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Students aim to set 'scientific' record

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NEW DELHI: Indian Institute of Technology, Delhi (IIT-D) will host 2,000 school students next month, who will attempt to set a Guinness World Record by performing a chemistry experiment simultaneously at the upcoming India International Science Festival.

The mega science festival is a joint effort by ministry of science and technology and ministry of earth sciences in collaboration with Vijnana Bharati, a swadeshi science movement working towards interlinking traditional and modern sciences on the one hand and natural and spiritual sciences on the other.

"The festival aims at encouraging scientific temper among young minds. Fifty students each from 40 private and government schools from the capital will perform the same chemistry experiment as an attempt to make a Guinness World Record," said KS Rao, dean, infrastructure.

The science festival will be held from December 4 to 8 and is likely to be attended by close to 4,000 young scientists, who will

get the opportunity to discuss ideas and interact with industry.

"There would be eight parallel sessions on various topics in which students will get to interact with experts. There is going to be a 'Young Scientist Conference' in which papers will be presented on various topics, including indigenous knowledge. There will also be an Industry-Academia conference to give students a chance to learn more about start-ups," said Rao.

Vijnana Bharati is headed by Vijay Bhatkar who is also the chairman of IIT Delhi's board of governors. The festival will have themes, including, 'Indigenous Science and Technology', and 'Innovative Agricultural Practices and Livestock Management'.

The festival will have a science film festival to showcase movies and documentaries on scientific themes. "The sessions will comprise interaction with eminent scientists, expo award function, science film festival and showcasing of innovative models and a young scientists meet," said officiating director of IIT Delhi, Kshitij Gupta.

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IIT study likely to offer new insights into air pollution

STAFF REPORTER

NEW DELHI: The Capital's plans to combat poor air quality may soon see a redesign with a new study giving authorities insights into what really causes pollution, something there has been little information about so far.

The draft report of a study, which was initiated in 2013 by the Indian Institute of Technology, Kanpur, was recently submitted to the Delhi government's Environment and Forest Department. The study on "source apportionment of particulate matter" looked into origins of finer particles (PM 2.5) and coarse ones (PM 10).

Some findings in the draft report, like vehicular pollution touching the peak in the colder months and dust being the biggest contributor during the summer, are not new.

The report focuses on sec-

The report on "source apportionment of particulate matter" looks into origins of finer and coarse particles in the air

ondary particles that are formed after the reaction of primary gases in the atmosphere, which can change the way Delhi tackles pollution and its origin. According to officials, certain areas had not been looked into, which the report seeks to change.

"The final report will be out next month. But from the draft report, we can say that we will have new insights into the causes of air pollution that will help shape the way we deal with air quality," said Ashwani Kumar, Secretary (Environment and Forest De-

partment).

As per the draft, vehicular emission and secondary particles amount for about 60 per cent of pollutants in the winter. Though finer particles are known to be the most dangerous for health, depending on their components they could be even worse. If the PM 2.5 is mostly made of benzene, which is emitted by burning of coal, it could be carcinogenic. The report also has suggestions on how to tackle each category of pollutant.

Environmentalists are hoping the study helps the city improve the declining air quality.

"There is a need for a comprehensive look at all sources of pollution, not only in Delhi but in the NCR as air doesn't have borders. For instance, a thermal power plant in Haryana could affect Delhi's air," said Sunil Dahiya, campaigner on air pollution for Greenpeace India.

No salary details this placement season: IITs

KALPANA PATHAK & VINAY UMARJI

Ahmedabad, 26 November

The day Pune-based Abhishek Pant told the local media about his "₹2-crore dream job in Google," the placement office at his alma mater Indian Institute of Management (IIT), Kharagpur, was busy answering calls from other parents, media and fellow placement officials. But, all that IIT Kharagpur had to say that day was "it didn't come from us."

It is to avoid such situations that the All IITs Placement Committee (AIPC) recently took an informal decision not to reveal details of compensation packages offered by recruiters during final placements.

Why not? The ₹2-crore figure, the institute said, is incorrect. "The figure has come from the boy's family and not from the institute's placement office. It is also inaccurate, and the real figure is lower than the one being quoted. This is precisely the reason why in the recent AIPC meeting, IITs have decided not to reveal details of compensation packages in the offers made by recruiters," said an insti-

tute source at IIT, Kharagpur.

IITs say such high offers are exceptional, and revealing such figures tends to put unnecessary pressure on other students. "Students and parents alike start developing unnecessary expectations from offers during placements. At times, this also impacts students' performance during placement interviews. Hence, IITs have decided it is safer to reveal the average salary packages offered in a particular year at the end of the placement process," said a source at IIT Guwahati. IIT Bombay too refused to divulge salary details.

IITs divide salaries into two parts — the guaranteed or fixed component and the variable component. They say they consider only the fixed component in their placement records.

IIT placement cell officials said variable components in salaries — stock options, joining or sign — on bonus, relocation benefits, medical reimbursement, leave travel allowance, transport allowance and other benefits — raise annual salaries to more than ₹1 crore. Including variable components, international pay packages soared at IITs.

Youth power races to the top in Pretoria

How a team of students from VJTI Mumbai triumphed at Baja South Africa

RAHUL THEKDI

With barely 50 minutes to go in the four-hour race, Gaurang Dharap and his teammates faced a nerve-racking moment when their car toppled breaking the driver shift. "We thought the race was over for us," recalls Dharap.

It was a do or die moment but their team spirit came to the fore at this critical juncture. Within minutes, the seven students of the Mumbai-based Veermata Jijabai Technological Institute (VJTI) fixed the problem by tightening the loose bolts and brought their prized baby back on track. Eventually, they ended up triumphant at Baja South Africa 2015.

This was the first ever international outing for the VJTI team and victory was doubly sweet as it was not only the overall winner but also emerged tops in four independent events. Months of hard work and bonding paid off rich dividends as the Mumbai boys raced to the top in Pretoria.

Global playing field

An annual event, Baja is an engineering competition where students from across the world, design and manufacture a single seat all-terrain vehicle (ATV). The

event has gained rapid traction in India too where young participants have a field day with their products. The vehicles are evaluated on parameters like design, endurance and performance. Baja SA 2015 was held in Pretoria, South Africa, in end-October this year.

The seeds for this triumphant journey were sown in September last year when the enthusiastic group of 25 started preparing for the big day scheduled a year later. The college did its bit by giving the students enough flexibility in striking the balance

between attending classes and working on the project.

Clearly, the enthusiasm had rubbed off on the faculty too which realised that the event mattered a great deal in enhancing the institute's brand. The script was progressing nicely and the VJTI students were now ready for the plunge.

On arriving in South Africa, the team had to first assemble the car which took around three days before being ready for testing. After clearing the three basic parameters of qualification - technical, engine and breaks - the students began gearing up for the series dynamic events. Of the 11 teams which participated, six made it to the final round.

Interestingly, these international do not award money to the winning teams unlike what happens in India. "They want us to learn and not just earn," says Mehta. International events also give students a thorough feedback, again a practice alien to Indian organisers. "Out here, newcomers do not know where they need to improve," chips in Satra.

One of the major disadvantages the team faced in its preparedness was in the poor technological infrastructure back home in India. According to the students, many engineering colleges lack testing and manufacturing facilities which is not an issue for students from other countries.

The tide is slowly changing

with Indian institutes now encouraging students to participate in such events. "Our engineers need to have practical experience. Events like these actually prepare us for work life ahead," says Hardik Thakkar.

Sweet victory

Still revelling in their triumph, the VJTI team recalls the sweet moments in Pretoria. "Other teams were very happy to see our car and the judges complimented our work," adds Mihir Mehta. It is a sentiment echoed by the organisers of the event.

"They clearly put in a lot of work and were proud of their car. It all paid off in the end," says Michael Victor, technical special-

ist of Baja SA 2015. The bar of these competitions has risen with the average weight of cars reducing gradually. "With steady reduction in weight and increase in vehicle performance, there will probably be a reduction in (vehicle) reliability. It will be interesting to see how students manage this tradeoff," adds Victor.

Competitions like Baja also help students from the viewpoint of creating job placement opportunities. "Through your car, companies want to see how you can apply your knowledge in practice," says Dharap who is heading out to Bajaj Auto.

The VJTI team also has a word of advice to future participants keen to emulate this victory. Testing your car well before the competition is always advisable and light components make a significant difference to overall performance.

The team will now be taking its ATV to Baja India 2016. "We expect the competition there to be tougher, at least in the dynamic events," says Dharap. Meanwhile, a batch of junior VJTI students is set to enter the competition and has started to design for Baja 2017. "If budding engineers like us could contribute to the country, we will soon be seeing an India-made BMW or Mercedes," declares a confident Sachin Kulkarni.



Moment of pride The group of students which worked on the project; (left) the ATV which triumphed in Pretoria

कैट में कर सकेंगे कैलकुलेटर का प्रयोग

राज्य ब्यूरो, नई दिल्ली: देश के प्रतिष्ठित भारतीय प्रबंधन संस्थान (आइआइएम) में दाखिले के लिए कई बदलावों के साथ 29 नवंबर को कॉमन एडमिशन टेस्ट (कैट) 2015 का आयोजन होगा। करीब 2.18 लाख परीक्षार्थी इसमें हिस्सा लेंगे। इसके लिए देश के 136 शहरों में 650 टेस्ट साइटें बनाई गई हैं। इस बार इस परीक्षा में बैठने वाले विद्यार्थियों को 10 मिनट का समय अधिक मिलेगा और वे ऑनस्क्रीन कैलकुलेटर का भी इस्तेमाल कर सकेंगे।

इस वर्ष होने वाली ऑनलाइन कैट की परीक्षा में शामिल होने वाले 2.18 लाख परीक्षार्थियों में लगभग 1.49,408 लड़के व 69,196 लड़कियां शामिल हैं। परीक्षा के बाद जनवरी, 2016 के दूसरे सप्ताह में इसके नतीजे जारी किए जाएंगे, जिनके आधार पर आइआइएम व देश के प्रतिष्ठित बी-स्कूल्स में दाखिले होंगे।

- ◆ 29 नवंबर को होने वाली परीक्षा का समय भी बढ़ा
- ◆ 136 शहरों में तैयार की गई हैं 650 टेस्ट साइटें



बताया जाता है कि इस बार परीक्षा के लिए 170 मिनट के बजाये 180 मिनट मिलेंगे। इस तरह से परीक्षार्थियों को तीनों ही खंडों को हल करने के लिए 60-60 मिनट मिलेंगे। एक खंड की समयसीमा पूरी होते ही दूसरा खंड स्क्रीन पर स्वतः आ जाएगा। परीक्षा में तीन अलग-अलग खंड हैं।

अंतिम समय में चूक से बचें

विशेषज्ञ अपनी-अपनी तरह से परीक्षार्थियों को परीक्षा में बेहतर प्रदर्शन की सलाह दे रहे हैं। कैट की तैयारी कराने वाले विशेषज्ञ शिक्षक गौतम पुरी के मुताबिक इस समय परीक्षार्थियों के लिए सबसे अच्छी रणनीति यही है कि वे परीक्षा के किसी भी हिस्से को नजर अंदाज करने की भूल न करें। इसके अलावा वे हर हिस्से के प्रश्नों का नियमित अभ्यास करें। कैट की तैयारी कराने वाले एक और विशेषज्ञ शिक्षक डॉ. केजेएस आनंद का कहना है अब समय काफी कम है, लिहाजा परीक्षार्थी कुछ भी नया करने से परहेज करें। अब केवल अभ्यास ही उचित है। स्वयं का विश्लेषण करने के लिए मॉक टेस्ट से अभ्यास करें। यदि प्रश्न पत्र का स्तर कठिन पाए तो घबराएं नहीं। आराम से प्रश्नों को पढ़ें और एक-एक प्रश्न को हल करते जाएं। यदि मॉक टेस्ट से अभ्यास किया होगा तो प्रश्नपत्र हल करने में परेशानी नहीं होगी।

IIT Kgp most employable in country: QS Survey

<http://timesofindia.indiatimes.com/home/education/news/IIT-Kgp-most-employable-in-country-QS-Survey/articleshow/49942110.cms>

KOLKATA: IIT Kharagpur was rated the most employable institute in the country by an international survey for higher educational institutions on Thursday.

It is also the only other institute apart from IIT Bombay to make it to the top 100 of the global employability rankings.

Quacquarelli Symonds (QS), which released its first ever Graduate Employability Rankings on Thursday, placed IIT Kharagpur at 77 and IIT Bombay at 93.

The other Indian institutes to figure on the list are IIT Madras (rank 119), IIT Delhi (160) and University of Delhi (175).

The top five ranks were grabbed by Stanford University, MIT, Harvard University, University of Cambridge and Yale University.

With a score of 51.0, IIT Kharagpur rubs shoulders with the likes of University of Liverpool (score 53), University of Lancaster (52.9) and Pennsylvania State University (52).

IIT Kharagpur scored impressively in parameters like 'graduate employability rate' and 'employers' presence'. The fact that it managed the highest number of pre-placement offers for the 2015-16 session among all IITs drew the attention of QS. The survey also took into account the fact that it has the highest number of graduates among the IITs and on an average 1500 of its students get jobs every year with impressive compensation packages.

"The students of IIT Kgp are all talented. It is our interdisciplinary approach and the compulsory industrial internships that they go for which makes our students ready for their new jobs," director P P Chakraborty told TOI on Thursday.

In its maiden project, the QS Graduate Employability Rankings survey analyzed over 44,000 responses from 1,239 universities. Experts took a year to conduct thorough investigations before reaching their conclusions. The methodology included parameters like employer reputation, partnerships with employers, alumni outcomes, employers' presence on campus and graduate employment rate. The report was released on Thursday at the Young Universities Forum in Melbourne.

IIT-Kanpur experts develop a warning system to prevent accidents at unmanned level crossings

<http://timesofindia.indiatimes.com/city/kanpur/IIT-Kanpur-experts-develop-a-warning-system-to-prevent-accidents-at-unmanned-level-crossings/articleshow/49943075.cms>

KANPUR: If everything goes well, accidents at the unmanned level crossings will not happen and precious human lives be saved as IIT Kanpur has developed a warning system which will produce loud sound to alert the people to remain off the tracks. The technology has been named as Radio Frequency and Wireless Based Warning System. After <http://timesofindia.indiatimes.com/city/kanpur/IIT-Kanpur-experts-develop-a-warning-system-to-prevent-accidents-at-unmanned-level-crossings/articleshow/49943075.cms>

r successful trials of this warning system between Unnao and Sonik railway stations (crossing number 29C) and Lucknow-Sultanpur section (crossing number 189C), the IIT-Kanpur will be handing over it to the RDSO on December 16. Also the device had been installed in the Loco engine. The GPS and RFID (Radio Frequency Identification tag) enabled warning system can be made operational from either of the two and this is its biggest attraction.

Interestingly, the advanced warning system is capable to handle a total of 16 trains if spread out on 16 parallel tracks. Research Design and Standards Organisation (RDSO) had asked the IIT-Kanpur to develop such a warning system which could cater to two trains on two parallel tracks in one go.

Talking to TOI, BM Shukla, principal software engineer at IIT-K said, "The warning system with embedded GPS and RFID (radio frequency identification tag) had been installed in the train and at the unmanned railway crossing during the trial period. The system is such that when the train will be 1500 meters away from the crossing, the warning system will get activated and hooters will blow up giving an indication to the driver that the crossing is fast approaching.

The same thing will happen when the train is just 800 meters away from the track. The flash hooters will stop buzzing when train crosses 50 metre mark from the crossing."

Shukla further said that even if the GPS stops functioning due to some or the other reason, the RFID will ensure making the warning system work and under no circumstances the system will fail, making it fullproof.

Highlighting the unique feature of the warning system, Shukla said that in case of multiple tracks (suppose two trains are crossing each other), the warning system will continue to function and later train will activate the signal to close the warning system (meaning that the hooters will buzz for both the trains and will close when the later train will clear the 50 metre mark).

He also mentioned that the trials have remained successful before the officials of RDSO and the technology will be handed over to the railway board on December 16.

He concluded by saying that it was now the railway board to decide how to go ahead with the new technology developed for them. If they will want the extended trials of the warning system would be demonstrated before them.

50% IIT entrants this year didn't have coaching

<http://timesofindia.indiatimes.com/city/chennai/50-IIT-entrants-this-year-didnt-have-coaching/articleshow/49947211.cms>

CHENNAI: As the debate over persuading students to discard the 'culture' of coaching centres to boost scientific thinking, IIT statistics reveal that about 50% of those who secured admission to the 18 institutes this year did so without attending any coaching centre.

The Committee of Eminent Persons (CEP), constituted by the IIT council, recently submitted a report to the HRD ministry, suggesting a revamp in the Joint Entrance Examination (JEE) pattern which includes an aptitude test that cannot be cracked through the 'coaching culture'. While coaching institutes have decried the recommendation, some academicians said the numbers of those entering the institutes without coaching proved coaching centres are not necessarily the gateways to the premier institutes.

According to statistics from IIT Bombay, which conducted JEE 2015, of the 9,974 students who entered the various IITs this year 4,892 said during registration that they relied on self-study while 4,757 depended on coaching centres.

Prof S Sundar of IIT Madras, who handled JEE admissions in Chennai, said that even if these numbers could not be taken at face value, coaching was not a necessity. "There are many brilliant minds in class and if students follow a systematic approach in their studies, I genuinely feel they need not depend on coaching," he said. However, he said, the foundation provided in school was crucial.

Prof Anandkrishnan of IIT Kanpur said many students took up coaching in blind faith and because it had become a trend. "Students at coaching centres are brainwashed by certain methods and fall short in many areas. In my experience at IIT, many who come from coaching centres have done worse than those who don't. No coaching centre can make students learn tackling an aptitude test," he said.

Coaching institutes say discouraging coaching will affect deserving students. Aakash Chaudhry, director of Aakash Educational Services, said cracking IIT-JEE required more than preparing for school board exams. "Those who can afford quality education from good schools will be able to make it, resulting in missed opportunities for the masses. The objective is that both the brilliant and average students pass the entrance examinations with highest score."

Prof P V Balaji, of IIT Bombay, who handled JEE (Advanced) 2015, said coaching centres flourished because of the "obvious demand and its success rate."

The committee's suggestion of bringing in an aptitude test and a single entrance pattern would add pressure on students to crack JEE in one go, he said. "The existing dual-entrance pattern was brought in after much consultation with academicians who found it difficult to filter a large volume of students," he said.

Coming soon film on man behind India's 'IIT factory' Anand Kumar

Anurag Basu is among those who have approached me for making a biopic : Anand Kumar.

<http://indianexpress.com/article/entertainment/bollywood/coming-soon-film-on-man-behind-indias-iit-factory-anand-kumar/>

Several leading Bollywood filmmakers have evinced a keen interest in making a film on the man who founded arguably India's best known coaching institute for the IIT examination.

"Noted filmmaker Anurag Basu and actress [Priyanka Chopra](#) are among those who have approached me for making a biopic," 'Super 30' founder and mathematician Anand Kumar told PTI.

"Film writer Sanjiv Datta, who has written script for hits like 'Barfi!', 'Page 3' and 'Gangster', has also offered to script the movie," Kumar said.

Also read: [Tough for real life couples to romance on-screen: Anurag Basu](#)

While Basu met Kumar at Patna, Priyanka spoke to him over phone and showed an interest in making a film based on his life.

"I will take a call in a month on whom to give the copyright for making my biopic," Kumar said.

The Patna-based 'Super 30' has groomed more than 300 students who have qualified for the coveted IITs, ever since Kumar launched the initiative in 2002.

Diplomatic officials from France and Germany recently paid a visit to the Super 30 academy, acclaimed for helping students of deprived sections to crack the Indian Institute of Technology (IIT) entrance examination.

Kumar met Maharashtra Chief Minister Devendra Fadnavis in August to discuss ways for imparting quality education to students from poor and underprivileged sections in the state.

Under the Super-30 programme, 30 students from extremely poor families are trained free of cost to crack JEE to secure admission to IITs. The initiative had made its way to the list of 'Best of Asia – 2010', prepared by Time magazine of the US.

The Newsweek magazine had also taken note of the initiative and included his school in the list of four most innovative schools in the world.