Highlights of the Week@IITD

IIT Delhi: अब फॉरेन स्टूडेंट्स को पीएचडी के लिए देने होंगे मात्र 10,500 रुपये

फरवरी 13, 2019 https://navbharattimes.indiatimes.com/education/education-news/iit-delhi-slashes-tuition-fee-for-foreign-students-to-about-ten-thousand-rupees/articleshow/67974535.cms

इंडियन इंस्टिट्यूट ऑफ टेक्नॉलजी (आईआईटी) ने विदेश के टैलेंट को बढ़ावा देते हुए इंटरनैशनल पीएचडी फेलोशिप प्रोग्राम लॉन्च किया है। इस फेलोशिप के तहत बाहर से आने वाले स्टूडेंट्स को भी इंडियन स्टूडेंट्स के बराबर ही फीस भरनी होगी। जो भी इंटरनैशनल स्टूडेंट्स चुने जाएंगे, वे इस फेलोशिप के लिए मान्य होंगे। अगले पांच सालों में 500 इंटरनैशनल स्टूडेंट्स को यह फेलोशिप मिलेगी। जिस स्टूडेंट्स के पास फॉरेन पासपोर्ट हैं, वे इस फेलोशिप के लिए अप्लाई कर सकते हैं।

इससे पहले विदेशी स्टूडेंट्स को 2 हजार डॉलर यानी की करीब 1.41 लाख रुपये सेमेस्टर फीस देनी होती थी। इससे घटाकर 150 डॉलर कर दिया गया है। यानी कि अब फॉरेन स्टूजडेंट्स को लगभग 10 हजार 500 रुपये सेमेस्टर फीस ही देनी होगी।

आईआईटी दिल्ली को भारत सरकार की ओर से इंस्टिट्यूट ऑफ इमिनेंस का टैग दिया गया है, जिसके तहत इंस्टिट्यूट विदेशी स्टूडेंट्स को आईआईटी दिल्ली से रिसर्च करने का ऑफर दे रहा है ताकि बाहरी और भारतीय स्टूडेंट्स मिलकर काम कर सकें। सभी डिपार्टमेंट, सेंटर और स्कूल के लिए यह प्रोग्राम लागू होगा। अभी फॉरेन स्टूडेंट्स 28 अकैडमिक यूनिट के लिए इस प्रोग्राम के लिए अप्लाई कर सकते हैं।

IIT-D launches fellowships for foreign students

February 13, 2019 https://www.thehindu.com/news/cities/Delhi/iit-d-launches-fellowships-for-foreign-students/article26253611.ece

Institute hopes to provide 500 PhD fellowships over the next five years

In an effort to attract more meritorious International students to the IIT Delhi Campus, the institute on Tuesday launched an International PhD Fellowship Programme (IPFP). The programme is an initiative that the institute has taken after being recognised as an Institution of Eminence by the Government of India.

According to the institute, under the IPFP, all international students admitted to PG programmes in IIT Delhi will pay fees on par with Indian students and be eligible for fellowships on par with their Indian counterparts. The institute hopes to provide 500 PhD fellowships over the next 5 years.

Generating new ideas

Speaking at the launch of the initiative, Director of IIT Delhi, V. Ramgopal Rao, said: "that having meritorious PhD students coming to IIT Delhi from all over the world will not only enhance the quality of research happening at IIT Delhi but will also help India develop its soft power across the world. The cultural diversity that will happen because of this step will go a long way in generating new research ideas."

Dean of Academics, IIT Delhi, Bhim Singh, said that the initiative would see a larger mix of international students leading to more diverse PhD research that will help address both global problems and more specifically problems of the developing world.

28 academic units

Foreign students can apply for PhD in 28 academic units at IITD. This includes: Applied Mechanics, Atmospheric Sciences, Biochemical Engineering and Biotechnology, Biological Sciences, Biomedical Engineering, Chemical Engineering, Civil engineering, Computer Science and Engineering, Design, Electrical Engineering, Information Technology, and Public Policy among others.

The institute said that focus on internationalisation was one of the core strategic pillars of its vision for advancing knowledge through high impact research and teaching and IPFP would encourage the meritorious foreign students to join IIT Delhi for PhD.

IIT Delhi's Mission to Improve Global Ranking; Launches International PhD Fellowship Programme for Research Scholars

February 13, 2019 https://swarajyamag.com/insta/iit-delhis-mission-to-improve-global-ranking-launches-international-phd-fellowship-programme

The Indian Institute of Technology has launched an International PhD fellowship programme in a bid to boost its global ranking, Indian Express has reported.

IIT also announced that both Indian and foreign students would have to pay the same fees for their PhD courses and would receive the same amount of fellowship.

The institute currently ranks 172 in the world but lags due to factors like international students, international faculty and student-teacher ratio. This new course is designed to rectify matters on this front.

IIT Delhi's Director V Ramgopal Rao also announced that the institute would hire more foreign faculties.

Under this new PhD programme the IIT Delhi would provide 500 fellowships in the next five years. The stipend paid under these programmes would be the same for both Indian and foreign students. These fellowships are also applicable for all academic departments.

Currently foreign students pay $2000 per semester for their PhD programmes as opposed to Indians who pay between Rs 5,000 to Rs 10,000.

Foreigners would now receive fellowship grants of Rs 31,000 per months and travel allowance of Rs 1.5 lakh for travelling to international conferences.

This Foundation Along With IIT Delhi, Produces Tactile Diagrams & Textbooks for Visually-Impaired Students

February 13, 2019 https://thelogicalindian.com/exclusive/raised-lines-foundation-iit-delhi/

Of the entire population of visually impaired people present throughout the world, India contributes to the largest number of blind people. A very significant fraction of this population includes children in the age group of 5 to 19. Amid all the issues surrounding the visually- impaired people, one of the most important aspects that is usually ignored is the problem faced in learning. Learning subjects that require the use of diagrams, graphs such as mathematics, geography or science was difficult for them.

Considering all these problems faced by learners with visual impairment, Raised Lines Foundation was incubated after four years of research undertaken at Centre of Excellence (CoE) in Tactile Graphics, at IIT Delhi, sponsored by Ministry of Electronics and Information Technology, (MeitY) Government of India. The main mission of this foundation is to provide access to the textbooks along with the tactile diagrams to every student with visual impairment and empower them to choose subjects by choice and not compulsion.


The team members of Raised Lines Foundation incubated at IIT Delhi

Incubation of Raised Lines Foundation

Can you imagine studying in a mathematics class without the use of geometrical shapes or a geography class without using maps? Learning science, technology, engineering and mathematics (STEM) subjects without using graphs, diagrams and other drawings or representations is one of the major challenges faced by students who are blind or suffer from visual impairment of any kind. This often forces them to even choose subjects out of compulsion which they might not wish to pursue.

Helping such students to study sciences and other-allied subjects, Raised Lines Foundation has developed a technology, where, by using 3-D printing, tactile diagrams could be produced in a cost-effective and affordable way. The main aim behind this initiative is to enable learning to the visually-impaired students where they would be freedom to opt for their subject of choice rather than being forced to study theory based subject. This would even open new areas of learning and other opportunities for them.
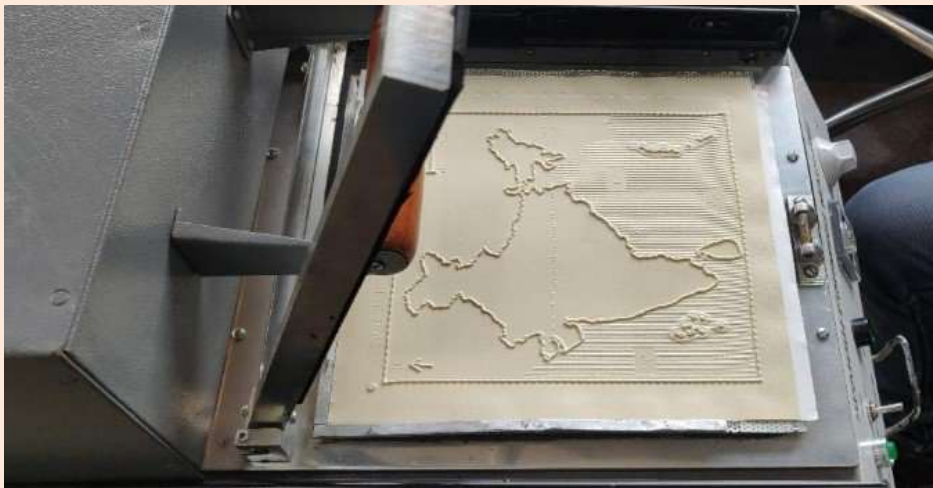
Thermoforming Machine used in production of Tactile Diagrams

Speaking with The Logical Indian, one of the research team members, Pulkit Sapra shares, "While working with NGOs and other organizations for the blind, we observed that most of these students were being taught using theoretical textbooks. Most of the Braille textbooks lacked diagrams and it was even difficult for the teachers to explain concepts related to maps, graphs to them. Introduction of low-cost Tactile Graphics will create a noticeable improvement in the quality of education of visually impaired people."

What is Tactile Graphics?

Tactile Graphics are images that consist of raised lines and textures that can be used by people with visual impairment to understand some graphical information using their sense of touch. Tactile Graphics are produced using embossing or other technologies on physical medium like swell paper or PVC sheets. This technology would allow textual content in Braille to be more understandable using tactile diagrams.

The role of graphs, diagrams or maps is crucial for the understanding of science or closely related subjects. As per the current scenario, most of the text book that is available to visually impaired student in India consists of only text made accessible using Braille while all the diagrams and pictures

are removed. As a result, it impacts majority of visually-impaired kids and it discourages them to not pursue STEM subjects for their higher studies. The present crisis which limits visually-impaired students in India pushed the team to come up with a model which could bring results on a larger scale.
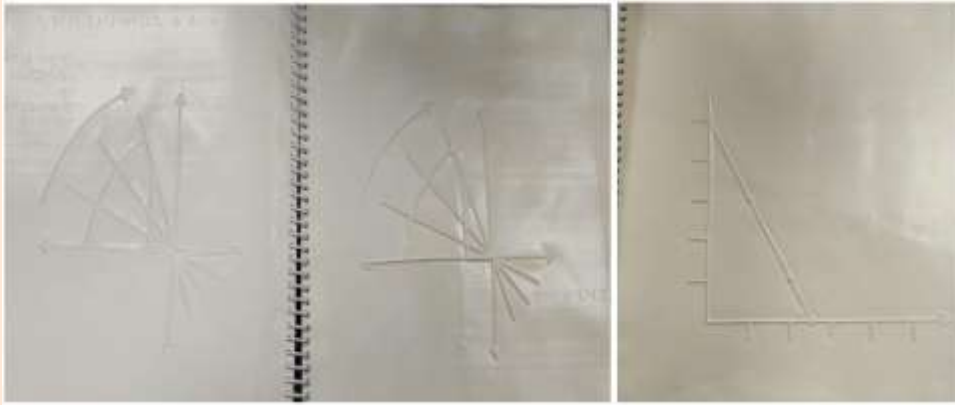

Images from the sample of a textbook

"We have worked closely with many special educators, blind people organizations and other stakeholders in order to gain in-depth understanding of the problems faced for production of tactile diagrams on a mass level. Not all textbook publishers have the access to individual tactile designers. By using 3-D printers, we've been able to produce customized manuals and diagrams on varied topics," shares Bhairu Patra, another team member with The Logical Indian.

Initially, the project was undertaken as the Centre of Excellence in Tactile Graphics (CoETG) in 2015 and later renamed Raised Lines Foundation. The faculty members at IIT Delhi, Prof. M Balakrishnan and Prof. PVM Rao are also a part of this foundation. Till date, it produced nearly 70,000 tactile diagrams and designs for students studying maths, science, economics and geography for classes' sixth to twelfth. They have been working in collaboration with National Council For Educational Research and Training (NCERT) to produce and design school textbooks for such students. Recently, they designed a manual on menstrual hygiene which was highly applauded.

Book launch after using the 3-D printing technology

Since its incubation, it has successfully worked with NCERT, state education boards, the Sarva Shiksha Abhiyan (MHRD), WSSCC (Water Supply and Sanitation Collaborative Council), and other organisations working for blind people. They have even been receiving orders for designing from art galleries, museums and training centres for visually impaired. For now, they're looking forward to reach more organizations so that they could reach, they could engage and impact visually impaired people on a large scale.
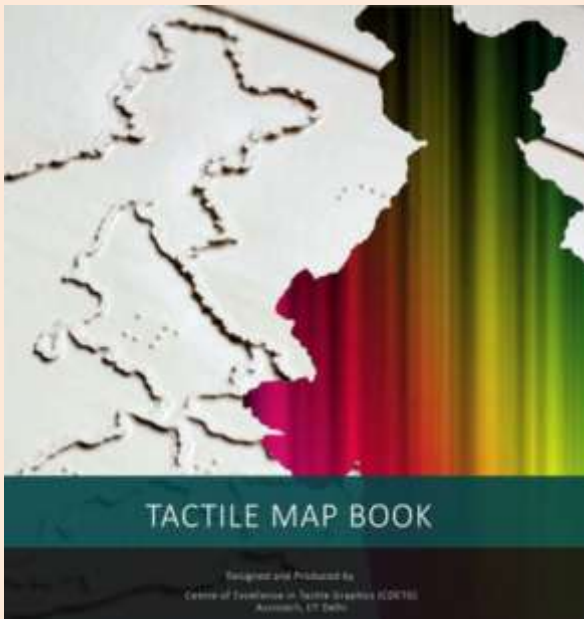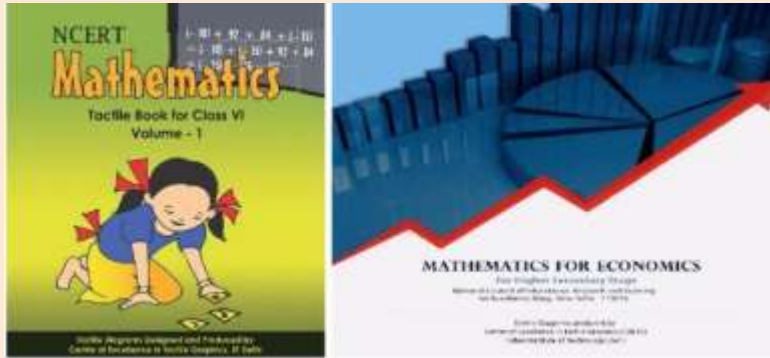
Books designed by the foundation using tactile graphics

The Logical Indian salutes the initiative of the members of Raised Lines Foundation for working towards expanding educational insights made available to visually impaired students with their brilliant breakthrough.

Strict action cuts traffic violations on IIT-D campus

February 10, 2019 https://timesofindia.indiatimes.com/city/delhi/strict-action-cuts-traffic-violations-on-iit-d-campus/articleshow/67921371.cms

The IIT campus in Delhi has set an example of how strict monitoring and strong action can help reduce violation of traffic norms. The IIT campus has installed sensors on its internal roads which

detect vehicles that speed beyond 30 kmph and the violators get an SMS informing them of the violation.

"If the same vehicle is detected violating the norm again and again despite SMS warnings, then such vehicles are not allowed to ply inside the campus. When we started this intervention, we used to send the SMS alerts to many, up to 200 a day. But now this number has come down drastically," director V Ramgopal Rao said while addressing a road safety event organised by India Road Safety Campaign (IRSC) on Saturday.

He also shared how the premier institute has gone ahead with its decision of not allowing any two-wheeler, if the riders are not wearing helmet. Rao said technology can help reduce all types of accidents and the institute is setting up a technology-oriented cell on all safety related issues.

Sandeep Sharma, chief security officer of the IIT campus said when they started the speed detection system they also made telephone calls to the violators to alert them. "We have also been observing the speed of vehicles that come from outside. The helmet compliance has increased by more than 95%. We try to convince people that slowing down prevents accidents and saves lives. Sometimes they object to why higher speed should not be allowed when the roads have no traffic. We tell them the chances of meeting an accident in higher when roads are empty," he added.

IIT, Delhi has taken the lead in making the campus safe, which can be replicated by other institutes, IRSC chief Amar Srivastava said. The technology institute is also perhaps the only such entity which allowed setting up of a students' body exclusively for promoting road safety.

Indore: Emerald Heights wins 6th National School Championship at IIT, Delhi

February 9, 2019 https://www.freepressjournal.in/indore/indore-emerald-heights-wins-6th-national-school-championship-at-iit-delhi/1454966

Students of The Emerald Heights International School brought laurels to the school and pride to the city by securing 1stposition in Quiz and Presentation event at the 6th National School Championship. The championship was organised and hosted by Indian Institute of Technology, Delhi recently. "Our students competed with finalists from over 40 schools that had participated in the championship

from all across India," principal, Siddharth Singh shared. The students were felicitated in the school after the results were announced this week. "Our school was awarded with a trophy and a cash prize of Rs 25,000 for the achievement," Singh said.

The participants representing the school in the championship include Aryan Mishra, Rahul Valecha, Tejveer Pratap Rathore and Utkarsh Parashar. School president Muktesh Singh and all the teachers congratulated all the winners for the great achievement and wished them good luck for all their future endeavours.

February 15

GATE 2019: IIT Madras Opens Name Correction Window for 4 Days

https://www.ndtv.com/education/gate-2019-iit-madras-opens-name-correction-window-for-4-days-details-here-1993458

The GATE 2019 name correction window will remain open from February 14 to February 17, 2019.

The GATE 2019 answer keys are expected to be released soon

Here is a chance for changing your name details if you had entered them incorrectly during the GATE 2019 registration process. The GATE 2019 name correction window will remain open from February 14 to February 17, 2019. Recently, the IIT Madras, the official organiser of the higher education competitive exam being held as an entrance test for admission to major technological institutions in the country, has organised the GATE 2019 in four days - also in 8 shifts -- from February 2 to February 10.

Indian Institute of Technology (IIT) Madras has released the candidates' responses on the questions asked in the GATE 2019 on its official websites recenlty. The GATE 2019 responses of Shifts 1, 2, 3 and 4 have been released on the official websites -- appsgate.iitm.ac.in and gate.iitm.ac.in -- now

GATE 2019: How to request for name correction

Any candidate who would like to correct their names entered during the GATE 2019 registration can send an email with subject: Name correction, Enrolment ID and with following inputs to gate2019@iitm.ac.in.

Enrolment ID
Registration Number
Present Name
Correct Name
Softy copy Name proof (Eligibility certificate, Examination mark sheets, Degree certificate, Aadhar card etc.)

February 14

नई तकनीक को लोगों तक पहुंचाने का माध्यम स्टार्टअप

https://www.jagran.com/himachal-pradesh/mandi-iit-startup-programe-start-18952887.html

भारतीय प्रौद्योगिकी संस्थान (आइआइटी) मंडी के तीसरे स्टार्टअप एक्सप्लोरेशन प्रोग्राम का शुभारंभ वीरवार को उपायुक्त मंडी ऋग्वेद ठाकुर ने किया। आइआइटी के निदेशक प्रो. टिमोथी ए. गों•ा

जागरण संवाददाता, मंडी : भारतीय प्रौद्योगिकी संस्थान (आइआइटी) मंडी के तीसरे स्टार्टअप एक्सप्लोरेशन प्रोग्राम का शुभारंभ वीरवार को उपायुक्त मंडी ऋग्वेद ठाकुर ने किया। आइआइटी के निदेशक प्रो. टिमोथी ए. गों•ल्विस ने सभी 10 स्टार्टअप टीमों का स्वागत किया। उन्होंने संस्थान की शोध प्रयोगशालाओं व विशेषज्ञ शिक्षकों के मार्गदर्शन का अधिक लाभ लेने के लिए प्रोत्साहित किया। उन्होंने कहा कि समाज के लिए उपयोगी तकनीक का विकास करना संस्थान की प्रतिबद्धताओं में एक रहा है। ऐसी तकनीक को जन-जन तक पहुंचाने का एक माध्यम स्टार्टअप हैं।

उपायुक्त ऋग्वेद ठाकुर ने स्टार्टअप टीमों को नए उद्यम शुरू करने के साहसिक कदम उठाने पर बधाई दी। उभरते उद्यमियों को मदद देने के लिए आइआइटी मंडी केटलिस्ट के प्रयासों की सराहना की। उद्घाटन सत्र के बाद स्टार्टअप शोकेस का आयोजन किया गया। उपस्थित गणमान्यों ने स्टार्टअप टीमों के प्रोजेक्ट देखे और उनके नए विचारों एवं प्रोटोटाइप की जानकारी ली। आइआइटी मंडी केटलिस्ट तीन वर्ष तक इन टीमों को प्रशिक्षण व मार्गदर्शन के साथ आर्थिक सहयोग भी देगा।

इस दौरान टीमें उनके विचारों को प्रोटोटाइप व प्रोडक्ट का रूप देंगी। केटलिस्ट मंडी शहर के मांडव कांप्लेक्स में प्रतिभागी टीमों के लिए एक साथ कार्य करने और आवास की सुविधा देती है। प्रोग्राम में शामिल 10 स्टार्टअप में तीन एग्रो टेक, तीन स्वच्छ ऊर्जा, एक कचरा प्रबंधन और अन्य आइओटी एवं ऑगमेंटेड वास्तविकता पर आधारित हैं।

स्टार्टअप का परिचय

रसायन व जैव कीटनाशकों का खर्च होगा कम

अजीदो : यह प्रोजेक्ट कीड़ों से परेशान किसानों के लिए है जिन्हें रसायन एवं जैव कीटनाशकों पर ज्यादा खर्च करना होता है। अजीदो का प्रोडक्ट क्रॉप डिफेंडर एक जैव कीटनाशक होगा जो पर्यावरण अनुकूल और सस्ता भी होगा।

मोबाइल पर गेम खेलते समय सक्रिय रहेंगे बच्चे

इनोवेशन क्वेस्ट : चार से 14 वर्ष के ऐसे बच्चों के लिए एनिमेटेड टीशर्ट है जो मोबाइल गेम खेलते समय शरीर से सक्रिय नहीं रहते हैं। इसमें ऑगमेंटेड रियलिटी फीचर है। यह प्रोडक्ट बच्चों को शरीरिक रूप से सक्रिय रखेगा। जो इसे पहनेगा और जो कैमरे पर ध्यान देगा दोनों यह गेम खेल सकेंगे।

स्वचालित तरीके से होगी सेब की सफाई व पृथीकरण

इसकाल : यह प्रोजेक्ट सेब किसानों के लिए तैयार किया जा रहा है। जो बागवान सेबों की सफाई व अलग-अलग चुन कर रखने का काम हाथों से करते हैं। इसकाल से सेबों की सफाई व उनका पृथीकरण स्वचालित तरीके से होगा। इस मशीन की लागत बहुत कम है और यह पोर्टेबल है।

ईंधन व वाहन की देखभाल का खर्च होगा कम

एराइॉ मोटर्स : यह ऑटो रिक्शा मालिकों के लिए है। इससे ईंधन और वाहन की देखभाल पर बहुत खर्च करना होगा। यह यूनिक प्रोडक्ट इएलवी-800 एक इलेक्ट्रिक ऑटो रिक्शॉ है। जो परिचालन के खर्च को बहुत कम कर देगा।

ग्रामीण क्षेत्रों में फिर लौटेगा चूल्हे का दौर

अतुविक : यह प्रोजेक्ट प्रदेश की ग्रामीण आबादी के लिए तैयार किया गया है। प्रदेश में लकड़ी के चूल्हे पर खाना पकाने का चलन रहा है। अतुविक स्टोव खाना पकाने की स्वच्छ ऊर्जा और स्वस्थ परिवेश देने का किफ़ायती साधन होगा।

आपस में जुड़ेंगे उत्पादक

ब्रह्मास्त्र : यह उन वेंडरों के लिए मोबाइल प्लेटफार्म है, जिन्हें स्थानीय उत्पाद, निरंतर आपूर्ति, ऑफसी•ान आर्गेनिक, उच्च गुणवत्ता के उत्पाद हासिल करना कठिन होता है। यह उन्हें आसपास के स्थानीय उत्पादकों से जोड़ देगा।

तैयार होंगे प्रीपेड बिजली मीटर

हाईफाइव इनोवेशन लैब : इस प्रोजेक्ट में वर्तमान बिजली मीटर को प्रीपेड मीटर में बदलने और उन्हें किफायती, सक्षम और स्टीक बनाया जाएगा।

उठाते ही अलग अलग हो जाएगा गलनशील व ठोस कचरा

वेस्ट ऑन व्हील्स : यह नगर निगमों के लिए है। कचरा जमा करने और अलग-अलग करने के लिए बहुत खर्च करना होता है। वेस्ट ऑन व्हील्स एक प्रॉसेसिंग यूनिट है। इसे कचरा जमा करने वाले ट्रक से जोड़ कर नगर निगम के ठोस कचरे को जहां से उठाया जाएगा। उसी जगह दो भागों बायोडिग्रेडेबल और नॉन. बायोडिग्रेडेबल में अलग-अलग किया जा सकता है।

बस के इंतजार में जाया नहीं करना होगा समय

सन नेविगेशन : यातायात के लिए वाहन के इंतजार में समय व्यर्थ करने को विवश लोगों के लिए हमारा प्रोडक्ट वेहित्रा एक मोबाइल एप और ट्रैंकग डिवाइस है। जो बताएगा कि बस कहां है? इससे लोग समय का बेहतर उपयोग कर पाएंगे।

ई रिक्शा के लिए बनेगी किफायती बैटरी

मोडी : इस प्रोजेक्ट में ई-रिक्शॉ के लिए लीथियम आयन बैट्री का विकास किया जाएगा। जो अन्य बैटरियों के मुकाबले किफ़ायती और अधिक सक्षम होगी।

आचरण में बदलाव से ही स्वस्थ होंगी गंगा

आईआईटी बीएचयू के सिविल इंजीनियरिंग विभाग में गुरुवार को नदी स्वास्थ्य के आंकलन पर तीन दिवसीय कार्यशाला शुरू हुई। मुख्य अतिथि फ्रांस के प्रो. हार्वे ने कहा कि नदी को स्वस्थ रखने के लिए लोगों को अपने आचरण में बदलाव करना होगा।

उन्होंने कहा कि स्वच्छता के नियमों का पालन कर नदी से जुड़े विविध संस्कारों को संपादित करना चाहिए क्योंकि नदी का स्वास्थ्य भी मानव स्वास्थ्य के समान ही है। इसकी बीमारी के कारणों को जाने तथा उस कार्य को न करें जिससे नदी बीमार होती है। उन्होंने कहा गंगा को साफ रखने के लिए दो तरह से काम करना होगा। पहला उन कारकों को नहीं दोहराना है जिससे नदी बीमार हो रही है। दूसरा दीर्घकालिक कार्यक्रम चलाकर बीमार नदी को स्वस्थ्य बनाने का प्रयास करना होगा।

अतिथि वक्ता जलपुरुष राजेंद्र सिंह ने कहा कि जीवनदायिनी गंगा के स्वास्थ्य की जांच के बाद उपचार की रणनीति बनानी होगी। जल के प्रवाह को सुनिश्चित करना बहुत जरूरी है। प्रो. प्रभात कुमार सिंह ने कहा कि नदी को स्वस्थ रखने के लिए डायग्नोसिस मैथड का सहारा लेना होगा।

एशियन इन्स्टीट्यूट आफ टेक्नोलॉजी के प्रो. मुकुन्द एस बावेल ने कहा कि नदी बचाने के लिए सामाजिक, आर्थिक व सांस्कृतिक कारकों को एकसाथ काम करना होगा। अध्यक्षता आईआईटी बीएचयू के कार्यवाहक निदेशक प्रो. एसके सिन्हा ने किया। वेस्टर्न यूनिवर्सिटी आस्ट्रेलिया के प्रो. महेश्वरी ने भी विचार रखे। धन्यवाद प्रो. एसबी द्विवेदी तथा संचालन प्रो. बृन्द कुमार ने किया।

IIT-Bombay study gives hope to resistant-TB patients

https://timesofindia.indiatimes.com/city/mumbai/iit-bombay-study-gives-hope-to-resistant-tb-patients/articleshow/67984674.cms

In what can bring hope for drug-resistant TB patients, a study conducted by IIT-Bombay has shown that an anti-TB drug - rifampicin - used in combination with other drugs, can significantly improve medicinal efficacy. Rifampicin is one of the two main powerful drugs that TB bacteria are resistant to in multiple-drug resistant TB, or MDR TB cases.

In the study published in the journal Frontiers in Microbiology, Sarika Mehra, professor from IIT-B's chemical engineering department, and her PhD student Yesha Patel, showed how the effectiveness of rifampicin can be improved by delivering it with another drug called cumene hydroperoxide (CHP). The researchers claimed that the antibiotic used in combination with other drugs could also reduce its side effects.

Another study using the same mechanism with FDA-approved drugs is under review for publication. Once published, it can pave way for clinical trials and thereafter, the method can be put to use in TB treatment.

CHP, an oxidising agent, was used by the researchers only to prove the mechanism of drugs working in synergy. The researchers tested their combination of drugs on two species of TB bacteria. They subjected the bacteria to various combinations of the antibiotic rifampicin and CHP, in different doses. They found that if used in combination, the rifampicin dose required was 16 times less than its individual dose. Dosage reduction would imply fewer side effects.

"The idea was to make use of a compound which may not have antibiotic properties but can enhance the efficacy of anti-TB drugs. In the second study, we made use of another drug which had similar properties and is also FDA-approved. It would be easier to take it forward for clinical trials," said Mehra.
Drug-resistant TB is caused when bacteria evolve mechanisms to survive due to irregular and improper use of antibiotics.

Treatment for MDR-TB involves a two-year long regimen and patients are often left with severe side effects. In most countries, the rate of successful treatment is only about 50%. India contributes largely to the overall cases of drug-resistant TB.

"Many bacteria are developing resistance to common antibiotics faster than the number of effective drugs being discovered to fight them. The need of the hour is, therefore, not just a new drug, but also a new method of treatment," said Mehra. Explaining the way forward, Mehra said the plan is to conduct research on actual strains of mycobacterium TB in collaboration with a lab.

Top 5 IIT-Incubated Startups That Are Making Waves in the Market
https://www.analyticsindiamag.com/top-5-iit-incubated-startups-that-are-making-waves-in-the-market/

IITs have played a crucial role in mentoring some of the well-known tech leaders from the country. With an increasing number of youngsters preferring to take up the startup journey, IITs across the country have scaled-up their mentorship capabilities to help these youngster materialise their startup dreams.

In this article, we look at the five big names in the startup ecosystem which were incubated in the IITs and which scaled higher in the coming years.

Capillary Technologies: Founded in 2008 by IIT Kharagpur alumni Aneesh Reddy, Krishna Mehra, Ajay Modani, the startup provides CRM solutions for enterprises to identify each consumer, and directly communicate with them through mobile technology. Incubated in IIT Kharagpur, the company is presently headquartered in Singapore and caters to demands of high-end international retail giants across the world.

In 2012, it raised $15.5 million in a Series-A round from Sequoia Capital, Norwest Venture Partners (NVP) and Qualcomm Ventures. In 2016, it raised $45 million in a Series-C round led by Warburg Pincus. In total, Capillary Technologies has raised $102.1 million in funding over eight rounds. Their

latest funding was raised on Oct 18, 2018, from a Private Equity round. Since 2016, it has acquired three companies as well.

Uniphore: Founded in 2008 and incubated in IIT Madras by Ravi Saraogi, Umesh Sachdev, Uniphore Software Solutions provides voice and data technologies to transform mobile phone into an enterprise-service delivery for various sectors. Over the years it has worked with 60 enterprises and has catered to more than 4 million end-users. Some of its services include speech analysis, voice assistant and voice assistant.

It has raised $8.8M in funding from Series B investment by Cisco Chief John Chambers & existing investors – IDG Ventures, Indian Angels Network, YourNest; Series A by Senapathy 'Kris' Gopalakrishnan among others

SensiBol: Builds and licenses solutions, which utilise their proprietary audio-processing algorithms, for the music edutainment space. Founded in 2011 by Dr Vishweshwar Rao in 2011 and incubated a year later in IIT Bombay, the startup is now closely associated with media, telecom, music and entertainment industries.

The startup has raised funds from Indian Angel Network and has was shortlisted by NASSCOM as one of 40 startups pan-India for Innotrek 2018.

Hyperverge: Incubated in IIT Madras and started by Kedar Kulkarni, Vignesh Krishnakumar, Kishore Natarajan, Saivenkatesh Ashokkumar, and Praveen Kumar in 2013 with a mere investment of six lakh, the startups leverages artificial intelligence to develops image engines with use of high-performance vision and machine learning technologies and has four patents pending in the US and India.

In total it has raised $1 million in funding from some of the noted VCs like Milliways Ventures, Naya Ventures and NEA.

NanoSniff: This deep tech startup was incubated at the Society for Innovation and Entrepreneurship (SINE), a non-profit association which handles the technology business incubator at IIT Bombay. Established by Kapil Bardeja and Dr Nitin Kale in 2011, the startup is a commercial spin-off from the Center of Excellence in Nanoelectronics (CEN) at IIT Bombay and was formed to productise various technologies developed as a part of research work conducted at CEN. Since its inception, the startups have raised Total Funding Amount $300K.

February 13

UGC encourages higher education institutes to produce more MOOC's
https://www.theindianwire.com/education/ugc-encourages-higher-education-institutes-produce-moocs-101191/

The Ministry of Human Resource Development established Study Webs of Active-Learning for Young Aspiring Minds (SWAYAM) programme for providing the learning and study material to all students, teachers, and senior citizens offering 1082 courses in total throughout the last year. It was observed that over 4 lakh citizens were admitted to Massive Open Online Courses (MOOC's) in the batch started in July 2018.

Nine national coordinators were assigned for different types of courses: AICTE for self-paced and international courses, The National Programme on Technology Enhanced Learning (NPTEL) for engineering, UGC for non-technical post-graduation education, Consortium for Educational Communication (CEC) for undergraduate education, NCERT and NIOS for school education, IGNOU for out of the school students, IIM Bangalore for management studies and The National Institute of Technical Teachers Training and Research (NITTTR) for teacher training programme.

Keeping these in mind, the University Grants Commission has instructed regional higher-education institutions to motivate their faculty to produce more MOOC's since only premier institutions were directed to run MOOC such as JNU, IIT's, IIM's.

"MOOCs aim at offering training to students in remote places that lack quality teachers. This gives ready-made study material from trained faculty of premier institutes."

"Several institutes do not have trained professors, so the students can take help of MOOCs to learn the course through material generated by a professor of another institute," said a senior UGC official, on condition of anonymity.

UGC recently was observed to be inviting applications from the higher-institutions to initiate online degrees from the next academic session for those students who fail to avail their choice of course. But, this will not be applicable to those who look forward to holding two degrees since UGC does not allow any student to hold 2 degrees simultaneously.

"Conventional degrees in the near future will lose their value as the new-age industry is looking for professionals with relevant skills. Online degrees will allow students to pursue many things at once to gain academic exposure. Students will have access to online degrees in 2019-20, but we need to chart out plans for amendments in the existing acts and rules," said the official.

"Developing a course has been a challenge since many teachers do not have access to quality books and resources. Teachers in Indian universities do not adopt multidisciplinary approaches of teaching, online access to different disciplines can help students gain interdisciplinary knowledge," said Dr.

Bharti Yadav, assistant professor, National Law University, Delhi, who is also the course coordinator of a course 'Access to Justice' offered on SWAYAM platform.

Diversity deficit in IIMs, IITs — just 23 STs and 157 SCs in 9,640 faculty posts

https://theprint.in/education/diversity-deficit-in-iims-iits-just-23-sts-and-157-scs-in-9640-faculty-posts/191246/

Together SCs, STs and OBCs make up just 9% of total faculty in IITs and 6% in IIMs. Some of the institutes have no SC or ST faculty.

Such is the poor representation of Scheduled Castes (SC), Scheduled Tribes (ST) and Other Backward Castes (OBC) in the Indian Institutes of Technology (IITs) and the Indian Institutes of Management (IIMs) that some of these premier institutions do not have even a single faculty member from these categories.

Sample this: Of the 784 sanctioned faculty posts in 18 IIMs, just two are from the ST community, according to data submitted in Parliament by the Ministry of Human Resource Development (HRD) in December.
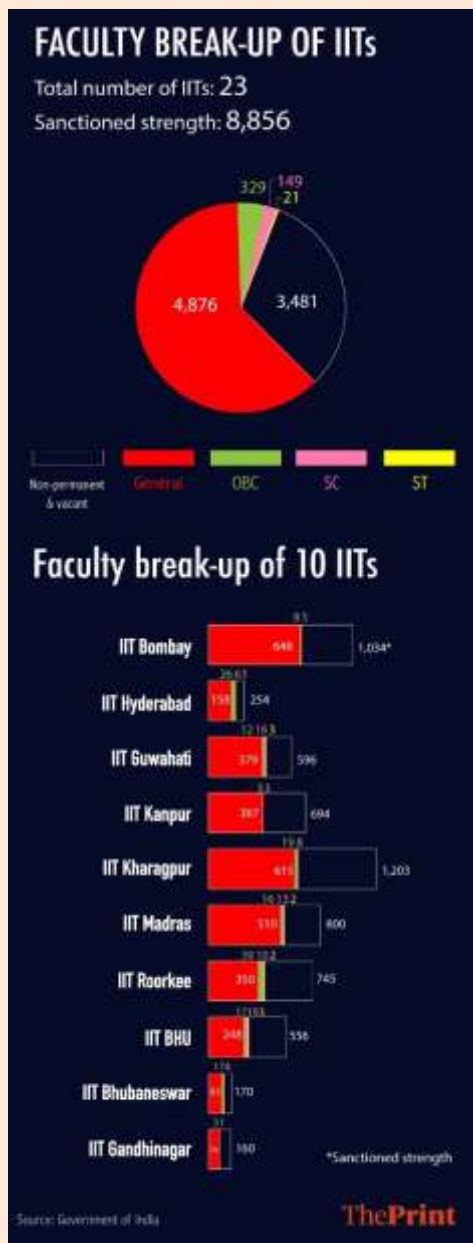
The situation is no better for SCs, who have only eight faculty members while there are 27 members from the OBC category. Around 590 of the posts are occupied by those from the general category while the remaining have not been filled.

Together, the SCs, STs and OBCs make up just 6 per cent of the total present faculty members in the IIMs.

The situation at IITs is equally grim.

Of the 8,856 sanctioned faculty strength, 4,876 are from the general category, 329 are OBCs, 149 are SCs and a mere 21 are from the ST community. In effect, across 23 IITs, including new and old, only 9 per cent of the current faculty are either SCs, STs or OBCs.

The figures come amid serious concern that social inclusion could take a further hit with the new University Grants Commission (UGC) order directing colleges to hire department-wise as opposed to institution-wise. The new roster system is expected to affect the reservation formula in educational institutions.

FACULTY BREAK-UP OF IITs
Total number of IITs: 23
Sanctioned strength: 8,856

Faculty break-up of 10 IITs

Source: Government of India — ThePrint

The Constitution mandates that educational institutions should ensure 15 per cent reservation for SCs, 7.5 per cent for STs and 27 per cent for OBCs among their faculty members.

According to the rules, however, technical institutions such as the IITs and IIMs can hire from the general category if they don't find eligible candidates for the positions.

The premier institutes use this ruse, arguing that there is no lack of will on their part and it is just that they don't find eligible candidates from the three categories.

Some institutes don't have any SC, ST or OBC faculty

Of the 23 IITs, 15 — including the IITs at Mumbai, Kanpur and Kharagpur — have no ST faculty at all. IIT Mandi has no SC faculty while two other IITs — at Goa and Dharwad — have no faculty belonging to the OBC category. SCs and STs are just 2.5 per cent of the total faculty pool.

The IIMs, which recently became autonomous, are even worse when it comes to adhering to the reservation norms. Most of them don't have a single scheduled caste faculty member.

Of the 18 IIMs that shared data with the government (barring IIM Ahmedabad and Indore), 16 did not have a single ST faculty member and 12 did not have any representation from the SC category. Seven of the IIMs had no OBC faculty. The SC, ST faculty are just 1.5 per cent of the total faculty pool.

"IITs and IIMs hire SC, ST and OBC faculty at the entry level only," a senior HRD Ministry official said. "They need to advertise for positions. If they don't find suitable candidates, then they can take others."
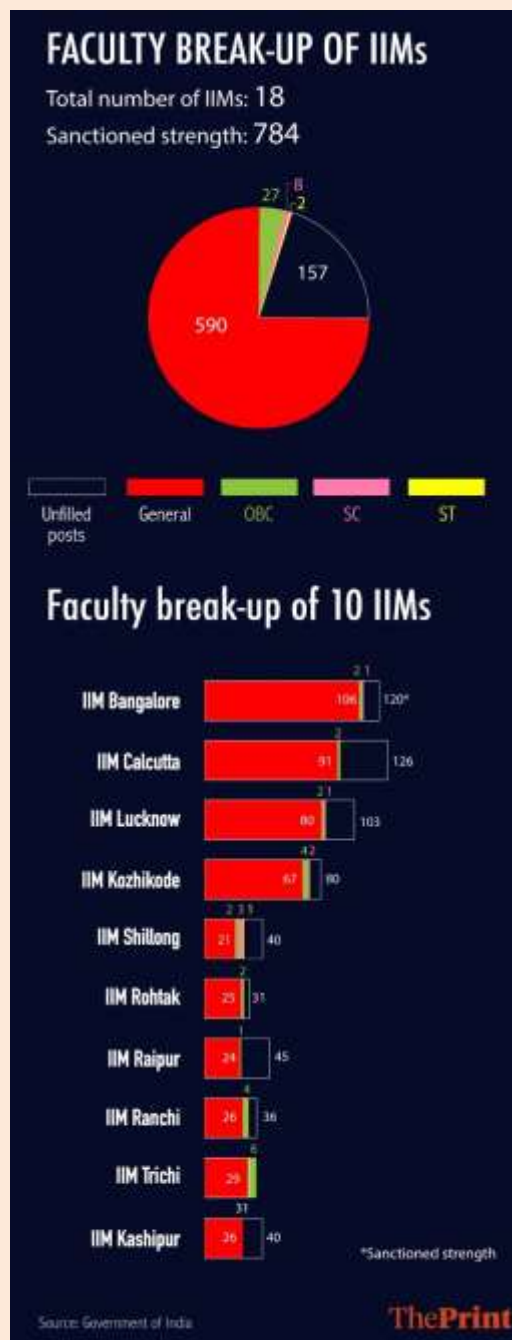
Infographic by Arindam

Lack of qualified candidates, say IIT authorities

Authorities at the IITs blame the lack of "qualified" candidates for the dismal numbers.

"The reason for the less number of people from the reserved category in IITs is that there isn't enough of a pool of people to hire from," a faculty member from IIT Kanpur said. "First of all there are very few PhDs anyway who are eligible, and among that pool, the number of reserved category candidates is even lesser."

He added that the IITs also have relatively stringent hiring norms.

"IITs do not increase the gap between required qualification for the general category and the reserved category," he said. "If a general category person needs to score 10 points, a reserved category person will need to score no less than 8 points."

Another faculty member from an IIT added, "Scheduled Caste and Scheduled Tribe members complain that IITs do not admit PhDs from SC and ST category and it leads to less faculty in belonging to the reserved category but that is not the case. We cannot let go of merit when it comes to PhDs."

Dean Faculty, IIT Delhi, Sudipto Mukherjee agreed that there is a shortage of reserved category faculty. He, however, told ThePrint that there have been special drives to recruit them.

"There is a shortage of faculty and we continue to have several vacancies at present. Though we have many applications with PhD, they do not seem to meet standards expected by the appointment authorities," Mukherjee said.

"I do not see any special problems in recruiting SC/ST faculty. We have also run special drives in the past to recruit them."

A similar problem in IIMs

Congress MP Rajeev Gowda, who has taught at IIM Bangalore and is aware of the nuances of faculty hiring, told ThePrint: "IIMs do not practice discrimination, however, there is a pipeline challenge. We need more people from the SC, ST and OBC category to qualify for the job."

Dipak Malghan, associate professor of public policy at IIM Bangalore, published a paper on social inclusion in the elite management institutions in 2017. In the paper, co-authored with Sidharth Joshi, Malghan argues that the "diversity deficit at IIMs is a 'wicked problem', but one that should not be wished away".

One of the reasons for the lack of diversity, according to the paper, is that the doctoral programmes in these institutes do not have a stated policy on diversity.

"The doctoral programmes at IIMs serve as crucibles where future faculty members are forged. A majority of these programmes do not have a stated policy on diversity or affirmative action," read the paper titled Faculty Diversity at the Indian Institutes of Management (IIMs): A Preliminary Snapshot.

"There is definitely a lack of reserved category faculty in IIMs and they mostly blame it upon not finding a suitable candidate," said a faculty member at one of the IIMs, who did not wish to be named. "But if it's actually a lack of will to hire or a lack of candidates, they will never really reveal."

'IITs, agri varsities must work together for smart agriculture'

https://timesofindia.indiatimes.com/city/ludhiana/iits-agri-varsities-must-work-together-for-smart-agriculture/articleshow/67965724.cms

The key to smart agriculture lies in the collaboration between IITs and agricultural universities of the country, as the symbiotic relationship between the two can lead to synthesis of artificial intelligence with agriculture, said IIT Ropar director Prof Sarit Kumar Das at the 43rd Vice-Chancellors' Convention of Indian Agricultural Universities' Association (IAUA), underway at the Punjab Agricultural University, Ludhiana.
The theme of the convention is 'Artificial intelligence for smart agriculture'. Vice-chancellors of state and central Agricultural Universities and deemed universities in India along with experts from IITs and IARI are participating in the convention.

During his address, Das pointed out that Green Revolution has been one of the most significant achievements of India in which PAU has played a pivotal role. Today 1.3 billion people of the country are being fed, but issues like depleting water resources, indiscriminate use of pesticides, high incidence of cancer, etc. have emerged. This calls for concerted efforts to stay food surplus without harming our natural resources and environment, he opined. This is where artificial intelligence (AI) comes into play, he said.

Explaining further, he said the promise of AI in agriculture will be enabled by numerous other technological advances, including big data analytics, internet of things, availability of cheap sensors and cameras, drone technology and even wide-scale internet coverage on geographically dispersed fields. "AI has the power of analysing data and learning from it by a perspective. By analysing disparate data sources such as temperature, weather, soil analysis, moisture, and historic crop performance, AI systems will be able to provide predictive insights into which crops to plant in a given year and when the optimal dates to sow and harvest are in a specific area, thus improving crop yields without requiring the use of potentially dangerous and expensive additional fertilizers," he added.

IAUA president and Anand Agricultural University Gujarat vice-chancellor Dr NC Patel cited the history of IAUA and informed that it acts as a liaison between member universities and government departments to facilitate communication and expedite the needed action in matters of importance. Talking about precision agriculture, he revealed that it is a field in which new technologies such as satellite imaging, distributed sensor data and autonomous drone surveillance of fields and researchers are able to train AI systems to optimize the use of inputs on a precise level.

Dr AR Pathak, vice-chancellor of Junagadh Agricultural University, said higher crop productivity and decreased use of water, fertilizer, and pesticides via application of AI technologies can reduce the impact on natural ecosystems, and increase worker safety, which in turn keeps food prices down and ensure our food production system will keep pace with population while keeping our planet safe.

PAU VC Dr Baldev Singh Dhillon affirmed that technological interventions like the use of AI, sensor-based advanced farming systems, big data management, IT tools for predictive analytics, robotics and unmanned vehicles are required to develop eco-friendly and sustainable farm technologies for smart agriculture. He enumerated a number of initiatives like Leaf Colour Chart, Laser Leveller, Tensiometer, etc. developed by PAU. He also emphasized the need to build network of all stakeholders involving institutions, industry, farmers and policy makers to align agricultural research towards smart agriculture.

IIT Madras and IITDM Kancheepuram to conduct academic collaboration

https://www.theindianwire.com/education/iit-madras-iitdm-kancheepuram-conduct-academic-collaboration-101614/

The Indian Institute of Technology Madras and Indian Institute of Technology Design and Manufacturing are reported to be collaborating in academics and research. The Collaboration mainly aims at allowing 10% of the B.Tech students studying at IITDM Kancheepuram will be allowed to take admission to Ph.D. programs at IIT Madras after they have completed their sixth semester and will also be allowed to pursue to their further semesters at IIT Madras and pursue their Ph.D. thereafter.

For the collaboration to be declared formal MoU was signed on the academic and research collaboration between the two institutes on February 8, 2019, by Prof Bhaskar Ramamurthi, Director, IIT Madras and Prof. Banshidhar Majhi, Director, IIITDM – Kancheepuram.

Speaking about the importance of collaboration, Prof Bhaskar Ramamurthi said, "As the mentor Institution of IIITDM when the Institute was founded, IIT Madras has always been closely associated with IIITDM, Kanchipuram. There has been an active interaction between the faculty members of two institutions. This MOU now enables greater interaction between the students as well."

Speaking about benefits to students, Prof. Banshidhar Majhi said, "The IIITDM students will have an opportunity to pursue their higher studies at IIT Madras and I am sure they will be motivated for an excellent career. In addition, the faculty of IIITDM will also have an opportunity to get research collaborations for sponsored projects and thesis supervision with the faculty of IIT Madras. This MoU is expected to reinforce the collaboration and elevate IIITDM to the next level."

IIT Madras has witnessed a similar collaboration with National Institute of Technology-Tiruchirappalli. "This is an effort to encourage research and get more qualified faculties to fill the number of vacancies across IITs, which has a lot of vacancies," Kamakoti said.

It was also announced that the students willing to continue their B.Tech semesters with IIT Madras will first have to pass the screening test followed by an interview.

IIT M Director Bhaskar Ramamurthi said, "As the mentor of IIITDM, IIT Madras has always been closely associated with it. This MOU now enables greater interaction between the students as well."

IITDM Kancheepuram is an institute, established in 2007, for technical education and researches by the Ministry of Human Resource and Development for providing opportunities to students to pursue the designing and manufacturing engineering and related researches to promote Indian products globally.

IITDM also allow students to participate in research projects for free for over 1 year.

"The Credits in 1st year of PhD in IIT Madras equals the credits needed in fourth year of B.Tech. at IIITDM – Kancheepuram. The Credits will be transferred to IIITDM Kancheepuram to award B.Tech. degree," the statement read.

February 12

IIT-Kharagpur develops fodder to make fish tastier

https://economictimes.indiatimes.com/industry/services/education/iit-kharagpur-develops-fodder-to-make-fish-tastier/articleshow/67951790.cms

Zelence, a startup incubated at the Science and Technology Entrepreneurs' Park at IIT-Kgp, has branded this product 'Mr Fish'

Here's some good news for fish eaters: with the help of technology, researchers at Indian Institute of Technology Kharagpur (IIT-Kgp) have come up with fish fodder that would improve not only the size but also the taste of fish.

Zelence, a startup incubated at the Science and Technology Entrepreneurs' Park at IITKgp, has branded this product 'Mr Fish'. This product has been developed from natural bioactive molecules, cultivated probiotics and special enzymes, all of which are being produced at the IIT's lab.

The use of the bioactive product in the fodder produced by the researchers enhances the size, taste and nutritional quality of fish, claims Jayanta Bhattacharya of the Department of Mining Engineering and School of Environmental Science and Engineering at IIT-Kgp. Bhattacharya is also one of the directors at Zelence.

Zelence has another such product based on in-house formulation for dairy operators. It has filed for patent for this product called 'Happy Milk', which is formulated using technology that enhances the milking capacity of cows along with increasing the nutrient quality.

"Application for patent rights for 'Happy Milk' is at an advanced stage and talks are on with major FMCG companies for partnership," said Bhattacharya. Researchers at IIT-Kgp are yet to file the patent for Mr Fish. The startup is trying to wind up its testing before filing for the same.

This product is being tested in West Bengal with successful results. "So far, there has been no product available in the market that enhances fish quality while stopping the deterioration in taste. Most of the products deal with disease control in farming but no product till date ensures fish taste and quality," said Bhattacharya.

"Mr Fish increases the resistance power of fish and enhances its quality and texture by evenly distributing the fatty acid content and right amount of taste-active organic components plus increasing the feed conversion ratio," said Bidus Kanti Das, biotechnologist at IIT-Kgp and a director at Zelence.

There is a growing interest in Mr Fish from farmers of West Bengal, Odisha, Andhra Pradesh and neighbouring Bangladesh, said Bhattacharya. The technology was developed in the laboratory of IIT Kharagpur over two years and has been under field testing for more than a year. The company is also looking for national and international partners and investors. "As there is almost no product in this category, a new business segment in aquaculture is being envisaged," said Das.

What's in your waste? Study from IIT Dhanbad finds out
https://researchmatters.in/news/what%E2%80%99s-your-waste-study-iit-dhanbad-finds-out

A beached whale's gut filled with hundreds of pieces of plastic or photos of sea turtles feeding on plastic bags and straws is not uncommon today. The deepest point on Earth, the Mariana Trench, is also not spared of plastic pollution. However, from where does all this plastic come into our oceans? It starts with our homes! Poorly managed plastic waste from drains, bins and landfills often end up in rivers and eventually in seas and oceans.

Now, a study by researchers from the Indian Institute of Technology, Dhanbad, has estimated the generation of different types of plastic wastes by different socio-economic groups in the city of Dhanbad, India. Dhanbad, also known as the coal capital of India, is the second most populated city in the state of Jharkhand. In the current study, published in the journal Waste Management, the researchers have also estimated the possible revenue from the informal recycling done in the city.

The study used both questionnaire surveys and household waste sampling from randomly selected houses in the city to collect data. The researchers then built machine learning models to estimate the plastic waste collected.

"A personal interview conducted with the active scrap dealers in the study area revealed that approximately 4 tons per day of plastic waste is recovered by the informal recycler and the rest goes to the dumpsites or remains unattended", say the authors.

In this study, the researchers categorised households into three different socioeconomic groups based on education and occupation of the head of the family, family income and type of house. They found that homes belonging to a higher socioeconomic group were responsible for the highest waste generation rates with 51 grams per capita each day (g/c/d). On the contrary, the lower socioeconomic group were responsible for the least with 8 g/c/d.

In all the households, polyethylene terephthalate (PET) products such as water/juice bottles, food and pickle jars, plastics films, sheets, etc and high density polyethylene (HDPE) products such as shopping bags, food containers, bottles, plastic toys, milk pouches, detergent bags and metalized pouches were the most common waste.

A significant portion of the plastic waste processing in India, such as collection and recycling, takes place informally by waste pickers, scavengers and itinerant waste buyers who sell their scavenged items to scrap dealers. These sorted wastes are sold by exporters to respective recycling and manufacturing industries to make new products. Informal recyclers not only earn revenue through this but also reduce the waste thrown out. This study also estimated the plastic waste collected and revenue generated by informal recyclers from recycling these wastes.

The researchers found that a waste picker, could recover an average of 19 kg of plastic each day and earn about ₹130 by selling the recovered plastic waste, most of it being PET and HDPE types of plastic wastes. A large scrap dealer, on the other hand, recovers about 650 kg and earns ₹1300 per day.

While reducing the use of single-use plastics, like plastic bags, straws, or coffee cups can make a difference, recycling can take it further. With the rise of waste management companies like Saahas Zero Waste and Kabadiwalla Connect, which provide platforms for consumers and recyclers to reduce and recover plastic waste, there is hope of plastic waste being effectively managed in India.

The coming together of private and government organisations, policies, environmentalists and concerned citizens towards reducing, reusing and recycling plastic can change the future for the better.

India is one of the fastest growing plastic markets in the world and currently uses 12 million tonnes of plastic products each year. The study shows the potential revenue from plastic waste that we throw out every day. Surely, there is more in the trash than what meets the eye!

IIT-M teams win awards for waste mgmt solutions

https://timesofindia.indiatimes.com/city/chennai/iit-m-teams-win-awards-for-waste-mgmt-solutions/articleshow/67951658.cms

Two teams from the Indian Institute of Technology _ Madras won the first and third prizes in the UK India Social Innovation Challenge that aims to find, fund and support innovative and sustainable solutions to the global problem of waste management.

Rohit Prajapati, a Phd student from the civil engineering department, and Ram V G, who won the first prize, had submitted a project on recycling of demolished waste concrete using solar energy.

Akhil T, a 5th year student of chemical engineering, and Aneesh J, who won the third prize, had submitted a project on catalytic degradation of kraft lignin (treatment of wood with water and chemicals) by ultraviolet light and ultrasound.

The teams won the prize in the second edition of the competition by Social Impact Lab, University of Southampton, Centre for Social Innovation and Entrepreneurship, IIT Madras, the open innovation platform 'Babele', and the British Council.

"Waste management is a more practical solution than waste elimination, given that every process generates waste as byproduct. This competition tests not only the innovative abilities of students, but also their business acumen. The latter is an aspect that many technologists tend to ignore," said Prof R Nagarajan, head, department of chemical engineering. The first prize was a cash award of 1.2 lakh and the third prize was 45,753.

MHRD's SWAYAM programme aims to make study material available to all

https://timesofindia.indiatimes.com/home/education/news/mhrds-swayam-programme-aims-to-make-study-material-available-to-all/articleshow/67955817.cms

Is SWAYAM platform bridging the learning gap or creating one UGC adds 10 more courses in the non-technical PG category to popularise MOOCs in the interiors

Study Webs of Active -Learning for Young Aspiring Minds (SWAYAM) programme by MHRD that aims at making learning material available to citizens of India, including students, teachers and senior citizens had offered as many as 1082 courses in 2018-19. In all, 4 lakh learners were enrolled in Massive Open Online Courses (MOOCs) offered in July 2018 semester.

Nine national coordinators were assigned for different types of courses: AICTE for self-paced and international courses, The National Programme on Technology Enhanced Learning (NPTEL) for engineering, UGC for non-technical post-graduation education, Consortium for Educational Communication (CEC) for under-graduate education, NCERT and NIOS for school education, IGNOU for out of the school students, IIM Bangalore for management studies and The National Institute of Technical Teachers Training and Research (NITTTR) for teacher training programme.

UGC has given new directive to all the higher education institutes to encourage its faculty to produce more MOOCs. Till now, only premier institutes such as IITs, IIMs and JNU have offered support in producing MOOCs, but the regional institutes are still shying away owing to limited resources and faculty.

"MOOCs aim at offering training to students in remote places that lack quality teachers. This gives ready-made study material from trained faculty of premier institutes."

"Several institutes do not have trained professors, so the students can take help of MOOCs to learn the course through material generated by a professor of another institute," said a senior UGC official, on condition of anonymity.

So far, UGC has no provision to take non-performing teachers to task, but they can help the students by making them switch their source of knowledge.

UGC had also invited applications from higher institutes to participate in initiating online degrees from academic session 2019-2020. This process is targeted for students who could not get admission in their choice of course. However, this will not help students looking for dual degrees as UGC does not allow a student to pursue two different degrees simultaneously.

"Conventional degrees in the near future will lose their value as the new-age industry is looking for professionals with relevant skills. Online degrees will allow students to pursue many things at once to gain academic exposure. Students will have access to online degrees in 2019-20, but we need to chart out plans for amendments in the existing acts and rules," said the official.

Online course are leading a way for interdisciplinary studies in the system says Dr Bharti Yadav, assistant professor, National Law University, Delhi, who is also the course coordinator of a course 'Access to Justice' offered on SWAYAM platform.

"Developing a course has been a challenge, since many teachers do not have access to quality books and resources. Teachers in Indian universities do not adopt multidisciplinary approaches of teaching, online access to different disciplines can help students gain interdisciplinary knowledge," said Dr Yadav.

February 11

MHRD committee: Empower IITs to pick own directors, chairpersons

https://www.newsbytesapp.com/timeline/India/41552/185149/hrd-ministry-committee-recommends-for-autonomy-for-iits

A year after a new Act granted unprecedented autonomy to IIMs, a committee of IIT directors have sought similar powers for the premier engineering institutes.

In a report submitted to the government, the committee has recommended that the 23 IITs be granted powers to appoint their own institute heads and chairpersons.

Here are the details.

In context
HRD Ministry committee recommends for autonomy for IITs

Committee

The committee had been appointed in December last year

In October last year, The Indian Express had reported that a seven-member panel headed by former IIT-Kanpur chairman M Anandkrishnan had been constituted by the Ministry of Human Resource Development (MHRD) to explore dilution of government control over IITs.

The directors of IIT-Bombay, IIT-Delhi, IIT-Kanpur, IIT-Kharagpur, and IIT-Madras, along with a professor of IIT-Madras made up the rest of the panel members.

Task

The committee was tasked with suggesting changes to IIT boards

Specifically, the committee had been tasked with suggesting changes to the composition of the Board of Governors (BoG) of the IITs, and the committee held two meetings in November and December last year to discuss the same.

During these meetings, the IIM Act was scrutinized, and based on this examination, the committee submitted its report to the MHRD sometime last week.

A bit about the IIM Act

The IIM Act came into effect on January 31, 2018, and empowers IIMs to award degrees instead of post-graduate diplomas. Further, under the Act, IIMs can appoint their own directors and chairpersons, and government representation in the board of each IIM has gone down significantly.

Recommendations

Recommendations made by the committee

In its report, the committee recommended expanding the BoG from the current nine members to 14 members, which would include four "distinguished alumni of the IITs". Further, the committee recommended having at least two women, and one member from SC/ST category.

It also recommended granting the BoG the power to appoint an IIT's director and chairman.

Other details
The IIT Act, 1961 will have to be amended
To make these changes, the committee recommended making amendments to Clause 6 (dealing with duties and powers of an IIT), Clause 11 (composition of the BoG), and Clause 17 (on appointment of director) of the IIT Act, 1961.

The changes, if approved would mark a break from the current practice wherein IIT directors are appointed by the IIT Council headed by the HRD Minister, with prior approval of India's President.

IITs, IIMs, NITs to add 1.2 lakh seats this year
https://www.newsheads.in/education/news/iits-iims-nits-to-add-1-lakh-seats-this-year-article-56515

As the Union Cabinet has approved 10 percent EWS quota on Jan 7, this year, the centrally-funded educational institutions in India has decided to collectively add close to 1.2 lakh seats in the new academic session starting July. Also, the IITs, IIMs, central universities and NITs will add 95,000 next year to implement the 10 per cent quota for Economically Weaker Sections (EWS).As the Union Cabinet has approved 10 percent EWS quota on Jan 7, this year, the centrally-funded educational institutions in India has decided to collectively add close to 1.2 lakh seats in the new academic session starting July. Also, the IITs, IIMs, central universities and NITs will add 95,000 next year to implement the 10 per cent quota for Economically Weaker Sections (EWS).

The central institutions were asked to increase their intake over two years in a way that the existing number of seats for SC, ST, OBC and general category students did not face cuts. This increase was pegged at 25 per cent by HRD Minister Prakash Javadekar in a press conference held last month.

The capacity expansion will cost the government roughly Rs 5,600 crore, according to the implementation plan shared by all central institutions by January 31.

Of this, Rs 3,830 crore has been sought for building new infrastructure, Rs 723 crore for salaries on account of hiring more teachers, and the remaining for fellowships meant for the added intake.

The biggest chunk of the Rs 5,600 crore has been sought by the central universities (Rs 2,682 crore), followed by the IITs (Rs 1,094 crore), and the NITs (Rs 1,001 crore).

This financial cost of implementing EWS reservation is much more than the estimate of Rs 4,200 crore, initially prepared by the HRD Ministry.

As per the official report by the Ministry of Social Justice and Empowerment the cost of implementing the 10 per cent quota would have to be borne by the central institutions out of the additional revenue generated by them on account of increased seats, without any financial implication for the government. In other words, the original proposal approved by the Cabinet did not account for any expenditure on capacity expansion of central educational institutions for implementing the 10 per cent EWS quota.

However, the Interim Budget, 2019, has earmarked close to Rs 4,600 crore for implementing the 10 per cent reservation for the poor in general category in central educational institutions and for HEFA equity. It's still not clear how much of this is meant specifically for capacity expansion of central institutions to accommodate the 10 per cent quota without reducing general category seats.

As per the plans shared by the educational institutions, IITs are going to collectively increase their student intake by 6,708 seats, of which 2,388 seats will be added this year, and remaining next year. Similarly, the IIMs will add 620 seats in July and 743 in 2020, and central universities will hike total intake by 47,223 over two years.

The 10 per cent EWS quota was approved by the Union Cabinet on January 7 and its implementation across all central institutions was notified by the HRD Ministry on January 17.

IIT Madras releases GATE 2019 response sheet @gate.iitm.ac.in, check details here

https://www.indiatoday.in/education-today/notification/story/iit-madras-releases-gate-2019-response-sheet-gate-iitm-ac-in-check-details-here-1453056-2019-02-11

The Indian Institute of Technology (IIT), Madras has released the candidates' response sheet of the Graduate Aptitude Test in Engineering (GATE) 2019

IT Madras releases GATE 2019 response sheet @gate.iitm.ac.in, check details here

GATE 2019: The Indian Institute of Technology (IIT), Madras has released the candidates' response sheet of the Graduate Aptitude Test in Engineering (GATE) 2019. All the candidates can check the same on the official website, the link for which is **http://gate.iitm.ac.in/**

The GATE 2019 candidates' response sheet has been released for the examination held during S1, S2, S3 and S4.

The IIT Madras conducted the GATE 2019 on February 2, 3, 9 and 10, 2019 in forenoon and afternoon session. The exam was held on 24 subjects including aerospace engineering, agricultural engineering, architecture and planning, biotechnology, civil engineering, chemical engineering, instrumentation engineering, mathematics and mechanical engineering among other subjects.

Further, the response sheet of second shift i.e. exam held on February 9 and 10 will be released soon on the official website.

GATE 2019: Here's how to check response sheet

Log on to the official website, gate.iitm.ac.im

On the homepage, click on the link 'candidates can check responses by clicking here'

On the new page, log-in using enrollment number/email id and password

On submitting the same, the response sheet will be displayed on the screen

Download and take print out of the same for future use.

GATE 2019: Results

As per the schedule, the GATE 2019 result will be out on March 16.

About GATE:

The Graduate Aptitude Test in Engineering (GATE) is an all India examination that primarily tests the comprehensive understanding of various undergraduate subjects in engineering and technology.

The exam is conducted for admissions into post-graduate programmes in Indian institutes of higher education with financial assistance provided by the Ministry of Human Resource Development (MHRD) and other government agencies.

Research hub to tap MSMEs for healthcare
https://telanganatoday.com/research-hub-tap-msmes-healthcare

The Common Research and Technology Development Hub (CRTDH) is supported by the Department of Scientific and Industrial Research (DSIR), and will come up at the IIT-KGP campus.

The research hub by IIT Kharagpur will address the issues of accessibility and affordability through innovations.

IIT Kharagpur (IIT-KGP) will set up a research and technology development hub, which will focus on making healthcare more affordable and tap the potential of MSMEs in the medical sector.

The Common Research and Technology Development Hub (CRTDH) is supported by the Department of Scientific and Industrial Research (DSIR), and will come up at the IIT-KGP campus.

The hub will address the issues of accessibility and affordability challenging the modern healthcare system through technological innovations, a faculty member said."Another key area of focus will be supporting growth and development of precision manufacturing of innovative technologies through MSMEs, so that India can reduce its massive burden of imported healthcare technologies," Visiting Professor, School of Medical Science and Technology, IIT-KGP, Satadal Saha said here announcing the CRTDH project.

Saha said access to quality primary healthcare remains a major challenge in rural parts of India, with over 80 per cent of healthcare technology being imported, escalating costs."Also, the concentration of leading healthcare units being in urban areas leads to accessibility issues," Saha said on Friday.

Over 45 per cent of rural jobs are created within the micro, small and medium enterprises sector and with the presence of five million MSMEs in West Bengal alone, the hub will "unleash" their potential in West Bengal and beyond, he said. With the development of healthcare technologies, manufacturing growth will be fostered, creating more jobs in the suburbs, Saha said.

On the completion of successful laboratory tests, scientific validation studies and prototype creation, projects will be undertaken at CRTDH for further product-level development. "We will endeavour to build capacity within the MSMEs to enable it to manufacture high-quality products that can compete

in the global market…" Associate Dean, Sponsored Research and Industrial Consultancy, IIT-KGP, Suman Chakraborty said.

Breakthrough for a better stomach

https://timesofindia.indiatimes.com/city/ahmedabad/breakthrough-for-a-better-stomach/articleshow/67935015.cms

Heliobacter pylori (H pylori) which builds long-term colonies in stomach linings of people has been identified as a major menace in the last 40 years. It can lead to gastric cancer in extreme cases and abdominal pain, diarrhoea, gas and bloating in less virulent stages. But there has been no sure-shot cure.

A researcher's team from IIT-Gandhinagar, which has raised hopes for a breakthrough, claims roughly 80% of India's rural population suffer from H pylori infestations. A study by a doctor's team done in 2012 found 2 crore Indians suffering from H pylori at the time.

Currently, H pylori is treated with quadruple therapy — where four drugs are taken four times a day for 10 days to contain the symptoms, but that may change with the new research for a targeted drug conducted by the team at IIT-Gn. The drug has been successful in animal trials on rats, and there are hopes it may prove successful in human trials.

Dr Sivapriya Kirubakaran, assistant professor at IIT-Gn, said they have developed an indole-based scaffold that specifically targets Inosine-5 — monophosphate dehydrogenase (IMPDH) — an enzyme present in H pylori that helps the pathogen's reproduction. "The drug developed by us targets the enzyme directly and prevents its further growth by stopping the new DNA formation — in process stopping cell division," she said.

The small molecules developed at IIT-Gn thus binds with specific protein, she said, adding that they are in the process of creating a model for the protein. "The field of biology and chemistry has a lot of potential for targeted therapy where other cells are not damaged. Validating IMPDH as a drug target for H pylori is our ultimate goal, and it would help make affordable medicine," she added.

Collaboration with other institutions is also in the pipeline for furthering the project, said team members. Collaborators for the project include Prof Vijay Thiruvenkatam, P Gayathri, Dr Kapil Juvale, Althaf Shaik and Srimadhavi Ravi.

The bacteria is more prevalent in Asian and African countries and builds colonies on the lining of the stomach.

Antarctican fungus next big thing in cancer care?

http://www.newindianexpress.com/lifestyle/health/2019/feb/11/antarctican-fungus-next-big-thing-in-cancer-care-1937222.html

Leukaemia, the most common form of the debilitating disease among children, consumes the lives of thousands of minors annually.

Can a fungal species from Antarctica make chemotherapy for Acute Lymphoblastic Leukaemia (ALL) safer and less toxic? A study published by researchers from IIT-Hyderabad in Nature, an international multidisciplinary scientific journal, shows promise in this direction. Leukaemia, the most common form of the debilitating disease among children, consumes the lives of thousands of minors annually.

Chemotherapy treatment for all is done using the drug L-Asparaginase which is extracted from E coli and E chrysanthemi, but toxic enzymes such as glutaminase and urease that the bacteria contain can cause pancreatitis, haemostasis abnormalities, affect the central nervous system, cause adverse immunological reactions and also reduce efficacy of chemotherapy. The predicament makes research on strains of bacteria and fungi containing L-Asparaginase important.

Speaking to Express, Dr Devarai Santhosh Kumar, associate professor at the department of chemical engineering, IIT-H, said his acquaintance, Dr Asif Qureshi of the department of civil engineering at IIT-H, who had visited Antarctica for research brought back 33 samples of soil, moss, water and ice. Of the 33 environmental samples, 55 types of fungal species were isolated by Dr Kumar and his team at IIT-H. Out of the 55 species, extraction of L-Asparaginase devoid of toxic enzymes was possible in 28 fungal species. "Of these, five fungus types are promising," he said.

The fungal species from Antarctica can be grown in tropical countries such as India. Moreover, the fungi can be cultivated using agricultural waste, making the extraction of L-Asparaginase cost-effective. Another benefit is fungi have eukaryotic cells, like humans, which can make chemotherapy more effective.

Norwegian Ambassador, Mr Nils Kamsvag Ragnår visits IIT Roorkee on Indo-Norway Research Partnerships

http://indiaeducationdiary.in/norwegian-ambassador-mr-nils-kamsvag-ragnar-visits-iit-roorkee-indo-norway-research-partnerships/

Norwegian Ambassador to India, H.E. Mr. Nils Kamsvag Ragnår visited the Indian Institute of Technology (IIT), Roorkee today. The visit focussed on showcasing the technological advancements undertaken by IIT Roorkee through various projects around the campus. Mr. Ragnår visited the Alternate Hydro Energy Centre at IIT Roorkee to understand the research work and various facilities including international level hydraulic turbine R&D laboratory for Hydro Power being undertaken by the Institute. He has shown a keen interest in newly developed Hydro Kinetic turbine system which has been tested in the nearby canal as floating device developed by IIT Roorkee, which generates electricity from the water surface.

The Ambassador also visited the Earthquake Engineering Department, where research on earthquake hazard and risk reduction is currently underway. The department also showcased the 'Early Earthquake Warning System', which has been deployed across certain regions in Uttarakhand. As part of the visit, the ambassador has a detailed meeting with the Director and discussed the scope of research collaborations and student exchange programmes.

On his visit, the Norwegian Ambassador to India, Mr. Nils Kamsvag Ragnår said, "India and Norway have always had cordial relations and there is a huge scope of partnership between the two countries in the realm of science. It has been an interesting visit to IIT Roorkee and the kind of path-breaking research being undertaken here is important for the development of nations across the world."

Talking about the visit by the Ambassador of Norway, Prof. Ajit Kumar Chaturvedi, Director, IIT Roorkee said, "It was an honour for us to host H.E. Mr. Nils Kamsvag Ragnår. This was a great opportunity for us to discuss the various research possibilities between the two nations as well as showcase the work being done by IIT Roorkee. We sincerely hope that this visit and discussion with pave way for many important research projects, students and technology exchanges in the near future."

IIT Roorkee is currently partnering with Norwegian Institute of Science and technology (NTNU) for designing turbine suitable for sediment laden water In Himalaya and Research Council of Norway under a project granted by the Indian Council for Medical Research (ICMR) on the topic of Antimicrobial Resistance (AMR). The main purpose of this association is to increase Indo-Norwegian research and development cooperation in the Department of Biotechnology.

Speaking about the research partnership, Mr. Nils Kamsvag Ragnår, Norwegian Ambassador said, "Research associations between scientists and academicians like the one between IIT Roorkee and the Research Council of Norway, is a huge step towards fighting the menace of Antimicrobial Resistance. I believe this a great initiative and efforts by the scholars, will definitely generate positive outcome and lead us to a better future."

February 10

GATE centres to be set up in Kashmir in future

https://www.tribuneindia.com/news/jammu-kashmir/gate-centres-to-be-set-up-in-kashmir-in-future/727011.html

After much difficulty, the Director of the National Institute of Technology (NIT), Srinagar, made it possible to set up six centres for the Graduate Aptitude Test Exam (GATE) students belonging to the Valley in the Kashmir region in which over 1,050 students appeared in two days.

However, the authorities are now working out to set up centres in Kashmir in future. In the past three days, the students finally had relief as some of them, who were stuck in Srinagar after the cancellation of flights and highway blockade, were airlifted to Jammu by the Indian Air Force in a special flight. For the rest of the students, centres were set up in Kashmir with the coordination of NIT, Srinagar, and IIT, Madras. "After I came to know of the problem, I took up the issue with the Secretary, MHRD, and IIT, Madras, and it was possible to set up six centres in Kashmir for which my senior colleagues coordinated," said Director, NIT, Srinagar, Rakesh Sehgal. On Saturday and Sunday, over 1,050 students appeared in the exam in the six centres across Kashmir. The J&K Governor also helped in the matter. "The issue has been discussed with the MHRD and it is being worked out that the centres will be set up in Kashmir in future. For the students who appeared in the exam in Jammu and Srinagar, the required arrangements were made," said Khursheed Ganai, Adviser to the state Governor. The MHRD had set up six exam centres in Srinagar and Baramulla district for the GATE aspirants at Haktech IT service Sidco industrial estate Rangreth, KITE Polytechnic at Wawoosa Rangreth, Eshai Online Services Munwarabad, Faster Computer Education Rawalpora, Infotech Computer Education and SSM College of Engineering and Technology, Parihaspora.

February 9

Government announces complete fee waiver for IIT students from Economically Backward Class

https://www.indiatoday.in/education-today/news/story/government-announces-complete-fee-waiver-for-iit-students-from-economically-backward-class-1452138-2019-02-09

Government has announced scholarships, schemes, fee waiver and subsidy on education loans for the students from Economically Backward Class.

Schemes for Economically Backward Class students were given by the Minister of State (HRD), Satya Pal Singh.

Government has been trying to uplift the marginalized sections of the society either by giving them reservation quota in education and job sector or by providing them with financial assistance. Once again, the Ministry of Human Resource Development has planned to launch a list of schemes supporting the Economically Backward Class students. The scholarships and schemes are for selective students who meet the eligibility criterion.

This information was given by the Minister of State (HRD), Satya Pal Singh in a written reply to a Rajya Sabha question.

Here's a look at the list of schemes to implement to support the Economically Backward Class students:

1. Central Sector Scheme of Scholarship for College and University Students (CSSS)

Candidates whose family income is less than Rs 8 lakh per annum can avail Rs 10, 000 per annum for first three years and Rs 20, 000 per annum for the fourth and fifth year. .

2. Special Scholarship Scheme for Jammu & Kashmir (SSS for J&K)

This scholarship is dedicated to students from the State of Jammu & Kashmir whose family income is less than Rs 8 lakh per annum.

Candidates can pursue education outside the state of J&K.

They can get Rs. 1.30 lakh to Rs. 4.00 lakh per annum.

3. Central Sector Interest Subsidy Scheme (CSIS)

Students can avail full interest subsidy on an educational loan up to Rs 7.5 lakh.

Their parents should have an annual income of up to Rs 4.5 lakh.

4. Fees Waiving in IITs

Earlier, in the academic year 2016-17, the tuition fee of socially and economically backward students at the IIT was waived off.

However, now, SC/ST/PH students shall get complete fee waiver.

Students whose parents earn less than Rs 1 lakh can get full remission of the fee.

If their family earns between Rs 1 lakh and 5 lakh per annum, they can get a remission of two-third of the fee.

All students have an opportunity to have an access to interest free loan under the Vidyalaxmi scheme for the total portion of the tuition fee payable.

Beside these schemes, a number of other education benefits can be availed by the economically backward section:

(i) Remedial Coaching for SC/ST/OBC (Non-Creamy Layer) and minority community students.

(ii) Coaching for NET/SET for SC/ST/OBC (Non-Creamy Layer) and minority community students.

(iii) Coaching classes for entry into services for SC/ST/OBC (Non-Creamy Layer) and minority community students are also being given.

"The payment for the above mentioned schemes are processed online through PFMS and scholarship / interest subsidy is released through Direct Benefit Transfer (DBT) mode," as mentioned in a Press Information Bureau statement.

IITs, IISc may soon have centralised counselling
https://glenwoodguardian.com/iits-iisc-may-soon-have-centralised-counselling/16929/

The IITs and IISc, Bangalore may start and admission for MTech and PhD programmes like they do for undergraduate courses. The in its meeting on August 21 is going to discuss a proposal for counselling and admissions process for the Graduate Aptitude Test in Engineering () in line with that of Joint Entrance Examination (advanced) in IITs and Indian Institute of Science (IISc), Bangalore.

GATE is conducted by IITs and IISc in rotation. As of now, once their GATE scores are in, candidates need to go through another round of test/ interview by individual institutions. As a result, the prospective candidate has to run from one institute to another, or in case of two or more institutes having their tests/interviews on the same day, the candidate has to give up his choice of seats in some institutes.

The GATE score is used for admissions to various post-graduate education programmes in Indian higher education institutes, with financial assistance provided by MHRD and other government agencies.

The proposal stated that due to this, apart from inconvenience and financial duress, prospective candidates are deprived of the seats in good institutes despite having good ranking in GATE.

Therefore, a centralised counselling and admission is being proposed.

IIT-M and GE tie up for precursor technology

https://timesofindia.indiatimes.com/business/india-business/iit-m-and-ge-tie-up-for-precursor-technology/articleshow/67907416.cms

Indian Institute of Technology - Madras (IIT-Madras) and General Electric (GE) partnered on Friday, whereby proprietary tech developed by the institute's researchers will be applied in real-world situations in GE's gas turbine component test facility. The agreement relates to "precursor technology," which denotes early-warning or early signal systems warning of engine malfunctions in gas turbines due to thermo-acoustics interactions between heat and sound. The partnership is in line with GE's aim to use digital tech to realize vision of smart gas turbines. The financial details of the industry-academia partnership remain undisclosed.

The agreement was signed by Professor Ravindra Gettu, Dean (Industrial Consultancy and Sponsored Research), IIT-M, and Akhilesh Mishra, Executive – Engineering, GE Power. "With its early-warning feature, the technology can help GE save substantial money and time in testing their components," R I Sujith, chair professor, dept of aerospace engineering, IIT-M, told TOI.

The professor and a team of students from the institute worked on the specific research and hold the patent for it. "Precursor technologies in thermo acoustics have the potential to leapfrog existing analytics in this area. Adapting these in lab environment will enable us to have significant benefits in terms of improving risk assessment and decision making, and considerable cost savings," GE Power's Mishra said.

The research team says the tech is suited for applications in a variety of sectors including gas turbines, aerospace engines, liquid fuel rockets, among others.

Earlier in 2016, GE and IIT-Madras collaborated for an Industrial Internet Centre of Excellence at the institute for research related to aluminium smelting plants.