long-term perspective like selection of faculty members, setting up of centres of excellence, decisions on academic programmes are typically taken by a permanent official. Having an official director at the helm for five years helps in the smooth functioning of the institutes, ensures better performance and does not affect the students," says Pradipta Banerji, director, IIT Roorkee.

However, after talking to some of the students at these IITs, it was clear that missing directors affected short-term decisions too. "Many faculty members do not take classes on time. We tried complaining to the director's office but no one was willing to respond to us as there was no director-in-charge raising ques-

tions," says a student, who did not want to be named. Another student complained about the poor quality of food, adding, "We are waiting for the new director to come in, as the mess in-charge has not been listening to us and this is primarily because he is not answerable to a senior authority."

"In case of IIMs, the directors-in-charge usually travel to the campuses they manage for a few days during the week. This makes it difficult to handle the paperwork. A full-time director is constantly present on campus and can spend more time discussing issues with students and administrative staff. The situation gets worse if it is an older IIM, where, unlike the new IIMs, there is a lot of paperwork to be handled. The older institutes also have more students and faculty compared to the newer ones," says an IIM official.

One can expect top faculty shortage in the newer IITs and IIMs which have been proposed in the Budget. "The acting directors can take most decisions, but without regular directors, the decision-making process gets delayed by a few months. Except the IIMs, that are yet to get an official bill, the statutory powers as per the Act of Parliament can be used only by regular directors. For instance, any disciplinary action against a faculty member or staff can be taken only by the director," says an MHRD official on conditions of anonymity.

Absence of VCs means that Central universities are holding back major decisions related to appointment of permanent faculty members, curriculum planning, endorsement of research activities and decisions on enhancement of infrastructure. Amidst severe faculty crunch being faced by most institutes, the Central universities have

MISSING

VCs in
12
out of 40 Central universities

Directors in
3
out of 13 IIMs

THINKSTOCK
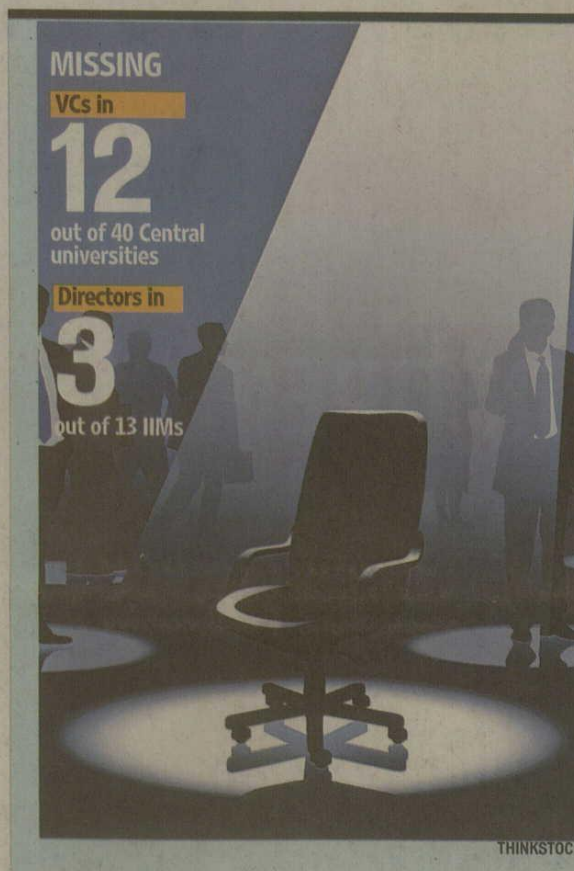
HOW STUDENTS SUFFER

- Lack of permanent faculty reduces scope of faculty-student interactions
- Dearth of quality teachers on-campus as faculty recruitments are mostly on contract
- Lack of dedicated buildings for each department rules out healthy peer interactions out of the classroom
- No one to monitor class schedules, lab timings and faculty as there is no official to enforce discipline and hold departmental heads accountable
- No one to take disciplinary action against any faculty member if required
- Absence of a director makes it easy for the administration to ignore students' concerns
- Hostel students suffer as mess authorities don't check the quality of meals being served as there is no top official present to take action against them

OFFICIATING DIRECTORS CAN MAKE SURE THAT DAY-TO-DAY WORK DOES NOT SUFFER. BUT, NO LONG-TERM DECISIONS CAN BE TAKEN

not been able to fill up vacant posts of permanent faculty members because of lack of a permanent VC. "About 150 posts of permanent faculty members are lying vacant in our university as we don't have an official VC," says Professor S P Singh, the acting VC of Guru Ghasidas Vishwavidyalaya.

The acting VCs cannot hire permanent faculty members, thus denying students access to professors when needed. However, acting VCs can recruit faculty on contract.

"The challenge in such con-

tractual recruitments is that it is tough to get good quality qualified teachers. Most well-qualified teachers would prefer to go for regular positions instead of working on contract," says Darlando Khathing, former vice chancellor, Central University of Jharkhand. Research activity at the institute is affected too as these contractual professors can't take up research as they have a short stint. As a result no new research labs are built and the entire lab facility for teaching suffers, he adds.

"VCs are also the chief executives of the institute. We need a chief executive for any organisation. How else do you run it? Just as any other organisation is run by a chief executive and accountability and responsibility lies with that person, VCs too play the same role," says Professor R Govinda, vice chancellor, National University

of Educational Planning and Administration, New Delhi.

Many Central universities also do not have a separate department for taking calls on infrastructural upgrade. "We are fighting a massive shortage of departmental buildings of some crucial subjects like mathematics, law, political science, economics and journalism. We run classes for nearly 15 departments in just two buildings comprising 22 rooms in total," says Professor SP Singh. The university is running in two shifts to avoid clash of class timings.

"If the officiating person doesn't want to work, he or she makes excuses to not do anything. The tenures of most of these heads got over during the government change and it is a political issue. Therefore, we had to appoint officiating heads as a stopgap arrangement," the MHRD official said.

HT.COM ND 22.04.2015 P-6

Pitfalls of preparing early for IIT JEE

DOUBLE-EDGED SWORD Young minds are more receptive to analytical reasoning but coaching schools also inculcate unrealistic standards of success

HT Correspondent

While his friends play football and cricket, 11-year-old Ayush Jha from Delhi is running the great Indian rat race for a coveted place in one of the elite IITs. The Class 6 student spends two evenings a week at a coaching institute preparing for the Joint Entrance Examination (JEE) that he might attempt six years from now. Engineering remains a preferred career of choice for parents figuring out what they'd like their children to do, while the Indian Institutes of Technology, or IITs, are regarded as the premier schools of technical education in the country.

But now, families are sowing the seeds of this hallowed dream in younger minds . "We started my elder son Yash's coaching when he was in Class 7, after which he began doing well in subjects like mathematics. So, for my younger son Ayush, we started from Class 6 and since then he has been performing much better academically," said Ayush's father Ajoy Jha, a mechanical engineer.

Cram school FIITJEE, where the brothers study, says enrolment at the junior level has been shooting up 10-15% every year. The fee comes to about Rs 35,000 a year, but parents are only too happy to pay.

"When children are young they are more receptive and develop analytical reasoning. Early in life they are taught about

■ Counsellors warn that moulding children from a young age can limit their freedom of choice.   FILE PHOTO

CRAM SCHOOLS SAY THAT ENROLMENT AT THE JUNIOR LEVEL HAS BEEN SHOOTING UP BY 10-15% EVERY YEAR

time management and this helps in holistic development," said RL Trikha, director of the institute. The trend is not limited to Delhi. Nikhil Ohri, a Class 9 student from Mumbai's St Lawrence School says he joined a foundation course for the JEE two years ago. "It is fine to reduce time for

outdoor sports and focus on studies. Though I will appear for the boards next year, I will continue with the IIT-JEE preparations simultaneously," he said.

Critics say coaching institutes often build up unrealistic hope for students and parents by promising results even though the candidate may not have an aptitude for engineering, while psychologists warn against the adult stress these children face at a very early age. More than a million aspirants sat for the first phase of the JEE on Saturday, fighting for less than 10,000 seats. "Children, who are confined to

books early on develop problems later in life in having conversations with people, differentiating between acquaintances and friends, and are unable to handle rejection," said Geetanjali Kumar, a professional counsellor in Delhi.

Experts point out that moulding students from a young age is is a double-edged sword. "On the one hand, it means that students are focused on their academic future right from the start. But it also leaves them with little room to make a choice," said Shivam Purohit, a Mumbai-based career counsellor.

Multiple 'discrepancies' in answer key to JEE (mains)

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New Delhi: Candidates and their teachers have spotted multiple "discrepancies" in the answer key to the Joint Entrance Examination (mains) held earlier in April.

Considering this exam regulates admissions to engineering colleges across the country — and serves as a screening round for JEE (Advanced) for the Indian Institutes of Technology — candidates and their coaching-class instructors are worried about some of the answers furnished by the Central Board of Secondary Education on April 18.

One parent has listed problems with as many as four questions in Set C — question 22. "This question is incorrect but CBSE has indicated it's correct."

The CBSE has declared question 51 incorrect while, according to her, it is correct. Question 53 has "two correct options"; and question 57 has, as per CBSE, only one correct answer while there are actually two. For the question CBSE has itself considered wrong, everyone

IN QUESTION

will get four marks.

"There is a probability question in mathematics in which none of the answers fit but the answer-key justifies one answer. In a physics question, two options are possible but the key mentions only one. Students have sought my counseling but we can only direct them to challenge the answers," said R L Trikha of coaching-class chain, FIITJEE.

The CBSE's response is much the same. Spokesperson Rama Sharma said candidates can "challenge the answers online" and added that all the requirements have been detailed. The last date for getting back to the CBSE is April 22.

For engineering aspirants, the JEE has incredibly high stakes. Over 13 lakh took the JEE (mains) this year.

Every glitch matters. As

Keshav Aggarwal of Turning Point explained, the candidate will not only lose the marks allotted to the question but also another as penalty. The JEE uses negative marking.

A parent demanded that for questions with more than one correct answer, marks must be given even to those who didn't attempt at all as "some students did not mark any option to avoid negative marks".

The results will be declared on April 27 and the top 1.5 lakh students will be eligible to write the JEE Advanced (for the IITs and Indian School of Mines, Dhanbad).

"There are several questions on which the views of the teachers and the answers given don't match," said Aggarwal. "Since the answer key doesn't contain the entire solution, there's confusion. But in the case of two-three, there is certainly an issue."

"While the system has an online system to challenge their answers, the system is not flexible enough to submit all kinds of discrepancies," argued a parent. "Publishing solutions will reduce the number of challenges submitted by students and also satisfy them."

IIT Kharagpur researchers turn farmers to revolutionise agriculture

http://indianexpress.com/article/india/india-others/iit-kharagpur-researchers-turn-farmers-to-revolutionise-agriculture/

A group of researchers at IIT Kharagpur have turned farmlands near the campus into a 'laboratory' to experiment with new agricultural technologies and help farmers whose land they have "adopted" to improve their yield.

Around 10 kilometres away from the campus, the team adopted 14 acres of land from a group of farmers at Khentia village.

Most of the land, in small fragments, was lying barren for the last few years. With hope in their eyes, the farmers agreed to turn in their farmlands to the IIT team.

The work began last November with tilling, ploughing and levelling of the fragmented plot to make it a single unit. "We are introducing new technologies like SRI to increase rice yield with less water. To promote crop diversification, cash crop like sweet corn, peanut and soybean have been introduced," project in-charge Prof P B S Bhadoria said.

To encourage organic farming, they have started creating vermicompost units. The IIT team has dug up a tubewell and also made a pond for rainwater harvesting and pisciculture. 48-year-old Jagannath Das, who owns less than 20 decimal land, says he is now learning new things about growing crops.

"We allowed them to take charge of our land because of the trust we have on such a large institution like IIT. Now we are learning new things as if our farmland has become a classroom," Das said.

Youngster Abhishek Singhania, who studied metallurgy from IIT Madras and was working with the multinational PricewaterhouseCoopers, left his job in Saudi Arabia to join this 'green revolution' last month.

"After learning about the pathetic condition of our farmers I decided to help them by joining this project. My role is to convince farmers to adopt new technology," he said.

Once the harvesting is done next month, he will help the farmers get good prices for their produce, lest they fell into the trap of middlemen.

"They need the right people to guide them at every stage of farming and marketing. I am trying to make this model a sustainable one so that once we leave they are able to do everything on their own," Singhania says.

Project officer and agriculture expert Tanumoy Bera said they are using sustainable technology for optimum utilisation of resources and minimum effect on the environment.

SRI (System of Rice Intensification) needs 30-40 per cent less water and pesticides but gives a higher yield. Enthused by the success of the project, other farmers near the project area are also taking notes and have even approached the IIT to replicate the model.

"We would be seeking funds from the industry and other organisations to adopt more villages for demonstration of technology for a smaller period of one year," Bhadoria says.

Khentia village, where the project would go on for a period of three years, would be developed as a model village under 'Unnat Bharat Abhiyan'.

In the next phase, they would introduce censor-based irrigation, sprinkler irrigation, soil testing kits, etc. "The share of the produce would be shared among the farmers in the proportion of their land holding," he says.

Why change a global name, ask IIT students, faculty

http://www.mumbaimirror.com/mumbai/others/Why-change-a-global-name-ask-IIT-students-faculty/articleshow/47007161.cms

Taking a stand against the political move to alter the name of the 60-year old institution in the near future, IIT-Bombay students and alumni said that changing the name to IIT-Mumbai could dilute its brand image.

Mumbai Mirror had on Monday reported that following the proposal to rename the Bombay High Court, Arvind Sawant, Shiv Sena MP from south Mumbai had said the party's next target will be changing IIT-Bombay to IIT-Mumbai. Union Law Minister DV Sadananda Gowda said the proposal will be put to the cabinet on Wednesday and pushed in the parliamentary session.

The IIT spokesperson felt that the name change would not please students or faculty members. The official spokesperson said: "Since IIT-B is an institute of national importance and a globally recognised brand, changing the name may dilute the brand. Overseas students may also find it confusing."

Another senior faculty member said: "A change in the name will not affect the present institution. However, it's an irritant since it'll be an inconvenience when the nomenclature will be changed from IIT-B to IIT-M. The brand has been established as IIT-B for almost 60 years now. The change is not required."

Alumni members were also strictly against the idea. Zishan Hayath, co founder of Topper.com and a former student of IIT-B, said: "The name should not be changed due to the interests of local politicians. They can build new institutes and name them the way they want instead of diluting IIT -B's reputation." Similarly, Bakul Desai, the director of the IIT Bombay alumni association, said that students have a psychological relation with the existing name. "IIT Bombay is the name and Mumbai appears on the address. Then why change the name for no valid reason? There is no necessity for a change," he said.

Students felt that their opinions should also be taken into account before making such a change and said that they will be writing to the Human Resource Department if the decision is taken. Uddipta Chatterjee, a member of the student group Progressive and Democratic Students collective, said: "For decades, students have graduated from IIT-Bombay. Now suddenly, if they are told that they will be graduating from IIT-Mumbai, it will create a divide, which is not acceptable to the student community. We will keep a close watch on the developments and if the decision is taken then we will demand a debate. We should be allowed to voice our opinions and the change should be a democratic process."

IIT-M to meet key milestone of satellite project this year

The project aims to build nano satellite weighing less than 15 kg, to study various aspects, including affect of solar storms, lightning storms and earthquakes

http://www.business-standard.com/article/current-affairs/iit-m-to-meet-key-milestone-of-satellite-project-this-year-115042101348_1.html

The Indian Institute of Technology (IIT-M) Madras plans to meet the next milestone of its earth satellite project by the end of this year.

The project, started in 2009 by a team of IIT-M students, aims to build a nano satellite weighing less than 15 kilogramme, to study various aspects, including affect of solar storms, lightning storms and earthquakes.

After completing an Isro milestone of preliminary design review in March, 2014, the IIT-M team is currently building a prototype of the integration model of the satellite, which involves setting together different components.

"We are planning to do the integration model for the next three months. Once we are confident about our design and our own test, we will then do the environmental test, in which, the satellite would be put into various temperatures and conditions," said R David Koilpillai, dean (planning), IIT-M.

He said, "Then, we will go back to Isro for the next review, which is the critical design review. Once we get the clearance, we will build the flight model," he said.

IIT-M is aiming for the critical design review by the end of the current year and later come up with flight model in the first half of 2016. Isro would inform the institute about the launch slot during the critical review, said Koilpillai.

The satellite is expected to be placed in earth's orbit at a height of 600-800 km and houses a high-energy particle detector designed to measure fluctuations in the flux of protons and electronics in the upper ionosphere. It also comprises seven different subsystems with each performing vital functions of the orbiting spacecraft.

The project's scientific goal is to study the energy spectrum of charged particles in the upper ionosphere and understand the affects of solar storms, lightning storms and seismic activity. Though the satellite is designed to survive a year, its life can be extended further one year.

The total cost of the project, including prototyping and different phases has been around Rs 3 crore. A portion of it had been covered by IIT-M and the rest from the alumni.

A cleanroom for the project, namely IIT Madras Space Lab, was launched last week in the institute's campus.

Currently, nine faculty and 80 students are involved in the project, and over a period of time, around 150 students would be involved.

What an i-Diya! IIT-B student invents world's tiniest eco-friendly gadget

http://www.dnaindia.com/mumbai/report-what-an-i-diya-iit-b-student-invents-world-s-tiniest-eco-friendly-gadget-2079505

People across the globe are observing Earth Day today, by turning off their electricity for an hour. In tune with this, a student of IIT Bombay has developed an eco-friendly solar device, which can be used as a lamp, a USB port and to charge a cell phone.

Final year electrical engineering student Sachin Kumar has perfected the device after more than three years of research. What separates i-Diya from other such gadgets, is its size – it is the smallest in the world. Kumar and three of his friends have started their company, 'Illumind Solartek', where they are manufacturing more i-Diyas.

While doing a module on solar energy during his third semester as part of his five-year-course, he decided to venture into the renewable energy sector. Kumar participated and won a series of competitions like IIT-Bombay's Eureka – a business plan competition in 2014.

Coming from Moradabad in Uttar Pradesh, Kumar said he was aware of electricity being a huge problem. "Kerosene lamps, widely used in rural areas, have lethal effects on the environment," he informed.

Still, reaching the point where he is today, was not easy. "My parents thought I was crazy to think about starting my own company, rather than focusing on studies and focusing on placements," says the 23-year-old.

Kumar also said that studying at IIT Bombay provided an ecosystem which encouraged him to push his limits. "So, when you have such an environment, friends and faculty to support you, you get that confidence to take the plunge. Once I made up my mind, there was no looking back. I knew my parents would come around, and they did."

After more than three years of finding the right design and elements for the light to work efficiently in all types of weather and terrain, Sachin got the idea of setting up a solar lights company. To turn his dream into reality, he collaborated with his friends Sandeep Rathi (non-IITian), Aanchal Choudhary (non-IITian) and batch mate Satpal Singh, a student of civil engineering.

Talking about the product, which was launched in February 2015, Sachin said that i-Diya is the world's smallest solar device, the size of which is that of a human palm. "It provides triple the amount of illumination (compared to other lights with the same pricing), and requires 7-8 hrs of charging time, he said.

He added that the device can also be charged through electricity if there is a scarcity of sunlight, and is priced economically. The product comes in three versions, basic, home and chargeable, priced at Rs Rs699, Rs 849 and Rs 999 respectively.

Initially, Illumind came up with 4200 pieces, which were sold within 10 days through demonstrations by door-to-door visits. Now, the company is planning to manufacture 40,000 models, which Kumar feels could be less, as the demands have come from places such as South Africa, Ghana and the Middle East.

IIT-Madras graduate hits highest IBM honour

http://www.deccanchronicle.com/150422/nation-education/article/iit-madras-graduate-hits-highest-ibm-honour

Chennai: Chitra Dorai, a senior researcher at IBM and an alumnus of IIT Madras has become the first Indian woman to be conferred with the prestigious IBM Global Fellow title, the biggest honour bestowed by the company. A 1987 batch electrical engineering graduate from IIT Madras, Chitra Dorai, is a company veteran of 18 years, and a global leader for research and innovation in financial services.

A leader in financial industry analytics, her achievements include innovations in machine learning, multimedia content analysis, unstructured data mining and computer vision.Her recent work is focused on transforming mortgage services in the banking industry. Dorai's goal is to reduce the potential for mortgage-driven market crises while enabling people to fulfil their dreams of home ownership.

Dorai was one of the nine women in the undergraduate engineering class of 320 students at IIT-M. About early years, the IIT alumnus says that her training to question the status quo began early in life. "Luckily my parents' and teachers' independent thinking nurtured my love for Maths and Science. I opted to pursue engineering instead of medicine, which was considered more prestigious and also preferred for women among Indian families back then," she said.

Dainik Bhaskar ND 22/04/2015 P-6

बेहतर सड़कों के लिए आईआईटी में बनेगा रिसर्च और ट्रेनिंग सेंटर

राज्य के ग्रामीण इलाकों में बेहतर सड़क और सड़क निर्माण के काम में लगे इंजीनियरों की क्षमता बढ़ाने के लिए आईआईटी, भुवनेश्वर मिलकर काम करेंगे। आईआईटी में इसके लिए एक सेंटर फॉर मैनेजमेंट, ट्रेनिंग एंड रिसर्च ऑन रूरल रोड्स का गठन किया जाएगा। यह संस्थान के अरूगल में बन रहे नए और स्थायी कैंपस में स्थित होगा। इसमें सड़क निर्माण में इस्तेमाल होने वाले मटीरियल के परीक्षण के साथ इंजीनियरों और अन्य स्टाफ के ट्रेनिंग की भी व्यवस्था होगी।

HT.COM ND 22.04.2015 P-14

New LED speeds up WiFi 10x

Press Trust of India

Oregon State University Researchers have developed a hybrid system that can switch between several LED transmitters that can increase the bandwidth of WiFi systems by 10 times and transmit upto 100 megabytes per second.

The technology could be integrated with existing WiFi systems to reduce bandwidth problems in crowded locations, such as airport terminals or coffee shops, and in homes where several people have multiple WiFi devices.

Recent advances in LED technology have made it possible to modulate the LED light more rapidly, opening the possibility of using light for wireless transmission in a "free space" optical communication system.

"I believe the WiFO system could be easily transformed into a marketable product, and we are currently looking for a company that is interested in further developing and licensing the technology," Thinh Nguyen who lead participated in the reserach said.