18th & 19th July, 2021

NEWS JUICE

Intelligent Compilation from The Hindu, Indian Express & others along with News Background

NEWS HEADLINES

1. What is UV-C technology, and how does it...

2. Curbs on foreign card firms

3. Is Twitter acceding to takedown requests?

4. Why is there a COVID-19 spike in Kerala?

What is News Juice?

BY PREPMATE

1. Analysis ..

1. What is UV-C technology, and how does it work on coronavirus?

Relevant for GS Prelims & Mains Paper III; Science & Technology

Union Minister of State for Science and Technology Dr Jitendra Singh has said that Ultraviolet-C or UV-C Disinfection Technology will soon be installed in Parliament for the "mitigation of airborne transmission of SARS-COV-2''.

The UV-C air duct disinfection system was developed by CSIR-CSIO (Central Scientific Instruments Organisation). CSIR-CSIO mentioned in a release that the system is designed to fit into any existing air-ducts and the virucidal dosages using UV-C intensity and residence time can be optimised according to the existing space. The release adds that the virus is deactivated in any aerosol particles by the calibrated levels of UV-C light. It can be used in auditoriums, malls, educational Institutions, AC buses, and in railways.

What is UV?
Ultraviolet (UV) is a type of light or radiation naturally emitted by the Sun. It covers a wavelength range of 100-400 nm. The human visible light ranges from 380–700 nm.

UV is divided into three bands: UV-C (100-280 nm), UV-B (280-315 nm) and UV-A (315-400 nm).

UV-A and UV-B rays from the Sun are transmitted through our atmosphere and all UV-C is filtered by the ozone layer. UV-B rays can only reach the outer layer of our skin or epidermis and can cause sunburns and are also associated with skin cancer. UV-A rays can penetrate the middle layer of your skin or the dermis and can cause aging of skin cells and indirect damage to cells' DNA. UV-C radiation from man-made sources has been known to cause skin burns and eye injuries.

So, can UV-C kill coronavirus?
UV-C radiation (wavelength around 254 nm) has been used for decades to disinfect the air in hospitals, laboratories, and also in water treatment. But these conventional germicidal treatments are done in unoccupied rooms as they can cause health problems.

A paper published in June 2020 in Scientific Reports noted that UV-C radiation can destroy the outer protein coating of the SARS-Coronavirus. They showed that 222-nm, known as 'far-UVC light', efficiently kills airborne human coronaviruses – alpha HCoV-229E and beta HCoV-OC43. This is different from SARS-CoV-2 virus. There is very limited data on the required wavelength and duration needed to inactivate SARS-CoV-2.

An in-vitro experiment conducted by Hiroshima University researchers showed that 99.7% of SARS-CoV-2 viral culture was killed when exposed to 222 nm UV-C irradiation at 0.1 mW/cm2 for 30-seconds. The study was published in September 2020 in the American Journal of Infection Control.

Another study published in Scientific Reports in March 2021 noted that UV-C irradiation was highly effective in inactivating SARS-CoV-2 replication. "A complete inactivation at all viral concentrations was observed with 16.9 mJ/cm2. These results are important for the development of novel sterilising methods to contain SARS-CoV-2 infection," write the authors.

Is it safe for humans?

Researchers from the Indian Institute of Technology-Kanpur, who developed a portable disinfectant device that used UV-C radiation (222-254 nm), noted that the device was specifically developed to disinfect non-living things. "UV-C radiation used in this device could be harmful to the skin and eyes of the living beings, therefore the operator of the device must use spectacles with UV-C radiation protection and use this device safely," noted the paper published in June 2020.

The release from our Ministry of Science and Technology does not state the wavelength or duration used, but mentioned that the product was tested for more than 99% disinfection.
Dan Arnold, who works for UV Light Technology, a company that provides disinfecting equipment to hospitals, pharmaceutical companies across the UK, told bbc.com: "UV-C is really nasty stuff – you shouldn't be exposed to it…It can take hours to get sunburn from UV-B, but with UV-C it takes seconds. If your eyes are exposed… you know that gritty feeling you get if you look at the sun? It's like 10 times, just after a few seconds."

But few studies have shown that far-UVC light (207–222 nm) does not harm mammalian skin. "Far-UVC light has a very limited range and cannot penetrate through the outer dead-cell layer of human skin or the tear layer in the eye, so it's not a human health hazard. But because viruses and bacteria are much smaller than human cells, far-UVC light can reach their DNA and kill them," explained David J. Brenner, director of the Center for Radiological Research at Columbia in a release. His team has demonstrated in 2018 that far-UVC light can help control the spread of airborne-mediated microbial diseases.

Source: The Indian Express

2. Curbs on foreign card firms

Relevant for GS Prelims & Mains Paper III; Economics

The Reserve Bank of India has so far barred three foreign card payment network companies — Mastercard, American Express and Diners Club — from taking new customers on board over the issue of storing data in India. Here's what it means for customers and the payment system in India:

Why have these companies been barred from enrolling new customers?

On July 14, the RBI imposed restrictions on Mastercard Asia Pacific Pte Ltd from onboarding new domestic customers (debit, credit or prepaid) in India from July 22, citing

non-compliance with guidelines for storage of data in India. The RBI said it had given almost three years for Mastercard to comply with the regulatory directions, but it was unable to complete the process.

In April this year, the RBI had imposed restrictions on American Express Banking Corp and Diners Club International Ltd from enrolling new domestic customers onto their card networks from May 1, 2021, also citing non-compliance of storage of data.

Will existing card users and banks be affected?
No. Existing customers using a credit card or a debit card with Mastercard, American Express or Diners Club as the payment network can continue using these. Banks and non-banking finance companies that were planning to use these payment networks won't be able to use these platforms to enrol new customers until the RBI lifts the ban.

"This leaves only Visa Inc and homegrown NPCI's RuPay as payment providers under no restrictions currently. We don't know if Visa has fulfilled all the requirements of data localisation as envisaged in the Storage of Payment System Data circular of the RBI. In the near term, we don't foresee any material impact on card issuers (especially credit card issuers), but there could be a medium-term impact if this situation persists," banking group Nomura said in a report. Banks that were planning for new customers through Mastercard will have to look at Visa for enrolment.

Yes Bank, RBL Bank and Bajaj Finserv are likely to be most impacted as their entire card schemes are allied with Mastercard, Nomura said. Around 60% of HDFC Bank's card schemes are tied to Mastercard, Diners and AmEx. For ICICI Bank and Axis Bank, 35-36% are linked to Mastercard. The card portfolio of Kotak Mahindra Bank is allied with Visa.

What do the RBI guidelines stipulate?
By the RBI circular on Storage of Payment System Data dated April 6, 2018, all system providers were directed to ensure that within six months the entire data (full end-to-end transaction details, information collected or carried or processed as part of the message or payment instruction) relating to payment systems operated by them is stored in a system only in India. They were also required to report compliance to the RBI and submit a board-approved system audit report conducted by a CERT-In empanelled auditor within the timelines specified. However, credit and card firms with global operations have been resisting the move, citing costs, security risk, lack of clarity, timeline, and the possibility of data localisation demand from other countries.

According to Kazim Rizvi, Founding Director of think-tank The Dialogue, the RBI's decision to restrict entities from onboarding new customers is a crucial development in their endeavour to ensure that all payment system operators store or localise their end-to-end transaction data only in India. "The motivation behind such a move is to carry out effective law enforcement requirements as data access for law enforcement purposes has been a challenge," Rizvi said.

Why have these firms not complied?

The RBI had stipulated that data should be stored only in India and no copy — or mirroring — should be stored in other countries. Payment firms like Visa and Mastercard, which currently store and process Indian transactions outside the country, have said their systems are centralised and expressed the fear that transferring the data storage to India will cost them millions of dollars. Besides, once it happens in India, there could be similar demands from other countries, upsetting their plans.

What has upset foreign players is that domestic payment companies, including e-commerce firms, which are storing the data within India, were putting pressure for data storage within the country. While the Finance Ministry had suggested some easing of norms in transferring the data, the RBI has refused to budge, stating that the payment systems need closer monitoring in the wake of the rising use of digital transactions. It's not clear if Visa has obliged the RBI and transferred data storage to India.

Is there a way out?

Experts agree that it is necessary for all entities to comply with the RBI's localisation mandate. "At the same time, however, it's true that hard localisation may impact India's payments ecosystem," Rizvi said.

"To have a more effective mechanism for law enforcement, we need to move beyond MLAT (Mutual Legal Assistance Treaty), which is slow and ineffective, to a system based on bilateral treaties on data transfers with the EU, UK and the US. Here, the idea must be to ensure that Indian law enforcement requirements of access to data are met in a timely manner while at the same time allowing data flows to foster innovation and trade in the tech ecosystem," Rizvi said. However, the RBI is against the suggestion that a copy of data stored outside be brought to India.

What's the role of card networks?

Firms such as Mastercard, Visa and National Payment Corporation of India (NPCI) are Payment System Operators authorised to operate a card network in India under the Payment and Settlement Systems (PSS) Act, 2007. Under the Act, the RBI is the authority for the regulation and supervision of payment systems in India. The RBI's payment system enables payments to be effected between a payer and a beneficiary and involves the process of clearing, payment or settlement, or all of them.

Funds transferred using debit or credit cards are routed through platforms such as Mastercard, Visa and NPCI. The RBI has decided to allow non-bank entities — Prepaid Payment Instrument (PPI) issuers, card networks, White Label ATM (WLA) operators, Trade Receivables Discounting System (TReDS) platforms – to become members of the centralised payment system (CPS) and effect fund transfer through RTGS and NEFT.

How big is India's card business?

According to RBI data, there were 90.23 crore debit cards and 6.23 crore credit cards in India as of May 2021. There were 57,841.30 lakh debit and credit card transactions valued at Rs 12.93 lakh crore during 2020-21. Of these, debit card transactions accounted for a volume of 40,200.24 lakh valued at Rs 6.62 lakh crore.

Source: The Hindu

3. Is Twitter acceding to takedown requests?

Relevant for GS Prelims & Mains Paper II; Polity & Governance

On Wednesday, social media platform Twitter released its Transparency Report for the second half of last year (July 1 to December 31), in which it was revealed that India was the single largest source of government information requests. India also was one of the prominent sources of legal demands for removal of content, according to the report.

What's the transparency report all about?
Twitter started publishing a biannual report — Twitter Transparency Report — in 2012. The original goal, it says in its blog, "was to provide the public with recurring insights into government pressures that impacted the public, whether through overt political censorship or by way of compelling account data through information requests".

It further says, "A lot has changed since 2012. It is now more important than ever that we also shine a light on our own practices, including enforcement of the Twitter Rules and our ongoing work to disrupt global state-backed information operations."

Over the years, the scope of the report has been expanded gradually. Additional categories such as non-government legal requests, trademark notices, coordinated manipulation, and so on, have been added from time to time. This aspect of reporting isn't rare any more.

Google, which has been issuing its transparency reports since 2010, says in its blog that "transparency reporting is an increasingly common practice across industries". It then goes on to list over 40 brands, from Facebook to Reddit, and from Uber to Yahoo!, that undertake transparency reporting.

What are the highlights of the latest report?
As mentioned above, there are different categories under which Twitter provides the data. One of the main categories is 'Government Information Requests,' and this includes "both emergency and routine legal demands for account information issued by law enforcement and other government agencies". The report noted that there was a 15% increase in such requests (and more than a 100% increase in the number of accounts specified in these requests) compared with the January-June 2020 period.

Notably, for the first time in the history of the transparency report, the U.S. wasn't the "top global requester". India was. It accounted for 25% of the global volume and 15% of the global accounts specified. The U.S., however, submitted the highest volume of global emergency requests, at 34%, followed by Japan (17%) and South Korea (16%).

Twitter describes routine requests as "legal demands issued by government of law enforcement authorities (e.g. subpoenas, court orders, search warrants)" that compel it to turn over account information. Emergency requests, on the other hand, may be entertained "if we are provided with sufficient information to support a good faith belief that there is an imminent threat involving danger of death or serious physical injury to a person, and we have information relevant to averting or mitigating the threat".

Under the category of 'Government Information Requests,' Twitter says it "narrowed or did not disclose information in response to 70%" of the requests.

One of the other significant sub-categories is 'Legal Demands', which provides data about court orders and other formal demands to remove content. The source of such demands can be "governmental entities and lawyers representing individuals". While the number of global legal demands fell 9% to 38,524, a whopping 94% of the demands came from just five countries (Japan, India, Russia, Turkey and South Korea).

Japan was the top requester in this category, accounting for 43% of the total. India was next, at 18%. Japan's requests, Twitter says, were largely related to "laws regarding narcotics and psychotropics, obscenity, or money lending".

A large portion of Russian requests related to its laws prohibiting the promotion of suicide. This section of the report also notes that "199 accounts of verified journalists and news outlets from around the world were subject to 361 legal demands, a 26% increase in the number of accounts since the previous reporting period. These included removal requests from India (128), Turkey (108), Pakistan (52), and Russia (28)".

The compliance rate, which is the "percentage of information requests where Twitter produced at least some sort of requested account information", in the case of requests emerging from India was far less compared with the average of the worldwide data.

What else is notable about the new report?
Twitter has started reporting about two additional things. One is an impressions metric, which "captures the number of views violative Tweets received prior to removal". The other is about the adoption of two-factor authentication "to keep accounts safe and secure". About the first, Twitter said violative tweets accounted for less than 0.1% of all impressions for all tweets globally during this period, and it had removed 3.8 million tweets that flouted its rules. Only 6% of the removed tweets had more than 1,000 impressions.

Was there another report specific to India?

On July 11, it published 'Twitter's India Transparency Report,' under the new Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Rules, 2021. It will be a monthly report from now on. This comes after months of uneasiness between the government and Twitter over the latter's non-compliance with the new rules, including the delay in the appointment of a grievance officer. The social media platform has just complied with that requirement. This report dealt with user grievances and proactive monitoring, which Twitter says refers to "content proactively identified by employing internal proprietary tools and industry hash sharing initiatives". In the May-June period, it reportedly suspended over 18,000 accounts for child sexual exploitation and a further over 4,000 accounts for promotion of terrorism.

Source: The Hindu

4. Why is there a COVID-19 spike in Kerala?

Relevant for GS Prelims & Mains Paper III; Science & Technology

The second wave of COVID-19, which began rising in Kerala in the second week of April, peaked mid-May, when the State was reporting around 44,000 cases daily and had about 4.45 lakh active cases in the community. The test positivity rate (TPR) hovered around 30%. The State then went into a total lockdown for over a fortnight, after which the case graph came down. But since the past one month or more, the epidemic curve has remained on a plateau, logging around 10,000 cases-12,000 cases every day, and the TPR is at 10%-11%. At a time when COVID-19 cases across the nation have come down sharply, Kerala accounts for about 30% of the country's active caseload. In the past two weeks, the case graph has been rising again, recording a 20% growth. On July 17, Kerala reported 16,148 fresh COVID-19 cases. Maharashtra, which has also seen cases rising, registered 8,172 fresh cases on the same day.

Why is the epidemic curve not coming down?

Public health experts point out that what is happening in Kerala now is no different than what was witnessed in the State after the first wave. The first wave peaked in Kerala by the end of last October, the curve plateaued and remained unchanged for a long time. In January-February, recording between 1,500 and 3,000 fresh cases daily, Kerala accounted for over 45% of the active cases in the country.

The epidemic curve never hit the baseline after the first wave in Kerala because of two things — the large-scale mixing of people and huge gatherings and rallies during the campaigning in February ahead of the election in April, which was followed by the arrival of the highly transmissible Delta variant.

The first wave was yet to taper down, when Kerala rode into the second wave with a daily caseload of over 2,500 in the second week of April. The case graph then rose exponentially

to reach a daily tally of almost 45,000 cases by mid-May. Other States had already experienced the worst of the second wave when the curve began rising in Kerala. Because the second wave was delayed, the epidemic curve in the State is expected to remain on a plateau for a prolonged period and at a higher daily average of fresh cases (because of the Delta variant).

What is the rate of community transmission?

The third round of the national sero-prevalence survey, conducted by the Indian Council of Medical Research (ICMR) in three districts of Kerala in January, revealed that only 11.6% of the population had been exposed to the virus, against a national average of 21%. This meant that when the second wave struck, 89% of the State's 3.5-crore population was immunologically naive and at risk of contracting COVID-19.

When a highly transmissible virus variant like Delta is in circulation among a susceptible population, the level of efficiency with which the community was maintaining non-pharmacological means of protection against the virus (masking and physical distancing) will no longer be enough to check transmission. Cases will continue to occur till a chunk of the population is affected or the transmission is reduced substantially through vaccination. Testing has been consistent in Kerala, with an average of 1.3 lakh samples tested daily. The official stance is that Kerala is picking up one out of every three infections in the community, while the national rate is one in 25 infections.

What has been Kerala's strategy?

Kerala's strategy in COVID-19 containment has always been to keep a tight check on transmission through targeted testing, contact-tracing and isolation of infected individuals. The attempt was always to delay the peak of the curve and spread out the infection so that the cases never exceeded the health system capacity. At the peak of the second wave too, though the health infrastructure was severely stressed, the State managed to tide over the situation fairly well. There were tense situations but people were never denied care nor were there distressing scenes of people running around for oxygen beds or ventilators.

Unlike the sharp rise and fall of the epidemic curve in most States, Kerala's epidemic curve had a gradual rise and decline. This means that while the duration of the epidemic would be longer, the impact on the community would be less.

What is the current situation?

A prolonged plateauing of the epidemic curve and a slight increase in transmission after the lockdown was expected. However, a 20% growth in cases after the plateau over the last two weeks is beginning to look worrying. Cases are going up mainly in the northern districts. The active caseload, which came down below the 1-lakh mark, has climbed to 1.24 lakh again, and while ICU occupancy is down, new hospital admissions are showing a rising trend.

Did something go wrong post-lockdown?

The State's current strategy of allowing relaxations, solely on the basis of TPR, has turned out to be unscientific, counter-productive and has been criticised by the scientific community as well as the people. The reliability of TPR as an epidemiological indicator of disease transmission is dependent on who is being tested. Testing among primary contacts of the known COVID-19 cases and high-risk individuals will show more infections in the community but this will mean an increased TPR and another round of lockdown. Now that the government has linked TPR to lockdown relaxations, the reduction of TPR has become the goal for local bodies. Rather than targeted testing, the focus is now on reducing TPR by organising mass testing camps where asymptomatic people are offered incentives to test themselves. Increasing the denominator by testing a large population and testing within a relatively low-risk population can artificially bring about a reduction in TPR.

The State has to break the transmission now by finding active pockets of disease in the community through diligent targeted testing and tracing of primary contacts and high-risk individuals. "What is needed is micro-containment, rather than closing down an entire panchayat based on TPR. Skewed policies such as restricting the opening of shops to certain days of the week is actually leading to overcrowding and super-spread events," a Health official admitted.

What happens next?

Going forward, increasing the pace of vaccination and keeping a sharp eye on the circulation of SARS-CoV-2 variants through continuous genomic surveillance assumes importance.

Compared with the rest of India, Kerala has managed vaccination very well, administering the first dose to 45% of its population above 18 years and the second dose to 17% as on July 17. Though the State has the capacity to administer 2.5 lakh-3 lakh doses a day, erratic vaccine supply has made this impossible.

The State is ahead as far as genomic surveillance goes, with institutions doing targeted sequencing, apart from the whole genomic sequencing done at national institutes. Over 80% of the samples analysed in the State in recent months have been the Delta variant, though more cases of Delta Plus have also been surfacing.

Kerala is also planning to do a sero-prevalence survey soon, including among children. The sero-positivity is expected to be much higher than what it was during the ICMR survey in January, given that over 31 lakh people have already had COVID-19, and have natural immunity, apart from the proportion of the population who have vaccine-derived immunity.

Source: The Hindu

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