

## Newspaper Clips

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### Small planes, big dreams

Avani Udgaonkar



The champions from ACS College of Engineering, Bangalore.

*Special Arrangement*

*ACS team worked hard to win National Boeing Aero-modelling Competition*

The National Boeing Aero-modelling Competition held its finals at the Indian Institute of Technology (IIT) Delhi recently. The champions were Vignesh Arul, Tabrez Nadvi and Pavan M.J. from ACS College of Engineering, Bangalore, who won a cash prize of Rs. 1 lakh after defeating over 170 other teams.

The team came third in the qualifying rounds of the East Zone at IIT-Kharagpur. The team members then worked night and day at a simulator, perfecting their technique before the finals. Though their model crashed about six times during practice and once in the arena, they did not lose heart and, making repairs, moved on to the next round.

The team members had to go through a qualifying round including climbing and gliding and a manoeuvring round. They focused on the important manoeuvres, the ones that would carry the most points.

“It was tough to judge,” said Ashish Imbah, head of sales, who also looks into Research and Development at Aerotrix, and a judge at the finals, “but the team from ACSCE didn’t lose their nerve. Their focus and patience gave them an edge.”

Pavan Ponnaganti, founder of Skyfi Labs, said that the winning team performed exceptionally well, performing every feat with speed and precision.

All three of the winners are aviation enthusiasts who wish to pilot their own planes. “We want to do many things, we might even set up a company,” says Tabrez Nadvi. “But we also hope to be fighter pilots one day and serve our nation.”

Keywords: [National Boeing Aero-modelling Competition](#), [Indian Institute of Technology Delhi](#), [ACS College of Engineering](#)

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# Plastic from potatoes to drones, IITians redefine innovation

**SHIKHA SHARMA**

NEW DELHI | APRIL 19

SINCE his school days, Tanmay Bunkar says he was worried about his father who is an officer with the Madhya Pradesh police. "Our forces are always at risk, because our defence protection systems are not strong enough," he said.

So, Bunkar, a final year student at IIT-Delhi, invested all his time and energy into building aerial robots — drones he someday hopes would be useful to strengthen the country's surveillance capabilities.

"I have been working on this project for over two years. I have developed six different models so far," he said, while taking one his robots on a sortie through the campus. The drone has a range of 1 km currently, but can be increased to around 5 km using boosters, he said.

Bunkar's creation was one among the 140 innovations on display at Open House 2014 — the tenth edition of IIT-Delhi's annual technical exposition.

From live demonstrations of 3D printing structures to toys made out of trash, object locators for visually impaired to automatic medicine dispensers, the one-day long event had something for everyone.

Apart from college students and academicians, around 2,000 students from capital's various schools also visited the expo.

"It's like a scientist's dream. I am fascinated by chemistry, and I particularly found dancing sodium (how sodium re-



**A drone on display during IIT-Delhi's Open House on Saturday.**

EXPRESS

acts when it is placed in a test tube filled with water and oil) and vanishing thermocol (thermocol dissolving in solvent) very fascinating. There's so much to science we don't know," Yogita, a student of Vidya Bharti School, said.

"Almost all our laboratories, departments and research have been opened to the public on this day. Along with over 500 projects that showcase innovations in engineering and technology, science and humanities, design and management, we have also given special attention to design, and socially relevant, and commercially viable projects," Professor Joby Joseph, chairperson of Open House, said.

Other innovations on display included ways in which information technology can be used for better implementation of government schemes, toys that can be made from trash and plastic from potato starch.

# चार हजार फुट तक जा सकता है छात्रों का ड्रोन



## छात्रों का हुनर

नई दिल्ली | रोहित पंवार

आईआईटी दिल्ली के छात्रों ने शनिवार को 'ओपन हाउस' में अपनी सोच और तकनीक के कमाल से प्रतिभा का प्रदर्शन किया। 13 विभागों के छात्रों ने इंजीनियरिंग के प्रोजेक्ट पेश किए। इनमें सबसे अहम चार हजार फुट तक जाने वाला ड्रोन है।

ड्रोन को लेकर दुनियाभर में रोजाना नए अविष्कार हो रहे हैं। लेकिन आईआईटी दिल्ली के फिजिक्स इंजीनियरिंग के छात्रों ने ऐसा छोटा ड्रोन तैयार किया है जो चार हजार फुट तक उड़ान भर सकता है। ऐसा दावा करते हुए फिजिक्स इंजीनियरिंग विभाग ने बताया कि यह तस्वीरें लेने के साथ-साथ दुश्मनों पर हमला भी कर सकता है। इसमें अत्याधुनिक लैस, सेंसर हैं। खास बात यह है कि इसमें छोटी बंदूकों को इंस्टॉल किया जा सकता है। बंदूक को सेंसर से जोड़ा जा सकता है। सेंसर और रिमोट से ये किसी पर भी हमला कर सकता है। यह दाएं, बाएं व ऊपर-नीचे पूरा घूम सकता है ताकि हर तरह की तस्वीरें ली जा सकें।

**बुआई के लिए मशीन :** छात्रों ने किसानों के लिए 'सीड सोविंग मशीन' तैयार की है। इसके जरिये किसान 20 मिनट में चार हजार गज के खेत में

## किसानों के लिए बनाई मशीन



आईआईटी दिल्ली के छात्रों ने किसानों की मदद के लिए सीड सोविंग मशीन बनाई है। • हिन्दुस्तान

बीज डाल सकते हैं। खास बात यह है कि कृषि क्षेत्र के लिए पहली बार 50 से अधिक प्रोजेक्ट तैयार किए गए।

मैकेनिकल विभाग के छात्र साहिल ने सीड सोविंग मशीन के बारे में बताया कि बाजार में इस तरह की मशीनें हैं लेकिन वे महंगी और आकार में बड़ी हैं। ऐसे में छोटे किसान खरीद नहीं पाते। उनकी मदद के लिए हमने इसे तैयार किया है। इसे कोई भी आसानी से

## बिजली बचाएगी मोशन ट्रॉली

उद्योग जगत के लिए लकड़ी से बनी मोशन ट्रॉली बनाई है। इस ट्रॉली में सिंग्रिंग और एल्यूमीनियम की शीट का इस्तेमाल किया गया है। इससे किसी फैक्ट्री में बन रहे उत्पाद को फैक्ट्री में ही एक जगह से दूसरी जगह बिजली की कम खपत के पहुंचाया जा सकता है। इलेक्ट्रॉनिक्स इंजीनियरिंग के छात्रों का कहना है कि यह सिर्फ आइडिया भर है। अगर इस तरह की मशीन सभी उद्योग अपनाते हैं तो बिजली काफी बचगी।



छात्रों द्वारा बनाया गया ड्रोन। • हिन्दुस्तान

प्रयोग कर सकता है। खास बात इसकी स्पीड है। वहीं इससे जुड़े अन्य छात्र विनीत कुमार ने बताया कि इसमें एल्युमिनियम के हल्के पाइप का इस्तेमाल किया गया है। बीज डालते ही इसमें लगे पाइप जमीन के अंदर चले जाते हैं और बीज कायदे से खेतों में चले जाते हैं। वहीं आईआईटी के प्रो. उर्मिलेश बजाज का कहना है कि बीज डालने की तकनीक होती है। सही से

और पंक्तियों में डालने से बेहतर परिणाम मिलते हैं। इस मशीन से ये संभव है। इसके अलावा 'लीफ कॉम्पेक्टर' और गन्ना काटने वाली बेहद सस्ती शुगर कैन कटिंग मशीन जैसे प्रोजेक्ट्स भी तैयार किए गए हैं।

**गार्डन की सफाई के लिए 'मैकेनिकल स्वीपर' :** दिखने में तो यह लकड़ी से तैयार की गई साधारण सी चीज लगती है लेकिन जब इसे एक

## शारीरिक अक्षम लोगों के लिए 'मल्टीपर्पस व्हील चेयर'

इलेक्ट्रिकल इंजीनियरिंग के छात्रों ने शारीरिक अक्षम लोगों के जीवन को आसान बनाने के लिए खास किस्म की व्हील चेयर तैयार की है। व्हील चेयर बिजली से चलती है। इसे तैयार करने वाले छात्र विवेक शर्मा कहते हैं, 'ऐसे लोग सिर्फ बैठे रहते हैं, अगर उन्हें अलमारी से सामान लेना होता है तो दूसरों की मदद लेनी पड़ती है लेकिन इस चेयर से वे सारे काम खुद कर सकते हैं।'

टीम के अन्य छात्र साहिल कपूर ने बताया कि चेयर में सिंग्रिंग लगाई गई है जो बटन दबाते ही सात फुट तक ऊपर उठ सकती है। इसके अलावा चेयर पर टेबल भी है जो हमेशा फोल्ड रहती है। नाश्ते या लंच के समय फोल्ड खोल टेबल का इस्तेमाल किया जा सकता है। इसके अलावा इसमें पांव को आराम देने के लिए छोटा सा बिस्तर भी है। इसे बटन दबा खोला जा सकता है।

06 हजार के करीब लोगों ने देखे प्रोजेक्ट्स

500 से अधिक लाइव व

02 हजार स्कूली छात्र देशभर से पहुंचे

पोस्टर प्रोजेक्ट्स पेश किए गए

खास चिप के जरिए बिजली से चलाया जाता है तो इसकी खासियत का पता चलता है। मैकेनिकल स्वीपर नामक मशीन गार्डन व पार्क की सफाई के लिए बनाई गई है। इसे चिप से चलाया जाता है। चिप को रिमोट से कंट्रोल किया जाता है। खास बात यह है कि इसकी चिप सफाई के दौरान यह भी बता देती है कि कितनी फीसदी सफाई हो चुकी है और कितनी रहती है।

# आईआईटी में इनोवेशन का मेला

आईआईटी में शनिवार को इनोवेशन और तकनीक के मेले (ओपन हाउस) 2014 की शुरुआत हुई। इसमें छात्रों ने प्रोफेसरो की मदद से ऐसे अनूठे इनोवेशन प्रोजेक्ट तैयार किए हैं जिन्हें देखकर हर कोई हैरान हो रहा है। इनोवेशन के इस संसार में कई प्रोजेक्ट काफी कमाल के हैं। शनिवार को छात्रों के तैयार प्रोजेक्ट को सामने लाया गया।



प्रोजेक्ट देखने बच्चों के साथ-साथ बड़े भी पहुंचे।

## हीमोमीटर से जांचें हीमोग्लोबिन

आईआईटी दिल्ली के सेंटर फॉर बायोमैडिकल इंजीनियरिंग विभाग की प्रोफेसर वीना कौल और छात्र अंबर श्रीवास्तव ने पहली बार हीमोग्लोबिन जांचने वाला टू एचबी हीमोमीटर तैयार किया है। इससे खून में हीमोग्लोबिन की मात्रा जांची जा सकती है। इस यंत्र का वजन मात्र 60 ग्राम है। इसे जेब या पर्स में भी रखा जा सकता है। एक बार बैटरी चार्ज करने पर इससे 300 बार टेस्ट किया जा सकता है। टीम का दावा है कि ऐसा उपकरण केवल विदेश में उपलब्ध है और कीमत 20 हजार से अधिक होती है। तीन साल की रिसर्च के बाद इसे तैयार किया गया है।



## छिलकों से बनाया ईको क्लीनर

रश्मि शर्मा

नई दिल्ली। अगर आपको नहाने, कपड़े धोने या सफाई करने पर हर साल हजारों रुपये खर्च करने पड़ते हैं, तो अब आपके लिए एक नया समाधान आने वाला है। आप इन सब चीजों की सफाई के लिए केवल एक ही पदार्थ का इस्तेमाल कर सकते हैं। खास यह है कि कर्म कीमत में इस पदार्थ को घर में ही बना सकते हैं और नुकसान न के बराबर।

आईआईटी दिल्ली के केमिकल इंजीनियरिंग विभाग ने ऐसा ही एक ऑर्गेनिक क्लीनर तैयार किया है। इस क्लीनर को तैयार करने वाले विभाग के अमर श्रीवास्तव और उनकी टीम (रुषप खजांची, मृदुल जोशी, किशुक गोयल) ने बताया कि इस प्रोजेक्ट को तैयार करते समय इस बात को ध्यान में रखा गया कि ऐसा पदार्थ

घर बैठे बनाएँ सफाई करने वाला घोल, सौ रुपये की लागत से तैयार हो सकता है

तैयार किया जाए, जो सभी चीजों की सफाई कर सके। टीम ने इस क्लीनर को इको एंजाइम क्लीनर नाम दिया है।

टीम के सदस्यों ने बताया कि 100 रुपये में इसे घर पर ही 200 लीटर तक तैयार किया जा सकता है। वहीं इसको बड़े प्लांट में बड़े सेट-अप के साथ भी तैयार किया जा सकता है। बनाने के लिए दो कंटेनर की जरूरत होगी।

इनमें से एक कंटेनर में पानी भरा हो और उसमें सब्जियों के छिलके डाल दिए जाएं। इसके साथ ही इनमें एक निश्चित मात्रा में खट्टे फलों के छिलके भी होने चाहिए। इसके साथ ही खमीर उठाने के लिए इस्तेमाल होने

## बड़े काम का है ईको एंजाइम

छात्रों का दावा है कि इसके घोल से न केवल नहाया और सिर धोया जा सकता है, बल्कि कपड़े भी धोए जा सकते हैं। कपड़ों में लगे दाग को भी यह साफ कर देता है और उन्हें रंगड़ने की जरूरत नहीं पड़ती। केमिकल का इस्तेमाल न होने से यह त्वचा के लिए भी अच्छा है। इसकी खासियत यहीं खत्म नहीं होती। घोल तैयार होने के बाद उसमें इस्तेमाल सब्जियों और फलों के छिलकों का इस्तेमाल गार्डन की मिट्टी में डालकर उसकी उर्वरा शक्ति बढ़ाई जा सकती है।

वाले यीस्ट के दाने और कुकीज, केक और पेस्ट्री में इस्तेमाल होने वाली ब्राउन शुगर का होना जरूरी है।

Dainik Bhaskar ND, 20.04.2014, P-2

## आईआईटी दिल्ली

सस्ती सोलर पैनल क्लीनर डिवाइस, लकड़ी की व्हील चेरर और चूल्हे का मॉडल बना आकर्षण

# छात्रों ने 110 करोड़ की लागत से तैयार किए 500 प्रोजेक्ट

■ आईआईटी ओपन हाउस में नजर आई नई सोलर मशीनें ■ रोबोटिक शो और लकड़ी की व्हील चेरर विद रैंप

भास्कर न्यूज. नई दिल्ली

आईआईटी दिल्ली के छात्रों ने इस बार 110 करोड़ रुपये की लागत से करीब 500 इनोवेशन प्रोजेक्ट तैयार किए हैं। इनकी प्रदर्शनी शनिवार को आईआईटी कैम्पस में लगाई गई। ओपन हाउस के दौरान स्कूल के बच्चों ने भी इनोवेशन प्रोजेक्ट्स देख काफी सारे सवाल जवाब मॉडल बनाने वाले छात्रों से पूछे।

छात्रों की ओर से इनोवेशन प्रोजेक्ट्स में इस बार कई चीजें ऐसी बनाई गई हैं, जो समाज की जरूरत हैं। आईआईटी के छात्र दिल्ली के भाटी माईस गांव में कई माह से आंच प्रोजेक्ट पर काम कर रहे हैं। इसमें उन्होंने एक ऐसा चूल्हा ईजाद किया है, जो ग्रामीणों को धुएँ से होने वाली बीमारी से

बचाव के साथ-साथ आधे ईंधन में खाना बना देता है। एमईपी के छात्र प्रंजल सिंह और राहुल मिश्रा ने बताया कि इस चूल्हे के निर्माण में खर्च 800 से 2000 रुपये के बीच आ रहा है। अभी तक गांव में पारंपरिक चूल्हे में एक ही बर्तन रखा जाता था, लेकिन इस चूल्हे में डबल आंच का प्रावधान किया गया है। जिससे रोटी बनाने के साथ-साथ सब्जी भी बनाई जा सकती है।

छात्र हिमांशु पटेल बताते हैं कि अभी तक बाजार में ड्राई सोलर पैनल को क्लीन करने के लिए सस्ते और बेहतरीन डिवाइस नहीं मिलते हैं। ऐसे में धूल और गंदगी जमने पर सोलर पैनल की कार्यक्षमता प्रभावित होती है। उन्होंने धूल गंदगी को साफ करने वाला ड्राई सोलर पैनल क्लीनर डिवाइस तैयार किया है। जिसकी लागत



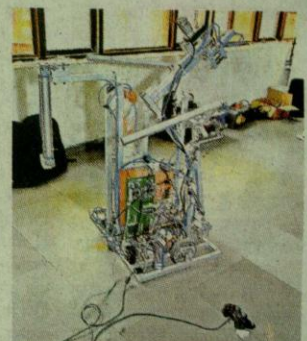
आईआईटी दिल्ली में ओपन हाउस में लकड़ी से बने हवाई जहाज का मॉडल।

करीब 2000 रुपये आई है।

ऐसे ही गगन और प्रंजल ने लकड़ी से बनाई हुई व्हील चेरर का प्रदर्शन किया। इसमें छात्रों ने चेरर के नीचे एक रैप बनाया है, जो जरूरत पड़ने पर शारीरिक रूप से

अशक्त व्यक्ति को आराम से फुटपाथ पर चढ़ने में मदद करता है। गगन का कहना है कि सामान्य व्हील चेरर करीब 70 हजार रुपये की आती है, अगर उसमें रैप भी शामिल कर दिया जाए तो 5 से 10 हजार रुपये ज्यादा लागत आएगी। लेकिन विकलांग व्यक्ति को घूमने-फिरने में फिर किसी के सहारे की जरूरत नहीं पड़ेगी, वह खुद ही कहीं भी आ जा सकेगा।

इसके अलावा रिहायशी क्षेत्रों से गायब होने पाकों को ध्यान में रखते हुए, आईआईटी के छात्रों ने बच्चों के लिए खेलने के साथ-साथ फिजिकल एक्सरसाइज हो सके इसके लिए लकड़ी की बॉल फेंकने वाली मशीन बनाई है। इसके अलावा आईआईटी कैम्पस में पर्यावरण संरक्षण, पेंडुलम घड़ी और रोबोटिक्स शो की धूम रही।



आईआईटी दिल्ली में ओपन हाउस के दौरान रोबोटिक्स शो

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**THE TIMES OF INDIA**

## Smart innovations by IIT students now at a shop near you

PTI | Apr 20, 2014, 12:29 PM IST



*Students at IIT Delhi attempt to find solutions to a lot of problems with a list of innovations.*

NEW DELHI: Does the often time-consuming line up at pathological labs to collect your medical test reports disturb you? Are you looking for environment-friendly options to lead your life? Do you believe in the power of technology to offer you clean governance?

Students at IIT Delhi attempt to find solutions to a lot of such problems with a list of innovations that are aimed to delight science lovers, enthusiasts, novices as well as experts. A range of such solutions was displayed at "Open House 2014", the annual event of the premier institute here recently.

On show was a 'Hemometer' that can instantly estimate hemoglobin count; a biogas technology that promises to replace CNG (Compressed Natural Gas), petrol and diesel as engine fuels; a cholesterol analysis kit at a price half the market rate; a waterless urinal project and the use of technology for transparent governance.

"The buzzword this time is innovation and design. We have tie-ups with many brands and market players who are selling our innovation produced by students and faculty," Professor Suneet Tuli, Dean, Research and Development, IIT Delhi says.

A case in point may be, the "Early clean coated fabric", a fabric that can be cleaned with more ease and speed than the other cloth materials. The fabric also possesses light weight flame retardant elements, that has the property of extinguishing fire on its own.

The product designed by a team led by Professor Manjit Jassal, is already available in the market and is being sold under the label of "SRF Ltd Chennai".

"The objective behind the design was to create a fabric that is an improvement on what is already available in the market. We were able to reduce the content of toxic chemicals to a considerable extent in our fabrics. These are PVC coated polyester fabrics that are light weight compared to the heavy garments available in the market," says Manjit.

Times of India ND 20/04/2014 P-7

# FYUP may come in way of open learning

Manash Pratim Gohain | TNN

**New Delhi:** The four-year undergraduate programme introduced by Delhi University in its colleges may come in the way of recognition of School of Open Learning courses and hit its admission process hard. The accreditation of the 10 courses at SOL by Distance Education Council—now the Distance Education Bureau (DEB) under University Grants Commission—is expiring on June 14.

According to SOL sources, the degrees offered in the classroom and distance learning methods by a dual-mode university should be in sync but the existing DEB guidelines—which stipulate that its courses will run only for three years—pre-empt that.

Hence, while DU's undergraduate honours degree is now of four years duration and in semester mode, SOL courses are still of three years duration and in annual mode. According to SOL officials, there needs to be a major revamp of the courses to make them in sync with the DU's undergraduate degree. Besides, in case the recognition is not given on time, students may suffer.

Three years ago, SOL students had to move the high court to get relief after their degree was not accepted by prospective employers. The issue was resolved and DEC gave recognition to the courses for two years—2012-14.

"Admissions for the new session are drawing near and

## DISTANT LINK

### GENESIS

- Established under University of Delhi in 1962 as School of Correspondence Courses and Continuing Education
- India's first distance education institution started with 1,000 students as a pilot project

### FACTS



- Student strength | **3.5 lakh**

- Courses |

**Undergraduate & postgraduate**  
—5 each

- UG courses in annual mode | PG courses in semester mode

- Last syllabus revision in 2000-01



### FINANCE | DU gets ₹60-75 crore annually from

**SOL enrolment |**  
Each student charged ₹50

**University development fee |**  
Each student charged ₹300 per year

**University examination fee | ₹700**  
(average)

Source: SOL

the university should intervene in the matter. The issue of recognition may affect admissions. Moreover, it's time the university extends the reforms to SOL in order to follow the distance education guidelines. The SOL students are bound to suffer otherwise," said a senior SOL official.

SOL is the country's first distance education institute started by the Government of India as a pilot project. It has become a source of income for the university. "DU cannot afford to be slack as SOL generates close to Rs 70 crore in revenue," said the official.

However, C S Dubey, chairperson of Campus of Open Learning under which SOL functions, is confident that the duality of the degrees won't come in way of recognition. "We have approached UGC

and are confident the issues will be resolved. There are a lot of reforms underway and we will see the changes in due course. However, I hope admission won't be affected. If need be, we will make some structural changes to the courses to make them in sync with the four-year degree," he said.

According to UGC sources, while guidelines say the distance education and conventional degrees should be on a par, they are not so at present. However, DU sources said semesters and FYUP cannot be implemented at SOL owing to the large number of students.

"The university, which keeps on harping about autonomy while implementing FYUP, should present its case to UGC and get the recognition instead of letting students suffer," said a senior SOL teacher.

Rashtriya Sahara ND 20/04/2014P-3

# आईपी विवि से संबद्ध कालेजों में नए कोर्स शुरू करने पर पाबंदी

संजय के झा/एसएनबी

नई दिल्ली। उपराज्यपाल नजीब जंग ने इन्द्रप्रस्थ विश्वविद्यालय से संबद्ध कालेजों में नए कोर्सेज शुरू करने पर पाबंदी लगा दी है और वर्तमान सत्र 2014-15 में सभी संस्थान छात्रों की भर्ती का कोटा भी नहीं बढ़ा सकेंगे। नए संस्थान को संबद्ध करने की अनुमति भी वर्तमान सत्र में नहीं मिलेगी। एक एक्सपर्ट कमेटी गठित करने का आदेश दिया जा रहा है जिसमें आईआईटी दिल्ली, जामिया मिल्लिया विश्वविद्यालय, दिल्ली विश्वविद्यालय और आई पी विश्वविद्यालय के एक्सपर्ट संबद्ध प्राइवेट कालेजों का निरीक्षण कर दिल्ली सरकार को रिपोर्ट सौंपेंगे कि इन संस्थानों में विश्वविद्यालय के नियमों का पालन किया जा रहा है या नहीं।

गुरु गोविन्द सिंह इन्द्रप्रस्थ विश्वविद्यालय से संबद्ध कालेजों को एक वर्ष के लिए एनओसी प्रदान किया जाता है। नया सत्र 2014-15 शुरू होते ही संबद्ध संस्थानों को एनओसी देने की प्रक्रिया शुरू की गई लेकिन दिल्ली सरकार ने इस वर्ष प्रक्रिया पर आपत्ति जताई और कहा कि हर वर्ष एनओसी देने की प्रक्रिया उपयुक्त नहीं है। एक बार कालेज को विश्वविद्यालय से संबद्ध करने के बाद किसी विपरीत रिपोर्ट के आधार पर ही विश्वविद्यालय द्वारा इसका निरीक्षण कराया जा सकता है। नियमानुसार संबद्ध संस्थानों द्वारा किसी प्रकार के विश्वविद्यालय नियम की अवहेलना होने पर संस्थान के निरीक्षण का आदेश उपराज्यपाल दे सकते हैं।

इंद्रप्रस्थ विश्वविद्यालय में वर्ष 2011 में दिशा निर्देश

तय किए गए। ये दिशा निर्देश सत्र 2013-14 तक ही मान्य थे। इसके बाद संबद्धता को लेकर एक्सपर्ट कमेटी बनी और इसने रिपोर्ट सरकार को सौंप दी लेकिन सरकार ने इस विषय पर पुनः विचार करने का निर्णय लिया और इसी आधार पर आईआईटी दिल्ली, जामिया मिल्लिया विश्वविद्यालय, दिल्ली विश्वविद्यालय के विशेषज्ञों को शामिल कर एक्सपर्ट कमेटी की अनुशंसा कर दी गई है। इसमें इन्द्रप्रस्थ विश्वविद्यालय के रजिस्ट्रार और विश्वविद्यालय अनुदान आयोग के प्रतिनिधि भी शामिल होंगे। दिल्ली सरकार के उच्च शिक्षा

निदेशक इसके सदस्य सचिव होंगे। यह कमेटी इस बात पर विचार करेगी कि क्या संस्थान को नियमानुसार मान्यता दी गई थी और क्या ये संस्थान संबद्ध होने की पात्रता रखते हैं और इनके द्वारा विश्वविद्यालय के नियमों का अनुपालन किया जा रहा है।

इंद्रप्रस्थ विश्वविद्यालय द्वारा वर्ष 2011 में तय दिशा निर्देश की

समय सीमा समाप्त होने पर नए दिशा निर्देश की मांग की जा रही है लेकिन दिल्ली सरकार ने तीन शर्तों के साथ वर्तमान दिशा निर्देशों को ही जारी रखा है। इन तीन शर्तों के अनुसार प्राइवेट संबद्ध कालेज में नए कोर्सेज नहीं शुरू होंगे, इस सत्र में नए संस्थान संबद्ध नहीं होंगे और छात्रों की भर्ती का कोटा भी रिवाइज नहीं किया जाएगा। एनओसी देने के लिए इंद्रप्रस्थ विश्वविद्यालय द्वारा संयुक्त निरीक्षण कमेटी बनाई जाती है और इसके रिपोर्ट के आधार पर ही एनओसी प्रदान की जाती है। इस कमेटी की अध्यक्षता सेवानिवृत्त आईएएस अधिकारी द्वारा की जाती है। इस कमेटी को बनाने पर दिल्ली सरकार द्वारा विचार किया जा रहा है।

- आईआईटी दिल्ली, जामिया मिल्लिया विश्वविद्यालय, व दिल्ली विश्वविद्यालय की एक्सपर्ट कमेटी संस्थानों का निरीक्षण करेगी
- संस्थानों को मिली है मान्यता व संबद्ध होने की अर्हता की होगी जांच
- संस्थान अपना भर्ती करने का कोटा भी इस सत्र में नहीं बढ़ा पाएंगे

## [Education Plus](#) » [Colleges](#)

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### **Screenwriting workshop at IIT Madras**

IIT Madras is ready with its next edition of Imaging Cinema 2014, a screenwriting-cum-film making workshop from June 7 to 14. The focus is on various aspects of screenwriting. Sessions on screenwriting will be conducted by experienced resource persons. Special sessions on aspects of direction and screenwriting will be conducted by established names from Mumbai and South Indian film industry. Participants can look forward to the presence of ace screenwriters and directors such as Shridhar Raghavan (*Khakee*, *Dum maro Dum*), Jaideep Sahni (*Chak de India*, *Shuddh Desi Romance*) and Vikramaditya Motwane (*Lootera*, *Udaan*) along with many more.

IIT Madras had organised Imaging Cinema in 2009, 2010 and in 2013. The uniqueness of these workshops lie in their outreach where candidates from a cross section of society interact with established names from the Indian film industry.

Accommodation on campus is available for outstation candidates only through first come first serve basis. Course fee is Rs. 7,000.

For students and those who have attended previous Imaging Cinema, it is Rs. 6,000. For NRI's and foreign nationals, it is Rs. 8,000. Participants will be awarded IIT Madras certificate of participation.

The workshop will be held on IITM campus. For further details, contact: 91-044-74185 62000.

Keywords: [screenwriting workshop](#), [IIT Madras](#), [Imaging Cinema 2014](#)

Printable version | Apr 21, 2014 11:44:03 AM | <http://www.thehindu.com/features/education/college-and-university/screenwriting-workshop-at-iit-madras/article5928886.ece>

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e-paper

# AN R&D SHOW FOR THE MASSES

A thermometer that instantly checks haemoglobin, plastic from potato starch and a solar-powered refrigeration system were some of the projects displayed at the IIT-Delhi Open House for the public

TIMES NEWS NETWORK

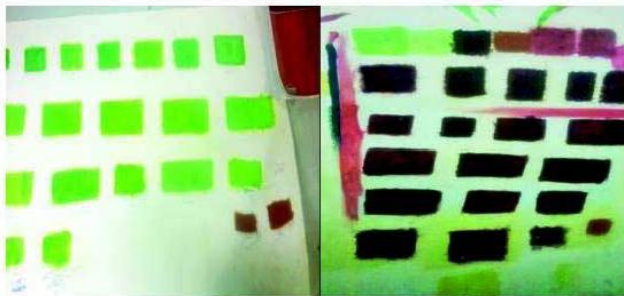
The Indian Institute of Technology-Delhi (IIT-D) showcased its research and innovation work for the public at an Open House last week.

A waterless urinal, a thermometer that checks haemoglobin instantly, a cholesterol-measuring device, fibre wrapping to protect buildings from earthquakes, plastic from potato starch and a solar-powered refrigeration system were some of the projects displayed to kindle schoolchildren's, college goers' and innovation enthusiasts' interest in research

and development, at the 10<sup>th</sup> edition of the Open House.

These projects have been undertaken by IIT students and faculty. Around 140 live demonstrations and many student projects as well as commercial designs were displayed at a pre-event media briefing.

"The Open House is a celebration of innovations, which are nationally relevant. We highlight the journey of a research project from the lab to how it becomes commercially viable. We aim to bring in research, innovation and competent designs in the market," said Suneet Tuli, dean, research and development, IIT-Delhi.



■ One of the projects displayed was on paints made from starch applied on a wall (before and after one year)

Talking about the project on using starch to make products which decrease dependency on

plastics, Sanat Mohanty, associate professor, department of chemical engineering, IIT-D, said

that undergraduates mostly worked on the idea.

"Starch is widely available and

is a low-cost raw material. One can make high-value products from starch to solve cash inflow problems in small economies. For poor communities, starch is a food source. So, there is a problem in using it as food versus material. That's a problem we haven't been able to deal with, yet perhaps a solution is to use non-edible starch with other sources. All materials made from starch are biodegradable and they take us away from plastic. We tried to concentrate on how well we could design a wide variety of products from starch — bag, disposable cutlery (including spoons), plates, and emulsion paints," he explained.

He said that the primary challenge was trying to control the properties of starch as it is inherently quite brittle. You want it to be able to last at least for a week.

## PROJECTS SHOWCASED

- Refreshable Braille Cell Reading Device: This is a low-cost reading solution for the visually impaired
- Kitchen Waster Water Treatment Plant: It cleans kitchen water containing oil, dirt, grease, food particles, etc
- Solar panel cleaning robot: The robot will reduce the manual effort of labour in the field of solar panel cleaning
- Interactive laptop table: A tilting and rotating platform to reduce cervical pain, etc



The Open House is a celebration of innovations, which are nationally relevant. We highlight the journey of the research from the lab to how it becomes commercially viable

# IIT student-innovations enter retail markets

SURYA S PILLAI

*Press Trust of India*

NEW DELHI: Does the often time-consuming line up at pathological labs to collect your medical test reports disturb you? Are you looking for environment friendly options to lead your life? Do you believe in the power of technology to offer you clean governance?

Students at IIT Delhi attempt to find solutions to a lot of such problems with a list of innovations that are aimed to delight science lovers, enthusiasts, novices as well as experts. A range of such solutions was displayed at "Open House 2014", the annual event of the premier institute here recently.

On show was a 'Hemometer' that can instantly estimate hemoglobin count; a bio gas technology that promises to replace CNG

(compressed natural gas), petrol and diesel as engine fuels; a cholesterol analysis kit at a price half the market rate; a waterless urinal project and the use of technology for transparent governance. "The buzzword this time is innovation and design. We have tie-ups with many brands and market players who are selling our innovation produced by students and faculty," professor Suneet Tuli, dean, research and development, IIT Delhi said. A case in point may be, the 'Early clean coated fabric', a fabric that can be cleaned with more ease and speed than the other cloth materials. The fabric also possesses light weight flame retardant elements, that has the property of extinguishing fire on its own.

The product designed by a team led by Professor Manjit Jassal, is already

available in the market and is being sold under the label of 'SRF, Chennai'.

"The objective behind the design was to create a fabric that is an improvement on what is already available in the market. We were able to reduce the content of toxic chemicals to a considerable extent in our fabrics. These are PVC coated polyester fabrics that are light weight compared to the heavy garments available in the market," says Manjit.

'TrueHb Hemometer', a device that helps in accurate hemoglobin estimation, seems to take forward the adage that technology adds comfort to life. Not only is the device important in diagnosing anaemia, professor Veena Koul, points out that it also "bats the problem of blood smudging and the inability of testing in varied temperatures".

# 'Brain drain now no more'

## Strong economy keeps IITians at home, says professor

Rahul Chhabra

**NEW DELHI, DHNS:** Indian Institute of Technology-Delhi professor Joby Joseph feels brain drain is no more an issue as it was a couple of decades ago.



**FACE-to-FACE**

A strong Indian economy has ensured that talented IITians remain employed in the country.

Joseph, a faculty member from the department of physics, said the tide is turning and qualified techies now pre-

fer to come back to India for work.

"I do not think we need to do anything drastic to attract qualified Indians back to the country from abroad or to dissuade young engineering graduates from going abroad," said the IIT-Delhi professor, who was the chairman of the recently concluded one-day tech fest at the institute.

The physics scholar said interaction with the young generation and their honing during the early years can also help them focus on developing science and technology for the country's welfare.

"It is not true that everybody is dying to go abroad for higher studies or make money," he said.

Joseph said the festival was also a platform for teachers from him to showcase what they teach their students.



**Joby Joseph**

"Apart from the students, the teachers too were excited," he said.

The IIT-Delhi professor said the synergy between academics and the application of the research at the industry level was the institute's focus.

"It is very important to inculcate a scientific aptitude among students who can be future researchers," he said.

On the gains from exercises like fest, where school students and the public can see exhibitions by various departments,

he said, "The gains from the exercise are not immediate. The benefits would start trickling in about five years from now."

Students who get the spark from what they are seeing here may help them try and do something better themselves some years down the line, he said.

But why should a world-class institute like IIT-Delhi open up to public for just one day in a year?

"It is true that we have an exhibition like this for only one day on April 19 every year. But students and other people are free to visit the institute throughout the year."

The only difference, during a visit on any day other than April 19, would be that visitors may have limited access to laboratories and other facilities on the campus, he said.

HT.Com ND 21.04.2014 P-6

# How to help students develop 21st century skills

Bijal Damani

**B**usiness studies is a dynamic skill based subject which needs project-based learning to connect students to real life experiences.

I teach students of Grade 11-12 and have often heard parents say that the only thing that matters is scoring well in the board exams. However, no subject can be learnt just by rote, especially not business studies. Subjects, when explored beyond textbooks, come alive. Devising activities and projects to connect all the curriculum topics to real life situation can impact learning positively.

With technological assistance and encouragement from Microsoft I was able to develop an interesting project called 'Creative Capitalism- Let's Make the World a Better Place' and bring alive the subject.

It has tremendously helped my students develop 21st century skills such as creativity, collaboration, critical thinking, problem-solving, decision-making and communication. For the project, students created teams. Each team had to identify a social/community problem and create an innovative product/idea that would solve that problem. Students also create the marketing plan, including newspaper ads, radio jingles,

**NO SUBJECT CAN BE LEARNT JUST BY ROTE, ESPECIALLY NOT BUSINESS STUDIES. SUBJECTS, WHEN EXPLORED BEYOND TEXTBOOKS, COME ALIVE**

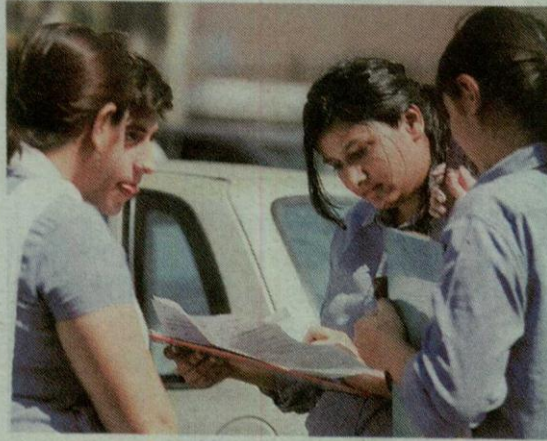
television advertisements and websites.

The products and marketing plans were presented to an audience of students, teachers and industry experts who provided feedback and guidance. The students were encouraged to fine tune their product ideas

over a period of time. The introduction of technology based projects in classrooms, however, comes with its own set of challenges. Breaking away from traditional classroom practices means we are challenging students, parents and even the administration to step out of their comfort zone, which is often met with resistance. But when they see the positive results of using of technology in the classroom, the resistance subsides.

*The author teaches business in a Gujarat school. She was selected as an MIE (Microsoft Innovative Educator) Expert for the project 'Creative Capitalist'*

## IIT-D plans 'short cut' to success for Class XII students



*Students who score above 75% in Class XII exams are eligible to apply for the courses.*

By **Mail Today**  
Bureau in New Delhi

THERE is a good news for the students who wish to study at the Indian Institute of Technology-Delhi but can't clear the tough Joint Entrance Exam (JEE). The prestigious institute is planning to start nine short-term courses for the students who have cleared Class XII exams with above 75 percent merit.

The admission to the courses will be based on an entrance test — separate from JEE, sources in the admission committee said.

The students will also have to clear an interview to get through.

Sources said that the courses will be of six-month duration and will be started in the coming academic session (2014-15).

"The entrance for the short-term courses will be easier

than JEE exams and the pattern will also be very different. Students who have scored above 75 percent in board exams can sit for the entrance. The admission will be done based on the entrance and an interview. The interview will hold 25 percent marks," said a source.

According to the sources the nine engineering courses will be offered in subjects like Chemical, Civil, Electrical, Mechanical and Textile technology.

On the completion of these courses, which will be foundation courses for B.Tech subjects, the students will be given certificates.

The course and fee structure are yet to be finalised. Sources said that each short-term course is expected to have 60 seats.

The IIT administration, however, did not confirm the news.

**IIT-Delhi will hold an entrance test, apart from JEE, followed by an interview to select students**

Virat Vaibhav ND 21/04/2014 P-3

## आईआईटी छात्रों के छोटे नवोत्पाद मिलेंगे आपके पास की दुकानों पर

नई दिल्ली। क्या पैथोलाजी लैब में अपनी मेडिकल जांच रिपोर्ट प्राप्त करने के लिए लंबी कतार में खड़ा होना आपको खराब लगता है? क्या आप अपने जीवन में पर्यावरण अनुकूल विकल्पों की तलाश में हैं? क्या आप स्वच्छ शासन के लिए तकनीक की शक्ति में भरोसा करते हैं? भारतीय प्रौद्योगिकी संस्थान (आईआईटी) दिल्ली के छात्रों ने कई नवोत्पादों के जरिए इस तरह की कई समस्याओं का हल निकालने का प्रयास किया है जो विज्ञान प्रेमियों और विशेषज्ञों को खुश कर देंगे। इस तरह के कई समाधानों को हाल में यहां इस प्रमुख संस्थान के वार्षिक कार्यक्रम 'ओपन हाउस 2014' में प्रस्तुत किया गया। इस कार्यक्रम में 'हीमोमीटर' प्रस्तुत किया गया जो तुरंत हीमोग्लोबिन की संख्या बता सकता है। इसके अलावा, एक बायोगैस तकनीक है जो सीएनजी, पेट्रोल और डीजल की जगह लेने का वादा करती है। बाजार रेट से आधी कीमत पर एक कोलेस्ट्रॉल विश्लेषण किट है, एक जलरहित यूरिनल परियोजना है और पारदर्शी शासन के लिए तकनीक के उपयोग से जुड़ी चीजें हैं। आईआईटी दिल्ली में अनुसंधान एवं विकास विभाग के डीन प्रोफेसर सुनीत तुली ने कहा कि इस समय नवोत्पाद और डिजाइन का बोलबाला है। हमने कई ब्रांडों और कंपनियों से बात की है जो छात्रों और संकाय सदस्यों द्वारा तैयार हमारे नवोत्पादों को बेच सकते हैं।

भाषा ■

Jansatta ND 21/04/2014 P-4

## आइआइटी छात्रों के छोटे नवोत्पाद मिलेंगे अब दुकानों पर

नई दिल्ली, 20 अप्रैल (जनसत्ता)। क्या पैथोलाजी लैब में अपनी मेडिकल जांच रिपोर्ट प्राप्त करने के लिए लंबी कतार में खड़ा होना आपको खराब लगता है? क्या आप अपने जीवन में पर्यावरण अनुकूल विकल्पों की तलाश में हैं? क्या आप स्वच्छ शासन के लिए तकनीक की शक्ति में भरोसा करते हैं?

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आइआइटी दिल्ली में अनुसंधान एवं विकास विभाग के डीन प्रोफेसर सुनीत तुली ने कहा कि इस समय नवोत्पाद और डिजाइन का बोलबाला है। हमने कई ब्रांडों और कंपनियों से बात की है जो छात्रों और संकाय सदस्यों द्वारा तैयार हमारे नवोत्पादों को बेच सकते हैं।

# नजदीकी दुकानों पर मिलेंगे आईआईटी छात्रों के उत्पाद

नेशनल दुनिया

नई दिल्ली। क्या पैथोलॉजी लैब में अपनी मेडिकल जांच रिपोर्ट प्राप्त करने के लिए लंबी कतार में खड़ा होना आपको खराब लगता है? क्या आप अपने जीवन में पर्यावरण के अनुकूल विकल्पों की तलाश में हैं? क्या आप स्वच्छ शासन के लिए तकनीक की शक्ति में भरोसा करते हैं?

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## सुविधाजनक

- कार्यक्रम 'ओपन हाउस 2014' में हुई शुरुआत
- हीमोमीटर व बायोगैस तकनीक भी पेश की गई

किया गया।

इस कार्यक्रम में 'हीमोमीटर' प्रस्तुत किया गया जो तुरंत हीमोग्लोबिन की संख्या बता सकता है। इसके अलावा, एक बायोगैस तकनीक है जो सीएनजी, पेट्रोल और डीजल की जगह लेने का वादा करती है। बाजार रेट से आधी कीमत पर एक कोलेस्ट्रॉल विश्लेषण किट है, एक जलरहित यूरिनल परियोजना है और पारदर्शी शासन के लिए तकनीक के उपयोग से जुड़ी लाभकारी चीजें हैं।

Indian Express ND 21/04/2014 P-10

# Mind your head

Are women more thick-skulled than men? Delhi says no

**C**OMMON sense has finally prevailed in Delhi, where women riding two-wheelers will soon be required by law to wear helmets, the same as men. It is a step up from the retrograde argument the Sheila Dixit government had accepted, that Sikh women transgressed their faith by donning helmets.

While there is a strong argument for making helmets compulsory for men, women need them even more. In India, women who ride pillion vastly outnumber women who drive, and pillion riders are far more likely to suffer serious injury than those driving. Sadly, Indians have proven to be numbskulls on the helmet question. Despite over two decades of advocacy, the motorcycle helmet is still not seen as a safety device. It is not insurance against a broken head, but merely insurance against a traffic fine. Avoidance is wind-in-the-hair bravado, an expression of libertarian individualism. Also, an expression of extreme idiocy since, if the libertarian unexpectedly collides with another vehicle, its driver would

probably be looking at a case of death due to negligent driving. With a helmet on, the libertarian's survival would be much likelier.

Riding without a helmet is being recognised as a pan-Indian pandemic and state after state is instituting public education drives, if not legal curbs. But in prominent states like Tamil Nadu, it is still common to see whole families including grandparents and babies lurching about on two-wheelers, daring fate bare-headed. And it was ironic that Delhi had only managed to impose legal curbs on male riders. Because the story of two-wheeler safety began here in the early 1990s, with the pioneering work of Professor Dinesh Mohan at IIT Delhi, who subjected Indian helmets to crash testing and found almost all brands on the market wanting. The fact that the advocacy of decades has failed to urge the need for helmets speaks volumes for our intelligence. Until our skulls become more permeable, perhaps we do need legal protection from ourselves.



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**THE TIMES OF INDIA**

## IIT reach-out for peace of mind

TNN | Apr 21, 2014, 02:08 AM IST

KOLKATA: IIT-Kharagpur, the country's oldest and biggest IIT, is on top of a very dubious list that's being pursued by the HRD ministry. With 22 suicides in the past six years, the mental health of students on this campus is a cause of concern for the ministry and though it is in a limbo at the moment because of the ensuing elections, the institute has been advised by officials in Delhi to devise ways in which student interaction could be maximized so that aberrations can be easily be identified.

A slew of changes have been rung in by the campus authorities. Students are excited and they say that this is the first time that they are actually being told by the faculty and other senior members of the administration that there is more to life than just grades. On an average, a student spends at least 16 hours in a day studying or completing projects. The rest of the time is divided between social networking sites, sleep and food.

The programme has been christened "Reach Out" and each is designed to bring students out of their hostels for at least an hour every day for informal interaction. Lights are being turned off and LAN connections cut off at the hostels at the appointed hour so that students are forced to come out on the greens and do nothing but laugh, joke and chat. "It was such a relief, we were actually sitting here and there and chatting in real and not virtual terms," said Atal Ashutosh, a second-year student of mining engineering.

The last two suicides on the campus in March has left it rattled. Both students chose to end their lives despite being good students. Facts like they seemed cut off and depressed started tumbling out after they were gone and beyond help.

"It is sad that someone is so depressed next door that he takes his life while the boys next door are out celebrating Holi downstairs. Obviously he must have showed palpable signs for days together but no one had the time or the urge to notice that. IIT Kgp was never like this and we needed to do something urgently to identify crisis cases," said P P Chakraborty, the director of the institute.

Night tug-of-war, hopscotch, kabaddi, pittoo, kho-kho and other indigenous matches are being played to involve everyone. Absentees, if any, are being met and encouraged to join.

"We have coined a slogan - 'We are keeping our flames alive' and are sending each other these messages. Each one of us is on the look out for a chance loner who might be avoiding such activities. These will immediately be reported," said Pravin Kaushal, a fifth-year student.

Third-year student Ravish Raja said he has already made a huge gang of friends through the reach-out programme.

Special assignments are also being charted out for faculty members so that they visit hostels, have dinner with the boys and spend hours interacting with them.

Many felt that the rising numbers at the campus has put the faculty under so much pressure that they have become somewhat alienated from students.

# FOR ENGINEERING SUCCESS

**INNOVATIVE** With a focus on research in technology, DTU is reinventing itself by introducing industry-relevant programmes

Harini Sriram

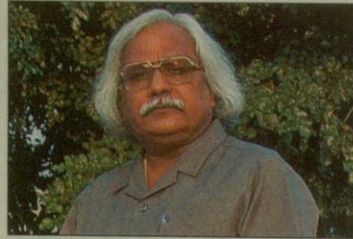
Delhi Technological University (DTU) is among the oldest engineering colleges in the country. Formerly called the Delhi College of Engineering, it was set up in 1941 and was accorded university status in 2009. Now, it offers 15 undergraduate and 22 postgraduate programmes with a total annual student intake of 2160.

## COURSES OFFERED

The undergraduate programmes include conventional disciplines such as mechanical, civil and electrical engineering, apart from applied engineering disciplines such as electronics and communication, computer science and engineering, environmental engineering, software engineering, electronics and electrical engineering, automobile engineering, polymer science and chemical technology, engineering physics and mathematics and computing.

The postgraduate programmes cover VLSI (very large-scale integration) design and embedded systems, software engineering, computer engineering, microwave and optical communication, polymer technology, power systems, signal processing and digital design, geo-technical engineering, structural engineering, nano science and technology and bio-informatics.

The university has constantly worked towards re-inventing itself by introducing new courses that are industry-relevant and research-driven. As DTU's founder vice chancellor, Dr PB Sharma, says, "At undergraduate level, we have introduced engineering physics and mathematics and computing to create a sound science base for our future engineers. DTU has also added MTech in software technology for Samsung employees, and an MTech in power electronics for DMRC (Delhi Metro Rail Corporation) employees."



DTU has also added an MTech in software technology for Samsung employees, and an MTech in power electronics for DMRC employees.

DR PB SHARMA, Founder vice chancellor, DTU

## ADMISSION PROCESS

Entry to the undergraduate programmes at DTU is on the basis of the Joint Entrance Examination, JEE (Main) and is open to candidates who have been declared eligible for central counselling by the CBSE and have secured 60% or more aggregate of physics, chemistry and mathematics. For MTech programmes, the admissions will be on basis of a valid GATE score in respective disciplines.

In addition, a candidate must have minimum of a CGPA 6.75 on a 10 point scale or 60% marks in aggregate from a recognised university or any other examination recognised by the university equivalent. For PhD programmes, a screening test and interview will be conducted to select students.

Admissions to the MBA programme at Delhi School of Management are on the basis of CAT scores. Although the admission dates for B Tech programmes for 2014-15 have not been finalised yet, it has been tentatively scheduled for the month of May. For further details, visit <http://www.dce.edu/>

## 1,000 JOB OFFERS MADE IN 2013-14

### PLACEMENTS

Some of the top recruiters at DTU include MNCs such as EPIC, Google, Samsung, Cisco, Microsoft Texas Instruments, Walmart Labs, Goldman Sachs, Samsung Research, Amazon, Adobe, Directi, Cisco, C-Dot, Infibeam, Qualcomm, Futures First, HT Media and RBS, to name a few.

According to Sharma, the highest salary offered so far is ₹93 lakh per annum, while the average salary is around ₹11 lakh per annum. In total 176 companies had visited DTU for placements in the 2013-14 academic session, which will continue will May

### FACILITIES

The DTU campus, spread over 163 acres, houses approximately 110 solar street lights and water geysers for eight hostels for boys and girls. The campus also has a 3000-litre capacity waste water reprocessing unit

### DEPARTMENTS

The university has about 11 academic departments

- **Dept of biotechnology:** It has a well-equipped lab and follows an interdisciplinary approach to real-time projects
- **Dept of civil engineering:** Focus is on various facets of discipline, including hydraulics, construction, traffic engineering, geo-technical engineering, etc with environ-

mental impact being an important element

- **Dept of computer engineering:** Students get hands-on experience working in labs in the department such as computer architecture lab, network lab and so on
- **Dept of electrical engineering:** Offering BTech and MTech programmes in allied fields, this department provides a diverse research platform

- **Dept of electronics and communication:** This department focuses on electromagnetic field theory, embedded systems, analog and digital communications

- **Dept of information technology:** Offering a BTech in IT, this department helps students understand the nuances of operating systems, computer architecture

- **Dept of mechanical, production and industrial engineering:** This department has modern laboratories with upgraded research facilities across areas

- **Dept of applied chemistry:** It offers a BTech in polymer science, chemical technology and MTech in polymer technology

- **Dept of applied physics:** It offers a BTech in engineering physics, MTech in nano science and technology, and microwave, optical communication engineering

- **Dept of applied mathematics:** It provides research opportunities and PhD scholarships in areas including graph theory, numerical simulation, among others.

- **Dept of humanities:** It offers modules in communication skills, English, economics and accountancy



# Human cells to be tested in space

**LONDON:** Scientists have sent human immune cells to the International Space Station (ISS) to investigate how their structure and metabolism changes in zero gravity.

We know the effect of gravity on muscles, bones and joints inside out; it has been studied extensively in medicine for centuries, researchers said.

For a long time, however, exactly how gravity affects the cells remained a mystery.

The transporter spaceship Dragon lifted off from the Cape Canaveral launch centre in Florida on Friday with a cargo of immune cells on board.

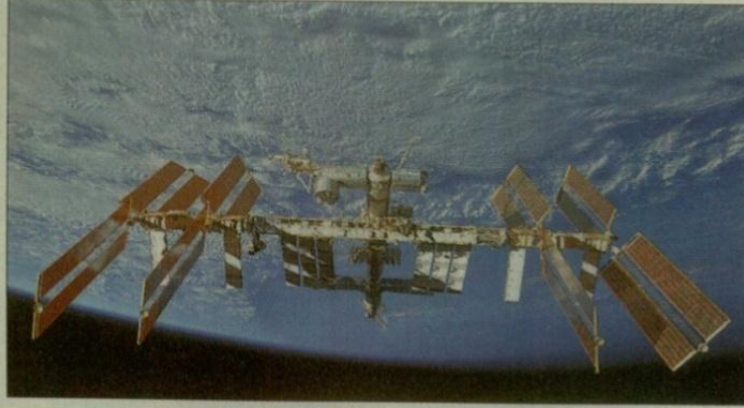
Thanks to modern cell biology and space technology, we can now study precisely

whether and how cells are also adapted to life on earth, researchers said.

In zero gravity, various immune system functions are impaired: Phagocytes known as macrophages, which kill and destroy invading bacteria, are no longer capable of protecting the person optimally from infections, which is why astronauts often suffer them.

Professor Oliver Ullrich from the University of Zurich's Institute of Anatomy now wants to investigate how the structure and metabolism of these phagocytes change during a three-day stint in zero gravity.

Samples with immune cells are currently on their way up to the ISS on the so-called Cellbox Mission, where they will be studied in an experi-



ment. The ISS experiment focuses on the long-term impact of zero gravity on human phagocytes— especially their cytoskeleton and molecules,

which are important for cell communication.

On parabolic flights with zero gravity for 22 seconds and in tests on research rock-

ets with five minutes of zero gravity, the team has already discovered that cells from the human immune system respond to the absence of grav-

ity within seconds.

Key molecular functions for cell-to-cell communication and cell migration are immediately impaired, they found.

Based on a three-day experiment, researchers are now looking to investigate whether the vast number of changes that take place in seconds or minutes of zero gravity are actually processes of adaptation to a new environment or far-reaching, permanent problems.

"Conducting research on the ISS is as if— after studying many trees one by one— you climb a mountain to see the whole forest," said Ullrich.

This ISS experiment is necessary to gain an overview of the processes in the cells.

**PTI**

# Smartening rural education

Technology that offers minimum constraints can go a long way to help transform the educational scenario in rural India



JAWAHAR  
DORESWAMY

**T**echnology to educate should be so easy that everyone concerned can use and access it. The kind of technology that offers minimum constraints can actually go a long way to help transform the educational scenario in rural India. This is especially crucial as most rural areas in the country still face a lack of internet connection, availability of computers, information on how to go about adapting technology for their convenience, etc.

So, the question is, can we help the whole of rural India overcome these technological constraints? And even if we achieve some amount of success in doing so, what are the chances that it is really going to transform education? The measurement of effectiveness of teaching as well as the quality of education are issues of crucial concern. How do we disseminate quality education among the underprivileged sections of rural India as well as judge the effectiveness of what is taught?

Questions like these remain unanswered till date. The biggest challenge remains the quality of education, which is more relevant today than it was before. We have to ensure that the best teacher is available to every student in the classroom. One example of it is the Khan Academy, wherein one single source is available to millions of people across the globe. Such models of e-learning definitely have a place in India.

In India, distance learning starts from the fourth row of the classroom itself, and there is no

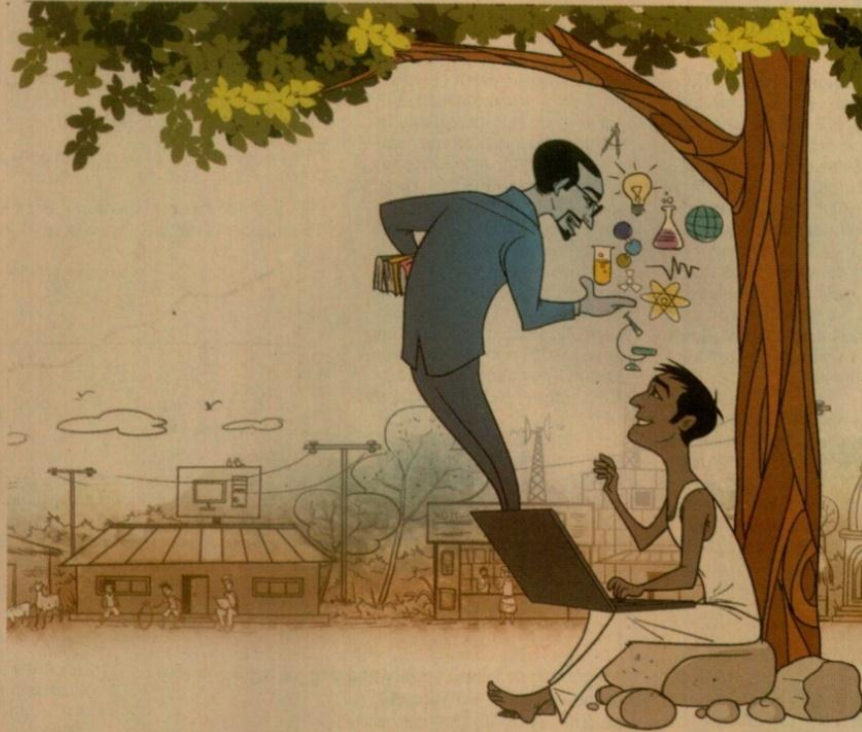


ILLUSTRATION: SHYAM

**DISTANCE LEARNING, ESPECIALLY IN RURAL AND SMALL-TOWN INDIA, STARTS FROM THE FOURTH ROW OF THE CLASSROOM ITSELF; THERE IS NO GUARANTEE THAT EVERYONE IN THE CLASSROOM HAS UNDERSTOOD WHAT IS TAUGHT. MEASUREMENT OF EFFECTIVENESS OF TEACHING IS THE BIGGEST ISSUE IN TODAY'S ENVIRONMENT**

guarantee that everyone in the classroom has understood what is taught. Measurement of effectiveness of teaching is the biggest issue in today's environment. If we play a serial for 30 minutes in a rural region of India, the people there would be probably answering more questions than the live traditional

classroom where the same activity is done for 40 minutes. The primary reason behind this is the richness of the medium we are using. If we have a gifted teacher who can teach in a creative class and if the same kind of learning environment can be provided to a rural classroom, I think the learning is going to be far better.

Therefore, in a country such as India, we should consider enabling e-learning in a major way while creating the requisite number of facilitators of the same.

The biggest problem faced by rural India is the student-teacher ratio where a large number of students are taught by a relatively small number of teachers. This

kind of disparity is bound to grow in the near future. The only way forward is to e-enable learning at all levels in India and measure the outcome through regular tests. A good test is a well-designed objective-type test. Another aspect is capturing the essence of a great learning environment that is designed for it, encapsulates it and gives it back to the eager recipient. Clarifying a doubt in the local language is permissible but the fundamentals and the way of delivery should be in the English language. This is what is going to take India forward. Knowing and speaking in English shouldn't be looked at as elitist but it should be perceived as a requirement to improve the overall quality of life.

Television is deemed to be a preferred medium to a computer in the field of rural education. This is because everybody would know how to use a television. A direct-to-home (DTH) device could come in handy as a simple instrument that could leverage the learning environment that we want in rural India. The amount of time to teach rural Indians how to switch on and select the things that they want to study will take less than five minutes. Suppose a class wants to learn the first chapter of physics of class 11th, all they need to know is how to operate a DTH remote. In a way, an affordable and easy medium to operate and understand is what is needed to transform the educational system in rural India. A centralised system of educating rural India is what will actually make this idea affordable and accessible to everyone concerned.

The idea is to encourage adaptability of technology in the real-world scenario, which benefits the young from an early age so as to reap long-term benefits.

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# The business of analytics

B-schools have identified the need to provide one-year programmes in business analytics to address the dearth of trained data analysts

**BAPPADITYA  
MUKHOPADYAY**

“Analytics and Big Data” is increasingly becoming a key skill-set in every manager’s arsenal. Over the past few years, we have been witnessing a steady increase in interest in analytics from all quarters. CEOs and business leaders want to understand what they can do with data, organisations want to know how they can train and recruit people with relevant analytical skill-sets and, finally, candidates want analytics to be a game-changer for their career.

But are there enough skilled analytics professionals to support the growth in this industry? The answer is a resounding “No”.

This gets factually corroborated by a McKinsey study that has estimated the global requirement of analytics professionals to be 250,000 by 2015, while the total number of analytics professionals in 2013 was 50,000. As analytics continues to embrace businesses of all kinds and scales, this staggering void in supply and demand of talent presents a dichotomy of a challenge and an opportunity. Put simply, with companies competing with one another to recruit from the small pool of analytics professionals that exists today, there has probably not been a better time to be a ‘skilled’ business analytics professional.

The operative word in the previous sentence is “skilled”. Before analytics aspirants jump into the bandwagon of analytics training and certifications, it would do them a world of good to understand what are the skill-sets one needs to develop to build a successful career in analytics.

To define in layman terms, analytics is the study of analysing data to derive business insights and tangible action steps. Contrary to what most analytics aspirants believe, it is important to realise that not all analytics professionals are statisticians and that the field of business analytics is not limited to tools and technologies.

## Three key skill-sets

Business and managerial professionals constitute a significant portion of the analytics workforce and

there are three key skill-sets that organisations look for while recruiting for business roles in analytics.

The first is a good domain exposure and business foundation. Analytics is often pitched as a service that caters to the business needs of a certain industry; for instance, using analytics to understand customer spends on credit cards and thereby creating customised offers to drive usage. This needs a conceptual understanding of consumer behaviour and a domain expertise in credit card industry.

The second key skill-set is thorough knowledge of analytical tools and techniques, more importantly from an application perspective. It is a no-



SHYAM

brainer of sorts to realise that you have a better chance of building a career in analytics when you know analytics as a field of study. However, the value addition is in learning analytics from a hands-on perspective through case studies and relevant data-sets and not as a purely pedantic exercise. It is also important for candidates to realise not to lose themselves in the quagmire of not knowing enough tools such as SAS, R, SPSS, etc. As aspiring business professionals in analytics, it is imperative to familiarise oneself with relevant tools used by the industry but it is also equally important to keep in context that tools are only the means and not the end in itself.

The last key skill-set is industry ex-

posure. While this term in itself is all-encompassing, it always helps if you have some kind of exposure to analytics in one domain or the other. You could gain exposure by working on projects or seeking an internship, but the value of getting your hands dirty cannot be understated. Keeping yourself updated about how leading companies from your industry are using analytics to drive their businesses could be a start in this direction.

## Convergence of education and analytics

Fuelled by the shortage of business professionals in the analytics industry, some of the leading business schools in India and even across the world are now offering a one-year executive management programme in business analytics.

While these programmes vary in their coverage and learning outcomes, they are designed to enable working professionals transition their careers to analytics.

Analytics is an exhaustive and elaborate field of study and, hence, it is important to realise that such career transitions are possible only when the candidate has gained the requisite skill-sets built on a strong foundation and has had multiple avenues to apply his/her learnings. These objectives are better met through one-year programmes than short-term certificate programmes. As a candidate interested in analytics, it is important to evaluate the various programmes offered by business schools to decide which are the ones that can help you build your career in analytics.

There is no doubt that the analytics industry is witnessing stellar growth and presents a wonderful career path for business professionals skilled in analytics. However, transitioning one’s career to analytics necessitates acquiring relevant skill-sets and an industry-oriented business analytics programme from a leading business school could be the right launchpad that your career needs.

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## 32% jump in graduate applications to US from India

PRESS TRUST OF INDIA

*Washington*

FOR the second year in a row, applications to US graduate schools from India skyrocketed in 2014, while those from prospective Chinese students fell, according to a new report.

According to the CGS International Graduate Admissions Survey, the number of applications from prospective Indian students to US graduate schools jumped 32 per cent in 2014. The number of overall international applications, up 7 per cent, probably would have declined, except for eye-popping growth, of 32 per cent, from India.

"It's all India," said Debra W Stewart, the council's president. "India is huge."

In 2013, Indian applications increased 22 per cent and enrollments were up a whopping 40 per cent, the report said.

"While the growth from China has been consistent, Indian numbers have been erratic. One year, first-time graduate enrollments climbed more than 30 per cent, only to plummet 16 per cent a couple of years later," said educational portal Chronicle.Com.

Stewart cited tightening student-visa rules in Britain. A recent report found that the number of first-time students at English universities from India and Pakistan had halved since 2010, and some of those students, Stewart said, could have opted to apply to institutions in the US instead.

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# Nasa man, vital to 1969 lunar landing, dies at 95

Scaborough: John C Houbolt, an engineer whose contributions to the US space programme were vital to Nasa's successful Moon landing in 1969, has died. He was 95.

Houbolt died on Tuesday at a nursing home in Maine of complications from Parkinson's disease, his son-in-law confirmed on Saturday.

As Nasa describes on its website, while underpressure during the US-Soviet space race, Houbolt was the catalyst in securing US commitment to the science and engineering theory that eventually carried the Apollo crew to the moon and back safely.

His efforts in the early 1960s are largely credited with convincing Nasa to focus on the launch of a module carrying a crew from lunar orbit, rather than a rocket from Earth or a spacecraft while orbiting the planet.

Houbolt felt a lunar orbit rendezvous would not only be less mechanically and financially onerous than building a rocket, but it also was the only option to meet President Kennedy's challenge before the end of the decade. **AP**

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# 'Unethical' clinical trial leaves 254 women dead

Rema Nagarajan

TIMES INSIGHT GROUP

The death of 254 Indian women in the course of a 15-year US-funded clinical trial has triggered a raging debate about its ethicality. The trial was for a cervical cancer screening method and the women who died were part of a control group kept without screening to study death rates in unscreened populations.

It is well established that any kind of cervical screening reduces incidence of cancer. Yet, almost 140,000 women in the control arm of the trial were not screened. The

## 'FLOUTED ALL NORMS'

- ▶ The 254 women were part of a **group kept without cervical cancer screening** to study death rates in unscreened populations
- ▶ US Office for Human Research Protections says they **didn't have adequate info** to give informed consent
- ▶ Critics say the trial **flouted national and global norms**

US Office for Human Research Protections determined that they were not given adequate information to give informed consent.

▶ **'Not allowed in US', P 8**