NEWS CLIPS

December 8-14, 2018

Highlights of the Week@IITD

IIT Delhi Partners With IBM to Develop AI Which Can Reason and Comprehend

December 13, 2018 https://swarajyamag.com/insta/iit-delhi-partners-with-ibm-to-develop-ai-which-can-reason-and-comprehend

IIT Delhi has announced a partnership with AI Horizons Network of IBM in multi-year collaborative research on Artificial Intelligence (AI).

The collaboration will target discovering novel AI techniques which help organisations make informed decisions by being able to reason with their AI systems logically, reports Financial Express.

AI will be trained using complex questions using natural language techniques to obtain new insights.

Currently, an AI system cannot explain its decision-making process. Researchers at IBM and students and professors from IIT Delhi will work together to add new traits in AI like reasoning, comprehension and inferencing.

An example where the above-said developments are required is that when a procurement analyst wants to decide the price of a commodity using AI suggestion, reliability and trust cannot be achieved without knowing the reasons with which AI took the decisions.

The research will benefit healthcare and medicine, finance, and customer support.

Increase in IIT placements a result of aggressive industry outreach: IIT-Delhi director V Ramgopal Rao

December 11, 2018 https://timesofindia.indiatimes.com/home/education/news/increase-in-iit-placements-a-result-of-aggressive-industry-outreach-iit-delhi-director-v-ramgopal-rao/articleshow/67036586.cms

Tech giants offered a package of more than Rs 1 crore to around 10 IITians in the recent campus placement, reports Aakash Kumar

The placement season at the Indian Institutes of Technology (IITs) this year brought good news. An overall increase was seen in the number of students getting placed in world's top companies, with more number of students finding a place in the R&D, electrical, mechanical and computer science sectors.

In the first four days of first placement session, the companies made as many as 3000 job offers, including pre placement offers (PPO) in all the 23 IITs. As compared to 2017, there has been an increase of 30% placements. "This indicates an overall growth in various sectors. The economy is growing and it is reflected in the increasing job opportunities for the students," said V Ramgopal Rao, IIT Delhi Director.

IITs have become quite aggressive in terms of industry outreach in the last two years, which eventually has helped the institutes to study the industry demands and prepare students for the market.

"We are trying to bridge the gap between the curriculum and the industry demands. For instance, this year Industry Day at IIT Delhi had over 300 companies reaching out to students. So, it is a reflection of how we are reaching out to the industry and connecting with closely, which in turn is getting churning out more employment opportunities," he says.

According to reports, a US based company offered a package of Rs 1.52 crore to four IIT BHU students. Microsoft hired at least six students from IIT Roorkee and Kanpur, on an annual package of Rs 1.5 crore. While the officials were reluctant to divulge the details, but they confirmed the high salary offer and good placements were positive indications.

The decision to not reveal the details of the students, says Rao, has been made to avoid undue pressure on the rest of the students.

"By talking about pay packages, we tend to put unnecessary pressure on the students, who wish to pursue careers in other sectors or want to go in for Masters and research," says Rao.Around 70% students opted for core sectors as against IT, which is an optimistic trend seen this year. "Not all

sectors offer similar kind of pay packages. The students must understand that an electrical engineering company will not pay as Google does," adds the director.

"The good news is that 50% job offers made in the first session, were from the core sector. This indicates that the core sectors are seeing a substantial growth." Other than Microsoft, companies such as Optum (SDE), Axtria, Honetwell, Indshine, Tata Communications, Tata Steel, HCL, ZS Associates, Novarites, IVP and Smart Cube, L&T ECC, Amazon, Microsoft, Assanjob have hired students across IITs in this placement session.

IIT-Delhi challenge hopes to solve rural issues via innovation

December 11, 2018 https://www.thehindu.com/news/cities/Delhi/iit-delhi-challenge-hopes-to-solve-rural-issues-via-innovation/article25713806.ece

Winners may seek a seed grant of up to ₹2 lakh per project to carry their ideas forward

To identify problems in rural areas and suggest technical interventions to solve them, the Rural Technology Action Group (RuTAG) at the Indian Institute of Technology-Delhi has announced a design competition.

The competition — Rural Innovative Technohunt — will give students a technical challenge to create an impact in rural areas through innovation.

The institute said the problems can concern areas like agriculture and animal husbandry, village industries, education, health, energy resources, water and sanitation, and other relevant areas.

Announcing the competition, coordinator and principal investigator of RuTAG at IIT-Delhi S. K. Saha said the concept of RuTAG club was introduced a few years ago at the institution in order to expose the students to the technical problems and challenges at the grass-root level.

“In a way, it was a movement for connecting engineering minds with society. The competition will hopefully find a real solution which may be ready to implement,” said Mr. Saha.

The IIT-Delhi said the competition will be held in three stages — concept submission, detailed design, and prototype development.

Up to ₹50,000 funding

The teams selected for stage three will be provided funding of up to ₹50,000 for prototype development in case the product is hardware.

After developing a working prototype, the teams will be required to test it and submit a report.

If the product is a software, the teams will be required to submit a functional software, test the software for realistic situations and submit a report.

In three stages

The teams in stage three will need to give a demonstration of their prototypes on April 20 during the Open House at IIT-Delhi. Winners may also seek a seed grant up of to ₹2 lakh per project from the Design Innovation Centre of IIT-Delhi to carry their ideas forward, the institution said.

IIT Delhi Notifies Recruitment for Institute Of Eminence (IoE) Office

December 9, 2018 https://www.ndtv.com/jobs/iit-delhi-recruitment-2018-for-50-executive-assistant-posts-1959935

Candidates can apply on or before December 20 at iitd.ac.in.

IIT Delhi Recruitment 2018 for 50 Executive Assistant Posts

Indian Institute of Technology (IIT), Delhi has invited application for recruitment to Executive Assistant post. A total of 50 vacancies have been notified by the IIT to be filled up in the Institute of Eminence (IoE) Office. The tenure of the post is one year extendable up to 5 years based on the performance of the candidate. Candidates with, 'Masters degree with 55% marks from a recognized university/ B.Tech with minimum 2 years experience in Project management or in academic administration,' are eligible to apply for the post as per the eligibility criteria set by IIT Delhi.

Apply Online Here For Executive Assistant Post

The recruiting body will give preference will be given to MBA qualifiers from a reputed institute.

Applicants must be below 45 years of age. The last date for submission of application is December 20.

Candidates will be selected through written test which will be based on the data analysis and communication skills. Candidates who score more than 60% marks, in the written test, will be called for group discussion and personal interview.

On the other hand, application process for recruitment to various non-academic posts will end on December 10. IIT Delhi had notified 112 vacancies in November. Candidates, with the required eligibility criteria, who wish to join the institute can apply online now. The Institute will conduct written test / trade test/ computer test for the shortlisted candidates in the phased manner.

December 14

Research scholars threaten stir over poor stipend

https://www.deccanherald.com/national/research-scholars-protest-over-708101.html

Research scholars from higher education institutions across the country have threatened a nationwide protest on December 20 if their demand for a hike in fellowships awarded by the central government is not met.

The research scholars of the Indian Institute of Science (IISc), Indian Institutes of Technology (IITs), Indian Institutes of Science Education and Research (IISERs), National Institutes of Technology (NITs) and other technical institutions want the government to almost double their fellowship/stipend amounts, while the central and state university students are pressing for a hike in non-NET fellowships.

Students currently get Rs 25,000 per month under the junior research fellowship (JRF) scheme, while it is Rs 28,000 for senior research fellowship (SRF).

Under UGC's non-NET fellowship scheme, MPhil students get just Rs 5,000 a month with a contingency of Rs 10,000 per year in the science stream.

The stipend for humanities and social science students is Rs 8,000 per year.

The fellowship amount under non-NET scheme is same for PhD students.

The students are demanding doubling of JRF and SRF amounts and a provision for annual revision. They also want the non-NET fellowships to be on a par with other research fellowships "with immediate and retrospective eect from 2014".

The research fellowship was last revised by the government in 2014.

Students, who have been holding nationwide campaign for hike in fellowships for the last several months across the country, are said to have submitted a memorandum of demands to the Human Resource Development Ministry, Department of science and Technology, University Grants Commission and other organisations of the central government which provides research fellowships.

"Principal Scientific Adviser to the Government of India K Vijay Raghavan, tweeted, mailed and met some research scholars on October 20. Raghavan and the DST secretory told us that they are working on the issue. Till now, we have not received any news from the government side as to when they will increase the fellowships and by what amount," an IISc student told DH.

With no clear response from the government, the students are planning to hold a nationwide protest on December 20. "If our demands are not met, all research scholars in dierent institutes across India will go for nationwide protest on December 20," Sachin Tripathi, a PhD student of the IISc, said.

IIT-Gandhinagar, Japanese students discuss how to teach Amdavadis road rules

https://www.dnaindia.com/ahmedabad/report-iit-gandhinagar-japanese-students-discuss-how-to-teach-amdavadis-road-rules-2695871

Road Safety a police inspector gives a talk on road safety to students on Thursday

Seventeen students of Indian Institute of Technology, Gandhinagar (IITGN), and Japan Advance Institute of Science and Technology (JAIST) are working on solutions that is bugging Ahmedabad city traffic police for months. The students are on a mission to compel Amdavadis to wear helmets, else shell out fine.

All of this is a part of an Indo-Japanese workshop on 'Design intervention for Behavioural Change' which is being held at IITGn.

The aim of the workshop is to find local solutions to problems such as pollution, traffic, gender discrimination and sexism which involve multiple stakeholders.

The students discussed traffic as one of the biggest problems and visited traffic control room to understand the ground situation, said professor Leslee Lazar, coordinator of the workshop.

"DCP Traffic (East and west) Sanjay Kharat and Akshay Raj Makwana, DCP (Traffic) addressed the students. One of the problems were non-compliance of traffic rules and challan payment. Only 25 per cent Amdavadis pay fine. However, in Mumbai 70 per cent people pay fines. Another problem is not wearing helmets. Jaipur witnessed an increased in percentage of helmet use. How do we increase Ahmedabad statistics? Speeding on the road also needs to be tackled," he added.

Eight students and two members of faculty from JAIST, along with 9 students and 2 of the faculty team from IITGn, are working on design solutions.

A first-year post-graduation student of IITGn, Prashanti Ganesh, at Centre for Cognitive Sciences said, "This course is a well-designed one which allows a blend of many disciplines like psychology, neuroscience, philosophy, computation and so on. It encourages interdisciplinarity and intense research outputs. The course also provides multiple opportunities to learn cognitive science and

solve real-life issues. Our trip to the traffic control room was interesting in terms of understanding the challenges of the police force. We are looking at issues such as low compliance of citizens to traffic fines and to reinforce better driving behavior."

Students at the workshop also discussed the problems faced by their society and work. The participants come with various backgrounds such as engineering, cognitive science, chemistry and humanities and study how to alter the behaviour of the people for the better through design interventions.

THE TAKE AWAY

Students discussed the problems faced by their society and work. The participants came from various academic backgrounds such as engineering, cognitive science, chemistry and humanities. They studied how to alter people's behaviour for better driving

In a first, country to get elephant distribution map with geospatial data

https://timesofindia.indiatimes.com/city/meerut/in-a-first-country-to-get-elephant-distribution-map-with-geospatial-data/articleshow/67082399.cms

In a first of its kind initiative in India, forest officials will soon complete a geographic information system (GIS) based elephant distribution map to track the movement of pachyderms across the country.
The project, under the aegis of the environment ministry, is being carried out by teams from the Indian Institute of Science, Bangalore.

According to sources, the GIS-based system will facilitate easy access to data on elephants and their movement for officials. On the lines of the jumbo census conducted last year, the IISc teams will locate the pachyderms with the help of global positioning systems (GPS) and collate the geospatial data. This data includes information about the movement of jumbos, potential threats in the region etc. to routinely track the animals, safeguard vulnerable corridors and minimise animal conflict.

Talking to TOI, Bijnor divisional forest officer M Semmaran said, "A GIS-based elephant distribution map of this sort is being prepared for the first time in India. The process of data collection will be completed soon. Once ready, this geospatial data can be used to analyse the movement of jumbos,

their migration patterns and fluctuations in their numbers in a particular region." "This will help us understand the reasons behind the increase or decrease in the numbers of the pachyderm, vulnerable elephant corridors and animal conflict flashpoints," he added.

The DFO said, "Based on the findings, we will take steps to protect sensitive corridors and increase awareness among villagers."

The IISc team had on Wednesday visited Bijnor district and held a meeting with officials from three forest divisions. They had earlier visited Pilibhit and Lakhimpur Kheri in the region.

Ramesh Pandey, field director of Dudhwa Tiger Reserve, said, "The data collection is being carried out on the lines of Project Tiger. The motive is to plug the loopholes in measures taken to protect elephants."

According to the International Union for Conservation of Nature (IUCN), the population of Asian elephants is around 41,410 to 52,345, of which India alone accounts for nearly 60%. The Union environment ministry had pegged the population of elephants in the country at 27,312 across 23 states in the jumbo census conducted last year.

IIT-B gears up for Techfest

https://www.thehindu.com/news/cities/mumbai/iit-b-gears-up-for-techfest/article25736995.ece

RoboWar competition with 17 foreign teams to steal the show

The Indian Institute of Technology (IIT) Bombay is hosting the 22nd edition of its annual event, Techfest, from December 14 to 16.

The event will see lectures by the 14th Dalai Lama, Union Minister of Commerce and Industry and Aviation, Suresh Prabhu, chief economist at World Bank, Shanta Devrajan, Lok Sabha member, Varun Gandhi, and chief architect of Sakai Project, Charles Severance, among others.

The highlight of the event will be a RoboWar competition with around 80 teams of which 17 teams are from countries including the U.S., Mexico, Iran, Brazil, Bangladesh, and Russia. There will be a clash between the robot models of different teams, for a prize money of ₹10 lakh.

Negin Keihani (19) from Caramon University, Iran, is in India for the first time. “I am excited that there are seven teams from Iran for the Techfest this year. Since we cannot carry the entire machine in the flight, we have to come and assemble it here, which is an advantage the Indian teams have.”

Ankesh Pandey (16), a Class XI student, the youngest in the team, said, “It’s a great opportunity. This is a platform where we can showcase our talent so that one day we can build something for the military.”

This year’s Techfest will host a modern science and technology exhibition. Furhat Robot from Sweden, the artificial intelligence powered social robot that can interact with humans, a soccer playing robot team called B-human from Germany, which has won six world championships in Robocup Stanford Premier League, among others will be on display. Last year, the exhibition showcased exhibits from the Indian Army and the Defence Research and Development Organisation. There will be a series of international competitions with a cumulative prize money of ₹51.2 lakh. The students who have qualified the zonal rounds in Bangladesh, Nepal, Madagascar, and Egypt will be participating for the finals at the Techfest. The challenges include the robotics challenge, remote-controlled Nitro car racing with world rank 9 driver Robert Sanchez from Spain and world rank 9 driver Joao Figueiredo from Portugal, and E-sports tournament of DOTA 2 and CS: GO.

There will also be a ozone arena for gaming addicts which will see performances by international artists, and will have wall art and gaming workshops.

December 13

Inter-IIT sports meet begins today

https://timesofindia.indiatimes.com/city/guwahati/inter-iit-sports-meet-begins-today/articleshow/67066467.cms

The 53rd inter-IIT sports meet will be formally inaugurated at IIT-Guwahati on Thursday. This is the first time that the event will witness the presence of para athletes, with the para-powerlifting event having been included.

With over 3,500 participants, more than 50 events and 500 matches, this edition of the sporting extravaganza is going to be one of the biggest, said Venkataraman Prabhu, chairman of the sports board of the inter-IIT sports meet. “The event will have a special significance as this is the silver jubilee year for IIT-G. The sports meet is being organized here to celebrate twenty-five years of excellence in research and development. The competition will have a league format,” he added.

The event will be inaugurated by Shiny Wilson, an Arjuna award winner and a former national champion in 800 metres. She had represented India in Asian Games and the Olympics. She will be joined by Mariyappan Thangavelu, who won a gold medal in 2016 Rio Paralympic Games and is a Padma Shri and an Arjuna Award winner.

The inter-IIT sports meet began at IIT-Bombay way back in 1961. It has continuously expanded in scope since then. The meet now has events based on 13 different sports and 23 IITs from across the country take part.

IIT Kharagpur alumnus Arjun Malhotra conferred Dataquest Lifetime Achievement Award

https://timesofindia.indiatimes.com/home/education/news/iit-kharagpur-alumnus-arjun-malhotra-conferred-dataquest-lifetime-achievement-award/articleshow/67070406.cms

IIT Kharagpur Alumnus Arjun Malhotra has been conferred with the 'Lifetime Achievement Award' at the Dataquest Digital Leadership Conclave 2018 for his outstanding contribution in organizing and building the Indian IT industry from where it was over 40 years ago to today.

Arjun who graduated from the Dept. of Electronics & Electrical Communications Engineering at IIT Kharagpur with B.Tech. (Hons.) in 1970, is considered to be one of the pioneers of the Indian IT industry with his leadership role and entrepreneurial zeal of over three decades.

He co-founded HCL played a pivotal role in putting the Indian IT industry on the global map. Malhotra has led several IT entrepreneurial ventures and serves on the board of corporations and supports several start-ups. He has guided several ventures across the IT sector globally and has encouraged and cultivated the spirit was entrepreneurship, that played a big role in shaping a large number of tech entrepreneurs who went on to start their own ventures in hardware, software, and services.

With this award Malhotra joined the ranks of R Narasimhan, considered as the father of computer science research in India, F C Kohli, referred as the father of the Indian software industry, Dr. N. Seshagiri, Founding Director General, National Informatics Centre, Govt. of India, Dr. Vijay P. Bhatkar, best known as the architect of India's national initiative in supercomputing, Nandan Nilekani and many more.

Arjun's vision for giving direction to the Indian telecom industry led to the foundation of the GS Sanyal School of Telecommunication at IIT Kharagpur. The School is now an R&D leader in 5G Communications, Biomedical Signal Processing, Cellular Networks, Chemical and Material Science

and Cloud RAN. He further envisioned encouraging students right from their undergraduate studies to explore innovative ideas which could later become their entrepreneurial ventures. With this in mind, he seed-funded the MN Faruqui Innovation Centre at IIT Kharagpur. These were not only giving back initiatives to his alma mater but pillars of building the tech ecosystem and human resource development for India.

How IIT Madras' Make in India defence model is a blueprint for success

https://theprint.in/opinion/how-iit-madras-make-in-india-defence-model-is-a-blueprint-for-success/161950/

A team from IIT Madras visits Indian Navy ships

Academic institutions of international repute like the IITs should be partners in producing cutting-edge military technologies.

By 2030, India's doorstep adversaries will be a hi-tech, world-dominating China and its toxic cat's paw Pakistan. Let's face it. Militarily, India's import dependence for defence equipment will not reduce by then because Make in India has already missed its mark. For reasons well-known, indigenous defence industry has not delivered. Now, after the controversy over the Rafale fighter jet deal, our defence import and procurement procedures will inevitably decelerate.

Need outcome-oriented efforts

Our talent and potential have been showcased to the world by Sundar Pichais and Satya Nadellas and many more who are powering companies such as Microsoft, Google, Apple and Amazon. It is now time to create talent that can be used for India's defence indigenisation. Despite a realisation in the government and military circles, the academic path to indigenisation remains hazy.

The faculty at IIT Madras is evolving a model that must be nurtured and replicated. In January 2018, a course on 'Overview of Defence Technologies' was introduced at IIT Madras as an elective. In each semester, since then, over 100 PhD, MTech, MS and BTech students across disciplines enrolled in the course. They got practical exposure by attending DefExpo, visiting Indian Navy ships, L&T shipyard, and Officers Training Academy, Chennai. Students interacted with defence officers, scientists and the industry, including the defence minister and chief of the Army staff.

Students want to contribute to the domestic defence industry and, in response, the ministry of defence and the armed forces have started an outreach programme with the IIT. However, their approach needs focus and must go beyond exploratory, superficial, tick-the-box efforts. It must be outcome-oriented and not incremental.

Contrast this with China, which has over 2,500 military scientists/engineers studying defence technologies abroad, including navigation technology, computer science, artificial intelligence, hypersonic scramjets, and high-energy lasers.

In a recent article, China expert Claude Arpi wrote about how Australia, Canada, New Zealand, UK, US, Germany and Singapore are virtually sponsoring China's defence researches.

Exposure to defence issues

India must make courses like the 'Overview of Defence Technologies' an elective across all IITs and other technical institutes. Select IITs/IISc should run MTech courses with specialisation in defence technologies like the UK's Cranfield University does. In addition, we also need MTech/MBA programmes to cover subjects like defence procurement. We must graduate to PhD programmes on niche defence-related technologies.

IIT Madras team interacting with Army Chief Bipin Rawat

Over 200-250 armed forces' officers do MTech courses in IITs on regular subjects at any given time. This framework can easily be tweaked to focus on defence technology and procurement and will result in tremendous payoffs.

There is no alternative to knowledge superiority. Academic partnerships, linkages and exchange programmes should be developed between selected institutions and schools of instruction of the armed forces. Our young scientific and engineering minds need exposure to defence issues through seminars and events like Aero India and DefExpo. Our IITians participate in Mars Rover and Hyperloop competitions internationally. Similarly, defence-related competitions should be held routinely at tech fests in India to unearth talent and ideas. In, addition, they should be made to take up internships at defence institutions.

Benefits for future

Select academic institutions should undertake projects in blue sky research and develop technologies/products for import substitution/upgradation. These projects could be in standalone mode or in conjunction with the Defence Research and Development Organisation (DRDO), Ordnance Factories Board (OFB) or Defence Public Sector Undertakings (DPSUs).

Our academic institutions of international repute can no more be treated as appendages or competitors in defence research and production. They should instead be partners for producing cutting-edge military technologies.

IITs have tremendous research expertise. For example at IIT Madras alone, ISRO (since 1990), Railways (since 2017), DRDO (since 2012) and Indira Gandhi Centre for Atomic Research have established centres for joint research. Nearly 200 MoUs exist with the industry for sponsored research, focused academic programmes, and consultancy. In the same vein, Services should establish dedicated research centres and run exclusive programmes in select IITs based on their expertise.

Indian Navy has an MoU with IIT Delhi since 1978 and has benefitted immensely in naval construction. Other Services should follow this lead. A comprehensive pilot programme can build on the initiatives of IIT Madras. Without focus, we will be all over the place and end up nowhere.

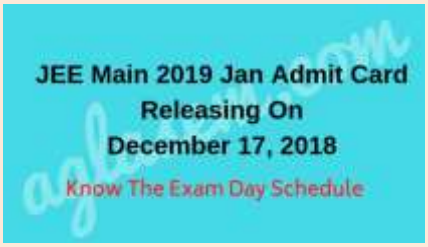
Finally, I got a call recently from someone in Ernst and Young who wanted to consult us on their plan for the southern defence corridor. Just imagine. MoD consults someone for the defence corridor who, in turn, consults IIT Madras. Round tripping? The MoD might as well come to IIT Madras directly. Old habits die hard, I suppose.

December 12

JEE MAIN 2019 JAN ADMIT CARD RELEASING ON DECEMBER 17, 2018; KNOW HERE EXAM DAY SCHEDULE

HTTPS://NEWS.AGLASEM.COM/JEE-MAIN-2019-JAN-ADMIT-CARD-RELEASING-ON-DECEMBER-17/

JEE Main 2019 Paper 1 will be held in different days. However, Paper 2 will be held in one single day. Admit Card will be available in the online mode only.



National Testing Agency (NTA) is releasing the JEE Main 2019 Jan Admit Card from December 17, 2018, onwards. The admit card will be made available at nta.ac.in and jeemain.nic.in. To download

the admit card the candidates have to keep handy their JEE Main 2019 Application Number and password.
However, it is expected that the JEE Main 2019 Admit card for the January exam may release a day before i.e. it might be possible that the link to download the JEE Main 2019 Admit card/Hall Ticket can be activated on December 16, 2018. Thus, candidates are advised keeping a keen look over the official websites.

Those candidates who have successfully submitted their application form before the last date will be able to download the admit card. After the admit is downloaded the candidates have to get a print out of the same over a plain white sheet. Only the hard copy of the admit card will be accepted at the exam centres.

A COLOURED PRINT OUT OR BLACK & WHITE PRINT OUT?

Now, there remains a major confusion among the candidates about whether they should carry a coloured or black and white printout? Well, it all depends upon the candidates. NTA has not released any guidelines regarding this. However, it is recommended to carry a coloured print because the details in coloured print are quite clear and easy to identify.

Apart from the admit card, the candidates need to carry an original photo id proof. The photo id proof can be any one of these – Voter's ID Card, PAN Card, Aadhar Card, College Identity Card, Driving license or any government approved ID. The admit card and identity card will be used for verification of identity at the allotted exam centres.

JEE Main 2019 January Exam will be held in 2 shifts. Both paper 1 and paper 2 are scheduled in 2 shifts that are 9.30 a.m. to 12.30 p.m and 2.30 p.m. to 5.30 p.m. The JEE Main 2019 Paper 1 exam will be held in different shifts between January 06 to 20, 2019. However, paper 2 will be held on one single day i.e. January 08, 2019.

Inside the exam centres, the candidates are prohibited to carry any watches – digital/analogue, bags, sheets of papers except for the admit card, food items or any other items. NTA has yet not prescribed any dress code for the exam. However, the candidates are advised to abide by some **uniform dressing rules and regulations** to make the frisking process easier at the centres on the day of the examination.

NTA has already allotted the JEE Main 2019 Exam centre and shifts. Now the allotted shifts will be made available via the admit cards too. The admit card of JEE Main 2019 January exam will have the exam centre name and address, the shift allotted to the candidates, candidate's personal details, JEE Main 2019 roll number, important exam centre instructions etc.

AICTE suggests Indian authors books for engineering students, UGC promotes

https://indianexpress.com/article/education/aicte-suggests-indian-authors-books-for-engineering-students-ugc-promotes/

Books by Indian authors and publishers will contextualise the engineering course content for students for better understanding, said UGC circular. Students, however, prefer foreign authors stating better content quality. Academicians ask for more technical books by Indian writers and focused incentivized initiatives from the government.

AICTE had invited suggestions from the industry on topics to include in engineering education to make engineers more 'employable' and industry relevant. Express Photo by Tashi Tobgyal (Representational image)

The All India Council for Technical Education (AICTE) has released a list of books by Indian authors and publishers for undergraduate, postgraduate and diploma level engineering students. The list has been developed by the expert committee consisting of academicians from top institutes including the Indian Institutes of Technology (IITs). The books are in-line with the 'model curricular' prepared by AICTE and inaugurated by the Minister of Human Resource Development, Prakash Javadekar in January this year.

Advertising

The University Grants Commision (UGC) has promoted the usage of Indian books by engineering students and faculty across Indian colleges and universities through an official circular. "It is hoped that this list will draw on Indian experience and contextualise in Indian on the Indian setting may aid students in better learning of concepts and in turn improve their quality," states UGC in its circular. The circular was a response to the AICTE's letter to UGC asking it to promote the list of Indian authors (created by AICTE).

"We have created a suggestive list for students to promote the books which have been created by both Indian authors and publishers together. This will encourage Indian authors to write more about engineering, technology and related fields," said Rajive Kumar, adviser, AICTE. "The expert panel which has created the books had representation from both industry and academia. It aims to create a list of books aligned with the 'model curricular'," Kumar told indianexpress.com. He also said that coming from an expert panel the list will burst the prevalent myth that foreign authored books are better than the Indian ones.

AICTE had invited suggestions from the industry on topics to include in engineering education to make engineers more 'employable' and industry relevant.

December 11

This IIT Roorkee scientist's research on wastewater and clean fuel is the sustainable step forward

Professor V C Srivastava from IIT Roorkee was awarded the NASI-Scopus Young Scientist Award for Sustainable Development

https://www.edexlive.com/people/2018/dec/11/this-young-scientists-research-on-wastewater-and-clean-fuel-is-the-sustainable-step-forward-4695.html

Professor V C Srivastava is an IIT Roorkee faculty

In a world of depleting fossil fuels, their skyrocketing prices and polluted water, Professor V C Srivastava has succeeded in creating new ways to treat industrial wastewater. He has also worked on Clean Liquid Fuels and Multi-Component Adsorption.

As an academician and researcher with a background of chemical and environmental engineering, he was always clear that with stringent environmental regulation and norms, all our current liquid fuels (petrol, diesel, aviation turbine fuels, etc.) which are produced by crude oil had to be further cleaned before use. He also felt that these fuels have to be augmented or replaced with alternative fuels in two to three decades for the sustenance of the development of the country. Similarly, the steady growth of discharge of liquid and solid wastes from households, industries and even agricultural fields due to continuous developments lead him to start his research on clean and alternative fuels, and recycling and utilising the wastes. We caught up with the scientist to talk about his research and his life.

Excerpts from the conversation:

What was the catalyst that motivated you to work for the betterment of society?

There were many things. The way I was brought up by my parents and family. How I was nurtured and guided by my teachers and mentors. All of them motivated me to work towards the betterment of the society. I started my research in the area of wastewater treatment and agricultural waste utilisation during my postgraduation and PhD. I continued the research even after I joined IIT Roorkee where the Department of Chemical Engineering helped me in all possible ways to complete it.

Creating alternative fuels and managing wastes and converting them into value-added products take extensive research. Could you please share the process of your research and the various difficulties that you faced?

After identifying a problem, and aiming to work on a particular research topic, the arrangement of funds for the purchase of equipment, experimental set-ups, chemicals, etc. is a major challenge.

However, if we can arrange some initial fund, do the work, and publish it in journals, it becomes easier to convince the funding agencies (government or private). On that note, I am always thankful to my institute and the Department of Chemical Engineering for providing research initiation grants and other equipment that helped me to start the research. Also, during the research and experimental work, we faced failure from time to time through which we learnt a lot that helped in further success. However, success always helps in looking further into the hurdles that lie ahead, and that's why my research will always continue.

What are the types of value-added products that you have created from converting the agricultural and industrial wastes?

It includes a number of adsorbents and catalysts. These materials have been developed from agricultural and industrial wastes depending upon the type of waste that is being utilised. These adsorbents and catalysts have also been further used for wastewater treatments.

These alternative fuels that you have created, have you ever used them in your daily life?

Until now, we have produced very small amounts of fuel during research and therefore it can't be tested directly on any commercial vehicles. However, they have been tested in fuel laboratories and the results were promising, as they were identified to possess the characteristics of clean fuels.

Do you think we have taken a step towards sustainable development through your invention?

Yes, it is necessary to produce and use clean and alternative fuels for keeping our environment clean. Similarly, properly disposing, liquid and solid wastes and utilizing them if possible is, according to me–'the need of the hour.' These measures not only help in achieving Government's missions towards 'Swachh Bharat' and 'Swasth Bharat' but are also the steps towards a long-term Sustainable Development.

December 10

IIT Madras gets record number of job offers

http://mydigitalfc.com/miscellany/iit-madras-gets-record-number-job-offers

Indian Institute of Technology (IIT) Madras witnessed the highest ever number of job offers during the first phase of its placement season. As many as 888 job offers and 136 pre-placement offers were made, taking the total to 1,024 offers in technology disciplines.

The previous high was 1,019 offers made in the 2014-15 academic year. However, that also included offers for MBA students.

Around 1,300 students had registered for the phase I placements held between December 1 and 8, and there were more than 490 job profiles from nearly 326 companies. Out of the registered companies, 195 companies visited IIT Madras for recruitment in Phase I.

Including the accepted pre-placement offers (PPOs), a total of 844 students have already been placed at the end of Phase I placements against 766 students and 114 PPOs during the same time last year. The total number of companies which participated in Phase I placements last year was also 195.

This year Micron Technology and Intel Technology made 26 offers each. Microsoft and Citibank made 22 offers apiece while Qualcomm made 21. As many as 248 jobs pertained to analytics, finance and consulting, 346 jobs to Core and R&D and 290 to information technology. The departments that had more than 80 per cent placement during Phase I include computer science, electrical engineering and engineering design.

“We had an excellent Phase I this year in spite of the reduced duration of only 8 days, which saw us breaching the 1,000-offer mark (including PPOs). The demand for students in the computing and analytics sectors was strong. We expect more core companies to come in Phase II,” said Manu Santhanam, advisor, placement, IIT Madras. The phase II of placements will begin in the second half of January 2019.

Water filter designed to remove iron, biological contamination

https://www.tribuneindia.com/news/himachal/water-filter-designed-to-remove-iron-biological-contamination/696011.html

The Indian Institute of Technology (IIT), Mandi, researchers are designing a water filter to remove iron and biological contamination in Mandi District.

According to the IIT-Mandi experts, water quality reports over multiple years in Mandi District have revealed high levels of iron contamination in many villages that may put residents at risk of negative long-term health effects.

“Our goal was to create a filtration technology to address the drinking water needs of the residents living within Mandi district. To realise this goal, we assessed drinking water perceptions, behaviours, and water quality in the areas with known concerns regarding water contamination” said Dr Rajnish Sharma.

He said, “We have designed a filtration device to remove iron and biological contamination. We have created a filter prototype that can be further tested, refined, and potentially implemented in affected areas.”

He said, currently, people within Mandi and Sundernagar area are facing iron and bacterial contamination in their water supply. Certain hand pumps in the area have closed, forcing the residents to find other sources of drinking water or turn to unregulated surface water sources, like rivers, for drinking water.

“The purpose of our filter is to insure and improve the quality of drinking water to those residents located within Mandi and Sundernagar, as well as neighbouring residents, who may be facing the same issue. We hope to improve the quality of life and health of our stakeholders by providing them clean water by providing a water filter, which relatively has a fast-flow rate, removes iron and bacteria, and improves the taste and colour of the water” he remarked.

He said the effects of chemical contamination are usually not immediately seen or felt, but rather appear after years of exposure. If this issue and threat of chemical contamination is not addressed, the residents of these villages may experience negative health effects in the future due to prolonged exposure to chemicals.

Professor awarded

Indian Institute of Technology, Mandi, Assistant Professor Doctor Rajanish Giri, has been awarded with Innovative Young Biotechnologist Award (IYBA) 2018. He was selected by the Department of Biotechnology (DBT), Ministry of Science and Technology. Dr Giri is selected for his proposed innovative idea on Zika virus capsid folding and inhibitor discovery. Additionally, he has proven expertise on understanding and solving the fundamental problems of protein folding in various structured and intrinsically disordered proteins. Along with the award, Dr Giri also received a research grant, for three years, to delve more insight into the biophysical research on Zika capsid protein system by running well equipped lab and hiring and training qualified people or senior research fellows.

Best paper award

Mohammad Amir, PhD scholar in the School of Engineering at the IIT-Mandi, has received the Best Paper Award at the Third Asian Joint Symposium on Aerospace Engineering 2018 (AJSAE 2018) held in Gyeong-Ju, Korea, in 2018, hosted by The Society for Aerospace System Engineering (SASE), South Korea.The paper entitled “Influence of micro-structural defects on free vibration response of electrically actuated functionally graded panels” was presented by him. He is working under the guidance of Dr Talha in the area of advanced composite structures.

IIT Hyderabad Organizes Young Scientists' Meet

https://www.ndtv.com/education/iit-hyderabad-organizes-young-scientists-meet-1960432

It is first-of-its kind and is aimed to provide leadership to young scientists of the country: Dr. Arabinda Mitra, Scientific Secretary, Office to Principal Scientific Adviser.

Frontiers of Science (FoS) forum brainstorming meeting will be held till December 11, 2018.

Indian Institute of Technology Hyderabad and Indian National Young Academy of Science are organizing the first Frontiers of Science (FoS) forum brainstorming meeting here from December 9 to 11, 2018. The goal of the event is to introduce the young scientists and engineers of outstanding calibre across India to foster inter-institutional collaboration through cross fertilization of ideas across the disciplines, resulting into generation of new scientific and technical concepts and approaches, according to a statement from the Institute.

FoS works to bring together around outstanding young scientists and engineers from all over India below the age of 45 years to have a dialogue across six areas of expertise namely: Materials Science, Biology, Optical Physics, Medicinal Chemistry, Soft Matter Science and Engineering, and Astrophysics, the statement added.

The aim of the meet, in which 40 scientists are participating, is to discuss, deliberate and collaborate through presentations of exciting advances in one's own field and simultaneously learn about cutting-edge research of other scientific disciplines.

"This FoS Meeting is first-of-its kind and will provide leadership to young scientists of the country," said Dr Arabinda Mitra, Scientific Secretary, Office of the Principal Scientific Advisor to Government of India, while inaugurating the event.

He also spoke on the need of science communication to the public which will also motivate young generation and school children to choose science as a career.

He called upon young scientists to work on relevant problems and at the same time disseminate the knowledge through research, education and innovation.

He also informed that his office is also working on developing an online portal in 26 different local languages for disseminating the latest scientific publications from top high impact factor journals for making Science accessible to larger community of India.

An Inter-session poster presentation is also planned to allow young post-doctoral researchers and participating Faculty who are not speakers, to gain from interactions in the symposium.

There will be total 6 technical session and 1 poster session. After every session, there will be a brainstorming by all participants to discuss the future roadmap and define the strategies to achieve it.

UGC panel has 19 names for ‘excellence' status

https://timesofindia.indiatimes.com/city/agra/ugc-panel-suggests-19-more-names-including-amu-and-bhu-for-eminence-tag/articleshow/67015094.cms

A four-member panel formed by the UGC has recommended the names of 19 more educational institutions, including Aligarh Muslim University (AMU), for the status of Institutes of Eminence (IoE). The Empowered Expert Committee (EEC) was formed early this year to find 20 institutes in the country which will be accorded the high-value statues. The IoE project was launched by the Ministry of Human Resource Development (MHRD) in September 2017 for selecting and creating world-class universities in the country.

So far, six institutes have been given the IoE tag. The expert panel was originally asked to select 20 institutes, 10 from the public sector and 10 private institutes. But, it had only selected six institutes. The Centre then asked the panel to suggest more names from which 14 institutes will be selected.

So, in its second report to the HRD ministry, the panel has suggested 19 names for the coveted list.

Apart from AMU, the committee has recommended the names of Banaras Hindu University, Assam's Tezpur University, Savitribai Phule Pune University, University of Hyderabad, Panjab University and Andhra University, in the government sector.

Aligarh Muslim University's vice chancellor Prof Tariq Mansoor has expressed happiness over the development and said that this will widen the research arena in the varsity and provide the faculty members with better opportunities to carry out innovative researches.

As many as 114 institutions had applied or the status of Institute of Eminence with applicants including the likes of IITs and NITs, IIMs, IISERs, Indian Statistical Institute, Tata Institute of Fundamental Research and Tata Institute of Social Sciences.

These IoE institutes will have the freedom to enter into academic collaboration with top 500 global ranking institutions without waiting for approval from the government or UGC.

The selected institutes will have the freedom to determine the fees for domestic students, on the condition that no student who clears the criteria for admission is turned away due to lack of money. These top class institutes can also fix and charge fee from foreign students without restriction.

December 9

Securing the Web: IIT Kharagpur Wins Nasscom's DSCI Excellence Award for Its Cybersecurity Education

https://swarajyamag.com/insta/securing-the-web-iit-kharagpur-wins-nasscoms-dsci-excellence-award-for-its-cybersecurity-education

IIT Kharagpur wins the DSCI Excellence Award 2018

Data Security Council of India, a body set up in order to protect data by NASSCOM has awarded IIT Kharagpur the DSCI Excellence Award 2018 for cyber security education.

IIT-KGP was awarded for its work in cryptography, network and hardware security.

Press Trust of India quoted Director Prof P P Chakrabarti of IIT-KGP as saying "Our research and coursework in cyber security, network security and cryptography are targeted towards delivering the necessary technologies and also creating leaders in research, industry and governance who would bring forward such transformation in India which is undergoing the digital revolution right now as we talk."

Across several areas in artificial intelligence, Internet of Things (IoT) security, IIT-KGP has been making excellent progress, setting an example for the other institutes to follow.

Besides this, the department of engineering and computer science has been making strides in their field and have been awarded on numerous occasions.

Some of the ventures include developing lightweight protocols that authenticates the IoT nodes, reverse engineering for IC, trojan detection to name a few. Some of the projects have been funded by the Defence Research and Development Organisation (DRDO).

IIT Madras to organize its First Industry-Academia Conclave for Social Impact in Mumbai

http://indiaeducationdiary.in/iit-madras-organize-first-industry-academia-conclave-social-impact-mumbai/

Indian Institute of Technology Madras is going to conduct its first 'Industry Academia Collaboration for Social Impact' in Mumbai on 10th December 2018. The objective is to showcase the Institutes' cutting-edge translational research capabilities that are benefitting the society in a big way and to partner with the industry to further R&D and create solutions for some of the country's pressing issues.

IIT Madras is looking at corporate involvement to fund translational research and innovation through incubation that benefits society and the country's economy.

Several industrialists will be taking part in the event. Dr. Pawan Goenka, Managing Director, Mahindra & Mahindra and Chairman, Board of Governors, IIT Madras, will speak about 'Industry Academia Partnership.' Mr. Deepak Parekh, Chairman, HDFC, Mr. Satish Pai, Managing Director, Hindalco Industries and Mr. T.T. Jagannathan, Chairman, TTK Group, will be addressing the 'Industry-Academia Collaboration for Social Impact.'

Speaking about the importance of this event, Prof. Mahesh Panchagnula, Dean (International and Alumni Relations), IIT Madras, said, "IIT Madras has consistently been the top ranked engineering university in India for three years now. What is not widely known about it is its work in the social impact sector. The objective of this Conclave is to start that dialogue with the business community in Mumbai."

The event is being held in Mumbai as many of the country's corporates are headquartered in the city.

The corporate sector, through CSR funding, can collaborate with IIT Madras, which conducts research across the spectrum, ranging from developing technologies for clean drinking water, waste management, off grid solar power to energise the villages, develop healthcare devices, research energy storage devices among many others.

India is the first country in the world to make it mandatory for corporates to fund social causes. Following a change in company law in April 2014, businesses that meet a certain threshold in annual revenues must contribute 2 per cent of their net profit towards social causes. They can invest this money in education, poverty alleviation, gender equality and addressing hunger, among other areas.

IIT Madras Professors and Researchers will explain the projects undertaken to solve some of the most pressing problem facing the country in water, health and sanitation.

Prof Ligy Philip, Dean (Planning), will speak about the IIT Madras project on 'Integrated Waste Management' underway in Vichur, a village located near Chennai. Prof Mohanasankar Sivaprakasam, Director, Healthcare Technology Innovation Centre, will speak about the 'Impact of healthcare technology research on society.' Prof Sujatha Srinivasan, Head of R2 D2 Laboratory, IIT Madras, will speak about 'Addressing disability through Assistive Devices.'

With IIT Madras having one of the top ecosystems in the country for encouraging innovation and entrepreneurship, Dr. Tamaswati Ghosh, CEO, IITM Incubation Cell, will walk the corporate sector through the 'Deep tech incubation at IITM.' Prof B. Ravindran, Robert Bosch Center for Data Science and Artificial Intelligence, IIT Madras, will highlight the 'Impact of Data Sciences Research on Social Problems.'

The Corporate Sector can collaborate with IIT Madras in five major ways:

1. IIT Madras Start-up incubators: The IITM Incubation Cell has received over Rs. 4 crore from various corporate houses

2. Socially Relevant projects: IITM faculty has been working on projects that benefit the society. They span seven sectors including Agriculture and Farm Tech, Water technology, Education and Entrepreneurship, Energy, Health, Environment, and Heritage. A brief description of these projects, along with budgets and timelines, can be seen by clicking http://alumni.iitm.ac.in/wp-content/uploads/2016/09/Socially-Relevant-Project.pdf

3. R&D Programs: IITM works with Industry to design a programme of R& D that fulfils CSR.

4. Scholarship Endowments: Many students from economically weaker sections require scholarship.

5. Corpus: The fifth way is to contribute to the IITM Corpus

Promoting education is listed as an item in Schedule VII which is a list of approved CSR activities of the Company Act 2013. A Company can create endowments and contribute to corpus as long as it is giving to a not-for-profit entity whose main purpose falls under Schedule VII activities.

Another attraction for Industry to work with IITM is that CSR spending at IIT Madras is exempt 100% under section 80 G 2 A (iiif). There are also tax exemptions of 150%available for research projects; several industries have already taken advantage of this along with meeting their CSR obligations.

New method to predict solar storms developed

https://www.business-standard.com/article/pti-stories/new-method-to-predict-solar-storms-developed-118120900383_1.html

A team of scientists have found a way to predict the Sun's activity over the coming decades, which could help better prepare against solar storms that may cripple satellite communications and Earth's electric power grids.

In a study published in the journal Nature Communications, the team also showed that there is little possibility of a Sun-induced climate cooling in the coming year.

Researchers from Indian Institute of Science Education and Research (IISER) Kolkata and Inter-University Centre for Astronomy and Astrophysics (IUCAA) Pune put forward a prediction for the upcoming sunspot cycle which reveals the expected conditions in space over the next decade.

"This research has direct relevance for protection of India's space-based technological assets and the global climate," said Sourav Pal, Director of IISER Kolkata.

Using a novel technique devised by Professor Dibyendu Nandi from IISER Kolkata and his PhD student Prantika Bhowmik, the team predicts that the next sunspot cycle will start about a year after the end of the current cycle and peak in 2024.

They also predict that space environmental conditions over the next decade would be similar or slightly harsher compared to the last decade.

"The space weather is governed by a constant stream of charged particles -- electrons and protons -- flowing out from the Sun and permeating the solar system," said Nandi, who is also a research associate at IUCAA.

Occasionally, the Sun releases spurts of charged winds that travel towards the Earth at astonishing speeds, he said.

These result in space storms that can cripple satellites, trip electric power grids and lead to large-scale telecommunication breakdowns.

"It has been known for some time that the cycle of sunspots control all these aspects of solar activity and determines its influence on our space environment and climate," said Bhowmik.

Astrophysicists have been attempting for decades to devise methods to predict the future occurrence of sunspots.

Sunspots can measure up to ten times the size of Earth, with magnetic fields ten thousand times stronger.

These spots have been observed through telescopes since the times of Galileo.

According to the researchers, the current sunspot cycle dubbed as solar cycle 24 is just ending and it has been one of the weakest cycles in a century.

In fact, over the last several decades, successive sunspot cycles have significantly weakened in strength.

This association has led to scientists to speculate a significantly weak sunspot cycle 25 or an impending disappearance of sunspots for many decades would alleviate global warming and bring down the Earth's temperature.

The research, which was supported by the Indian Ministry of Human Resource Development as well as NASA, found no evidence of an impending disappearance of sunspot cycles.

The team concluded that speculations of an imminent Sun induced cooling of global climate is very unlikely.

"The behaviour of the magnetic field, and the particles emitted from the Sun has a profound effect on the Earth's climate and living conditions of the Earth's inhabitants, as well as various other activities that involve long-range communication and satellite technology," said Somak Raychaudhury, Director of IUCAA.

"Bhowmik and Nandy's models show considerable predictive power, and it looks like we will now be able to predict the fluctuations of solar activity much more reliably," he said.

December 8

Are drugs discharged into the Yamuna toxic to aquatic life?

https://www.thehindu.com/sci-tech/energy-and-environment/are-drugs-discharged-into-the-yamuna-toxic-to-aquatic-life/article25698760.ece

Discharge of drug-containing effluents can cause drug resistance

By studying nine different pharmaceutical active compounds in Yamuna river, researchers have now pointed out that it can “possibly cause chronic toxicity” to aquatic life and to humans who use this water for drinking purposes.

As our body does not use the entire quantity of the drug we take, most of it is excreted and end up in aquatic systems via domestic sewage. The report published in Ecotoxicology and Environmental Safety looks at the occurrence, fate and ecological risks of these compounds.

The *researchers from IIT-Delhi* and National Mission for Clean Ganga collected water samples from six sites across the 25 km river stretch during three different seasons (November 2010, April and July 2011).

Using different extraction processes, the pharmaceutical residues in the water were recovered and analysed.

The team looked at six over-the-counter drugs (aspirin, paracetamol, ibuprofen, ranitidine, caffeine, diclofenac) and three prescription drugs (carbamazepine, codeine, diazepam).

The highest concentration of pharmaceutical compounds was located downstream Wazirabad at the point where Najafgarh drain joins the Yamuna. This is one of the largest drains of Delhi and has an average discharge of about 25 cubic metres per second. The report notes that this drain is the largest polluter of the river contributing more than 50% of the total discharge into the Yamuna.

Ibuprofen and Paracetamol

At this site, ibuprofen and paracetamol were found at a high concentration of 1.49 and 1.08 microgram per litre respectively. Previous studies have shown that even small concentration of ibuprofen could cause an antagonistic effect on aquatic organisms. Studies have also shown that ibuprofen exposure could increase cyanobacterial growth in the water.

Caffeine was found in high concentration in most of the sites. Caffeine is used as a stimulant in medicine; residue from beverages and other food products may be a contributor.

Even prescription drugs such as carbamazepine were found in the samples with the highest level at 1.35 microgram per litre.

After studying the hazard quotient, the researchers say that though the individual levels were small and cannot cause acute toxicity to the marine life, the mixture of compounds can cause chronic toxicity.

“We need more studies on the pharmaceutical residues as this is found to be an emerging problem in many countries. This not only affects the biodiversity of the river but can also lead to the rise of superbugs. Uncontrolled discharge of drug-containing effluents in our rivers and other water bodies can potentially make many microbes drug-resistant,” says Prof. Atul Mittal, one of the authors of the study. “Our sewage treatment plants are not designed to take care of these pharmaceutical compounds. Also, we have no guidelines or specific rules in place about this. We need to sensitize the government and this report is the first step toward it.”