1. Supreme Court Takes Suo Motu Cognizance of Doctor's Rape and Murder

Why in News?

The Supreme Court of India has taken suo motu cognizance of the brutal rape and murder of a postgraduate trainee doctor at R.G. Kar Medical College and Hospital in Kolkata on August 9. A three-judge Bench, led by Chief Justice of India D.Y. Chandrachud, is set to hear the case on Tuesday, with the matter listed at the top of the court's agenda.

Background and Legal Proceedings

The Supreme Court's intervention follows an August 13 order from the Calcutta High Court, which transferred the investigation from the Kolkata Police to the Central Bureau of Investigation (CBI). The Kolkata Police had already arrested a civil police volunteer in connection with the case. The doctor's body was discovered in the seminar room of the hospital, with post-mortem and inquest reports revealing extensive injuries.

Medical Community's Response

The Indian Medical Association (IMA) ended its 24-hour strike on Sunday in response to the incident, while also announcing the formation of a committee to draft a "safety document" for the Union Health Ministry. According to IMA President R.V. Asokan, this document will outline strategies to enhance safety measures for employees in healthcare institutions and is expected to be completed later this week.

The IMA has also expressed its support for the Resident Doctors' Association of Delhi, which may continue the agitation if necessary. "They are the soldiers on the ground, and we will support them if they want to continue the agitation," Asokan stated.

Government's Appeal and Support from Padma Awardees
The Union Health Ministry, on Saturday, urged the protesting doctors to resume their duties, citing the rising cases of dengue and malaria as a pressing public health concern. The Ministry assured the medical community that a committee would be established to explore all possible measures to ensure the safety of healthcare professionals.

In a show of solidarity, over 70 doctors who have been honored with Padma awards wrote a letter to Prime Minister Narendra Modi, calling for urgent action to protect healthcare workers. The group expressed their deep concern and anguish over the events at the Kolkata hospital and emphasized the need for stronger legal protections and enforcement.

"We stand in unwavering solidarity with the victim's family and extend our full support to the medical community, who are increasingly confronting such violence in the course of their work. The safety and dignity of healthcare professionals must be safeguarded with utmost priority," the letter stated.

The Padma awardees also highlighted the need for rigorous application of existing legal frameworks, the imposition of severe and swift penalties as a deterrent, enhanced safety measures in medical institutions, and the enactment and implementation of a special law for the protection of healthcare workers.

Relevance: GS Prelims & Mains Paper II; Governance
Source: The Hindu

2. How a foreign covert group was using ChatGPT to influence U.S. elections

Introduction
Recently, OpenAI said it banned ChatGPT accounts linked to an Iranian influence operation that used the chatbot to generate content to influence the U.S. presidential election. The Microsoft-backed company said it identified and took down a "cluster of ChatGPT accounts" and that it was monitoring the situation.

What is Storm-2035?
OpenAI assigned the group the Storm-2035 moniker, and said the operation was made up of four websites that acted as news organisations. These news sites exploited issues like LGBTQ rights and the Israel-Hamas conflict, to target U.S. voters. The sites also used AI tools to plagiarise stories and capture web traffic, as per a Microsoft Threat Analysis Center (MTAC) report issued on August 9. Some named sites included Even Politics, Nio Thinker, Westland Sun, Teorator, and Savannah Time. The operation allegedly targeted both liberal and conservative voters in the U.S.

How did the group use ChatGPT?

According to OpenAI, the operatives used ChatGPT to create long-form articles and social media comments that were then posted by several X and Instagram accounts. AI chatbots such as ChatGPT can potentially assist foreign operatives fool gullible internet users by mimicking American users' language patterns, rehashing already existing comments or propaganda, and cutting down the time it takes to create and circulate plagiarised content meant to sway voters. Apart from the upcoming U.S. presidential election, the Storm-2035 operation covered world issues such as politics in Venezuela, Hispanic rights in the U.S., the destruction in Palestine, Scottish independence, and Israel taking part in the Olympic Games. The network also exploited popular topics like fashion and beauty. OpenAI shared screenshots of some of the news stories and social media posts it attributed to the operation; one article claimed that X was censoring former president Donald Trump's tweets, while separate social media posts asked users to "dump" Trump or Vice President Kamala Harris.

OpenAI blocks Iranian group from ChatGPT, says it targeted US election

How severe is the impact of Storm-2035?
OpenAI has downplayed the severity of the incident, claiming that audiences did not engage much with the uploaded content on social media. Using Brookings' Breakout Scale, which measures the impact of covert operations on a scale from 1 (lowest) to 6 (highest), the report shared this operation was at the low end of Category 2, meaning it was posted on multiple platforms, but there was no evidence that real people picked up or widely shared their content. However, OpenAI stressed it had shared the threat information with "government, campaign, and industry stakeholders."

While OpenAI presented the discovery and disruption of the Iran-linked influence operation as a positive development, the use of generative AI tools by foreign operatives against U.S. voters is a gravely urgent issue that highlights multiple points of failure across OpenAI, X, Instagram, and the search engines ranking the sites.

Were there other similar issues OpenAI faced in the past?

In May, the AI firm posted a report revealing it had been working for over three months to dismantle covert influence operations that used its tools for generating comments on social media, articles in multiple languages, fake names and bios for social media accounts, and translating or proofreading text.

A Russian outfit that OpenAI called 'Bad Grammar', used Telegram to target Ukraine, Moldova, the Baltic States and the U.S. Separately, another Russia-based operation titled 'Doppelganger,' an Israeli operation that OpenAI nicknamed 'Zero Zeno,' a Chinese network called 'Spamouflage,' and an Iranian group called 'International Union of Virtual Media' or IUVM, used ChatGPT to write comments on social media platforms like X and 9GAG, and to post articles and news stories. The investigation found that the content covered issues like Russia's invasion of Ukraine, the Gaza conflict, Indian and European elections, and criticism of the Chinese government by dissidents or foreign governments.

Besides hunting down influence networks, OpenAI also found incidents of state-backed threat actors abusing AI to attack enemies. Other serious cases exposing OpenAI's vulnerabilities followed. In July, the Microsoft-backed firm revealed that early last year, a hacker gained access to OpenAI's internal messaging systems and stole information related to its AI technologies. While the hacker was found to be an individual, the incident raised alarms that Chinese adversaries could easily do the same.

What is OpenAI doing to safeguard its tech?
While studying these cases, OpenAI found that its AI tools refused to generate text or images for some prompts due to the safeguards already built into them. The firm also developed AI-powered security tools to detect threat actors within days instead of weeks.

While not explicitly discussed by OpenAI, the AI company has become enmeshed with prominent figures from U.S. federal agencies or government bodies. In June, OpenAI picked cybersecurity expert and retired U.S. Army General Paul M. Nakasone to be a part of its Board of Directors. Mr. Nakasone led the U.S. National Security Agency and has served in assignments with cyber units in the U.S., Korea, Iraq, and Afghanistan. A couple of weeks ago, the firm also announced it will be teaming up with the U.S. AI Safety Institute, so that its next big foundational model GPT-5 can be previewed and tested by it.

Relevance: GS Prelims & Mains Paper III; Science & Technology
Source: Indian Express

3. Hayflick limit: Why immortality remains out of humans' reach

Why in News?
Biomedical researcher Leonard Hayflick, who discovered that normal somatic cells can divide (and thus reproduce) only a certain number of times, died on August 1 at the age of 98. Hayflick's discovery fundamentally changed the understanding of aging — especially the thesis that cells are capable of being immortal, and aging is simply a factor of externalities such as disease, diet, and solar radiation.
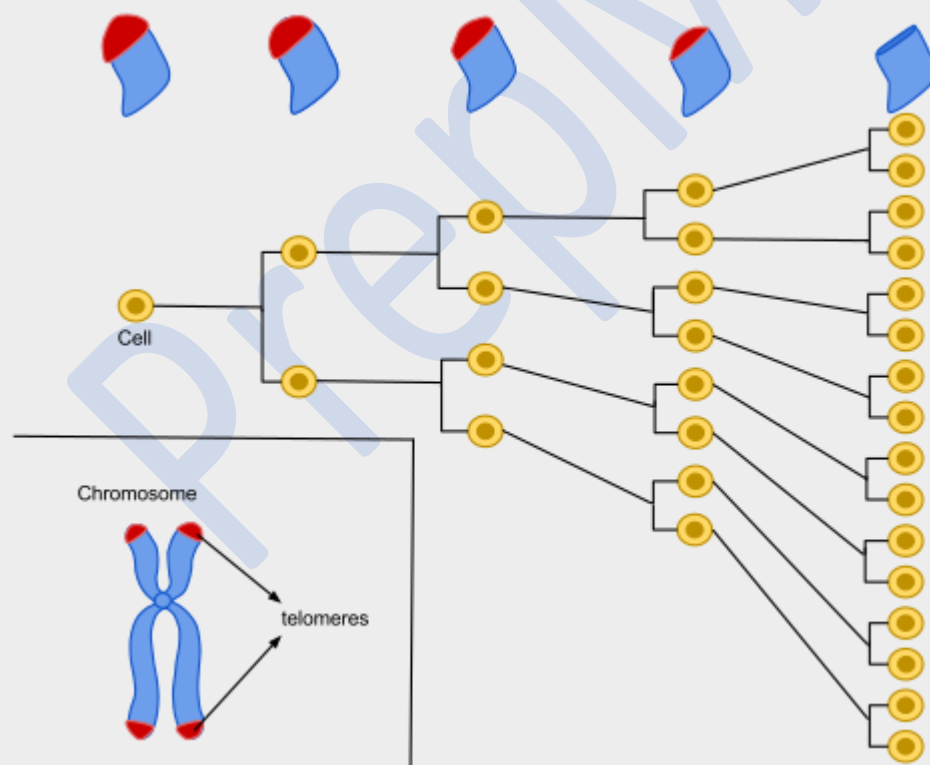
Impossibility of immortality

In the early 1960s, Hayflick, at the time a researcher at the University of Pennsylvania, discovered that cell division in somatic (non-reproductive) cells stopped after roughly 40-60 times. This cessation in cell division is what Hayflick posited causes aging — as senescent cells (those that have stopped dividing) accumulate, one's body begins to age and decline.

This means that there is an in-built cellular clock in the human body (and that of other organisms) which determines how long one can live. This "ultimate Hayflick limit", as scientists have termed it, is around 125 years for humans, beyond which no amount of diet, exercise, or even genetic tweaking against diseases can extend the human lifespan.

Since the discovery was made, Hayflick and other scientists have documented the Hayflick limits of cells from animals with varied life spans, from Galapagos turtles to laboratory mice. The cells of the former species, which can live for a couple of centuries, divide approximately 110 times before senescing, whereas cells of the latter become senescent within 15 divisions.

Correlation or causation?
Hayflick's discovery got further weight after researchers in the 1970s discovered telomeres. As cells divide, they create copies of DNA strands. Telomeres are repetitive DNA sequences at the very end of these strands, meant to protect the chromosome. Crucially, with each cell division, these telomeres get slightly shorter. Eventually, the telomere loss reaches a critical point at which cell division ends.

That said, while shortening telomeres is related to aging, the exact relationship between telomere length and lifespan remains unclear. Lab mice, for instance, have telomeres that are five times longer than humans, but their lives are 40 times shorter.

This is what has led to some researchers arguing that telomere loss and the Hayflick limit are not limits on aging, but rather symptoms of aging. Theoretically, it might be possible to thwart

telomere loss or replace telomeres, as the differential rates of telomere loss among different species indicates.

The discovery in the 1980s of a protein called telomerase, capable of producing new telomeres, has strongly suggested this possibility. Telomerase is present in all cells, but it is seemingly "turned on" in only cancer cells. This is why, as Hayflick himself said, cancer cells are not subject to his limit.

Although scientists have been able to synthesise telomerase, and some in vitro studies have indicated that they may slow down telomere loss in normal human cells, any practical application for this seems some distance away.