

News Clips
May 19-25, 2018

May 25

IIT Bombay Wins Clarivate Analytics India Innovation Award 2018

<https://www.ndtv.com/education/iit-bombay-wins-clarivate-analytics-india-innovation-award-2018-1856999>

The award places IIT Bombay in the top 12 innovators in India.



Prof. A.K. Suresh, Deputy Director (Academic and Infrastructural Affairs) received the award
MUMBAI: IIT Bombay has won the Clarivate Analytics India Innovation Award 2018 in the Academic Institutions category. The award places IIT Bombay in the top 12 innovators in India.

The citation of the award reads: "IIT Bombay emerges as the top Innovator in the Academic Institution category with the highest number of unique patent families published during 2015-17. In addition they have a healthy performance in the category on the grant success and globalization parameters"

Prof. A.K. Suresh, Deputy Director (Academic and Infrastructural Affairs) received the award on behalf of IIT Bombay at a ceremony held on May 16, 2018 in Bengaluru.

The awards were given in 3 broad categories of namely Government Research Organizations, Academic Institutions, and Corporations.



Jawaharlal Nehru Centre for Advanced Scientific Research was awarded the same in the ceremony.

Council of Scientific & Industrial Research (CSIR) and Department of Biotechnology (DBT) won Clarivate Analytics India Innovation Award 2018 in Government Research Organizations category.

No need for biopsy! Cancer detection is painless now

<http://newstrack.com/no-need-for-biopsy-cancer-detection-is-a-less-painful-process-now/education-career/>



No need to go through the painful process of biopsy now as Indian bright minds have invented a less troubled way to do so.

Chemical engineering department of Indian Institute of Technology (IIT) - Kanpur has found out a painless method of detecting cancer in your body. The life threatening disease can be easily detected with the help of 'saliva'.

The institute is carrying out a detailed research on this method in collaboration with the team of specialists from JK Cancer Hospital.

According to IIT professor Jayant Kumar Singh, the study has reached its final stage and we are all prepared to carry the research and experiment work ahead.

He said that this method will allow the patient to go through a painless oral process of detecting Cancer. "They will be tested with the help of their saliva, he said."

The professor further stated that the technology will also help patient to know what stage of the cancer they are at, within one hour. "Reports will be made available to the patients in an hour and this method will also help patients to reveal the stage of cancer they are at."

What is 'Biopsy'?

For most types of cancer, a biopsy is the main way doctors diagnose it.

During a biopsy, doctor removes a small amount of tissue to examine under microscope.

Other tests can suggest that cancer is present, but only a biopsy can make a diagnosis.

AAI gets IIT-Madras navigation research boost

<https://timesofindia.indiatimes.com/city/chennai/aai-gets-iit-madras-navigation-research-boost/articleshow/64300507.cms>



Indian Institute of Technology Madras will help indigenise and improve air navigation systems under an MoU it signed with the Airports Authority of India (AAI) on Wednesday.

The institute and AAI will, as part of the agreement, conduct joint research to specifically address aviation infrastructure through domestic manufacture of navigation equipment and meet air traffic management challenges at airports in the country.

Ravindra Gettu, dean, Industrial Consultancy and Sponsored Research (IC&SR), IIT Madras, and A K Dutta, member, Air Navigation Services (ANS), AAI, signed the MoU.

The agreement will involve transfer of knowledge by IIT Madras in areas such as mathematical, analytical and data mining solutions as well as artificial intelligence, which are essential to research. It will also open up many areas in aviation to startups and industries to manufacture products under the Make in India policy. IIT researchers will have access to AAI aviation data.

As part of its ambitious ANS upgrade plans and the need to develop in-house capabilities with an efficient R&D system that supports ongoing indigenous initiatives, AAI has established a state-of-the-art Civil Aviation Research Organisation in Hyderabad. Collaboration with premier educational institutions is one of the elements that AAI envisages in R&D.

AAI manages 125 airports and provides ANS across 2.8 million square nautical miles of air space. It has been taking up ANS and airport infrastructure modernisation plans to keep pace with an exponential growth in air traffic.

“IIT Madras is eager to partner with AAI to bring in innovation in airport and navigation management to address challenges in India’s aviation sector,” IIT Madras director Bhaskar Ramamurthi said.

Ravindra Gettu said the MoU would provide synergy of capabilities of both the organisations in their respective domains, paving the way for mutually beneficial and lasting solutions. “This MoU is also expected to facilitate access to crucial data relating to air traffic for researchers of IIT Madras,” he said.

Noting that AAI manages around 130 airports and is the sole service provider of ANS, AAI chairman Guruprasad Mohapatra said, “It is high time that we focused on developing excellence in these fields through innovation and adoption of technologies to provide enhanced efficiencies and safe passenger and aircraft movement.”

Through the MoU, IIT Madras’ IC&SR, which plays a vital role in bringing together faculty members and experts from the industry, will collaborate with AAI to embark on joint research programmes that experts expect will benefit aviation systems and technology as a whole.

The AAI has made earlier attempts to encourage in-house experts to indigenise air navigation systems because it currently buys expensive equipment from abroad.

IIT-Goa to sport fully automated assembly line

<https://timesofindia.indiatimes.com/city/goa/iit-go-to-sport-fully-automated-assembly-line/articleshow/64310630.cms>



The Indian Institute of Technology (IIT), Goa, which is in the process of tweaking its curriculum, will set up a fully automated assembly line on campus. The assembly line, which will use robotics, is aimed at making its BTech programme more hands-on, institute director Barad Kant Mishra told TOI.

Although it was established just two years ago, IIT Goa is already looking at keeping its curriculum up to speed with industry needs.

“We are also in talks with our sister IITs and will work with them on long-term projects. We will set up a small workshop on campus. Our students are already getting exposure to the industries at Verna industrial estate. Assembly lines are fully automated today and we want to prepare our students for the constantly changing technologies in the industry,” Mishra said.

IIT-Goa began operations in July 2016, offering BTech courses in the streams of mechanical engineering, computer science, and electrical engineering, each with an intake of 30 students. It will introduce a fourth BTech degree in mathematics and computing from the 2018-19 academic year, and has already invited applications from aspiring PhD candidates for around 20 research scholar positions.

The IIT is currently operating from its temporary campus within the complex of the Goa Engineering College at Farmagudi, and is set to get land for a permanent campus in Cotarlim, Sanguem.

May 24

IIT-Kanpur signs Rs 15 crore deal to develop flying taxis in India

<https://theprint.in/science/iit-kanpur-signs-rs-15-cr-deal-to-develop-flying-taxis-in-india/61449/>

Premier institute hopes to have viable prototype in next 5 yrs, to depute students on project.

Researchers at IIT-Kanpur have signed a Rs 15-crore MoU with a private company to develop functional prototypes of vertical takeoff and landing (VTOL) craft, which have the potential to be used as flying taxis.

The deal, signed this month with VTOL Aviation India Pvt Ltd, will see the IIT-Kanpur researchers conduct a feasibility study before embarking on the project through which they hope to build a viable prototype within the next five years.

“We will establish proof of concept and identify the key technology areas,” said Ajoy Ghosh, who heads the Aerospace Engineering and the Flight Lab at the institute. “There will be over a 100 students working on this in the coming years,” he added.

The VTOL craft are being seen as the futuristic solution to ease traffic congestion in major cities. Owing to their immense flexibility of being able to take off and land on any terrain, they could potentially solve several civilian and military logistical problems of today.

What is VTOL?

VTOL craft are defined as those that can take off vertically, hover, and land much the same way. They are of two types — rotorcraft that have rotating blades such as helicopters, quadcopters, and drones, and the powered lift types that are eponymously powered by engines.

Though less common, the second type of powered lift craft also exist in militaries worldwide. Russia’s Yak-38 was one of the earlier VTOL versions until production was stopped in the early 80s. The US has in its force, the famous V-22 Osprey, an amalgamation of powered lift and rotary action, while the Harrier Jump Jet, is used by both Britain and the US.

What are its advantages and disadvantages?

Theoretically, VTOL craft have unending advantages: they can take off and land anywhere, on any terrain, in any part of the world. They can perform manoeuvres that are impossible with traditional aircraft — a big advantage for air combat and rescue. Powered engines can also be much more cost-effective than jet fuel and traditional automobile fuel.

However, developing VTOL craft has so far been confined to the military due to the cost required for development. Even then, the trade-off between the escalating costs and safety concerns have brought production of most models to an end.

For civilians, the best use of such vehicles would be as taxis and air travel. Uber has previously announced its plans for UberAIR through which it intends to launch VTOL taxis in 2023. Munich-based Lilium aims to create electric taxis that have already been tested in Germany. Airbus and NASA are also designing their versions of flying cars.

What does IIT-K intend to do?

The collaboration between IIT-K and VTOL Aviation India is looking at developing functional prototypes within five years. But simply developing the technology is not just all.

Introducing a completely new mode of transportation will require cooperation from various authorities and civic bodies, extending up to policy changes, the researchers said. “Air traffic regulations need to be calibrated accordingly,” explained Ajoy Ghosh. This will include working with the aviation authorities in India, at the very least, to lift restrictions on the use of airspace.

The proposed craft will most likely use a ducted fan, much like commercial airplanes. It will be clean as it will use electric power. “We are also designing a hybrid propulsion system for high reliability and endurance,” said Ghosh. A hybrid system will use fuel and batteries as well.

IIT-K’s aerospace department has one of the country’s leading state-of-the-art facility when it comes to research in aerospace and propulsion. It contains wind-tunnels and flight labs capable of testing aircraft. The development of such a prototype could be quite revolutionary if realised effectively, bringing in drastic changes to our transportation laws and connectivity.

May 23

From this academic session, universities likely to offer online degree courses

<https://www.hindustantimes.com/education/from-this-academic-session-universities-likely-to-offer-online-degree-courses/story-jNluEW3QQi8cCydbO3NooM.html>

Any higher education institution will be able to apply to offer online programmes if they have been in existence for at least five years and are accredited by the National Assessment and Accreditation Council, says the UGC draft regulation.



Once the draft regulations are approved by the Commission, the UGC will start accepting applications for starting these courses by July.

From this academic session, universities and higher educational institutions are likely to offer graduate, post graduate and diploma programmes online, with the University Grants Commission (UGC) all set to approve draft regulations for the online delivery of such programmes.

According to people familiar with the matter, these draft regulations will be tabled in the meeting of the commission to be held on Thursday.

Under the draft UGC (Online Education) Regulations, 2018, any higher education institution will be able to apply to offer such online programmes if they have been in existence for at least five years and are accredited by the National Assessment and Accreditation Council, with a minimum score of 3.26 on a 4-point scale to maintain quality. At the same time, they should have been in the top-100 in the overall category in the National Institutional Ranking Framework (NIRF) for at least two years in the previous three years. "However, this will not be applicable to Open Universities till NAAC or similar accreditation system or NIRF are made available for open universities," the draft regulations add.

The institutions can offer online programmes in those disciplines in which it is already offering the same/similar programmes in regular or open and distance learning. "The delivery of the programme will be through the SWAYAM portal of the government under which online courses are offered," the draft regulations add.

Once the draft regulations are approved by the Commission, the UGC will start accepting applications for starting these courses by July.

Institutions will be able to offer online degrees in all fields, except engineering, medicine, dental, pharmacy, nursing, architecture and physiotherapy.

At present, the commission does not recognise any course offered solely through the online mode. A student can get a degree by enrolling in a university and attending classes or through a distancing-learning module. From last year, the government has allowed universities to offer 20% of their course material through the Massive Open Online Courses (MOOCs) platform called Swayam. Currently, degrees obtained exclusively through an online programme are not recognised.

A number of private universities do offer online degrees but not many students opt for them as they are not recognised by UGC.

The initiative gains significance as it will allow many students and working professionals to undertake courses and degree programmes which will help the country improve its overall Gross Enrollment Ratio (GER) in higher education. India aims to attain a GER of 30% by 2020 from the current 25.2%.

"World over, online degrees and courses are offered by colleges and they have gained respectability. Students will not be required to attend classes but will take e-tutorials to help them understand the concepts," said a senior government official.

Apart from the actual programme delivery, components such as the counselling and admissions process, and fee payment will also be provide online.

“Online courses must be conducted truly online in the sense that registration, two-way video streaming for content learning and student interaction, availability of quality online content, assessment and certification all activities must be online,” said SS Mantha, former chairman of All India Council for Technical Education.

“This needs high end technology to prevent proxy students. If all this is done, and wherever required, if hands-on skills are imparted, then online education will have the potential to raise the GER,” Mantha added.

IIT slammed over move to redesign its courses

<https://www.deccanchronicle.com/nation/current-affairs/220518/iit-slammed-over-move-to-redesign-its-courses.html>

Many suspect Centre may attribute discoveries to Vedas.



The IITs say it is for holistic development of engineers and to boost innovation, research in classical music, art forms and architecture.

Several people raised issues on social media platforms against the IITs decision to redesign courses to include credits for arts and humanities, including appreciation of creative arts. The IITs say it is for holistic development of engineers and to boost innovation, research in classical music, art forms and architecture.

The move came in for criticism after Niti Aayog CEO Amitabh Kant ,tweeted that he was delighted that IITs are redesigning their courses.

In response, Arun Purohit put out a tweet saying, “Dear Mr Kant IITs and IITians are already doing wonderful. If you can do something do something for govt schools which stink like shit and no self respecting parent including bureaucrats will send their kids to them in worst nightmares (sic)”.

A fourth-year PhD student in philosophy from IIT Bombay said, “I must say that I am suspicious of the government’s intention here, given the fact that that it has damaged the education system enough by trying to rewrite history and blindly glorifying the past by attributing many discoveries of modern science and technology to Vedas and Upanishads. None other than the PM stated that genetic science existed in ancient times. The government is so obsessed with the past that it hinders the path towards the future. I hope the government’s decision is not to do that.”

He added that arts, humanities and creative arts subjects have definitely a lot to do with being human. “They introduce reflexivity, push towards inclusivity and appreciate taste and delight in independent ideas and thoughts. They make us dare to think and criticise which, after all, is the basic point of education,” he said.

IIT Roorkee alumni Achuth Menon said, “They are introducing these courses not because they want to reduce the quality of technical education provided by IITs but to increase the effectiveness in real life. Often times, graduates from these institutions excel in technical work but often fall short on the people front.” He said by introducing these courses, the institutions were providing students with training on the people side to be more effective leaders. “The reason they are picking up IITs is entirely based on the calibre of the students.”

IIT-Kharagpur student Akash Boda, a Telugu student, said the main aim behind the course was to increase the value by adding them first in the prestigious colleges and then introducing them in government schools and colleges.

‘Premature deaths linked to worsening air quality’

<http://www.asianage.com/metros/delhi/230518/premature-deaths-linked-to-worsening-air-quality.html>

Polluting air choking lungs of city residents, claims IIT study.



World Health Organisation

High number of pre-mature deaths are being recorded in the country, owing to worsening air quality in the last two decades, said a study conducted by IIT-Delhi.

The study titled “Know What You Breathe”, said that the level of Particulate Matter (PM) 2.5 is more than two times of its National Annual Standard and eight times of the WHO’s annual permissible limits in all the studied cities with the exception of Ranchi, capital of Jharkhand.

The study was conducted with the support of the Centre for Environment and Energy Development (CEED) and has found that the annual mortality is in the range of 150-300 persons per year for every one lakh population in the urban areas of Uttar Pradesh, Bihar and Jharkhand.

The researchers studied the annual mean PM 2.5 concentration for 11 north Indian cities using the satellite data of the last 17 years.

Out of these 11 cities, eight are also listed in the global air quality assessment report of the World Health Organisation (WHO) titled ‘Global Ambient Air Quality Database (2018)’.

“We are witnessing a public health emergency in our cities as polluting air is choking our lungs. State and Union governments need to take note of this alarming situation and create national clean air action plan which is ambitious, effective and focuses on time-bound implementation,” Abhishek Pratap, Programme Director of the CEED said.

The study found that level of PM 2.5 exposure was moving downward from west to east of the Indo-Gangetic plain with the highest proliferation in Varanasi, while the slowest was in Ranchi. The report has indicated an increase of 28.5 microgramme per cubic metre in PM 2.5 in the last 17 years in Varanasi.

Along with Varanasi, the rate of increase of PM 2.5 is 'alarming' in cities like Meerut, Agra, Lucknow, Gorakhpur and Patna while its 'Moderate' in Kanpur, Allahabad and Gaya. In Muzaffarpur, the rate of PM 2.5 increase is somewhat comparable to Ranchi.

The post-monsoon (October-November) and winter (December-February) seasons have high pollution exposure due to calm weather and lower atmospheric boundary layer, said the study.

The report also stressed on the need of public awareness, inter-state coordination and efficient regional clean air action plan for the Indo-Gangetic plains, along with source apportionment study, for each city as some plausible action agenda for improving air quality in these cities.

JEE Advanced 2018: जेईई एडवांस्ड का प्रश्नपत्र वेबसाइट पर अपलोड

<https://www.livehindustan.com/career/story-jee-advanced-2018-six-jee-advanced-papers-uploaded-on-the-website-1971542.html>



जेईई एडवांस्ड 2018 का प्रश्नपत्र वेबसाइट पर अपलोड कर दिया गया है। फिजिक्स, केमिस्ट्री और मैथ्स तीनों प्रश्नपत्रों में तीन सेक्शन थे। पहले और दूसरे सेक्शन में क्रमशः छह और आठ सवाल पूछे गए थे। दोनों सेक्शन 24 अंकों के थे। तीसरा सेक्शन 12 अंकों का था जिसमें दो सवाल पूछे गए थे।

उधर, आईआईटी प्रशासन ने कहा है कि संख्यात्मक प्रकार के प्रश्नों के अंकों के मूल्यांकन का निर्धारण कर दिया गया है। सवाल के आधार पर, प्रश्नों का मूल्यांकन करके मूल्यांकन किया जाएगा कि क्या उम्मीदवार द्वारा दर्ज किया गया उत्तर प्रश्न के आधार पर सीमा के ऊपरी और निचले मूल्यों के साथ या बिना दो मानों की सीमा के भीतर आता है।

यदि कोई जवाब पूर्णांक 11 (ग्यारह) है, तो 11, 11.0 या 11.00 के रूप में दर्ज सभी उत्तरों सही होंगे। यदि कोई जवाब वास्तव में संख्या 11.5 है, तो 11.5 या 11.50 के रूप में दर्ज सभी उत्तरों सही होंगे। यदि कोई जवाब संख्या 11.36777777 है ..., सभी उत्तरों एक निर्दिष्ट सीमा के भीतर

दर्ज किए गए हैं, उदाहरण के लिए 11.36 से 11.37 सही होगा। इस प्रकार दोनों उत्तर 11.36 और 11.37 सही होंगे।

May 22

For JEE (A) questions sans multiple choices, IIT will evaluate with care

<https://timesofindia.indiatimes.com/city/mumbai/for-jee-a-questions-sans-multiple-choices-iit-will-evaluate-with-care/articleshow/64265196.cms>



MUMBAI: A day after students were stumped by the new type of JEE (Advanced) questions, IITs issued a clarification that came as a relief of sorts for many. On Monday, IIT-Kanpur, the IIT that organized JEE (A) 2018, stated that students' answers for questions which did not have multiple choices will be evaluated depending on the question.

TOI, on Monday, reported that a major component—close to 45% of the 54 questions in each of the paper I and II of in JEE (Advanced)—had numerical answer-type questions which did not have multiple choices. While these questions appeared in the earlier editions of JEE (A) as integer-type questions, an answer range of 0-9 was provided. So, students had the option of re-calculating if they arrived at an answer out of the range. In the earlier tests, the numbers of such questions were restricted to 15. This year, not only did the questions increase to 48, there was no range provided. The students were also asked to round off answers up to the second decimal place.

Praveen Tyagi, MD of a coaching institute, said based on students' feedback, he felt that IITs should have ideally tested them on conceptual clarity, innovative thinking, speed, etc and not on decimal accuracy. "For almost 50% of questions in each of the papers, we had to calculate up to the third decimal and then round off and get two accurate decimal places. It has left most of us uncertain about our answers," said a student.

On Monday, IIT-Kanpur's statement stated, "For numerical answer-type questions, the numerical value entered by the candidate will be evaluated. Wherever applicable, depending on the question, answers will be evaluated by checking whether the answer entered by the candidate falls within a range of two values, with or without including the upper and lower values of the range depending on the question."

Some of the examples given by IIT-Kanpur are: If an answer is the integer 11, all answers entered as 11, 11.0 or 11.00 will be correct, if an answer is exactly 11.5, all answers entered as 11.5 or 11.50 will be correct, and if an answer is 11.36777777..., all answers entered within a specified range, such as

from 11.36 to 11.37 (this range is shown for illustration purposes only) will be correct. Thus, both answers 11.36 and 11.37 will be correct, said the statement.

In a separate statement, IITKanpur said there were issues related to responsibilities entrusted to a third party such as location and ambience of centres along with infrastructural challenges related to electric supply and networking were reported. "IIT authorities are properly investigating the matter," it said .

IIT--Kharagpur, Oxford develop technology for water treatment

<https://economictimes.indiatimes.com/news/science/iit-kharagpur-oxford-develop-technology-for-water-treatment/articleshow/64267236.cms>

Researchers at Indian Institute of Technology-Kharagpur and University of Oxford have developed a low-cost technology to treat water contaminated with arsenic.

In this new method, water is chemically treated by activating naturally available laterite that acts as an adsorbent to filter arsenic. The department of science & technology as well as the West Bengal public health engineering department and West Bengal arsenic task force have already accepted the technology.

Arsenic contamination of ground water is a major health hazard and West Bengal is one of the Indian states affected by this problem. "The low cost of the filter makes it ideal for the socio-economic conditions of our country. Filtered water can be produced at just 2 paise per litre," said Sirshendu De, a professor at the department of chemical engineering, IITKharagpur.

The collaborative research with University of Oxford includes efficient design of large scale filters based on strong foundation of modelling from first principles. The Oxford team worked on the mathematical modelling techniques to predict the extent of arsenic contamination through the filtration bed and performance of the adsorption medium.

By combining mathematics with experiments and field data, the team helped predict how the filter performs in large scale, enabling the commercial deployment of these new heavy-metal filtration technologies.

"The unique advantage is that the applicability of the model is not only limited to the arsenic filter but can also be extended to any adsorption-based separation process," said Raka Mukherjee Mondal of the Mathematical Institute, University of Oxford.

IIT-Kgp to decode climate change-squall link

<https://kaplanherald.com/2018/05/21/iit-kgp-to-decode-climate-change-squall-link/>

KOLKATA: Following a sharp increase in the number of thunderstorms, squalls and nor'westers since March, scholars at are now studying them to know if there has been a major climate in Bengal in the last 100 years.

Scientists of the Centre for Oceans, Rivers, Atmosphere and Land Sciences (CORAL), a geo sciences

school of IIT-Kharagpur, have been asked by the department of science of technology to study climate change keeping the focus on the frequent thunderstorms. According to the, the number of thunderstorms/squalls and nor'westers that have hit Bengal since March is 29.

"It's indeed alarming. Between 2006 and 2010, the number had dwindled and Bengal got only a handful of squalls, but the number picked up after that. This year, however, it has reached the level of a phenomenon," said ANV Satyanarayanan, head of CORAL. There are two matrices that are being studied carefully in the context of (CAPE) and (CIN). "These two weather phenomenon come into play to cause nor'westers. When CAPE is high and CIN is low squalls happen. In case of Bengal, there is a situation now when CAPE is very high and CIN is very low, causing so many nor'westers so frequently. This is a clear indication of uneven heat pockets that are being created because of pollution and greenhouse gas emissions among other things," Satyanarayanan said.

Researchers have observed that while in Gangetic West Bengal formation of convective clouds is routine, of late the height of the clouds often go up to 25 kilometres, as a result of which the disturbances are widespread. They are also studying the compartments inside these clouds that have up and down drafts of breeze that quicken the disturbance.

"We are using weather data from global models to plot our graphs. Once our study is over, we will also be able to indicate how number of winter days is decreasing in Bengal and that of summer days is rising," Satyanarayanan said. The team is studying data of the past 100 years so that it can present a projection till 2050. The report should be ready by the end of 2018.

May 21

JEE Advanced 2018: IIT Kanpur to Release Question Paper Soon; Result Expected On June 10

<https://www.ndtv.com/education/jee-advanced-2018-paper-analysis-question-paper-result-expected-on-june-10-1854936>

JEE Advanced 2018 exam was successfully conducted on May 20, 2018. The exam was conducted in computer mode entirely.

NEW DELHI: JEE Advanced 2018 exam was successfully conducted on May 20, 2018. The exam was conducted in computer mode entirely. This year the exam was organized by IIT Kanpur. The exam comprised of two papers and experts have claimed that the exam was moderate to easy. The organizing committee will soon be releasing the master question paper for the online exam which will be followed by exam answer key soon. The result for JEE Advanced will be declared on June 10, 2018.

The question papers were objective in nature and had 54 questions each. The types of questions included multiple options, numerical value where students had to round off the answer to upto two decimal places, and match the following type questions.

Students were divided about the difficulty level of questions. While some found the Mathematics

questions easy, others thought that Mathematics was tough while Chemistry and Physics was easy. Most students also found paper 2 to be lengthy.

According to Mr Venkata Ramana, Head of JEE exam, Hyderabad, T.I.M.E., the Paper 1 was moderate this year.

Prof. Udaynath Mishra, Chief Academic Officer, Basic First, said, ""In Paper 1, Physics was tough and Maths and Chemistry were easy. Overall paper 1 was of Moderate difficulty level with more weightage from class 12th syllabus. In Paper 2, Mathematics was found tough, while physics and chemistry were easy. The Total marks of each Paper was reduced from 183 to 180. Integral questions were more compared to last year and questions interlinking two or more topics were also more than last year."

Prof. Udaynath Mishra has also predicted that candidates would need 125+-5% to make it to the common rank list.

JEE Advanced 2018: New component stumps IIT aspirants

<https://timesofindia.indiatimes.com/home/education/news/jee-advanced-2018-new-component-stumps-iit-aspirants/articleshow/64254533.cms>



In an attempt to ensure good quality of students enter their premier institutes, the IITs upped their game this year. JEE (Advanced) 2018 stumped thousands of aspirants on Sunday with the IITs introducing a major component on non – MCQs (multiple choice questions also termed as numerical-answer type questions) in the question papers – paper I and paper II. In almost 45% of the 54 questions in each of the paper, students had to arrive at a numerical value and no range was provided.

Last year, section 2 in each of the three subjects in paper-I had five questions which had a single-digit integer ranging from 0-9, as answer. This year, section 2 in each of the three subjects in paper I and II had answers in numerical values - with no range. And students were told that they had to enter the correct numerical value (in decimal notation, rounded off to second decimal place, eg 6.25, 7.00,-127.30, 30.27). While last year the integer-type questions were only 15 in numbers, this year the similar set were 48 of the 108 questions.

“The IITs did not give a limited range which helped students to cross-check their answers. Last year, the numerical values were supposed to be between 0-9. So, if students got anything other than these 10 digits, they re-calculated to get the right answer. This year, answers could have been in

negative too. The Quality of questions were definitely better than the previous years," said Aditya Singh, one of the aspirants. Since he was prepared for such questions he found the paper to be moderately difficult and was not baffled, like many others, he added.

Another aspirant Bhaskar Gupta said, "The questions which did not have multiple choices were also more in numbers. Mathematics was particularly tougher than physics and chemistry. The questions were not difficult, but the calculations were lengthier. The paper was tougher compared to 2017." Vinay Kumar, MD of a coaching institute, said: "Many found the mathematics paper to be more difficult than chemistry and physics...Overall, the paper was difficult as anticipated." Ramesh Batlish, an expert from FIIT-JEE, said some students found the mathematics paper to be difficult, but their students were prepared for the non-MCQs. "The only relief was that these questions did not carry any negative marking," said Batlish. NO errors were reported, as the question papers were not uploaded by the IITs till late night.

"Most found the mathematics paper to be more difficult than chemistry and physics. The partial marking scheme was continued even this year. Overall the paper was difficult as anticipated. The cut-offs could fall," said Vinay Kumar, MD of Rao IIT Academy.

A JEE (Advanced) official said, "Students should focus on the syllabus while preparation and not on the type of questions they will be asked. IITs are taking conscious efforts in the last few years to ensure good quality students are picked and not the ones who answer the questions by eliminating the wrong answers or by plain guess work. If the students are prepared well, they should be able to attempt any type of questions. We had to ensure a certain quality in the question paper is maintained."

Of the 1.65 lakh students who registered for the test, 1.57 lakh appeared for paper-I. Additionally, 2,400 students dropped out of the race for IIT seats, by skipping paper-II in the afternoon session. The highest numbers of candidates – 36,169 - appeared from IIT-Madras zone, followed by IIT-Delhi and IIT-Bombay zones. JEE (Advanced) went online for the first time. However, unlike other online tests, IITs did not face major teething problems. The exam was conducted smoothly at 572 of the 573 centres. At one centre in Bangalore, the exam started two hour late due to a local technical problem, but students were given extra time and also refreshments. In some centres in Mumbai, students had to face 10-15 minutes of inconvenience due to power failure, said MD of another coaching institute, Praveen Tyagi. However, the system did not off turn off due to the power failure. "Students found the paper very tough and a major component where the answers had to be rounded off to two decimal points has left many students in dilemma," said Tyagi.

JEE Advanced 2018: 17000 से ज्यादा स्टूडेंट्स ने छोड़ दी परीक्षा

<https://www.livehindustan.com/career/story-over-17000-candidates-skip-jee-advanced-1969835.html>

JEE Advanced 2018: भारत के प्रतिष्ठित आईआईटी संस्थानों में दाखिला दिलाने वाली जेईई एडवांस्ड परीक्षा रविवार को देश के 573 केंद्रों पर आयोजित की गई। लेकिन करीब 17000 से ज्यादा स्टूडेंट्स ने परीक्षा छोड़ दी। जेईई एडवांस्ड परीक्षा की आयोजन समिति के चेयरमैन प्रोफेसर शलभ

ने कहा कि 7,326 उम्मीदवारों ने पहला पेपर छोड़ दिया और 9,731 ने दूसरा पेपर नहीं दिया। ऐसे में 1,64,822 रजिस्टर्ड उम्मीदवारों में से 17,057 ने परीक्षा नहीं दी।

रविवार को देश के सभी केंद्रों पर शांतिपूर्वक परीक्षा आयोजित हुई। किसी भी केंद्र से चीटिंग की कोई बड़ी खबर नहीं आई।

जेईई एडवांस परीक्षा में पास होने वाले छात्रों को अलग अलग आईआईटी में करीब-12 हजार सीटों पर प्रवेश मिलेगा। इस परीक्षा का परिणाम 10 जून को घोषित किया जाएगा। अबकी बार परीक्षा ऑन लाइन हुई।

परीक्षार्थियों ने अनुभव सांझा किए

धुव सिंह ने कहापेपर काफ -ी कठिन रहा। पिछले वर्ष से मुकाबले काफी सवाल हल करने में काफी मुश्किल हुई। अधिकतर प्रश्नों को करने में काफी समय लगा।

आकाश ने कहापहला भाग काफी कठिन था। रसायन विज्ञान के प्रश्नों को करने में काफी पेपर का - समय लगा। जिस प्रकार से तैयारी की थी, उस हिसाब से पेपर कठिन था।

प्राची भारद्वाज ने कहापेपर में आए सभी प्रश्न कठिन थे। इसमें गणित के सवालों को करने में - ठीक थे। समय लगा। भौतिक विज्ञान के प्रश्न लगभग

सक्षम ने कहापेपर में सभी प्रश्नों को करने में काफी समय लगा। अबकी बार प्रश्न उलझाने वाले - थे। गणित के प्रश्न कठिन थे पर रसायन ने ज्यादा उलझाया।

आईआईटी धनबाद में निशुल्क जांच शिविर का आयोजन:

<https://www.livehindustan.com/jharkhand/dhanbad/story-conducting-free-inquiry-camp-at-iit-dhanbad-1969566.html>



1 / 2 उन्नत भारत अभियान के तहत सेंटर ऑफ सोसाइटी मिशन के तहत एक दिवसीय निशुल्क :
...जांच शिविर का आयोजन आईआईटी धनबाद के स्वास्थ्य केंद्र में किया

उन्नत भारत अभियान के तहत सेंटर ऑफ सोसाइटी मिशन के तहत एक दिवसीय निशुल्क जांच :
शिविर का आयोजन आईआईटी धनबाद के स्वास्थ्य केंद्र में किया गया। हेल्थ कैंप का उद्घाटन
प्रो राजीव शेखर ने किया। मौके पर रजिस्टार प्रो एमके सिंह थे। रविवार आईआईटी धनबाद के निदेशक
को आयोजित स्वास्थ्य केंद्र में डाअशोक तालपात्रा ., डाप्रवीण कुमार ., डाजय कुमार ., डाएमके दुबे .,
डाएसएन शर्मा ., डासंजय राय ., डा .अलका ने मरीजों का ईलाज किया। मौके पर डा .रश्मि एवं डा .
सए साहू, डाए सी एस राव ., रंजीत थे।

IIT-K establishes country's first centre for energy regulation

<https://www.hindustantimes.com/lucknow/iit-k-establishes-country-s-first-centre-for-energy-regulation/story-wDQzrH8Lsbpp27TX7bIPgL.html>

The Indian Institute of Technology (IIT-K) has set up first of its kind Centre for Energy Regulation in the country to strengthen policy and regulatory limitations in energy and power sector.



The centre was set up with assistance of the UK Government.

The Indian Institute of Technology (IIT-K) has set up first of its kind Centre for Energy Regulation (CER) in the country to strengthen policy and regulatory limitations in energy and power sector.

PK Pujari, chairperson, CERC unveiled the centre's logo and its web portal at the launch ceremony held in New Delhi on May 17.

Anoop Singh, an associate professor in the department of industrial and management engineering at IIT-K and the coordinator of CER, said the centre was set up with assistance of the UK Government. It would adopt innovative approach to engage with stakeholders in the power sector, especially the electricity regulatory commissions, electric utilities and the academia. The centre would also develop a regulatory database to enable stakeholders in taking more informed decisions. The online learning modules and tools would help enhance understanding of the regulatory and policy aspect for the beginners as well as advanced learners and the centre's output can later be accessed from its web portal cer.iitk.ac.in.

AK Bhalla, secretary, ministry of power, said the centre was expected to play a key role in providing independent advisory on the policy and regulatory matters. The sector would be benefited by the

centre's activities, particularly regulatory research based on its knowledge base comprising regulatory database and learning tools, he added.

Also present on the occasion were RC Bhargava, chairman, board of governors, IIT Kanpur and Gavin McGillivray, head of the department for international development (DFID) India.

Russia can help India in nuclear medicine, says Indian expert

<https://www.thequint.com/hotwire-text/russia-can-help-india-in-nuclear-medicine-says-indian-expert>

Given the current high costs of making radioisotopes used in nuclear medicine, there is considerable scope of collaboration between India and Russia for their manufacture at affordable cost, according to an Indian expert.

Chandigarh-based Postgraduate Institute of Medical Education and Research (PGIMER) Professor Baljinder Singh told IANS here on the sidelines of the just-concluded 10th Atomexpo organised by Russian state nuclear energy corporation Rosatom that such cooperation has become essential in view of the global shortage of molybdenum, isotopes of which are used in tens of millions of medical diagnostic procedures annually.

The molybdenum isotope ^{99m}Tc , for instance, is the most commonly used medical radioisotope worldwide.

"The molybdenum daughter radionuclide ^{99m}Tc is used the world over for imaging on gamma cameras," Singh said.

"Most nuclear reactors have molybdenum as a by-product -- there is a shortage of which globally."

Singh, who is a jury member at the Atomexpo2018 for selecting the best research projects in the category "Nuclear Technologies for better Healthcare", pointed out that as a leader in civilian nuclear technology, India is among a few countries making "significant" efforts to produce radioisotopes.

"India has made significant strides in this direction and the task of developing linear Accelerator (IINAC) technology has been undertaken by Sameer (Society of Applied Microwave Electronics and Engineering and Research) located in IIT Mumbai," he said.

"It is a Rs 100-crore project being funded by the Telecommunications Ministry. Apart from India, Canada and Russia are the only other countries undertaking advanced level research in this area."

According to him, in view of the importance of nuclear medicine in early detection of cancer and the recent emergence of new radionuclides for effective treatment, an effort is needed in India to provide these at an affordable cost.

"Developed countries like the US and Japan have about four PET (positron emission tomography) scanners per million population followed by Europe at 2, and Australia at 1.6 per million. India scores very low with 0.1 PET scanners per million population," Singh said.

"To have a reasonable ratio of 1 PET scanner per million population over the next ten years, India needs about 1,400 PET scanners and an equal number of gamma cameras."

He suggested that through tie-ups with Russia, India could arrange to be supplied with such imaging equipment at affordable cost.

Singh's wish list at this Black Sea resort includes a collaboration with Russia in human capacity building in this area.

"We urgently require international collaboration on radiopharmacy training, as there is no such facility in India."

Partnering with a foreign institute having nuclear facility for production of medically useful radioisotopes, and radiochemistry training are required urgently as we have no such course in the country as yet," he said.

"Panjab University, Chandigarh, has taken a lead in starting an M.Sc Nuclear Medicine programme in 2007, jointly with PGIMER."

Singh is hoping that his agenda would figure in the summit between Prime Minister Narendra Modi and Russian President Vladimir Putin scheduled to take place here next week.

May 20

IIT-Bombay's solar-powered house to shine in China competition

<http://indianexpress.com/article/education/iit-bombays-solar-powered-house-to-shine-in-china-competition-5183736/>

Shunya House is the only entry from India into the Solar Decathlon 2018 — a collegiate competition by the US Department of Energy and China National Energy Administration, where 10 contests would challenge student teams to design and build full-size solar-powered houses.



'Shunya House' was inaugurated by IIT-Bombay Director Devang Khakhar on Friday.

FOR A team of 60 students from the Indian Institute of Technology (IIT), Bombay, two years of hard work bore fruit on Friday afternoon with the inauguration of the 'Shunya House' — a fully-furnished three-room house that has zero requirement of energy. Shunya, short for 'Sustainable Habitat for an Urbanising Nation by Young Aspirants', is an 1,800-square-foot state-of-the-art apartment, which can accommodate six persons.

“This is a hybrid house. So, it can be altered to suit whatever the client could want. Unlike regular houses, it is composed of steel and not concrete, which increases its life and reusability,” said Shivram G Krishnan, the operations manager of the team. Shunya House is the only entry from India into the Solar Decathlon 2018 — a collegiate competition by the US Department of Energy and China National Energy Administration, where 10 contests would challenge student teams to design and build full-size solar-powered houses.

On July 1, the team is expected to leave for Dezhou in China, where the competition begins on June 9. As part of the competition, the teams would have to set up the house within 21 days and be judged a jury of three across 10 parameters, including communication, comfort, engineering and construction. Devang Khakhar, Director of IIT-Bombay, inaugurated the house on Friday and described it as “a tremendous achievement”.

Initially, the team had to face multiple setbacks after the Chinese organisers of the decathlon postponed it by a year due to elections in their country. The team had to be constituted again, as several members had graduated in 2017. “There was a lot of chaos. We had to reconstitute the whole team... only two members from the old team remained after China postponed the competition. We also had to face trouble raising funds,” said Rangan Banerjee, head of the Department of Energy Science and Engineering.

The delay, however, gave the team more time to prepare for the competition, said Feba Varghese, communications head of the team. “We understand that it is a huge competition. We have to compete against teams from 20 countries like Korea, the US, Israel and Korea. However, we are quite positive and hope that we would perform our best,” said Varghese.

“Challenges remain like language barriers and the 16-hour limit on working hours. We also have to ensure that the moral of the team does not go down,” said Krishnan.

GoG sign MOU to set up Centre of Excellence for Internet of Things (IoT) at IIT-Gandhinagar

<https://timesofindia.indiatimes.com/home/education/news/gog-sign-mou-to-set-up-centre-of-excellence-for-internet-of-things-iot-at-iit-gandhinagar/articleshow/64241850.cms>



Gujarat Government's Science & Technology Department's Gujarat Centre of Excellence, NASSCOM and IIT-Gandhinagar (IIT-Gn) signed a MoU to set up a Centre of Excellence for Internet of Things (IoT) at IIT-Gn at a function at Gandhinagar in presence of Chief Minister Vijay Rupani.

Speaking on the occasion, Rupani said that setting up centre is a matter of proud for Gujarat. He said that such centres of excellence for internet of things are there in developed countries which would be available in Gujarat as well, augmenting latter's competitiveness.

This is one of the five such centres being set up by Government of India in the country. The objective is to encourage innovation in startups being set up by young entrepreneurs in the field of agriculture, health, production, etc under the guidance of experts from NASSCOM and IIT-Gn in the midst of highly advanced infrastructure facilities available at the two institutions.

The plan is to set up a unique platform to design digital solutions for Industries 4.0 for wide range of beneficiaries from industry to education, helping entrepreneur interact with companies' policy makers in league with top brass of the industry and the government for technological intervention and IoT use cases in real life.

Those present on the occasion included NASSCOM President Debjani Ghosh, Gujarat Government's Science & Technology Secretary Dhanajay Trivedi, Chief Minister's Secretary Ashwini Kumar and senior officers.

May 19

IITians wield the scalpel for surgical tech edge

<https://kaplanherald.com/2018/05/19/iitians-wield-the-scalpel-for-surgical-tech-edge/>

A handy, sophisticated device for an on-the-spot cervical cancer test. A semi-automatic device that makes liver biopsy simpler. An improvised retractor that facilitates better view and access to delicate inner body parts during surgical procedures. Newer ways to check rejection of stem cells from the affected site.

These are some innovation ideas growing in's bio design programme.

A team of of eight students from biological sciences and bioengineering department of IIT-K is at to interact with doctors to find innovative solutions to complex problems.

"Precision means life in hospital wards and operation theatres," said Virender Singh, a PhD scholar at IIT-K working on a neurosurgical device project.

Adarsh Kumar, who decided to forgo admission in a medical college after a visit to 's plastic surgery department, said, "I then felt that medical profession could be depressing. But now realised that seeing patients smile after long surgeries is indescribable," he said.

Two interns lived their medical college dreams in KGMU. now feels he took the right decision in choosing engineering over medical science. "Its not easy to take this pressure. It's also difficult to cope with strenuous work schedules," remarked Tarun, while Akshay Shendre isn't so sure and slipped into a low initially.

Project coordinator at KGMU Prof said, “The students have listed 70 ideas. The list will be pruned. Finally, 10 ideas will be worked upon either to simplify medical procedures or make them cost-effective.

The KGMU-IITK project draws inspiration from the ‘Stanford University-AIIMS-IIT-Delhi’ collaborative programme launched in 2007. “Our’s is an improvised version with targets and timelines to achieve patented innovations,” said Prof Sethi.

Virender stated, “The interaction with doctors helped us understand what is achievable immediately and what can be done in the long term. The ideas will be translated into prototypes to put into practical usage test before finalisation.”

IITians to get lessons in Fine Arts, Humanities

<https://economictimes.indiatimes.com/industry/services/education/iitians-to-get-lessons-in-fine-arts-humanities/articleshow/64229799.cms>

Not just the principles of science and math, Indian Institutes of Technology will teach lasyas and ragas as well.

The nation’s top engineering colleges are adding music and dances along with other fine arts and humanistic studies to their core engineering courses. The idea is to make future engineers more receptive to society.

To be sure, some IITs have been offering courses in humanities and social sciences for years now. IIT-Madras has five-year integrated MA programmes in subjects like economics and English, while IIT-Delhi offers two-year programmes and Kharagpur teaches even law.

The scale is getting wider now with more colleges integrating such studies to core engineering courses. IIT officials hope this would give future engineers a deeper understanding of human and social values and help them engage more creatively in the development of society.

“It is imperative to have a holistic education for our students. Besides STEM (science, technology, engineering and mathematics), knowledge and appreciation of creative arts is important.

We believe it is this holistic education which will complete the person,” said UB Desai, director of IIT-Hyderabad. At the institute, every semester, students have to pick a credit courses in creative arts, such as introduction to Carnatic or western classical music, theater, pottery and ceramics and Madhubani painting.

IIT-BHU (Varanasi) is redesigning most of its courses to teach humanistic studies through its newly formed Humanistic Studies department. It has handpicked 10 faculty members — all PhDs — for the department. “We are adding humanistic element to our core engineering courses.

Eventually, all courses would have the humanistic studies imbibed,” said director Rajeev Sangal. This, he said, would prepare students to do team work and live with relationships.

Dholavira's water conservation secret is an engineering marvel

<https://timesofindia.indiatimes.com/city/ahmedabad/dholaviras-water-conservation-secret-is-an-engineering-marvel/articleshow/64228386.cms>



As modern Gujarat struggles to find ideas to manage its water resources, it may have uncovered an engineering marvel that helped the Harappan civilization harvest water. A team of geo-technical engineers from IIT-Gandhinagar and an archaeologist from the Archaeological Survey of India (ASI) have been scanning an area of around 12,276 square metres in Dholavira for over a year using Ground Penetrating Radar (GPR).

The team may have discovered a Harappan water-harvesting system. The structures is buried 2.5 metres beneath the ground and located along Manhar river in Khadirbet in Bhachau taluka of Kutch district. This Indus Valley Harappan city flourished from about 3000 BCE to 1700 BCE. The city is sloped westwards, with 48 hectares under fortification and spread over 100 hectares.

The invisible radar signals bouncing off underground structures have revealed an intricate system of interconnected water reservoirs, bunds, channels, drains, and checkdams. The system, the experts surmise, was used for diverting waters from the Manhar river to the eastern reservoir at Dholavira's Harappan site.

Two striking theories about ancient hydraulic engineering of the Indus Valley Civilization have emerged from the GPR data, according to the lead researcher, professor Amit Prashant . "The Harappans possibly knew how to reduce the turbidity of flood flow in the Manhar river by diverting its silt-laden water and letting it pass through a number of interconnected small reservoirs to allow sediments to settle," he said. "Then the water reached the large eastern reservoir for consumption."

Prashant said the other theory was that the Harappans also knew how to control the floodwater thrust by building a system of checkdams along the river, oriented in such a way that it caused minimal damage. "And specially designed water channels reduced the velocity of water before it drained into the main eastern reservoir," Prashant said. He said that the GPR method can help reduce both costs and time involved in such massive excavation operation because it can pinpoint the exact area and depth of excavation.

The IIT-Gn research team consisted of professor Prashant, Silky Agrawal, and Mantu Majumder. The

team included a former joint director general the ASI, Ravindra Singh Bisht, who had carried out several excavations since the 1990s at the site. The research was technically supported by Michel Danino and ancient Indian history scholar Dr V N Prabhakar. “The GPR method can provide a major breakthrough in all future excavations for the ASI,” Prashant said. “We now need to excavate the site to ratify our theories derived from GPR data.”