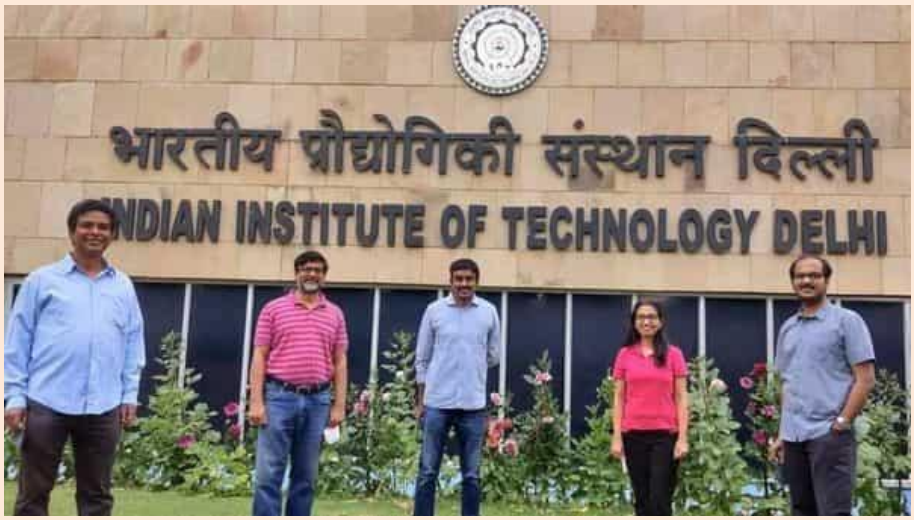


Researchers at IIT Delhi Kusuma School of Biological Sciences (KSBS) have developed a detection assay for Covid-19 which has now been approved by ICMR **(ANI)**

Microsoft India funds two IIT Delhi projects on Covid-19 detection

May 29, 2020 https://www.livemint.com/technology/tech-news/microsoft-india-funds-two-iit-delhi-projects-on-covid-19-detection-11590687861341.html

- One of them pertains to ICMR approved probe-free Real-Time PCR-based COVID-19 detection assay
- The other project is a collaboration between IIT Delhi and National Chemical Laboratory, Pune, and aims to develop an ELISA based diagnostic serological assay against COVID-19

Microsoft India has supported two projects of Indian Institute of Technology (IIT) Delhi that focuses on research to tackle the COVID-19 crisis.

One of them pertains to the Indian Council of Medical Research (ICMR) approved probe-free Real-Time PCR-based COVID-19 detection assay developed at the Kusuma School of Biological Sciences, IIT Delhi. This probe-free technology will be more affordable and easily scalable.

The other project is a collaboration between IIT Delhi and National Chemical Laboratory, Pune, and aims to develop an ELISA based diagnostic serological assay against COVID-19. If successful, it will create an economical, commercial process for manufacturing the antigens used in ELISA and home-based diagnostic kits to offer an effective, quick, robust and affordable diagnostic solution to COVID-19 outbreak.

"Research is one of the most important aspects of COVID-19. The Principal Scientific Advisor's office is proud of IIT Delhi that it has successfully developed a low-cost high-quality testing solution using one-step RT-PCR assay and working on ELISA methodology. Microsoft India, known for its philanthropic founder and leadership, has supported the initiative both through financial support and global technical resources and infrastructure", said Dr Sapna Poti, part of COVID-19 Special Task Force at the Principal Scientific Advisor's office.

Prof. V Ramgopal Rao, Director, IIT Delhi expressed his pleasure and said, "Microsoft India has time and again associated with IIT Delhi for the betterment of research, and this contribution to projects focused on COVID-19 detection research shall help the nation combat these difficult times. Timely detection can prove to be the key to curb the spread of the virus, and I am glad our institute is devising means to achieve it."

Rohini Srivathsa, National Technology Officer, Microsoft India said, "We want to make sure researchers working to combat COVID-19 have access to the tools and resources they need. Researchers at IIT Delhi are leading a critical effort to develop low-cost diagnostic solutions that will make COVID-19 testing much more affordable and accessible for all. Microsoft India is proud to support this effort and we hope that by expanding access to our technology resources and grants, we can help accelerate this important work."

Prof. Anurag S. Rathore, Dean, Corporate Relations, IIT Delhi said that the grant from Microsoft India will aid in the commercialisation of the probe free detection assay that has been developed at IIT Delhi and also funds research on examining the possibility of creating an ELISA like assay for COVID detection.

"Testing continues to be a challenge in managing COVID-19 and is likely to remain so for the years to come. IIT Delhi happens to be the first academic institute successful in offering a test that has been approved by ICMR. The grant from Microsoft India will aid in the commercialisation of the probe free detection assay that has been developed at IIT Delhi and also funds research on examining the possibility of creating an ELISA like assay for COVID detection. This collaboration highlights IIT Delhi's strength in healthcare. We wish success to both the teams in their respective projects," Rathore said.

Uflex partners with IIT Delhi to manufacture PPE; stock zooms 12%

May 28, 2020 https://www.indiainfoline.com/article/news-sector-paper-and-packaging/uflex-partners-with-iit-delhi-to-manufacture-ppe-stock-zooms-12-120052800274_1.html

As compared to other PPE Kits, the Flex-Protect Coverall Standard is made of 70 GSM which makes it very comfortable and flexible, and fit to be worn for long hours as well.

Uflex Ltd., India’s largest multinational flexible packaging company and a global player in Polymer Sciences has recently developed a Personal Protective Equipment (PPE) Coverall ‘Flex Protect’ in joint collaboration with IIT-Delhi and INMAS, DRDO, Delhi. Flex Protect that comes with Four-layered

Protection and Anti-microbial Coating has been approved by The Defence Research and Development Organisation (DRDO) for use by the front-line health workers who are fighting the battle against COVID-19.

The stock is currently trading at Rs193.80, up by Rs20.25 or 11.67% from its previous closing of Rs173.55 on the BSE.

The protective coverall is made from a combination of Non-Woven Polypropylene Fabric and further impregnated with Anti-Microbial PP Coating through a special process to increase the breathability. As compared to other PPE Kits, the Flex-Protect Coverall Standard is made of 70 GSM which makes it very comfortable and flexible, and fit to be worn for long hours as well.

In Flex Protect Coverall Standard, there are four-layers of security starting with First zipper, followed by Velcro, then Second zipper, and finally a Permanent Seal Tape. The edges of the PPE kit are secured with high strength seam cover that shields all the holes created during stitching. The coveralls are designed with double forearm, providing safety for the healthcare workers. The equipment comes with multi-layer fastening that seals all the inlet ways.

Listing the attributes and USP of the PPE Coverall, N Siva Shankaran, Vice President- Packaging Business at UFlex commented, "Most PPE Coverall available in the market are not breathable at all. The user sweats heavily due to perspiration and this causes a great deal of discomfort to them. Flex Protect has almost 30% better breathability while also conforming to ISO 16603 (Resistance to Blood and Body Fluids) which is mandatory against infection causing virus not to enter the coverall through the fabric."

Adding, "Breathability and ultimate protection by design are the USPs of Flex Protect. It is far superior to the fabric available in the market there by giving utmost comfort and ultimate protection to the paramedical staff who are currently in great danger of contamination and discomfort."

The PPE Coverall developed by UFlex and IIT-Delhi has been tested well for being anti-microbial. The South Indian Textiles Research Association (SITRA) has certified the fabric of PPE Coverall being compliant with Dry Microbial Penetration Resistance Test thereby implying fabric's protection against infectious agents. The anti-microbial coating will help in eliminating the microbes which comes in contact with the surface of the coverall, thereby creating the first line of defence".

On achieving this feat, Jeevaraj Pillai, Joint President, Packaging and New Product Development, UFlex said, "With rising cases of corona and scarcity of PPE Coverall, UFlex and IIT-Delhi recognized the opportunity towards playing a vital part in battle against COVID-19. We synergized our expertise in developing a Coverall that arrests the existing challenges in PPE Coverall and elevating the security of healthcare and other front-line workers who wear these Coverall for hours together. With the launch of our PPE Coverall that combines the advantages of longer wear and complete defense against coronavirus, we aim to make the world's citizens safe, by arming the front-line workers with Flex Protect coveralls. The approval from DRDO is hugely encouraging for us, adding impetus to our efforts."

On successful development of this revolutionary kit, Prof. Harpal Singh, Head, Centre for Biomedical Engineering at IITDelhi said, "Centre for Bio Medical Engineering, IIT, Delhi has worked very closely with UFlex Limited, Noida on the development of Breathable Fabric to be used in Flex Protect Coverall. The response and reaction time in the development was fast and excellent and it is the endeavour of IIT to collaborate with industrial partners for research and development to strengthen the domestic industry capability for providing devices and products in times of national emergencies. IIT Delhi is happy to have UFlex as our industrial partner in this challenging project."

UFlex is participating in the tender of various government requirements to supply the PPE coveralls which will be retailed via chemists and e-commerce platforms.

IIT Delhi: Leading path breaking online education initiatives

May 20, 2020 https://www.expresscomputer.in/industries/education/iit-delhi-leading-pathbreaking-online-education-initiatives/56173/

IITs have always been at the forefront of online education in the country, Prof V Ramgopal Rao, Director, Indian Institute of Technology, Delhi, shares how the prestigious institution is all set to create the next big disruption in the education sector through the soon to be launched online certifications, paperless internal exams, and other initiatives, some of which will see partnering with private players

The IITs for the last few years have been focusing on the online platforms, for example National Programme on Technology Enhanced Learning (NPTEL), coordinated by IIT Madras where all IITs are partners. "It is the most watched YouTube channel compared to anything in the world. That has been happening for quite a few years now, but that is a one-way kind of thing where faculties of IITs record lectures and post them. It is available for free and entirely funded by MHRD, Govt of India," says Prof V Ramgopal Rao, Director, Indian Institute of Technology, Delhi, adding that the purpose of doing that was to help the second tier and other institutions in the country get access to quality education material and also for students to have access to these lectures. NPTEL is now very widely used.

The next stage was to introduce a more interactive platform. That is where MOOCs became popular. This was also entirely funded by MHRD, free and a social benefit kind of an initiative. “We have never been looking at these platforms for money, it was essentially to help the other institutions in the country. We are doing a lot of MOOC courses, at IIT Delhi for example, every semester, we have 15-20 courses which are online and taught to whoever wants to register. All these efforts have so far been on helping institutions who need quality education content,” states Prof Rao, pointing out that that MHRD has also been generous in providing funds for the same.

Last year MHRD also funded the IIT PAL (Professor Assisted Learning) initiative. Prof Rao explains that this is primarily because to enter any IIT, the exams have become very competitive, and unless one goes to coaching institutions which are very expensive, it is difficult to get admission. For IIT PAL programme, top teachers from IITs were identified and lectures were uploaded for 11th and 12th standard students. There are 800 hrs of lectures – 200 hrs each for Maths, Physics, Chemistry and Biology. “IIT PAL is widely used now … the last count had one million students aspiring to get into IITs, are making use of this programme,” he adds.

IIT PAL lectures can also be accessed through Swayam Prabha, a project under which high quality lectures are available free on television, through 32 DTH channels.

“Starting from students who want to enter IITs to students in engineering streams who need access to quality education, this is freely available,” says Prof Rao.

Classroom technology

All IIT Delhi classrooms are web enabled with recording facilities. “These recordings are available to the students. On account of the coronavirus problem and subsequent lockdown, the institution is ramping up its activities on the online platform,” mentions Prof Rao.

IIT Delhi has been experimenting with flip classrooms, where the students already have the material, and are expected to go through the material beforehand and the classroom becomes a discussion session.

The Virtual Labs project which IIT Delhi is coordinating for MHRD at national level is also making a lot of inroads.

IITs being engineering institutions, laboratory training is an important aspect. Virtual Labs by IIT Delhi, enables conducting experiments online using virtual reality (VR) tools. However, Prof Rao concedes that hands-on training cannot be substituted by these modes of learning.

Online certifications

Prof Rao points out that since almost a decade many free online initiatives have been made available, however if a working professional wants to take certification from an IIT, e.g. in AI/ ML kind of areas, it is not possible. “For instance a one year certification where a 1000 people can register from anywhere in the world, attend lectures online and also take examination online so that IITs can award them a certificate is currently not happening. We are very quality conscious, have a brand to protect and do not want to give away certificates freely without testing procedures. This has been bothering us from sometime. We are also looking at earning additional revenues. IIT

system has not scaled much because of the quality consciousness and tough examinations. IIT Delhi is now looking at online certification programmes, leading to diplomas eventually. However, we do not have the infrastructure to conduct exams for 10,000 people from across the world … IIT Delhi is looking at tying up with companies in the education space."

There have been in talks with some of these organisations and they have come up with a policy to offer IIT Delhi courses online using one of these education services as a partner. "There are plans to launch these certification programmes in a few months. And also charge a market fee. It will start with an AI course certification, which 10,000 people can take," reveals Prof Rao.

The next one year will see IIT Delhi joining hands with private companies and offering certificates to thousands of people. It will be a revenue earning model.

AI based attendance

In terms of innovative systems, IIT Delhi has an interesting attendance system called Timble , which is an AI based face recognition technology. There is no biometric, students can access this through their mobile phones. Timble is a startup from IIT Delhi which has developed this infrastructure. "All the attendance for staff and students is done online since last one year. This has been very successful. As paper based and biometric attendance is a challenge in the current times, this AI based attendance is corona friendly," remarks Prof Rao.

Paperless exams

"We are also looking at paperless examination system, for example JEE and GATE, two large exams IITs conduct is completely moved online, taken by a million students. Since we are able to do this online even for the internal exams in IITs we are slowly looking at moving to paperless examination system. The advantage of the paperless system is that though the exams are subjective, we are also now testing jointly with some companies the grading system for subjective examination using machines. This is where AI and ML come in very handy. So we are looking at some of these methodologies for machine learning based grading of subjective examination," states Prof Rao. Within a year in IIT Delhi this will be implemented.

Scaling up of quality education

He believes that one thing that needs to happen is that quality education needs to scale and in India that has not happened. "At IITs despite the brand value that we gave we have not been able to reach out to a large number of people. Our model has been a huge entry barrier as the exams are so tough. I personally believe we need to reduce the entry barrier barrier, but create an exit barrier. More people would be able to take our courses and get benefited from that but a few will get certified by IITs to have cleared those exams. That needs to happen in the IIT system. Scaling quality education is very important for a country like India," asserts Prof Rao.

"A huge disruption will happen in the education sector and IITs will lead some of these disruptions in India. You will see many IITs joining hands with private players and offer certification programmes. Some of these startups in education space are already valued at billion dollars and have tens of thousands of students enrolled with them. We need to join them," says Prof Rao.

Prof Rao feels that AI and ML will also impact in many ways, it will take away jobs but also create new opportunities, so upgradation of skills is very important.

IIT-Delhi researchers develop reusable, affordable PPE coveralls

May 19, 2020 https://indianexpress.com/article/education/iit-delhi-researchers-develop-reusable-affordable-ppe-coveralls-6417768/

The researchers have collaborated with G. D. International certified company to produce 1, 20,000 coveralls per month.

The Department of Textile and Fibre Engineering at the Indian Institute of Technology (IIT), Delhi has developed a Personal Protective Equipment (PPE) coverall, which integrates bodysuit and shoe cover, for use by those involved in the treatment of coronavirus-infected patients.

These suits are reusable, more breathable, comfortable, and lighter than the alternatives available in the market, claims the institute.

IIT claims a PPE coverall has a special coating and treatment formulation that makes it maintain its weight to 300 gm, against the commercially available 400 gm-500 gm. It also claims these suits can provide complete protection against penetration of coronavirus and have anti-bacterial properties. The outer face of the coverall displays is said to be water- and oil-repellent.

The PPE coveralls developed by IIT-Delhi

The overall can be reused thrice. It is available in four sizes – small, medium, large, and extra-large – and shoe cover also have different shoe sizes, informs the institute. The researchers have collaborated with G. D. International certified company to produce 1, 20,000 coveralls per month.

The team behind developing an advanced version of PPE coverall is SM Ishtiaque, professor emeritus, Department of Textile and Fibre Engineering, IIT-Delhi and his student, Biswa Ranjan Das, scientist 'D' and assistant director, DMSRDE (DRDO), Kanpur.

"Breathability and feel of the coverall have been a major challenge and we have ensured we reach adequate levels of breathability and a softer feel, to support extended wearability," said Dr Ishtiaque.

IIT-Delhi earlier developed reusable face masks. Created by a student-teacher duo, the masks were anti-microbial and washable. The team claimed that the face mask could be reused up to 50 washes. Masks called 'NSafe' were priced at Rs 299 for a pack of two and Rs 589 for a pack of four.

Ashwagandha compound may help cure Coronavirus infection: Research by IIT-Delhi, Japan's AISTBy

May 19, 2020 https://www.financialexpress.com/lifestyle/health/ashwagandha-compound-may-help-cure-coronavirus-infection-research-by-iit-delhi-japans-aist-study/1963633/

Among many studies that are currently being conducted to find the possible treatment of the novel Coronavirus, a group of researchers have found out that Ayurvedic herb Ashwagandha have some properties that are preventive and therapeutic against the COVID-19 infection.

IIT-Delhi has claimed that some bio-actives in Ashwagandha interact with SARS-CoV-2.

Ashwagandha Coronavirus Research: Among many studies that are currently being conducted to find the possible treatment of the novel Coronavirus, a group of researchers have found out that Ayurvedic herb Ashwagandha have some properties that are preventive and therapeutic against the COVID-19 infection. A study done by researchers of IIT-Delhi in collaboration with Japan's National

Institute of Advanced Industrial Science and Technology (AIST) have found this, according to a report by The Indian Express. According to the report, IIT-Delhi has claimed that some bio-actives in Ashwagandha interact with SARS-CoV-2. Since the genome and structure of the virus have already been revealed, AIST Japan is working on natural compounds from Ashwagandha and exploring possible uses for treating Coronavirus.

The report further highlighted that propolis may too have the potential to be effective when it comes to providing treatment for the deadly viral infection. Further, the report citing Professor D Sundar from DAILAB (DBT-AIST International Laboratory for Advanced Biomedicine) who is leading the project said that since Ashwagandha is known especially for its properties for enhancing immunity, they have been working on providing evidence that it has some direct antiviral properties. Withanone (Wi-N), a natural compound which is derived from this Ayuvedic herb along with Caffeic Acid Phenethyl Ester (CAPE) which is known as an active ingredient of New Zealand propolis, together have the potential to impact the virus' enzyme responsible for its replication, therefore blocking it to multiply, the report added.

The study related to Ayurvedic solution to treat the novel Coronavirus has come after Union Health Minister Dr Harsh Vardhan has given a go-ahead for starting clinical trials of Ayush medicines in India. Some other Ayurvedic herbs that are currently being assessed to cure COVID-19 infection include Ayush-64, Guduchi, Pippali and Yashtimadhu. The medicinal herbs will be given to all the healthcare professionals who are helping people fight against the Coronavirus infection. People working in high-risk areas along with those who work in close proximity to affected people will also be provided these medicines as well.

Delhi gets a new website designed by own students

May 13, 2020 https://www.timesnownews.com/education/article/iit-delhi-gets-a-new-website-designed-by-own-students/591306

IIT Delhi has launched a new website for the institute today. The new website available at iitd.ac.in has been designed by the students of the Institute itself.

Indian Institute of Technology, IIT, Delhi has launched a brand new website today for the institute. The new website has been designed by the Institute's own students. The CSC that designed the website was led by Mr. K. Narayanan. Students can now check the new website of IIT Delhi on iitd.ac.in.

V. Ramgopal Rao, IIT Delhi Director has shared a tweet in this regard that read, "Keeping with the changing times and keeping pace with the technology, IIT Delhi launched a brand new website today for the institute. Visit us at http://iitd.ac.in. Thanks to the CSC team led by Mr. K. Narayanan for this great effort."

Keeping with the changing times and keeping pace with the technology, IIT Delhi launched a brand new website today for the institute. Visit us at https://t.co/fbV9stnjT6. Thanks to the CSC team led by Mr. K. Narayanan for this great effort.@iitdelhi@iitdaa pic.twitter.com/Basq0kNC3V

— V.Ramgopal Rao (@ramgopal_rao) May 13, 2020

IIT Delhi suggests reduction in counselling rounds for JEE Advanced 2020, Check details here

May 13, 2020 https://www.jagranjosh.com/news/iit-delhi-suggests-reduction-in-counselling-rounds-for-jee-advanced-2020-check-details-here-154030

The Indian Institute of Technology, Delhi which will be conducting the JEE Advanced 2020 has proposed to drop one round of the counselling process for this year's admissions. According to media reports, the proposal put forth by the institute has been forwarded to the Joint Implementation Committee for its approval.

Reduction in JEE Advanced Counselling Rounds

Usually the counselling process for the admission to the 40,000 seats across the 100 top institutes including the NITs. IITs, IIITs and the IIEST is held in seven rounds of joint counselling. However, with the proposal put forth, the counselling process will be conducted with just six rounds this academic year.

If the proposal put forth by IIT Delhi is accepted by the other participating institutes, the same will be shared with the Central Seat Allocation Board which coordinated the admissions to the NITs, IIITs, and IIEST. This also means that the proposal put forth by IIT-Delhi will influence the admission procedure for all the centrally funded Technical Institutions since they have a joint admission procedure.

JEE Advanced Results 2020

Along with laying off one round of the counselling procedure, IIT Delhi has also suggested that the results of the AIR JEE Advanced 2020 should be declared within a week of the examinations. According to the schedule usually followed the organising institutions take close to two weeks to announce the results of the JEE Advanced examinations.

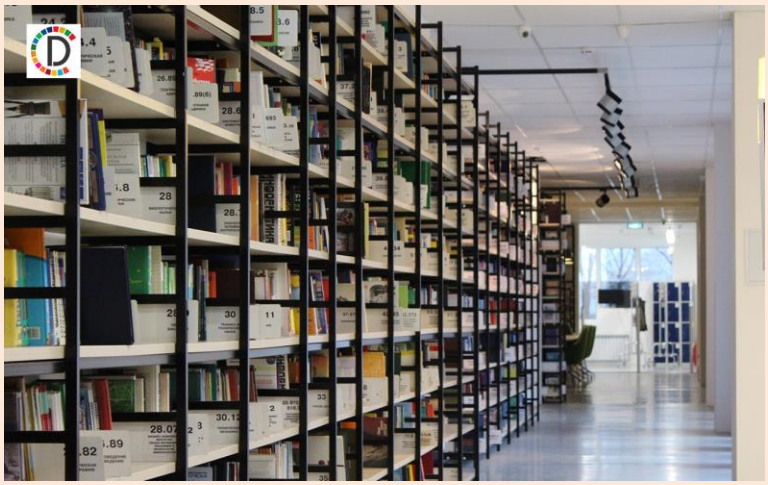
JEE Advanced 2020 is scheduled to be conducted on August 23, 2020.

According to officials from IIT Delhi, the reduction in the counselling rounds and the early declaration of the results will help the participating IITs to start the classes for the new students early in October 2020.

Officials have stated that beginning classes early will be possible only of the six rounds of counselling which will be conducted from September 1 to October 1, 2020.

Bengaluru firm to produce IIT Delhi's COVID-19 testing kit

May 12, 2020 https://www.devdiscourse.com/article/education/1047823-bengaluru-firm-to-produce-iit-delhis-covid-19-testing-kit



IIT Delhi's low-cost COVID-19 testing kit will be produced by a Bengaluru-based biotechnology firm and is expected to be available by the first week of June, according to officials. The large scale assembly and manufacturing of the kits by Genei Laboratories will be carried out at a facility exclusively set up for COVID-19 testing kits at the Andhra Pradesh MedTech Zone (AMTZ) in Visakhapatnam.

"Genei Laboratories is one of the companies which has received the non-exclusive license from IIT Delhi for the Probe free RT-PCR based COVID-19 low cost test kit," Indian Institute of Technology Delhi Director V Ramgopal Rao said. IIT Delhi, which has become the first academic institute to develop a COVID-19 testing method, is planning to give non-exclusive open licence to companies for commercialising the test, but with a price rider. While the institute has kept a price rider of Rs 500 per kit, Genei Laboratories has not announced the price yet.

"We are delighted to enter into a partnership with IIT Delhi for further development and commercialization of this unique detection assay for COVID-19," Genei Laboratories Managing Director S Chandrashekaran said. "Using their unique technology and our expertise in reagent and kit-making, we will ensure an accurate, affordable, Make-in-India kit for the diagnosis of Sars-CoV2," Chandrashekaran said.

"Further, Genei Laboratories expects to manufacture the most affordable real time PCR testing Kits for COVID19 in India," he said. "The final kit will have two variants and is expected to be rolled out

of AMTZ campus by June 1st week of 2020." The company is among the 40 companies to have reached out to the institute after it got an approval from the Indian Council of Medical Research for the test based on a real-time PCR-based diagnostic assay. According to the team, the current testing methods available are "probe-based", while the one developed by IIT Delhi is a "probe-free" method, which reduces the testing cost without compromising on accuracy.

Using comparative sequence analyses, the IIT Delhi team identified unique regions (short stretches of RNA sequences) in the COVID-19 and SARS COV-2 genome. The death toll due to the COVID-19 pandemic rose to 2,293 and the number of cases climbed to 70,756 in the country on Tuesday, registering an increase of 87 fatalities and 3,604 cases in the last 24 hours, the Union Health Ministry said.

Air pollution levels in Delhi drop by 49% post-lockdown

May 12, 2020 https://www.newindianexpress.com/cities/delhi/2020/may/12/air-pollution-levels-in-delhi-drop-by-49-post-lockdown-2142473.html

The nationwide lockdown had enforced restrictions and self-quarantine measures, which reduced emissions from transportation and industries.

A deserted view of India gate during countrywide lockdown amid coronavirus pandemic, in New Delhi.

Pursuant to the stringent nationwide lockdown, skies in the national capital have turned an Azure blue and the air has become breathable due to 49 per cent reduction in the air quality index (AQI).

AQI captures various air pollutants, such as particulate matter (PM), nitrogen oxide, sulphur dioxide, ozone, carbon monoxide and so on. The ones that are of most concern is particulate matter with a diameter of 2.5 and 10 microns. These are too small to be filtered out of the body.

According to a study conducted by the Indian Institute of Technology (IIT) Delhi, the country has witnessed 43, 31, 10, and 18 per cent decrease in PM 2.5, PM 10, CO, and NO2 levels during the lockdown period compared to previous years.

Among all pollutants, PM 2.5 had a maximum reduction in most regions. The nationwide lockdown had enforced restrictions and self-quarantine measures, which reduced emissions from transportation and industries.

If the low levels of air pollution, which have been reached during the lockdown period, are maintained, India's annual death toll could reduce by 6.5 lakh, the study stated. The mean excessive risks of PM also reduced by 52 per cent nationwide due to restricted activities in the lockdown period.

In Delhi, the country's most polluted city, transport contributes 41 per cent to pollution, the industry contributes 18.61 per cent, power 4.92 per cent and residential emissions 2.96 per cent.

The capital city has witnessed 87.9 per cent decline in nitrogen oxide, whose main contributor is transport. Due to the lockdown, the study stated, "Delhi observed the maximum reduction of 49 per cent in AQI. This reduction in AQI was also associated with a change in dominant pollutants in many cities."

A slight increase in sulphur dioxide concentrations was, however, observed during this period compared to the previous year. IIT Delhi said that it could be due to no restrictions on power plants in northern India and using coal powered energy as an essential commodity during the lockdown period. Ozone also increased by 10 per cent as compared to the last three years.

Besides this, India's carbon dioxide emissions have also fallen for the first time in four decades, according to a study conducted by two researchers of Centre for Research on Energy and Clean Air (CREA).

According to the Central government's System of Air Quality and Weather Forecasting and Research, all the sources of pollution have decreased during the lockdown, other than bio-fuel emissions.

"Biofuel burning from residential areas for cooking purposes, such as LPG, wood, coal and cow dung has increased. In Delhi and Pune, bio-fuel emissions have gone down, but not so much in Ahmedabad and Mumbai," said Gufran Beig, Director of SAFAR.

Even though the improvements in air quality are likely to be temporary, its decrease has, however, provided a glimmer of hope. In order to make the current pollution levels permanent, serious policy change needs to be enacted.

"Permanent levels are going to play an important role in framing our nation's standards. The Central Pollution Control Board (CPCB) should seriously consider looking at the baseline levels now," the SAFAR Director emphasised.

IIT Delhi, PNB Housing Finance Join Hands In Fight Against COVID-19

May 10, 2020 https://www.ndtv.com/education/iit-delhi-pnb-housing-finance-join-hands-in-fight-against-covid-19-2226226

The Indian Institute of Technology (IIT) Delhi or IITD is being funded by PNB Housing Finance Limited (PNBHFL) towards its fight against COVID-19 by developing personal protective equipment (PPE) for healthcare workers.

IITD and PNBHFL have signed a memorandum of understanding under which, IIT Delhi start-up ETEX (https://www.etex.in/) incubated at IITD, will be working to develop and deliver smart textile solutions for Healthcare, a statement from the Institute said.

The team has a strong expertise in textile engineering, and has technical support from researchers and professionals from interdisciplinary backgrounds including electronics, medical, material and design, the statement added.

The team is committed to innovate advanced technologies related to protection (against pollution and COVID 19), pain, health monitoring and posture.

PNBHFL will be contributing corporate social responsibility (CSR) funds towards this project.

"We are happy to associate with PNBHFL," says Prof. V. Ramgopal Rao - Director IIT Delhi.

He further added that KAWACH, a product of IIT Delhi start-up, has already been launched to provide effective and cost effective mask.

In its endeavour to reach out to masses and support a social cause, ETEX has partnered with ECOTATV, a social enterprise by a group of differently-abled people, in manufacturing of KAWACH, assuring their jobs and active participation in the battle against COVID 19.

"As part of our societal responsibilities, PNBHFL has joined hands with IIT Delhi in ensuring we contribute to the nation's effort in flattening the COVID-19 curve. Through this partnership, we can play a small yet meaningful role in safeguarding the well-being of our frontline warriors, who are risking their lives by putting service before self, day after day," said Neeraj Vyas, Managing Director and CEO of PNB Housing Finance, Elaborating on the initiative.