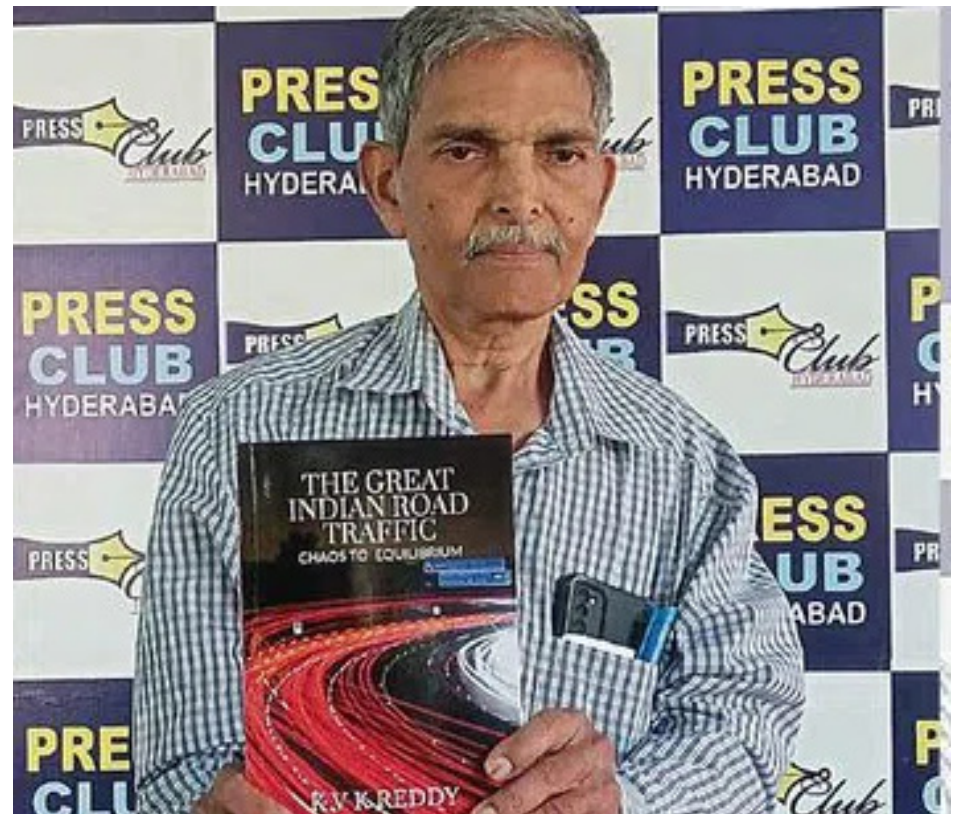


Expert suggests rules to beat traffic in cities like Hyderabad

Hyderabad: Hyderabad is not new to traffic jams. With the ever-growing human and vehicle population, the traffic has also gotten worse. Also on the rise have been the road accidents and the lives lost in them. Highlighting the issues of incessant traffic and increasing road accidents in the cities, traffic expert and author of the book 'The Great Indian Road Traffic: Chaos to Equilibrium', KVK Reddy attributes certain responsibility on part of the drivers too. Contrary to popular belief, he argues that the state of the roads was not the only reason for accidents. Poor driving habits were the main culprit. "Even if we widen the roads, the problem will continue. People need to change their habits," he advocates.

Reddy who has been observing road traffic all over the world for two decades suggests that roads should be divided into three lanes. "The left lane for public transportation, like buses, and auto-rickshaws and middle lane for slow-moving vehicles like trucks and learners' vehicles. The right lane should be for private cars and two-wheelers," he says adding that vehicles must not go beyond 40 kmph and maintain 10 feet distance. Reddy calls for stringent traffic laws to supplement the division of

roads. Also, the motorists oriented to follow certain driving practices such as not overtaking and using indicators to take turns. Regarding emergency vehicles, he says, "when the siren of an ambulance is heard, vehicles in the middle lane and right lane should move to their left and right respectively and ensure smooth passage of the ambulance." Reddy believes following these measures will decrease the fatality rate. "If followed, traffic will move faster without unruly overtaking. Money and fuel can also be saved if the pace of vehicles is constant. Air and noise pollution will also significantly decrease," he says. Safety tips for road users: * Vehicles must travel one behind the other without overtaking * Buses should stop only at designated stops * To turn left or right, indicators must be used well before turning * Traffic lights should be placed every 2-3 km * 2-minute intervals for lights giving pedestrians time to cross. Lanes: * Left lane for public transportation like buses and auto-rickshaws * Middle lane for slow-moving vehicles like trucks and learners' vehicles * Right lane for private cars and two-wheelers * Vehicles must not go beyond 40kmph * Vehicles should maintain 10 feet distance



Pvt engineering colleges affiliated to JNTU-Hyderabad grapple with dearth of eligible principals



This came into limelight during recent inspections by the fact-finding committees (FFCs) constituted by the JNTU-Hyderabad as part of granting affiliation to the private engineering colleges for the academic year 2024-25.

Hyderabad: Private engineering colleges affiliated to the Jawaharlal Nehru Technological University – (JNTU) –

Hyderabad are grappling with a critical dearth of eligible principals, raising concerns about the college administration and

educational standards. This came into limelight during recent inspections by the fact-finding committees (FFCs) constituted by the JNTU-Hyderabad as part of granting affiliation to the private engineering colleges for the academic year 2024-25. As per university sources, nearly 40 colleges mostly located in the rural and semi-urban do not have eligible principals.

According to new AICTE norms, to be eligible for principal position, a candidate should have put in at least 15 years of service and ratified as a professor, eight publications in peer reviewed journals and should have supervised a minimum of two research scholars for their PhDs. During the inspections, the FFCs found principals in nearly 40 colleges did not meet the norms and hence termed this as deficiency in its report. Also, 50 out of 139 private engineering colleges are dealing with a shortage of faculty members to teach computer science and engineering, and allied programmes. Over the last couple of years, the colleges went overboard and enhanced seats in the computer science and engineering programme given the IT boom and demand among students. However, they failed to find eligible faculty members

to teach the programme, affecting the student: teacher ratio. "Faculty members no longer prefer to teach in private colleges due to less salary compared to IT companies. The ECE and EEE faculty can be utilized for teaching the CSE as per the AICTE norms. This will reduce the shortage of teachers in CSE. However, the JNTU-Hyderabad has not allowed this," said Aineni Santosh Kumar, president, Telangana Schools Technical Colleges Employees Association. Meanwhile, the JNTU-Hyderabad directed the colleges with deficiencies to submit an undertaking mentioning that the college will meet all requirements, specifications and regulations of the university, AICTE and State government and submit a compliance report on or before July 18.

The colleges have been asked to maintain biometric attendance from July 19. This attendance will be considered from July 20 till the date of issuance of deficiency letter pertaining to affiliation for the academic year 2025-26. If colleges fail to comply with norms, the university may suspend affiliation, reduce seats or courses for the academic year 2025-26," said a senior JNTU-Hyderabad official.

Write NEET and repeat: The struggle to get a seat in a medical college

"I did not get a medical seat because I got only 320 out of 720 marks in NEET (National Eligibility cum Entrance Test) results last year. I had the dream of becoming a doctor since childhood, so I skipped the year, joined a coaching centre, and studied hard. This year, I got 600 marks, and I am hoping to get a medical seat," said Namrata (name changed), a 20-year-old student from Kolar, a town about 65 km from Bengaluru.

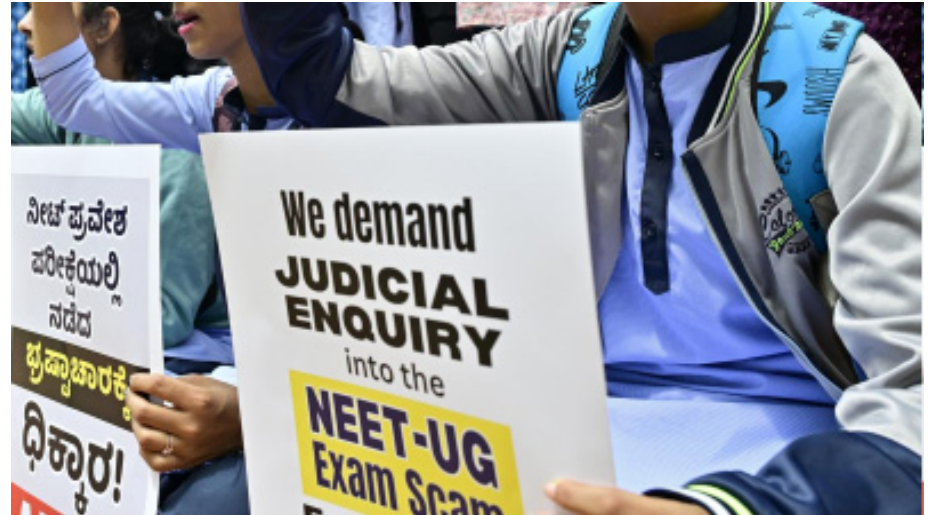
Pradyumna, from Bengaluru, is also a repeater. He appeared for NEET for a third time this year and is waiting for medical counselling. "I have been writing NEET continuously since 2021, hoping to get a government quota seat. I got the 32,000th rank in this NEET exam. Last year, I secured the 3,52,000th rank even though I trained all year," he said. For Monica S.J., a resident of a village in Ramanagara district, close to Bengaluru, it has been a challenge to attend college as well as prepare for NEET since she is from a rural area. "I could not go to coaching centres because there are none nearby. I studied with notes from college lectures, online resources, and by referring to guides," she said. But her rank is below 17 lakh, which means a medical seat is out of the question.

Several such students have written the NEET this year. They are waiting for counselling, which has been delayed because of the alleged exam scam and the ongoing Central Bureau of Investigation investigation. Now, even high scorers are unsure of getting a seat of their choice. For example, Kalyan V. of Bengaluru, who got the All India Rank-1 (AIR-1) in the NEET this year and wanted to join the All India Institute of Medical Sciences, New Delhi, is not certain about getting a seat since an unprecedented 67 students have got AIR-1. The alleged exam scam this year aside, statistics show that the trend of students taking a break after II PU to prepare for NEET exclusively has been growing. A large number of candidates are repeaters. According to the information provided by the Karnataka Examination Authority (KEA), out of the total 10,917 medical seats available in 2023, as many as 7,012 went to repeaters, that is 64.2%. This includes a student who passed the II PU exam in 2007 and attempted UGNEET successfully.

This year, out of 89,088 students who have qualified for counselling, 53,616 are repeaters, that is 60.2%. Among those who have registered for counselling, which has yet to start, is one candidate each who passed II PU in 1999, 2000, 2004, 2009, 2011, 2013, and 2015. "Freshers, meaning students who are writing II PU exams and also taking NEET in the same year, find it hard to compete with repeaters who have dedicated a full year for preparation," said Divya Prakash, a student from a Bengaluru college. Students get their documents checked at an examination centre in Bengaluru before entering the exam hall for NEET on May 5. Students get their documents checked at an examination centre in Bengaluru before entering the exam hall for NEET on May 5. | Photo Credit: K. BHAGYA PRAKAS Demand for restrictions

Students and parents are unhappy with this trend of candidates writing the exam repeatedly. They are calling for restrictions on the number of attempts. "As of now, it is their right to appear again and again for NEET. However, the Union government should impose some restrictions on repeaters," Pushpalatha, a parent from Bengaluru, argued. Speaking to The Hindu, Sharan Prakash Patil, Minister of Medical Education, said, "In this regard, with the concurrence of the States, the Union government should bring regulations. There is an age limit for the entrance exams conducted for the various government recruitments. Similarly, repeaters appearing for NEET should have a limit of two or three attempts or an age limit." Coaching centres Meanwhile, intense competition for NEET has resulted in coaching centres mushrooming. According to Higher Education Department estimates, there are around 2,000 coaching centres in Karnataka. Most repeaters join one of them and train for a year. These centres charge a hefty fee, conduct classes with boarding facilities, and have strict schedules and restrictions. "The question pattern has got tougher by the year. Because of mobile phones, TV and the internet, children are unable to study properly at home. So, at the coaching centres, we keep them away from all these distractions," said Pradeep Eshwar, an MLA and founder of Parishrama NEET Academy, Bengaluru. "We make them study continuously for at least six to seven hours a day. Thus, coaching centre students are more successful in NEET." Even though the Higher Education Department has ordered that these coaching centres should be registered under the Karnataka Education Act, 1983, pay a fee of ₹25,000, and meet 22 conditions, none have complied so far. However, Pradeep Eshwar said Parishrama NEET Academy has obtained permission from the Ministry of Corporate Affairs to run a coaching centre. "I am paying 18% GST on the fees received from each student," he said. Beyond their reach While on the one side, academies are thriving, on the other side, medical education is beyond reach for students who have no adequate financial resources or can't skip a year. This is particularly true for those from rural areas or those who have studied in Kannada medium schools. Despite the NEET being conducted in regional languages, this time, the number of students who wrote NEET in Kannada is only 1,065. "Medical courses are a day-dream for rural and Kannada medium students," said Sripada Bhat, an education activist. "Those who have money go to coaching centres. Except for tier 1 and tier 2 cities, there are no coaching centres available for CET, NEET and JEE exams. Therefore, the government should immediately take steps to provide training for these exams at the college level." No free training

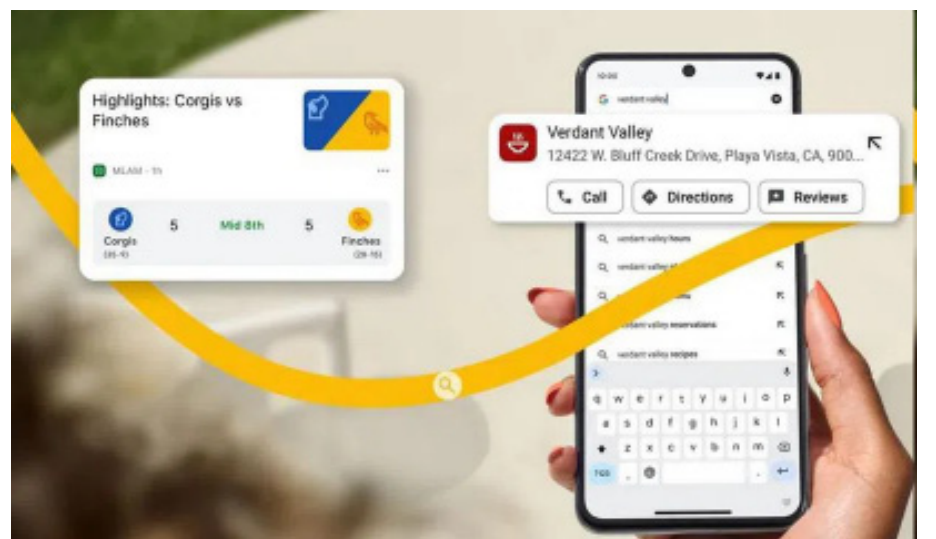
Earlier, the Higher Education Department used to train students seeking admission to engineering courses through an online programme called GetSetGo. It also helped medical seat aspirants partially, as they also trained in Physics and Chemistry



subjects as part of this course. However, this hasn't happened for a year. In the 2024 Budget, the Karnataka government announced that it would provide CET and NEET training in all government-run PU colleges. However, no steps have been taken to implement this yet. Medical Education Minister Sharan Prakash Patil said, "We are working on that. From this academic year, CET and NEET coaching will

be started in the government colleges." Meanwhile, Monica, the student from Ramanagara, has given up on her dream of pursuing medical education. She cannot afford to drop one year, and even if she does, there are no specialized NEET training centres near her village. "I am just hoping to get an engineering seat or join some other professional course that will fetch me a job," she said.

Google brings 5 new tools to Chrome mobile app to boost search experience



New Delhi: Google has announced five new features in its Chrome browser on Android and iOS mobile devices to boost the search experience. These include new shortcuts for local search results and a refreshed address bar for easier navigation.

Notably, the new 'Chrome Actions' feature will help users save time when they are trying to engage with places like a local business. "For example, when you search for a restaurant, you'll see shortcut buttons in the search results to quickly do things like call, get directions and read reviews," the company informed. This feature is now live in Chrome on Android, and is coming to Chrome on iOS later this fall.

Google has refreshed the Chrome

address bar on iPads and Android tablets, to take advantage of their larger screen sizes. The new shortcut suggestions feature for both Chrome on Android and iOS brings a personalised touch to address bar, helping users navigate to a website based on what they normally type to get there. "You'll now see trending search suggestions in your Chrome address bar on iOS, a feature already available on Android," said the company. Lastly, Live sports cards are now available in Chrome's Discover Feed on the New Tab page on iOS and Android. "So when your favourite team is playing, you'll get automatic updates on how the game is going if you've followed the team or expressed interest in it in the past," said Google.

Female Politicians Always Given Prominence By Congress: Raja Warring



Chandigarh (JAG MOHAN THAKEN), July 3: Amarinder Singh Raja Warring, President of the Punjab Pradesh Congress Committee (PPCC) and Member of Parliament from Ludhiana, has claimed – “The Congress Party has always ensured equal representation for women politicians and leaders, acknowledging their pivotal role throughout history.” He recalled special programs by Congress and his own experience as the president of the Indian Youth Congress, particularly the ‘Aadhi Aabadi Poora Haq’ campaign, which promoted women’s equality. He noted – “Congress was the party that gave Punjab its first female Chief Minister, as well as India’s first woman Prime Minister and President. We have always remained advocates of woman empowerment and will continue to do so in the future as well.”

Amarinder Singh Raja Warring underscored the importance of electing an able and hardworking candidate like Surinder Kaur in the Jalandhar West by-elections to ensure the constituency’s growth and development. He assured that she would represent the people of

Jalandhar West with dedication in the Vidhan Sabha. Raja Warring, during the office inauguration at Ward No. 47, had conversations with the media and expressed deep concern over the current state of Jalandhar West ahead of the upcoming by-elections.

Commenting on the selection of Surinder Kaur ji as the candidate for Jalandhar West by Punjab Congress, Raja Warring said – “Considering the myriad issues faced by Jalandhar West, Punjab Congress and the High Command decided to field Surinder Kaur Ji as our candidate. She was chosen for her prior experience working for the people of Jalandhar and her deep understanding of societal concerns.” The PPCC chief highlighted that women possess the compassion necessary to address intricate problems, making Surinder Kaur Ji the best candidate for the development of Jalandhar West.

The PPCC chief criticized the state government for neglecting Jalandhar West following the defection of their MLA to the BJP. He remarked on the chaotic state of

politics, pointing out how frequent party-switching by opportunistic politicians has led to these by-elections, with the defector now contesting for the same seat under a different party banner. “Jalandhar West has been left unattended, with significant issues emerging in the constituency due to the absence of a dedicated MLA. The area is particularly afflicted by the drug menace, which is the most severe in all of Jalandhar. Despite promises from the AAP government to eradicate this issue, the situation has worsened. Additionally, the ‘Satta Market’ in Jalandhar West is prevalent, causing many young people to waste their earnings on gambling activities. The AAP government has failed to control this illegal market, allowing it to thrive. Crime rates in the area are the highest in all of Jalandhar, with daily incidents going unaddressed.” – mentioned the PPCC Chief. Warring emphasized the need for these issues to be raised in the Vidhan Sabha to ensure the concerns of the residents are heard and appropriate action is taken. The Punjab Pradesh Mahila Congress President Gursharan Kaur Randhawa also urged the

residents of Jalandhar West to vote for Congress in the upcoming by-elections on the 10th of July to ensure such issues do not persist and to facilitate real progress and betterment in the area. The Punjab Pradesh Mahila Congress, led by President Gursharan Kaur Randhawa and Dr. Jasleen Kaur Sethi, National Coordinator of the All-India Mahila Congress, organized a massive protest against the administration of Jalandhar and the state government. The protest was in response to the severe contamination of drinking water in the Jalandhar West region, resulting from the mixing of sewage water with drinking water following the first monsoon showers over the past few days. The protesting leaders alleged, “The region has also experienced severe water logging after the initial rains of the season, with major areas of Jalandhar West submerged under knee-deep water due to improper drainage systems. This situation is of significant concern as it leads to the breeding of mosquitoes and other health issues such as typhoid, which are prevalent during the monsoon season.”

HDFC Bank plans migration of Core Banking System to new engineered platform to enhance robustness and scalability

HDFC Bank, India's leading private sector bank, is undertaking a system upgrade on July 13, 2024. The Bank is migrating its Core Banking System (CBS) onto a new engineered platform with the aim of enhancing customer experience for its growing customer base of 9.3 crore individuals and businesses across the country. This migration will allow the Bank to improve performance speed, expand its capacity to handle high traffic volume, boost reliability and scalability. With this upgrade, HDFC Bank will be one of the largest banks of its size and banking volume in the country to host its Core Banking System on a new-gen platform. Scheduled Upgrade Details:

- Start: 3:00 AM on Saturday, 13th July 2024
- End: 4:30 PM on Saturday, 13th July 2024

During this 13 and a half -hour window, customers will be able to access the following services: AVAILABLE SERVICES DETAILS

Net & Mobile Banking UPI: Customers can continue to use the service. However, it will be unavailable from 3:00 AM to 3:45 AM and from 9:30 AM to 12:45 PM on Saturday, 13th July 2024

Bill Payments: New billers can be added and existing billers can be viewed

Demat, Cards and Loans: Only view services

Mutual Funds: Redemptions, Switch, View & Enquiry services, Wealthfy reports, Risk profile and manage systematic section



We understand your world

All NetBanking & MobileBanking services will not be available from 3:00 AM to 4:30 PM except for a few services mentioned above. Refer to FAQ's for more detail

Cash Withdrawal: Debit and Credit Cards

Customers can continue to withdraw cash from any ATM using their HDFC Bank debit card (up to a restricted amount) or credit card – for details, refer to the FAQs link below. The account balance displayed will be as of 7:30 PM on Friday, 12th July 2024

Shop & Pay: Debit Cards, Credit Cards and UPI

At stores: Customers can continue to use their HDFC Bank debit card

(up to a restricted amount) or credit card on swipe machines.

Online: Customers can make seamless online purchases with their HDFC Bank debit card (up to a restricted amount) & credit card.

UPI: Customers can continue to use the service. However, it will be unavailable from 3:00 AM to 3:45 AM and from 9:30 AM to 12:45 PM on Saturday, 13th July 2024

Please note that the restricted limit will be a combined limit for ATM Cash withdrawals, in-store transactions, Online transactions, and contactless transactions

Card Management: Customers can continue to hotlist their card, reset their

PIN and perform other card-related activities.

Merchant Payments: Merchants can continue to receive payments via cards, but updates to the account for previous day's payments will be available post-upgrade completion.

Refer to FAQ's for more details

The Bank has scheduled this upgrade on a second Saturday, which is a bank holiday, to minimize inconvenience. It has advised customers to plan banking activities in advance. For detailed information on which services are available Click here to read the FAQs or visit our website www.hdfcbank.com

Rush to return humans to the moon could threaten opportunities for astronomy

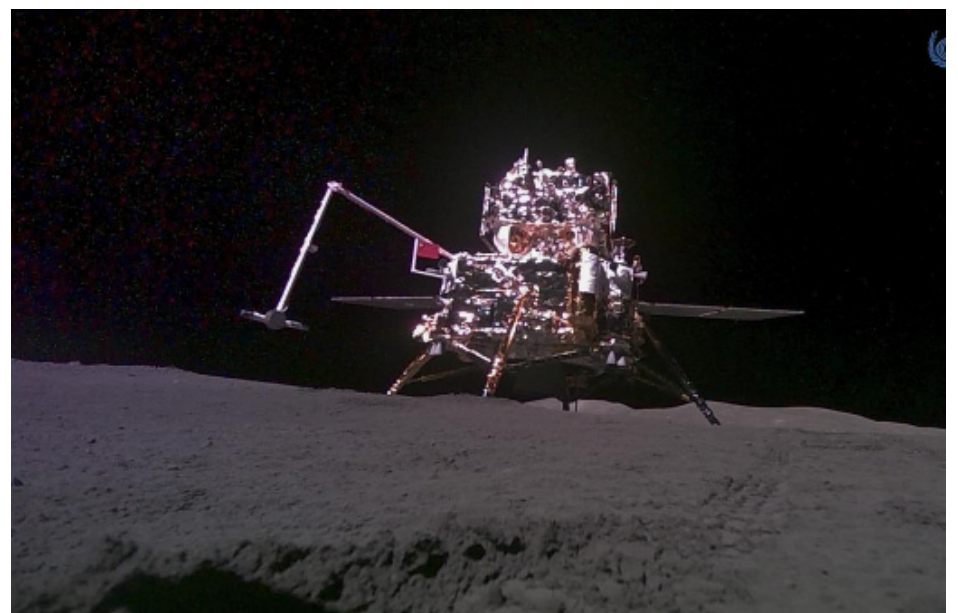
The 2020s have already seen many lunar landing attempts, although several of them have crashed or toppled over. With all the excitement surrounding the prospect of humans returning to the Moon, both commercial interests and scientists stand to gain. The Moon is uniquely suitable for researchers to build telescopes they can't put on Earth because it doesn't have as much satellite interference as Earth, nor a magnetic field blocking out radio waves. But only recently have astronomers like me started thinking about potential conflicts between the desire to expand knowledge of the universe on one side and geopolitical rivalries and commercial gain on the other, and how to balance those interests. As an astronomer and the co-chair of the International Astronomical Union's working group Astronomy from the Moon, I'm on the hook to investigate this question. Everyone to the south pole

By 2035 – just 10 or so years away – American and Chinese rockets could be carrying humans to long-term lunar bases. Both bases are planned for the same small areas near the south pole because of the near-constant solar power available in this region and the rich source of water that scientists believe could be found in the Moon's darkest regions nearby. Unlike the Earth, the Moon is not tilted relative to its path around the Sun. As a result, the Sun circles the horizon near the poles, almost never setting on some

crater rims. There, the never-setting Sun casts long shadows over nearby craters, hiding their floors from direct sunlight for the past 4 billion years, 90% of the age of the solar system.

These craters are basically pits of eternal darkness. And it's not just dark down there, it's also cold: below -418 degrees Fahrenheit (-250 degrees Celsius). It's so cold that scientists predict that water in the form of ice at the bottom of these craters – likely brought by ancient asteroids colliding with the Moon's surface – will not melt or evaporate away for a very long time. Surveys from lunar orbit suggest that these craters, called permanently shadowed regions, could hold half a billion tons of water. The constant sunlight for solar power and proximity to frozen water makes the Moon's poles attractive for human bases. The bases will also need water to drink, wash up and grow crops to feed hungry astronauts. It is hopelessly expensive to bring long-term water supplies from Earth, so a local watering hole is a big deal. Telescopes on the Moon

For decades, astronomers had ignored the Moon as a potential site for telescopes because it was simply infeasible to build them there. But human bases open up new opportunities. The radio-sheltered far side of the Moon, the part we never see from Earth, makes recording very low frequency radio waves accessible. These signals are likely to contain signatures of the universe's



“Dark Ages,” a time before any stars or galaxies formed. Astronomers could also put gravitational wave detectors at the poles, since these detectors are extraordinarily sensitive, and the Moon's polar regions don't have earthquakes to disturb them as they do on Earth. A lunar gravitational wave detector could let scientists collect data from pairs of black holes orbiting each other very closely right before they merge. Predicting where and when they will merge tells astronomers where and

when to look for a flash of light that they would otherwise miss. With those extra clues, scientists could learn how these black holes are born and how they evolve. The cold at the lunar poles also makes infrared telescopes vastly more sensitive by shifting the telescopes' black body radiation to longer wavelengths. These telescopes could give astronomers new tools to look for life on Earth-like planets beyond the solar system. And more ideas keep coming.

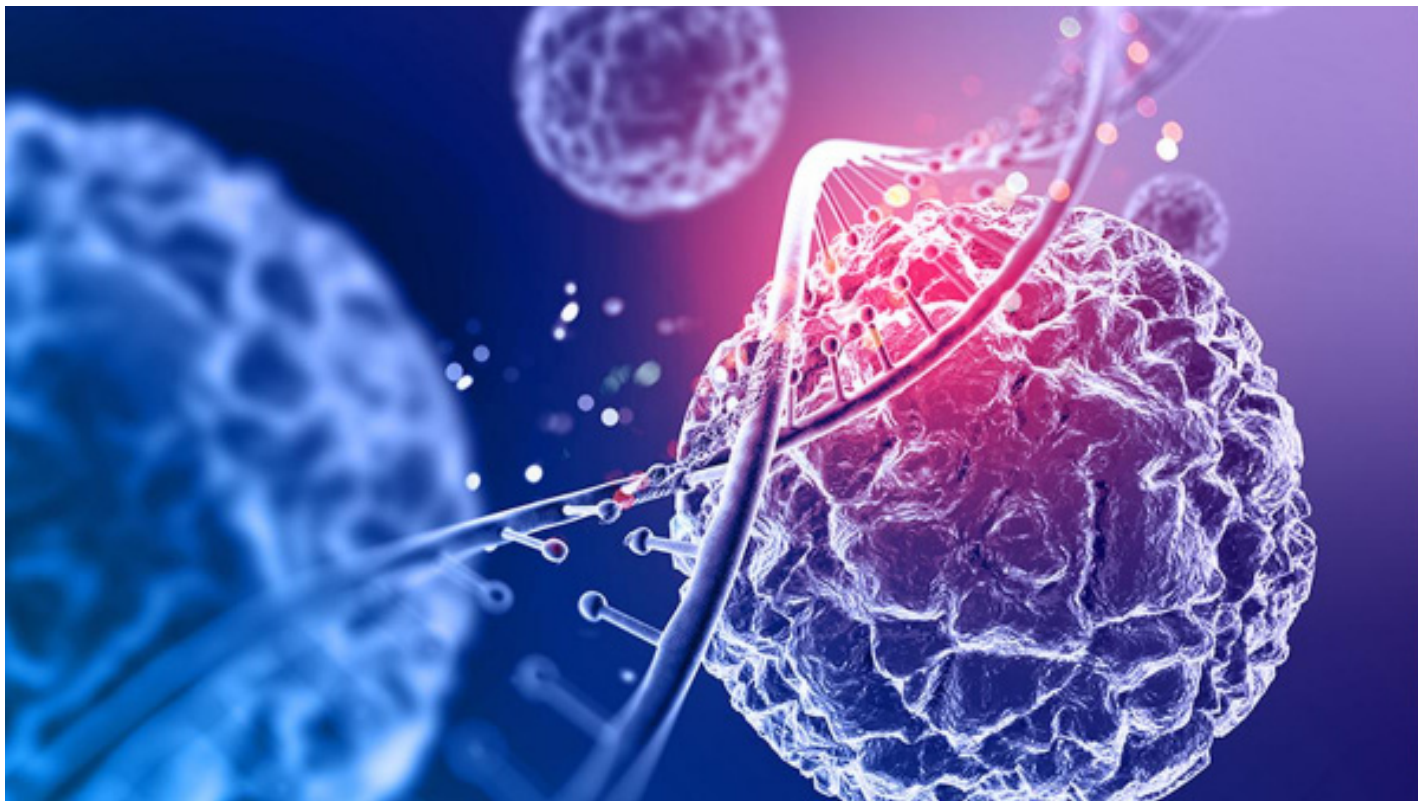
Could groundbreaking CAR-T cancer therapy trigger more cancer?

In the last few decades, scientists have finally learned to harness the immune system to successfully treat cancer. Although doctors often use immunotherapy drugs, another type of treatment uses patient's cells to treat their own cancers. Car-T therapy, short for "chimeric antigen receptor T-cell", is a cutting-edge treatment that reprogrammes a patient's immune cells to fight their cancer. This innovative approach involves taking T-cells, a type of white blood cell that plays a crucial role in the immune system, from a patient and modifying them in a laboratory to better recognise and attack cancer cells. These enhanced T-cells are then multiplied and infused back into the patient, where they seek out and destroy cancer cells. Lots of data shows that in difficult-to-treat lymphomas, a type of cancer, patients can do so well. In November 2023, the US Food and Drug Administration (FDA) announced an investigation into this celebrated cancer treatment. They were looking into whether Car-T therapy might be causing new cancers in some patients who had undergone the treatment. This was a significant concern given the therapy's reputation as a revolutionary cancer-fighting strategy.

Initially, the FDA mentioned that it had observed 20 cases where patients developed new immune-cell cancers, such as lymphomas or leukaemias, which are types of blood cell cancer, after receiving Car-T therapy. This prompted questions about who these patients were, how many such cases existed and what other treatments they might have received before Car-T therapy.

By March 2024, the FDA had documented 33 such cases among around 30,000 treated patients. Consequently, all Car-T therapies now carry a boxed warning about the potential risk of developing secondary cancers. The European Medicines Agency also started its own investigation into the matter. Despite these concerns, it is still unclear whether the new cancers are directly caused by the Car-T cells or whether other factors are involved. It is also important to note that these cancers are very rare – as data published this month shows. Many cancer treatments come with a risk of secondary malignancies and, of course, the cancer returning. And patients receiving Car-T therapy often have had several other treatments that could also contribute to the risk. Researchers are now working to determine if Car-T therapy is a contributing factor or the primary cause of these new cancers.

Car-T therapy was initially used for patients with no other treatment options, but it has since been approved as a second-line treatment for certain types of blood cancers, like lymphoma and multiple myeloma. Scientists are also exploring its potential for treating solid tumours including hard to treat brain cancers, autoimmune diseases, ageing, HIV and other conditions. The process of creating Car-T cells involves using viruses to insert new genetic material into T-cells. These viruses, called retroviruses, are engineered to carry



the gene for a chimeric antigen receptor (Car) into the T-cells. Massive benefits While these retroviruses are modified to be safe, there is always a risk that the new genetic material could disrupt other important genes and potentially lead to cancer – a phenomenon known as "insertional mutagenesis". This means new genetic material is added to a cell. This risk isn't new. About 20 years ago, gene therapy treatments for severe combined immunodeficiency syndrome using similar retroviruses led to leukaemia in some patients. As a result, scientists have worked to improve the safety of these viral vectors. The FDA now requires thorough testing to ensure that the viruses used in Car-T therapy cannot replicate and cause harm. Despite these findings, the most important thing to emphasise is that secondary cancers remain rare and these cell therapies can have massive benefits in very sick people. The new review of patients treated with Car-T therapies at various centres found that only a small percentage developed secondary cancers, and most were not the type directly linked to the Car-T treatment. This suggests that while there is a risk, it is relatively low compared to the immediate threat posed by the patient's existing cancer. Medical professionals now inform patients about the potential but rare risk of secondary cancers when discussing Car-T therapy. For most patients, especially those with advanced cancers, the potential benefits of Car-T therapy far outweigh these risks. As mentioned, Car-T therapy is also being investigated for other applications beyond cancer. For instance, it has shown promise in treating autoimmune diseases such as lupus and even in preventing organ transplant rejection. The potential uses for Car-T cells are continually expanding, offering hope for treating a wide range of diseases. Ultimately, while

the risk of secondary cancers from Car-T therapy is a serious consideration, the benefits for many patients are significant and

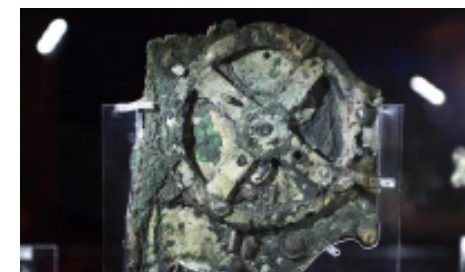
far outweigh this small risk. Research will continue to refine these treatments and improve their safety.

Mystery of oldest computer solved

The Antikythera mechanism — an ancient shoebox-sized device that was used to track the motions of the sun, moon and planets — followed the Greek lunar calendar as was previously thought. The Antikythera mechanism, a compact ancient device discovered by sponge divers near the Greek island of Antikythera in 1901, was designed to track the movements of the sun, moon, and planets. Dating back approximately 2,200 years, this intricate instrument, featuring bronze gears, is often considered the world's oldest computer.

The device included a component known as the "calendar ring," which was intended to mark the days of the year with individual holes for each day. Although the ring is only partly preserved, recent studies using advanced X-ray imaging, combined with precise measurements and mathematical analysis, have suggested that the mechanism tracked 354 days, consistent with the Greek lunar calendar, rather than the Egyptian solar calendar.

In 2020, researchers utilized X-ray images to propose that the mechanism covered a 354-day year. More recently, another research team applied sophisticated statistical techniques to examine the arrangement of the known holes and re-



The Antikythera mechanism, a compact ancient device discovered by sponge divers near the Greek island of Antikythera in 1901, was designed to track the movements of the sun, moon, and planets.

construct the probable layout of the missing holes. Their findings indicated that the mechanism likely featured 354 or 355 holes, reinforcing the idea that it followed the Greek lunar calendar rather than the 365-day Egyptian solar calendar.

A phone of her own: Digital gap's fallout on young women in rural India

In the winding alleys of Haryana's Nalwa village, Hisar district, just about 165 km west of New Delhi, India's Capital, a group of teenage girls takes time out from studying and housework to meet in the evening. They talk of leaving, to study in a bigger city and build a life of their own. For Raveena Saroha, 16, the appeal of going out to study stems from her desire to "experience the world outside". Saroha, who hails from a family of farm labourers, has relatives who moved to Delhi, and who, in their weekly calls, tell her about the many reputed colleges that she can go to, given her calibre and performance in school. Currently in Class 12, she says, "I do not know about the admission process or the entrance exam, as I do not have my own phone to use for research and studies." The first-generation learner has only one phone at home, which she gets little access to. When she imagines her future, she thinks of studying Punjabi, her favourite subject, and returning to Hisar to teach. But the path in front of her has not been laid out just yet.

The Annual Status of Education Report (ASER) (rural) 2023, 'Beyond Basics', which surveyed 35,000 youth in the 14-18 age group in one or two rural districts in each State, showed that 90% of surveyed households had smartphones. Of the surveyed youth, 94.7% of males and 89.8% of females could use them. Of the males who knew how to use smartphones, 43.7% owned such a device, while in females, only 19.8% owned one. In Sirsa district, this number was 32.4% for males and 9.9% for females in the 14-16 age group. The percentage was higher in youth aged 17-18, where 69.6% of males and 36.8% of females owned phones. This device gap has an impact on how much information comes to girls for higher education, in terms of online application to universities and paid or free online study resources.

Hisar, one of the 22 districts in Haryana, has many villages where vast expanses of fields are accompanied with some schools, skill training centres, and colleges. In 2023, the National Commission for Women recorded 1,115 complaints of crime against women, of the total 28,811. As per the 2011 Census, the sex ratio of Haryana stood at 879. As per government numbers shared in 2022, the sex ratio in the State was 865 for 2017-2019. Sunil Jaglan, a gender and education activist in the State, points out that boys' education is prioritised. While many girls would like to study, even those with the highest marks are left with little information about what to do next, and how to apply to colleges for entrance tests, he adds. Jaglan, who started the 'Selfie with Daughter' and 'Lado go online' campaigns to encourage the presence of girls online, and normalise society's outlook towards this in rural Haryana, says, "Earlier, all information about admissions would appear in local papers and TV channels. Due to the changing nature of information intake, the only way for students to know more is through their phones, as most information comes to phones." He says most girls are ambitious and want to study further, so some look to private companies



that guide students, while others manage to do the research on their own when their parents allow them to use smartphones at home.

Yogender Singh, a government school teacher in Yamunanagar district, says smartphones are still a luxury for many in rural Haryana. A good smartphone would set a family back by ₹8,000, and though less expensive than a laptop, it is still hard to afford as a personal device. "Many families are struggling to make ends meet, so they cannot afford smartphones. In addition to this, they have to recharge data, which earlier used to cost around ₹100 a month but has gone up to ₹200 a month in the past year or so," says Singh, who teaches students from Classes 9 to 12. There is also the pressure to get married at a young age, he says. A different reality for those with means. Meanwhile, a handful of students who have the means and access to information, hope to change the situation in their hometowns. A few kilometres down the same road slathered in dust from a highway construction, another student has similar dreams of going to a city and studying. Hailing from a well-to-do family, the daughter of a government teacher, Surabhi (name changed on request), who studies in one of the few private Central Board of Secondary Education schools in Nalwa, says the admission process has been smooth for her. "There are two tablets and a laptop at home, so that has helped me figure out the admission process," she says. Surabhi adds that the access helped her in filling out forms for the Common University Entrance Test (CUET) for undergraduate courses in Central universities and the Common Law Admission Test, the pan-India entrance exam for entry into law colleges. She gets enough time on the devices to prepare for the tests, with online material. The ASER survey noted, "Girls use the devices equally and equally well as

the boys in rural settings when they are given equal and unfettered access to the devices. In contrast, when their access is constrained, their learning also is likely to be affected negatively." It also noted that the National Education Policy 2020 strongly recommends leveraging technology to improve educational processes and outcomes by promoting digital literacy and tech-based initiatives. It further observed that the data show that more females in the age group are likely to aspire to higher education than their male counterparts. However, while similar proportions of male and female youth reported having used a smartphone for education-related tasks and for social media during the week, males were twice as likely as females to have ever used a smartphone to access online services such as paying a bill or booking a ticket (38% of males vs 19% of females had ever done so). Up to 50.6% of males had an email ID compared with 29.9% of females.

Like Raveena, many girls in villages have restricted access to devices. Piyush Sangwan, 16, a Class 12 student got a tablet during the COVID-19 pandemic from her government school. Recalling how she shifted to online classes then, she says most of her studies now take place on the device. Her mother, who keeps a close eye on her while she uses it, says, "Many students misuse these devices, so we have to make sure that our daughters are not taking the wrong path. We restrict access for their safety." Priyanka Barwar, 18, who is currently seeking admission in a BA course in Hisar, says she is still confused about what she wants to do next — a distance learning course while preparing for the civil services exam or a professional or skill-based course that would secure her a job. For her too, research hours are limited. "Whenever I want to use the phone, my parents are concerned that I am talking to someone," she says. The same rule does

not apply to her brothers, aged 16 and 12, who play the video game PUBG when they get access to the phone. She asks her 16-year-old brother to help her find courses.

The ASER survey showed males were also far more likely than females to use a smartphone for entertainment. So, 69% of males versus 46% of females reported playing games on a smartphone in the week preceding the survey. Some parents are also worried about how society will perceive their daughters once they have a phone, points out Anjum Islam, 23, a lawyer who grew up in Haryana's Mewat and fought stereotypes to pursue her educational aspirations. "When I started my internship in college and saved up some money, I could finally buy my own phone. I had to explain to my family that I was not doing anything wrong with having access to the information that is out there in the world. People in the village would still tell my family that I had been ruined because I had a presence online," she says, recalling the online trolling. She now volunteers for the 'Selfie with Daughter' campaign, which aims at instilling a sense of pride among parents in their daughters in the State. She works on cases pertaining to gender-based violence. Economic stress doesn't curtail dreams. In Kanwari village, Khushi Rath, 15, wakes up at 4 a.m. to study on the one smartphone shared among five siblings. Since her brothers use the phone during the day, Khushi, who her family calls "studious", tries to make the most of the morning hours. While she hopes to become a doctor and is preparing for the National Eligibility-cum-Entrance Test (NEET) via YouTube videos and online applications, her younger brothers, in Class 8, are interested in engineering and technology. "I decided I wanted to become a doctor when I saw that there are not enough doctors in government hospitals in Hisar," Khushi says.

How online dating in India is getting a Generative AI overhaul

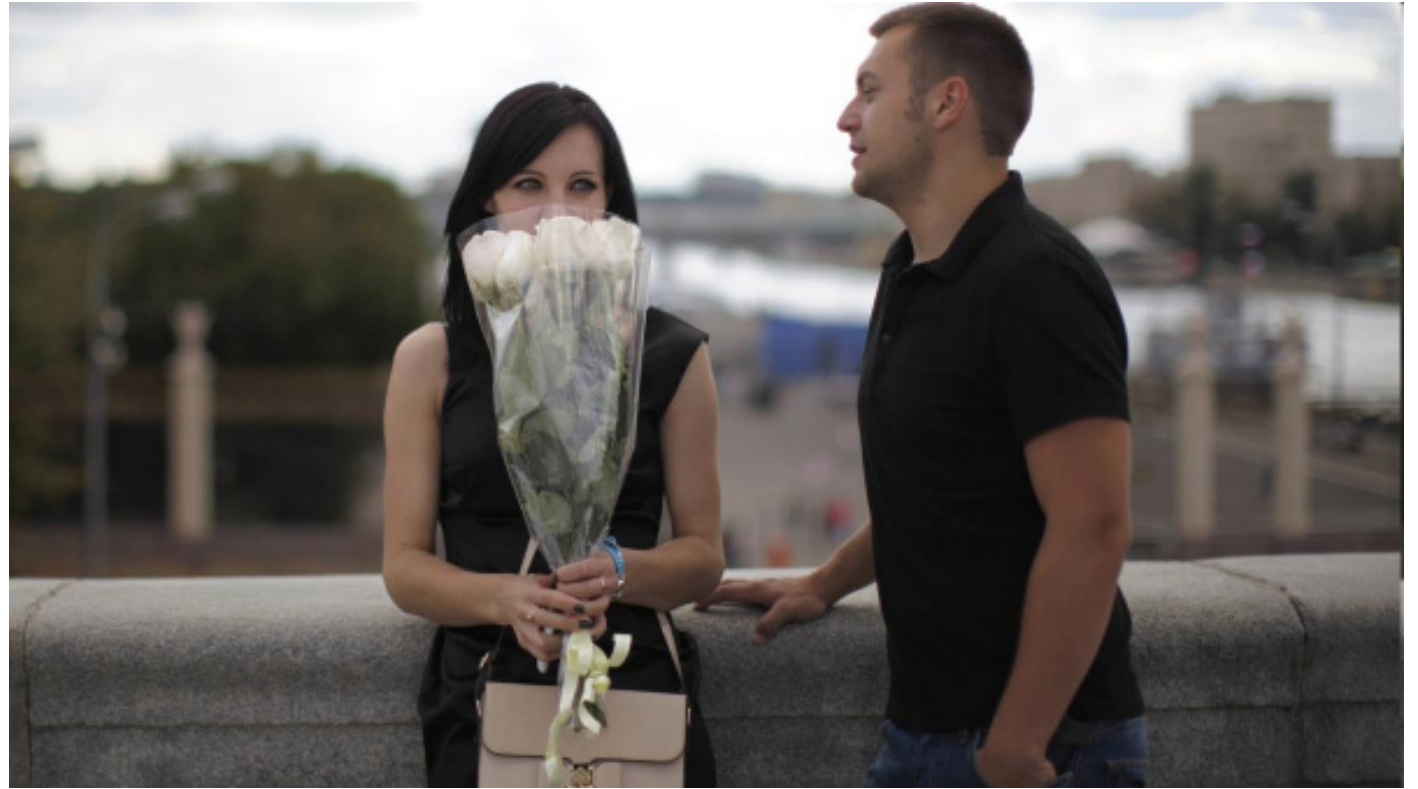
In an Instagram ad post by the Aisle Network dating app, Shruthi, 28, smiles while an image caption recalls her “amazing” chat with Ajay on the platform as she wonders whether she is finally beginning to understand romance. In another instance, Kruthika, 25, tells people to resist peer pressure and use the platform to find a partner instead. Shruthi’s beaming face is “highly likely to be AI generated,” per an online image detector. An analysis of the ad post’s subject, using an AI image detector

An analysis of the ad post’s subject, using an AI image detector | Photo Credit: Screenshot taken from Aisle Network on Instagram, and isitai.com; graphics compiled on Canva. Meanwhile Kruthika’s image yielded a similar result. An analysis of the ad post’s subject, using an AI image detector

An analysis of the ad post’s subject, using an AI image detector | Photo Credit: Screenshot taken from Aisle Network on Instagram, and isitai.com; graphics compiled on Canva. Since AI-image detectors can also yield false positives, The Hindu reached out to the dating company in order to verify the results. However, Aisle Network did not respond to multiple queries about whether the ads were actual pictures of the company’s customers, or AI-generated personas. Dating apps actively use social networking sites to promote their platforms, but the surge in new, unregulated Gen AI tools means even small-scale businesses can use text and image generators to push their products and compete with larger companies. In the past, dating sites used AI to match profiles and send targeted feeds to their customers. Bumble, one of the top dating apps with over 50 million downloads on the Google Play Store, confirmed to The Hindu that it uses AI for tasks ranging from flagging scams to showing users better matches.

“We have utilised AI in Bumble for many years, and we’re excited by the features we have launched to date, as well as the developments and innovations our team is focused on creating to give our community the best experience possible on the app,” Bumble said in a statement. The dating company uses AI in its ‘For You’ algorithm to curate “the most compatible” profiles. The company also uses the AI-powered ‘Deception Detector’ along with human intervention to identify fake profiles, while a ‘Private Detector’ flags potentially lewd images.

However, with the rise of Gen AI, malicious actors have a new range of cheap, easy-to-use tools at their disposal, while dating platforms are playing catch-up in order to weed out bad actors—before they ruin lives. In 2023, Bumble worked with the non-profit ‘Partnership on AI’ to help create a framework for the regulation of synthetic media on its platform. Bumble admitted that user profiles created with AI were becoming a problem, leading to the impersonation of known people or AI-generated photos of non-existent people. “In our automated Quality Assurance (QA) and manual moderation queues, we started noticing more cases of potentially harmful



In an Instagram ad post by the Aisle Network dating app, Shruthi, 28, smiles while an image caption recalls her “amazing” chat with Ajay on the platform as she wonders whether she is finally beginning to understand romance.

profiles seeking verification (sometimes successfully) with pictures that were later confirmed to be inauthentic and possibly generated by AI,” noted Bumble in its case submission. Bumble also provided an example of how humanlike a deepfake could look, and how such photos could even be used by dating app members to bypass the verification process.

Examples of deepfakes provided by Bumble, in the case study ‘How Bumble is preventing malicious AI-generated dating profiles’ with the Partnership on AI organisation; note the missing thumb in the second picture. Examples of deepfakes provided by Bumble, in the case study ‘How Bumble is preventing malicious AI-generated dating profiles’ with the Partnership on AI organisation; note the missing thumb in the second picture | Photo Credit: Bumble’s Case Submission. AI as a marketing gimmick. Though Bumble has extensively reported on its use of artificial intelligence to provide a better customer experience, other dating apps use ‘AI’ as a vague buzz word to boost their advertising. One example is the Betterhalf.ai Indian matrimony app, which claims to provide the ‘Most Compatible Matches with AI matchmaking’ and “2x Faster Matchmaking” in its Google Play Store description.

Responding to a negative user review that claimed the app’s partner preference filters did not match what was shown to the user, the company said, “Dear User, Our AI algorithm has identified potential matches for you within our community based on your profile and activity. While

these recommendations may not align perfectly with your partner search filters, they do fall within compatible parameters,” before providing a phone number for assistance. At a tech conference this year, Bumble’s founder and executive chairman Whitney Wolfe Herd floated the idea of an AI dating concierge that could assist users with dating while reducing the need to talk to actual people. At the same time, the former CEO of Bumble further emphasised creating a platform for not just romantic users. “We will not be a dating app in a few years,” she said during the conference. “Dating will be a component, but we will be a true human connection platform.” However, accountability is still a looming question mark when it comes to dating and matrimony apps. Once businesses decide AI is fair game, how can users be sure they are really interacting with a human on the other end, or looking at ads featuring real people? When asked whether Bumble used AI-generated images or videos of people in order to promote the platform or its services, the company declined to respond.

Tinder, Boo, Hinge, Aisle Network, and Betterhalf.ai were all contacted for comment about how they use AI in their dating apps, but did not respond to The Hindu’s questions. Tech and AI safety tips for dating app users. When downloading a new dating or matrimony app, check the app’s data safety section in the app store to see how your personal information will be handled and stored.

If you feel a user profile on a dating

site is fake or AI-generated, report it to the app in question and do not interact with the profile or its owner. Typical signs of a Gen AI photo include: vague and excessively blurred backgrounds without any local details, merged or missing fingers and hands, a lack of identifiable clothing and jewellery details, excessively air-brushed skin and no pores, an absence of realistic shadows, strong resemblance to a celeb’s face, or a strangely cropped image that hides watermarks. Gen AI deepfakes generally have a soft or “creamy” appearance, while those taken on smartphones and cameras have graininess, varying sharpness levels, textures, flaws, uneven lighting, etc., even when edited. Check a dating/matrimony app’s social media profiles to see how much Gen AI media the company uses in its advertising content and websites. Be on the alert if their text feels too generic, if customer testimonials are not linked back to real people, or if photos look overly edited and unnatural.

Never use Gen AI tools like ChatGPT or DALL-E to write your own dating app bio or create profile photos, as this is dishonest and potentially illegal. You can screenshot and upload photos to an AI image detector to see if they are likely AI-generated or human-generated. While such results are usually not 100% accurate, they may help you decide whether to interact with the account or ignore it to be safe. Do not pay for a dating/matrimony app’s premium tiers, paid versions, or annual subscriptions unless you are extremely happy with the quality of the free experience.

Mobile phone bill to go up 15-25% as telcos revise tariff

Mobile phone bills for subscribers in India may go up by 15% to 25% on their existing plans as telcos eye a revenue raise through tariff revision. With the increase in revenue, mobile operators seek to expand 5G stations and enhance network load capacity to cater to the increase in consumption and creation of video content. Industry experts believe that it would help telcos increase their average revenue per user (ARPU) by about 10% to 15%. In Q3 2024, Bharati Airtel registered average revenue of ₹208 per user, whereas Reliance Jio received just over ₹181, while Vodafone Idea (VI) lagged at ₹145.

Bharati Airtel's MD, Gopal Vittal, during the company's Q3 investor call said, "The real improvement will come only if there is a tariff repair. As I have mentioned before it is not a question of if tariff repair will happen, it is a question of when it will happen," PTI reported. In the short-term, Airtel is looking for an ARPU of ₹250. Vittal also said that free data on 5G is a headwind on any monetisation. Alarmingly, a hike in tariff plans could lead to an increase of 12% to 15% in household telecom expenditures every month, pointed out industry experts.

The last tariff revision by all the telecom players including Airtel, Jio, and VI, happened in December 2021. During that revision, the base plan of ₹99 was increased to ₹155 for Airtel while every other telco followed the same path of tariff restructuring. "Another round of tariff hikes might be around the corner. The expected broad-based tariff-increase of 15%-25% complimented with higher data consumption and upgrade of users to bundled packages/data plans could increase ARPUs in the range of 10-15% for the telcos," said Aditya Khaitan, Partner, Consulting Deloitte India. He claims that the increase in ARPU will improve the financial stability of the telecom sector. However, Khaitan believes that the customers are likely to remain loyal to their service providers. "The customers are increasingly demonstrating their willingness to pay for quality telecommunication services," he observed. It is important to note that more customers are now moving towards 5G instead of 4G. They are generating more video content and consuming it more than ever before. This has put a strain on telecom infrastructure. In order to scale, telcos are pushing for a tariff revision as it will help them generate more revenue for the new spectrum and technologies to meet the demands.

For example, even the cellular representative body in India, COAI (Cellular Operators Association of India) advocates for charging OTT platforms like WhatsApp as they are using and surviving on the network developed by telcos over the years without paying anything, currently. Telecom players are looking to monetise 5G and also to have a cap on the unlimited data plans. This way, they could persuade subscribers to pay more for a 5G plan, compared to what they are paying currently under their 4G plan for 5G services. "Telcos have been wanting to raise tariffs for a while now with the objective of increasing their



average revenue per user. Their rationale is that most other developing countries charge not only higher in terms of absolute rates but also in terms of the percentage of the per capita GNI," said Shreya Suri, Partner, IndusLaw, an Indian law firm. Currently, a 1GB/per day prepaid plan that is valid for 28 days with unlimited voice calls and 100 SMS messages each day costs ₹209 on the Jio network. And, if we add just 20% of the estimated hike, it will add over ₹41

more to the same pack. Hence, the same prepaid plan might cost you ₹250. Similarly, a VI prepaid plan of ₹269 with the same benefits can cost ₹52 more if 20% restructuring is done. Jio has already announced revisions to its tariff plans, including postpaid ones, starting July 3. Now, the same ₹209 pack will cost ₹249. Airtel has also announced a new tariff regime starting July 3, and VI is expected to announce their revised tariff plans for both prepaid

and postpaid users, soon. To cope with any possible tariff hike, subscribers may either switch to postpaid or to cheaper plans from their respective service providers, noted Suri. For prepaid users, telecom operators will offer 'bundled services' like a subscription to an OTT platform to hold their subscribers. With more 5G devices and video consumption, telcos are pointing to the silver lining to justify any possible future tariff hike.

OpenAI announces ChatGPT now available for all Mac users

New Delhi: Sam Altman-run AI company OpenAI on Wednesday announced that ChatGPT is now available for all Apple Mac users. ChatGPT on Mac computers was announced earlier this month during Apple's flagship 'WWDC 2024' conference. The company had announced integration between OpenAI's chatbot and Apple's operating systems for iPhone, iPad and Mac.

"The ChatGPT desktop app for macOS is now available for all users," OpenAI posted on X social media platform. "Get faster access to ChatGPT to chat about email, screenshots, and anything on your screen with the Option + Space shortcut," the company informed. The Mac users can now call up ChatGPT by using the keyboard combination of Option + Space after installing the new ChatGPT app.

At the 'WWDC 2024', Apple said it is integrating ChatGPT access into experiences within iOS 18, iPadOS 18, and



macOS Sequoia, allowing users to access its expertise, without needing to jump between tools. Siri can tap into ChatGPT's expertise when helpful. Users are asked before any questions are sent to ChatGPT,

along with any documents or photos, and Siri then presents the answer directly. "Additionally, ChatGPT will be available in Apple's systemwide Writing Tools, which help users generate content for anything they are writing about,"