

# News Juice Monthly

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For Civil Services  
Preparation

VOTE

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### 1. SC rejects application of 'eggshell skull' rule in a case: What is this legal principle?

#### Why in News?

Underlining that the state and central consumer courts incorrectly applied the 'eggshell skull' legal principle, the Supreme Court recently restored the compensation of Rs 5 lakhs awarded by the district consumer forum in a medical negligence case.

#### What is the 'eggshell skull' rule?

The eggshell skull rule is a common law principle applied in civil litigation. Essentially, when the offender would be liable for all injuries that might be intensified due to the peculiar conditions of the injured person that the offender might not have known. Simply put, the defendant would be held responsible for injuries caused to a person when he hit him on the head, even if the victim had a particularly delicate skull or an 'eggshell' for a skull.

"[A] person who has an eggshell skull would be more severely impacted by an act, which an otherwise "normal person" would be able to withstand," the SC said in its judgment of the case.

The rule is applied for claiming an enhanced compensation — for damage that is more than what could have been ordinarily anticipated to be caused by the defendant.

#### What was the case?



In 2005, one Jyoti Devi went in to have her appendix removed in a hospital in Himachal Pradesh's Mandi district. Though the surgery was as planned, her abdominal pain would not subside. What followed was a four-year ordeal and several hospital visits. Ultimately, doctors at the Post Graduate Institute of Medical Science,

Chandigarh, found that "a 2.5 cm foreign body (needle)" was left behind in her abdomen, which needed to be surgically removed.

When Jyoti moved the district consumer forum for compensation, she was awarded Rs 5 lakhs for medical negligence by the hospital in Mandi. However, when the hospital appealed against the order, the state consumer forum reduced the compensation to Rs 1 lakh and the National Consumer Disputes Redressal Commission (NCDRC) enhanced it to Rs 2 lakh.

The case reached the SC which restored the district forum's decision on compensation and said that the other two courts had awarded a "paltry" and "unjust" sum even while they applied the eggshell skull rule.

### **What did the SC rule?**

The SC held that the eggshell skull rule would not apply in Jyoti's case since the facts of the case do not indicate that she had a "pre-existing vulnerability or medical condition, because of which the victim may have suffered 'unusual damage'." The court noted that the NCDRC had simply mentioned the rule but was "silent as to how this rule applies to the present case." The ruling stated the two factors necessitated enhancing the compensation: Jyoti had suffered pain for more than 5 years and the case took more than a decade to be decided.

Relevance: GS Prelims & Mains Paper II; Governance

Source: Indian Express

## **2. Why can accused persons in prison contest polls but not vote?**

### **Why in News?**

Last week, Amritpal Singh, the jailed head of the pro-Khalistan outfit Waris Punjab de, announced his intention to contest the Lok Sabha elections from Punjab's Khadoor Sahib seat, to be held on June 1.

Though his ability to campaign may be limited, his right to contest polls while facing criminal charges will not be under question unless he is convicted. However, he will be barred from casting his vote in the upcoming elections — much like other accused people in prisoners across India.

What is the legal status of the right to vote and the right to be elected? How does the law deal with voters and candidates who are imprisoned?

### **Bar against contesting elections only after conviction**

Section 8 of the Representation of People Act, 1951 (RP Act) is titled "Disqualification on conviction for certain offences". Suppose a person is convicted of any of the offences in the exhaustive list provided in the provision. In that case, they will be disqualified from contesting elections to Parliament or state legislatures from the date of conviction onwards and face further a six-year disqualification from contesting in elections beginning from the date of their release.

This disqualification only kicks in once a person has been convicted and does not apply if they have only been charged with criminal offences.

### **Exceptions to disqualification**

The Election Commission of India (ECI) is empowered under Section 11 of the RP Act to "remove" or "reduce" the period of disqualification. In 2019, the ECI used this power to reduce the period of disqualification faced by Sikkim Chief Minister Prem Singh Tamang who was

released following a one-year prison sentence in 2018 for misappropriating funds in the procurement of cows. The Sikkim Krantikari Morcha leader went on to win in the bye-election for the Poklok Kamrang assembly seat.

Another situation where a disqualified MP or MLA can still contest is when their conviction is stayed on appeal to a higher court. In 2019 the Supreme Court held that once a conviction is stayed "the disqualification which operates as a consequence of the conviction cannot take or remain in effect".

Dhananjay Singh, a former Bahujan Samaj Party MP whom a district court convicted for kidnapping in 2020, approached the Allahabad HC for a stay on his seven-year sentence which would allow him to contest in Lok Sabha elections. However, though the court granted bail, the court refused to stay the conviction stating that "it is the need of the hour to have purity in politics".

### **Bar against the right to vote for confined persons**

Section 62 of the RP Act provides a series of restrictions on the right to vote including sub-clause (5) which states in broad terms "No person shall vote at any election if he is confined in a prison, whether under a sentence of imprisonment or transportation or otherwise, or is in the lawful custody of the police".

With an exception provided for those in preventive detention, this provision effectively bars every individual who had criminal charges framed against them from casting their vote unless they have been released on bail or have been acquitted.

Relevance: GS Prelims & Mains Paper II; Governance

Source: Indian Express

## **3. With the Delhi Chief Minister in jail, how is the administration carrying out its tasks?**

### **Why in News?**

Delhi Chief Minister Arvind Kejriwal has been lodged in Tihar Jail since April 1 after being arrested by the Enforcement Directorate (ED) on charges of corruption and money laundering in the execution of the Delhi government's now scrapped excise policy for 2021-22. Recently, the Supreme Court forewarned the ED that it may "consider" granting interim bail to Mr. Kejriwal due to the Lok Sabha election. Delhi votes on May 25.

### **What is the Aam Aadmi Party's strategy?**

Foreseeing his arrest, the Aam Aadmi Party in December, 2023 ran a "Main Bhhi Kejriwal" (I am also Kejriwal) campaign that asked the people of Delhi if Mr. Kejriwal should continue as the Chief Minister of Delhi from jail if arrested. After his arrest, in an unprecedented decision, AAP decided that Mr. Kejriwal would remain the Chief Minister and that he would run the government from behind bars proclaiming it as the "will of the people of Delhi".

Mr. Kejriwal's decision has led to a peculiar situation in the capital where various administrative decisions have been stalled. For instance, the election to appoint the Mayor and Deputy Mayor of the Municipal Corporation of Delhi (MCD) scheduled to be held on April 26 was postponed after Lieutenant-Governor Vinai Kumar Saxena refused to appoint a presiding officer to conduct the election saying he "did not deem it appropriate to exercise his power as Administrator to appoint the Presiding Officer in [the] absence of inputs from the Chief Minister."



### **Is the Chief Minister meeting his Ministers?**

When Mr. Kejriwal was in the custody of the ED from March 21 to April 1, he was sending written instructions to his Ministers on ensuring uninterrupted water supply and medicine as well as

messages to the public to be read out by his wife Sunita Kejriwal.

However, since being lodged in Tihar Jail, communication has been reduced to media bites from those going to visit him. The Tihar Jail Manual says that every interview with a prisoner shall take place in the presence of a prison officer, who shall be positioned at a place from where he can see and hear what passes between the prisoner and his interviewer and he shall prevent any article being passed between the two parties.

Since April 1, apart from his family and lawyers, Mr. Kejriwal has met AAP general secretary Sandeep Pathak and Cabinet Ministers Atishi and Saurabh Bharadwaj once and his Punjab counterpart Bhagwant Mann on two occasions. Mr. Pathak said Mr. Kejriwal would meet two Cabinet Ministers every week for 30 minutes each.

### **How is the government being run?**

Mr. Kejriwal does not have any portfolios under him and there have been no cabinet meetings since his arrest. There has also not been a session of the Delhi Assembly since then. Individual ministers have been looking after their own departments. The party is currently focused on its election campaign. While deferring the MCD elections, the LG said that the circumstances were "peculiar" and "unprecedented" where the serving Chief Minister "cannot discharge his constitutionally obligated functions."

The Constitution is silent about whether a person can continue as Chief Minister as remand prisoner. Section 8(3) of the Representation of People Act of 1951, states that an MLA or MP can be disqualified when convicted and sentenced to at least two years in prison. Mr. Kejriwal has not yet been convicted in the case.

### **When can President's Rule be imposed?**

President's Rule can be imposed in Delhi under Article 239AB of the Constitution. Delhi's power structure is characterised by a delicate balance between the elected government and the Central government-appointed LG. If Mr. Kejriwal continues to remain in prison, stalling various administrative work, the LG can recommend to the President who can invoke Article 239AB citing "failure of constitutional machinery". President's rule under Article 239AB was invoked in Delhi only once, in 2014, subsequent to Mr. Kejriwal's resignation 49 days into his first tenure as Chief Minister.

### **What are the challenges going forward?**

In a recent order, the High Court censured the AAP government over non-supply of educational material and other statutory benefits to eight lakh students in the MCD-run schools. While noting that it is Mr. Kejriwal's prerogative whether to continue as the Chief Minister or resign, the High Court said national and public interest demands that no person who holds this post is incommunicado or absent for a long stretch of time or for an uncertain period time.

Relevance: GS Prelims & Mains Paper II; Governance

Source: The Hindu

## **4. It is time to operationalise the Indian Defence University**

### **Introduction**

The Greek thinker Thucydides is said to have remarked that a nation which makes a distinction between its scholars and its warriors will have its thinking done by cowards and its fighting done by fools. It is no surprise that several nations have established 'defence universities' to promote academic rigour and enhance strategic thinking in their armed forces. In India's own neighbourhood, it is reported that Pakistan has created two universities for its armed forces, while China has three, although a report of the Australian Strategic Policy Institute lists more than 60 Chinese universities with military and security links. In this context, the absence of the long overdue Indian Defence University (IDU) is concerning.

### **Professional Military Education**

While the nature of war remains constant, its changing character imposes a premium on military education and the academic preparation required to cope with current and future security challenges. The dynamic and chaotic character of warfare currently on display in Europe and West Asia means that military officers are expected to produce results in the face of nebulous initial information and rapidly changing circumstances. To meet complex challenges, officers are empowered through a well-constructed Professional Military Education (PME) continuum that augments their abilities to correspond with changing assignments and increasing responsibilities over long career spans.

### **Slow progress**

The Indian armed forces, like others, need a broad-based education system, founded upon academic rigour. This realisation came soon after independence when, in 1967, the Chiefs of Staff Committee mooted the setting up of a Defence Services University. In 1982, a Study

Group constituted by the COSC emphasised the need to set up an apex educational body for the armed forces in the form of an IDU.



Two decades later, in the wake of the Kargil conflict, a committee was established under the chairmanship of Dr K. Subrahmanyam to examine this issue. Based on its recommendations, in May 2010, 'in principle' approval was accorded for setting up of the IDU in Gurgaon. Despite some optimistic reportage in 2017-18, the progress on setting up of the IDU has been rather slow.

### **Loopholes in existing system**

The several world-class training and education institutions run by India's armed forces constitute a rich and vast ecosystem of professional training. However, they lack an overarching integrated PME framework and a multi-disciplinary approach to strategic thinking. Although the armed forces have affiliations with universities for degree courses, this is not the optimal solution. The IDU would remedy such shortcomings in India's PME system by providing a central institution of higher military learning through a well-qualified faculty with a mix of academicians along with serving and retired officers from the military and civil services. In effect, this would unite theory with practice.

The university's curriculum would vary among the various colleges and other institutions that would be governed by it. However, it would need to offer a variety of additional subjects relevant to national security and defence – both in sciences and humanities.

### **An idea whose time has come**

The realisation of the IDU is long overdue. Some experts have suggested that after the establishment of the Rashtriya Raksha University (RRU) in Gujarat, there may not be a need for IDU. This argument is flawed, because comparing the IDU and RRU is like comparing apples and oranges. Neither does the RRU Act specify education related to 'defence' in its objectives, nor is its curriculum focused solely on military requirements for management of war and execution of plans.

The IDU as an idea has come and delays attached in its commissioning come at the cost of defence preparedness, strategic culture, and inter-service integration. The need of the hour is to operationalise the IDU at the earliest, so that the first building-blocks of joint warfighting can be put in place through a well-calibrated and futuristic military education curriculum.

Relevance: GS Prelims & Mains Paper II; Governance

Source: The Hindu

## **5. Meeting nutrition challenge: What new guidelines prescribe**

### **Why in News?**

With noncommunicable diseases (NCDs) — cardiovascular disease, cancers, diabetes, etc. — rising, and affecting adolescents and even children, India's premier nutrition research institute has published comprehensive guidelines on the diet of vulnerable groups, including pregnant and lactating women, and children and the elderly.

The guidelines issued by the National Institute of Nutrition (NIN), Hyderabad, which works under the Indian Council of Medical Research (ICMR), also prescribe general principles such as reducing consumption of salt and highly processed foods (such as packaged chips, cookies, bread, ketchup, candy, etc.).



The guidelines say an estimated 56.4% of India's total disease burden can be attributed to unhealthy diets. A healthy diet and physical activity can prevent 80% of Type 2 diabetes cases, and significantly reduce the burden of heart disease and high blood pressure.

#### **General dietary principles**

1. The guidelines recommend getting required nutrients from at least eight food groups, including vegetables, leafy vegetables, roots and tubers, dairy, nuts, and oils.
2. Consumption of cereals — the staple of Indian meals — should be restricted, so they contribute only 45% of the total energy (instead of the 50-70% now). Instead, more proteins (pulses, meat, poultry, fish) should be consumed, making up 14% of the total daily energy (instead of only 6-9% now).
3. Achieving adequate levels of essential polyunsaturated fatty acids (PUFA) and B12 is a challenge for vegetarians. The guidelines recommend consumption of flax seeds, chia seeds, walnuts, vegetables, and greens.
4. The report says salt consumption should be restricted to 5g a day, and strongly recommends against consuming highly processed foods that are typically high in fats, salt, sugar.

#### **Group-specific guidelines**

**Pregnant women:** Small frequent meals for those experiencing nausea and vomiting. The guidelines recommend consumption of lots of fruit and vegetables, especially those high in iron and folate content.

**Infants and children:** For the first six months, infants should only be breastfed, and must not be given honey, glucose, or diluted milk. There is no need to give water, even during hot months. After age 6 months, complementary foods must be included.

**Elderly:** The elderly should consume foods rich in proteins, calcium, micronutrients, and fibre. Apart from pulses and cereals — with at least one-third as whole grains — at least 200-400 ml of low-fat milk or milk products, a fist full of nuts and oilseeds, and 400-500g of vegetables and fruit should be consumed. Exercise is important in order to maintain bone density and muscle mass.

Relevance: GS Prelims & Mains Paper II; Governance

Source: Indian Express

## 6. Arvind Kejriwal released on interim bail: the case so far, what now

### Introduction

The Supreme Court (SC) granted interim bail to Delhi Chief Minister Arvind Kejriwal on May 10. The Delhi Chief Minister was arrested on March 21 by the Enforcement Directorate (ED), due to his alleged connection to the Delhi excise policy case. This made him the first sitting chief minister in India to be put behind bars. Why was Kejriwal arrested? What has led to his release? And what now?

### Arrest, allegations, and bail rejections

Between November 2, 2023 and March 21, 2024 the Delhi Chief Minister skipped 9 summons issued by the ED in connection to the excise policy case. In the last instance, Kejriwal filed a petition at the Delhi High Court seeking directions for “no coercive action” to be taken against him by the ED in connection with the case. However, the bench stated that it was not inclined to grant protection “at this stage”.

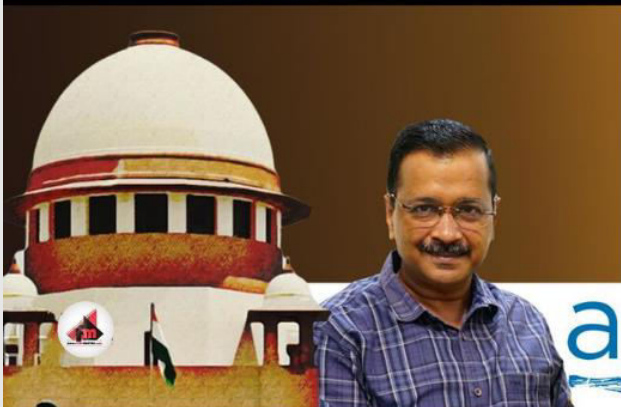
Hours after the hearing, the ED entered Kejriwal’s home and arrested him. Shortly afterward, on March 22, he was produced before a Delhi court which remanded him to ED custody till March 28. The ED claimed that Kejriwal was the “kingpin and key conspirator on the Delhi excise scam” in which multiple AAP leaders have been accused of receiving kickbacks from liquor businessmen in exchange for favors. This custody was extended on multiple occasions, most recently on May 7, when it was extended till May 20.

Meanwhile, the Delhi High Court rejected his petition challenging the arrest on April 9, leading to Kejriwal to approach the SC on April 10. The case was heard by a SC bench.

### Supreme Court hearing and interim bail

At the SC, Senior Advocate Abhishek Manu Singhvi appeared on behalf of the Delhi CM and argued that there was no need to arrest Kejriwal as none of the key documents “even remotely” connected Kejriwal to the excise scam. Singhvi also questioned the timing of Kejriwal’s arrest, considering that he was arrested in March 2024 even though the allegedly incriminating statements that the ED were relying upon to justify the arrest were all made between December 2022 and July 2023. Singhvi requested the bench to grant interim bail till June 4, when the election results would be announced.

### Supreme Court Grants Interim Bail To Arvind Kejriwal Till June 1



Delhi CM Arvind Kejriwal Had Sought A Release From Jail To Campaign For The Ongoing Lok Sabha Polls.

The apex court on May 3 first expressed an inclination to grant bail to Kejriwal, mentioning the fact that he was an elected Chief Minister as opposed to a habitual offender, while also making mention of the general elections. However, during the May 7 hearing the Bench clarified that if Kejriwal was released on interim bail, it would be conditional upon him not being allowed to perform his official duties as Delhi Chief Minister.

Government advocates argued against releasing Kejriwal on interim bail, cautioning against setting a precedent for politicians being released on bail to conduct campaign activities. They even argued that politicians

could not be favoured compared to other litigants. Further, he argued that such an order could have larger implications, mentioning the case of Amrit Pal Singh, leader of pro-Khalistani outfit Waris de Punjab, who has expressed his intention to contest elections despite currently being imprisoned. He too is seeking bail at the moment.

The Bench on May 10 decided to grant Kejriwal interim bail until June 1, the day that voting for the 2024 Lok Sabha elections will close. The SC rejected the argument that granting interim bail to Kejriwal would place politicians in a "benefic" position compared to other citizens, stating that the courts "always take into consideration the peculiarities associated with the person in question and the surrounding circumstances". In this instance, the court noted that the General Elections is the most "significant and important event this year" and are of "prodigious importance".

Relevance: GS Prelims & Mains Paper II; Governance

Source: Indian Express

## 7. What are the rules on contesting seats? How many seats can a candidate contest?

### Why in News?

When Congress leader Rahul Gandhi announced that he would contest from Rae Bareilly in Uttar Pradesh, questions were raised on why he took the decision after the Kerala election was over — he is a contestant from Wayanad too. According to the Representation of the People Act (RPA), 1951, a candidate is permitted to contest an election from up to two constituencies, but he or she can hold only one seat at a time if elected from both.

### Is there a cap?

A sub-section, 33 (7), of the RPA, allowing a candidate to contest from two seats, was introduced through an amendment in 1996, prior to which there was no bar on the number of constituencies from which a candidate could contest.

However, Section 70 of the same Act stipulates that a candidate can hold only one seat at a time, regardless of whether he or she has been elected from more than one seat. Thus, if a candidate wins from two seats, a byelection is necessary from the seat he or she vacates.

Moreover, a person has to be a voter in a particular State to contest Assembly polls from there. But to contest in a Lok Sabha election, a person can be registered as a voter in any constituency of the country. If a person is a registered voter in any constituency, he or she can contest from any seat in India, except Assam, Lakshadweep and Sikkim.

### **What is the minimum age to contest?**

The minimum age for a person to contest Lok Sabha and Assembly polls is 25 years, while one can become a member of the Rajya Sabha or the State Legislative Council only at 30 years. There is no minimum educational qualification needed to contest general elections in India. Candidates must be citizens of India, registered in some constituency of the country as a valid voter and must not have been convicted of any offence punishable by more than two years.

Relevance: GS Prelims & Mains Paper II; Governance

Source: The Hindu

## **8. How is India streamlining the pharma sector?**

### **Why in News?**

India's drug regulator, the Central Drugs Standard Control Organisation (CDSCO), has withdrawn powers delegated to State licensing authorities to issue NOCs (no objection certificates) for manufacture of unapproved, banned or new drugs for export purposes. This latest announcement covering drugs for export comes at a time when India has been under scrutiny for allegations of supplying substandard drugs causing health concerns in several countries. The CDSCO is now the sole authority for issuing manufacturing licences for drugs meant for export.

### **What is India's role in the pharma market?**

India ranks third worldwide as a producer of drugs and pharmaceuticals by volume, exporting to around 200 countries/territories. The Indian pharmaceutical industry supplies 62% of the global demand for vaccines and is a leading supplier of DPT (diphtheria, pertussis and tetanus), BCG (Bacillus Calmette-Guérin, used primarily against tuberculosis), and measles vaccines. At least 70% of WHO's vaccines (as per the essential immunisation schedule) are sourced from India, the Centre had noted in a submission in Parliament.

### **What will be the impact?**



India is a key player in the international generic medicine market and any change in policy has a direct impact on manufacturers and importers, say industry insiders. The centralising of the licensing authority is significant, they point out, because according to a study conducted by the Department of Pharmaceuticals, India needs to get ready to take advantage of drug sales worth \$251 billion going off-patent this coming decade.

The study notes: In the years between 2022 and 2030, the pharmaceutical sector in India will undergo landmark changes as several drugs are expected to go off-patent and

provide an opportunity for the entry of generic products. Expiry of patents is very promising for the Indian generic drug market as it is expected to expand and grow further with inclusion of these new drugs.

### **What about the quality of manufacturing?**

The Indian pharmaceutical industry has an estimated 10,500 companies, with drug exports having more than doubled in the past decade. But the industry has faced a series of scandals of late, including a World Health Organization investigation into four contaminated cough syrups that caused acute kidney injuries and were linked to the deaths of 66 children in the Republic of the Gambia last year.

In what seems like an effort to keep a strict watch, the latest order by CDSCO states that pharmaceutical companies will have to get their NOCs from the zonal offices of CDSCO online before applying for manufacturing licences from their respective State/UT drug regulators.

In 2018, the CDSCO had permitted State and UTs' drug licensing authorities to grant permissions to export some specific drugs. As per the new order, local regulators will have to hand over the details of all the approvals they have given from August 2018 to May 2024 to CDSCO.

Relevance: GS Prelims & Mains Paper II; Governance

Source: The Hindu

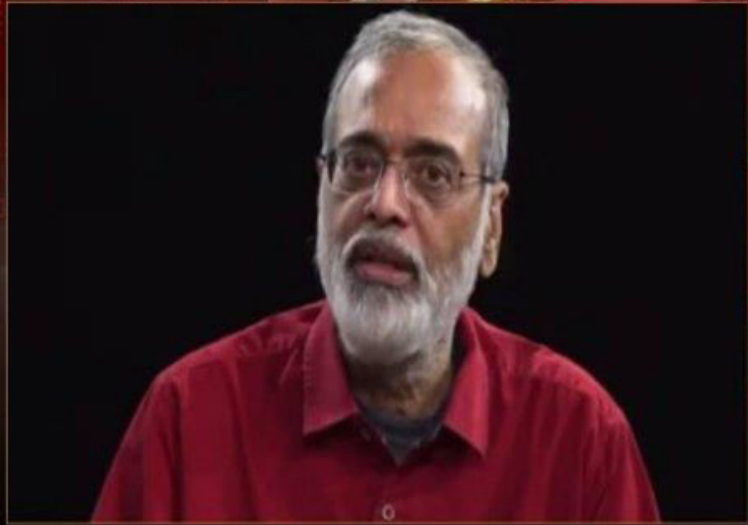
## **9. Failure to follow procedure: Why SC said Newslick founder's arrest was illegal**

### **Why in News?**

Invalidating his arrest in a terror case, the Supreme Court ordered the release of Newslick founder-editor Prabir Purkayastha. The reason the court gave: the Delhi Police failed to inform Purkayastha the grounds of his arrest before taking him into custody.

The ruling by a Bench led by Justice B R Gavai is significant because it emphasises that proper procedure and due process are the guardrails against arbitrary action, even in stringent terror cases.

## SUPREME COURT ORDERS RELEASE OF NEWSCCLICK FOUNDER



### Arrest Charges

Purkayastha was arrested at about 6.30 am on October 3, 2023 by the Special Cell of the Delhi Police. Invoking the Unlawful Activities (Prevention) Act, the Delhi Police alleged that NewsClick received money for pro-China propaganda.

The FIR mentioned serious offences: Sections 13 (unlawful activities), 16 (terrorist act), 17 (raising funds for terrorist acts), 18 (conspiracy), and 22(C) (offences by companies, trusts) of the UAPA, and Sections 153 A (promoting enmity between different groups) and 120B (criminal conspiracy) of the Indian Penal Code (IPC).

### Issues in arrest

Purkayastha's case is that on October 4, 2023, without any prior notice, he was taken to the residence of a special judge at 6.30 am for his remand hearing. Purkayastha's lawyers claimed that on their client's insistence, around 7 am, they were informed about the proceedings over a phone call.

In pleadings before the Delhi High Court, Purkayastha said that an unsigned copy of the remand application was sent by WhatsApp to his lawyers without mentioning the time of the arrest or the grounds of arrest.

However, even as objections to the remand were filed before 8 am, Purkayastha's lawyers were told that the remand order had already been passed, and seven days of police custody had been granted.

Crucially, official records show that the remand order was signed at 6 am, which is even before Purkayastha was produced before the judge or his lawyers were informed.

Even the FIR in the case was made public only after a few days had passed after his arrest.

### **The issue of the legality of arrest**

Purkayastha's case was essentially this: that his arrest was illegal as it did not follow due process.

Article 22(1) of the Constitution, which is about protection against arrest and detention, reads: "No person who is arrested shall be detained in custody without being informed, as soon as may be, of the grounds for such arrest nor shall he be denied the right to consult, and to be defended by, a legal practitioner of his choice."

Relevance: GS Prelims & Mains Paper II; Governance

Source: Indian Express

## **10. Supreme Court limits power of ED to arrest PMLA accused**

### **Summoning by special court does not mean custody**

The Supreme Court gave a fillip to the right to personal liberty by holding that a person summoned by a designated special court under the Prevention of Money Laundering Act (PMLA), is presumed to be not in custody and need not apply for bail under the draconian conditions posed by the anti-money laundering law.

## **Easing conditions**

**The major takeaways from the Supreme Court verdict on the Prevention of Money Laundering Act are:**



- **An accused is presumed to be not in custody if he appears in court on summons**
- **The court can direct the accused to furnish bonds in terms of Section 88 of the Code of Criminal Procedure**
- **The ED has to apply to a special court for custody, giving specific reasons**

The judgment limits the power of arrest by the Directorate of Enforcement (ED) after a special court takes cognisance of a case.

### **ED needs to apply separately for custody**

The Bench said the ED would have to separately apply for the custody of a person once he or she appears in court. The Central agency would have to show specific grounds that necessitated custodial interrogation.

However, the special court can direct the accused to furnish bonds in terms of Section 88 of the Code of Criminal Procedure. As per Supreme Court, a bond... is only an undertaking. An order accepting bond under Section 88 does not amount to grant of bail and hence the twin conditions of Section 45 of the PMLA are not applicable to it.

The twin conditions of bail under Section 45 of the PMLA pose stringent thresholds for an accused. One, the person has to prove in court that he or she is prima facie innocent of the offence.

Secondly, the accused should be able to convince the judge he would not commit any offence while on bail. The burden of proof is entirely on the incarcerated accused, who would be often handicapped to fight the might of the state. The twin conditions make it almost impossible for an accused to get bail in the PMLA.

### **Section 88 of Code of Criminal Procedure**

Section 88 of the Indian Code of Criminal Procedure (CrPC) allows a court to require a person present in court to execute a bond for their appearance. It notes that accused persons sometimes try to rely on this section to avoid going through the bail process.

### **Personal appearance required during first time**

The judgment further said an accused, who appears in the special court, could be exempted from personal appearance in the future. On the other hand, if an accused does not appear after a summons is served, the special court could issue a bailable warrant followed by a non-bailable one.

In its judgment, the top court said the ED would have to separately apply for custody of a person who appears in court.

### **What was question of law in the case?**

The question of law in the case was whether an accused, can apply for bail under the regular provisions of the Code of Criminal Procedure. If so, whether such a bail plea would also have to satisfy the twin conditions imposed by Section 45 of the PMLA.

The judgment was based on an appeal filed by Tarsem Lal against the ED challenging a Punjab and Haryana High Court denying him anticipatory bail.

Relevance: GS Prelims & Mains Paper II; Governance

Source: The Hindu

## 11. FSSAI Alerts Fruit Traders to Ensure Compliance with Prohibition of Calcium Carbide in Fruit Ripening

### FSSAI alert against use of Calcium carbide for ripening

The Food Safety and Standards Authority of India (FSSAI) has alerted traders'/fruits handlers/Food Business Operators (FBOs) operating ripening chambers to strictly ensure compliance with the prohibition on calcium carbide for artificial ripening of fruits, particularly during the mango season. FSSAI is also advising Food Safety Departments of States /UTs to remain vigilant and take serious action and deal stringently against person(s) indulging in such unlawful practices as per the provisions of FSS Act, 2006 and Rules/Regulations made thereunder.

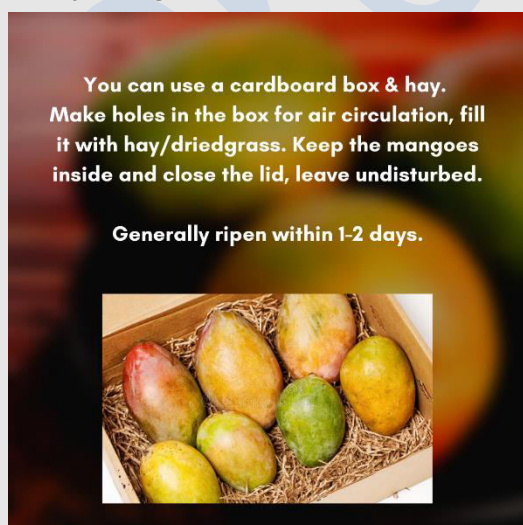
### Why Calcium Carbide is dangerous?

Calcium carbide, commonly used for ripening fruits like mangoes, releases acetylene gas which contains harmful traces of arsenic and phosphorus. These substances, also known as 'Masala', can cause serious health issues such as dizziness, frequent thirst, irritation, weakness, difficulty in swallowing, vomiting and skin ulcers, etc. Additionally, acetylene gas is equally hazardous to those handling it. There are chances that calcium carbide may come in direct contact with fruits during application and leave residues of arsenic and phosphorus on fruits.

Due to these dangers, the use of calcium carbide for ripening fruits has been banned under Regulation 2.3.5 of the Food Safety and Standards (Prohibition and Restrictions on Sales) Regulations, 2011. This regulation explicitly states, "No person shall sell or offer or expose for sale or have in his premises for the purpose of sale under any description, fruits which have been artificially ripened by use of acetylene gas, commonly known as carbide gas."

### Safer alternative

Considering the issue of rampant use of banned calcium carbide, FSSAI has permitted the use of ethylene gas as a safer alternative for fruit ripening in India. Ethylene gas can be used at



concentrations up to 100 ppm (100 µl/L), depending upon the crop, variety and maturity. Ethylene, a naturally occurring hormone in fruits, regulates the ripening process by initiating and controlling a series of chemical and biochemical activities. The treatment of unripe fruits with ethylene gas triggers the natural ripening process until the fruit itself starts producing ethylene in substantial quantities.

By wrapping mangoes, one can trap the ethylene, so the fruit will ripen naturally – just faster. Wrap the unripe mangoes in a paper bag (or newspaper). Leave them out at room temperature

for few days, they just ripe naturally.

## 12. Rules for political parties to use state-funded media during polls

### Why in News?

Two Opposition leaders — Communist Party of India (Marxist) General Secretary Sitaram Yechury and All India Forward Bloc leader G Devarajan — were asked to make certain changes to their speeches made on Doordarshan and All India Radio (AIR) during the allocated broadcast time in the run up to the ongoing Lok Sabha elections.



Yechury had to delete references to the electoral bond scheme, drop terms "communal authoritarian regime" and "draconian laws", and replace "bankruptcy" (of governance) with "failure". Devarajan was made to remove the word "Muslims" from his speech about the Citizenship

Amendment Act.

However, according to a Prasar Bharati official, the TV and radio networks were simply following rules set by the Election Commission of India (ECI) regarding the use of state-controlled media by recognised parties during elections. Prasar Bharati is India's state-run public broadcaster and the parent organisation of Doordarshan and AIR.

### Allocation of time on state media

Recognised political parties have been allowed to freely use state-owned television and radio during polls since the 1998 Lok Sabha elections. The ECI decides how much time each recognised national and state party will be allotted prior to the start of the election campaign.

National parties, all put together, get a minimum of 10 hours of telecasting time on Doordarshan's national channel, and at least 15 hours on its regional channels. They also get 10 hours of broadcasting time on the national hook-up of AIR and 15 hours of broadcasting on regional AIR stations.

State parties, all put together, get a minimum of 30 hours of telecasting time on the appropriate regional Doordarshan channel and AIR radio station.

### Allocation of time in this elections

On March 28, the ECI allocated broadcast and telecast time to each of the six national parties — AAP, BSP, BJP, CPI(M), Congress, and Conrad Sangma's National People's Party — and 59

state parties for the 2024 elections. For national parties, out of the 10 hours prescribed, a total of 4.5 hours (45 minutes each) was allocated in both Doordarshan and AIR. The remaining 5.5 hours was further allocated on the basis of vote share in the 2019 Lok Sabha elections. Similar formulae was followed while allocating time to state parties.

### **Guidelines on speeches' contents**

Parties and their speakers are expected to submit transcripts of their speeches three to four days before recording — these have to be approved by the concerned authorities in the respective AIR and Doordarshan stations.

The ECI's guidelines forbid "criticism of other countries; attack on religions or communities; anything obscene or defamatory; incitement of violence; anything amounting to contempt of court; aspersions against the integrity of the President and judiciary; anything affecting the unity, sovereignty and integrity of the nation; and any criticism by name of any person".

However, both Devarajan and Yechury, whose edited speeches were aired on Doordarshan on April 16, were not happy with the changes made to their speech.

Relevance: GS Prelims & Mains paper II; Governance

Source: Indian Express

## **13. What IMD's heatwave 'red alert' for Delhi, Punjab and other parts of North India means**

### **Why in News?**

The Indian Meteorological Department (IMD) issued a red alert for heatwaves in Delhi, Punjab, Haryana, and most parts of Western Rajasthan recently. The agency also said that heatwaves and severe heatwave conditions will likely prevail here for five days beginning 19th May.

What exactly is a heatwave, which parts of India are most affected, what are severe and red heatwave alerts, and what precautions should be taken?

### **What is a heatwave alert and how is it issued?**

According to the IMD's website, "Qualitatively, heat wave is a condition of air temperature which becomes fatal to human body when exposed. Quantitatively, it is defined based on the temperature thresholds over a region in terms of actual temperature or its departure from normal."

Therefore, for every region, a heatwave is determined based on the degree of difference from its usual temperatures. "Heat wave is considered if maximum temperature of a station reaches at least 40°C or more for Plains and at least 30°C or more for Hilly regions," the IMD states. For coastal areas, it is when the maximum temperature departure is 37°C or more than normal.

Such temperatures must be recorded at least in two stations in a meteorological sub-division for at least two consecutive days. The heatwave is declared on the second day.

### And what is a severe heatwave?

If the prevalent temperature is 4.5°C to 6.4°C more than normal, it is classified as a heatwave. A rise of more than 6.4°C is considered a severe heatwave. May is the peak month for heatwaves in India.

### What is a heatwave red alert?

A red alert refers to an extreme heat warning. It means that a severe heatwave has persisted for more than two days or the total number of heat/severe heatwave days has been more than six days.

There is a “very high likelihood of developing heat illness and heat stroke in all ages,” according to IMD. Extreme care needs to be exercised for vulnerable people, such as the elderly, infants and those with chronic diseases

According to the World Health Organization, more than 1,66,000 people died as a result of heatwaves between 1998 and 2017.

Here is what the full spectrum of heatwave alerts says:

Colour Code	Alert	Warning	Impact	Suggested Actions
Green (No action)	Normal Day	Maximum temperatures are near normal	Comfortable temperature. No cautionary action required.	Nil
Yellow Alert (Be updated)	Heat Alert	Heat wave conditions at isolated pockets persists on 2 days	Moderate temperature. Heat is tolerable for general public but moderate health concern for vulnerable people e.g. infants, elderly, people with chronic diseases	(a) Avoid heat exposure. (b) Wear lightweight, light-coloured, loose, cotton clothes. (c) Cover your head: Use a cloth, hat or umbrella
Orange Alert (Be prepared)	Severe Heat Alert for the day	(i) Severe heat wave conditions persists for 2 days (ii) Through not severe, but heat wave persists for 4 days or more	High temperature. Increased likelihood of heat illness symptoms in people who are either exposed to sun for a prolonged period or doing heavy work. High health concern for vulnerable people e.g. infants, elderly, people with chronic diseases.	(b) Avoid heat exposure— keep cool. Avoid dehydration. (b) Drink sufficient water- even if not thirsty. (c) Use ORS, homemade drinks like lassi, torani (rice water), lemon water, buttermilk, etc. to keep yourself hydrated
Red Alert (Take Action)	Extreme Heat Alert for the day	(i) Severe heat wave persists for more than 2 days. (ii) Total number of heat/severe heat wave days exceeding 6 days.	Very high likelihood of developing heat illness and heat stroke in all ages.	Extreme care needed for vulnerable people.

Heatwave alerts based on colour

### **What are the precautions for heatwaves?**

According to the National Disaster Management Authority (NDMA), the following measures can be taken to minimise heatwave impact:

- \*Avoid going out in the Sun, especially between noon and 3 pm.
- \*If you work outside, use a hat or an umbrella and apply a damp cloth on your head, neck, face and limbs.
- \*Drink sufficient water as often as possible, even if not thirsty.
- \*Wear lightweight, light-coloured, loose, and porous cotton clothes. Wear protective goggles, an umbrella/hat, shoes or chappals while going in the Sun.
- \*Avoid alcohol, tea, coffee and carbonated soft drinks, which dehydrate the body. Drink ORS, homemade drinks like lassi, torani (rice water), lemon water, buttermilk, etc. instead.

### **How should a heatstroke be treated?**

In case a person has been affected by sunstroke, this is what they should do:

- \*Lay the person in a cool place, under shade. Wipe them with a wet cloth/wash the body frequently. Pour normal-temperature water on the head. The main aim is to bring down the body temperature.
- \*Give the person ORS/lemon sharbat/torani or other liquids useful for hydrating the body.
- \*Take the person to the nearest health centre immediately. Medical attention is needed as heat strokes can be fatal.

Relevance: GS Prelims & Mains paper II; Governance

Source: Indian Express

## **14. Why Indian armed forces will shift to integrated theatre commands**

### **Why in News?**

The Indian Armed Forces have been finetuning the final draft for the creation of integrated theatre commands. The ambitious defence reform is aimed at integrating the three defence services — the Indian Army, the Indian Navy, and the Indian Air Force (IAF) — to operate jointly in specific adversary-based theatres with defined military goals during a limited conflict or war.

### **Steps taken in past**

The government had set the ball rolling on the reform in 2019 by creating the post of Chief of Defence Staff (CDS), and setting up the Department of Military Affairs (DMA) to oversee the transition.

Over the last five years, multiple drafts have been prepared to zero in on the best possible model for India's theatre commands. The government is yet to give its final approval on the implementation of the plan.

Depending on the outcome of the elections, further discussions on fine-tuning the existing plan to iron out possible issues are expected to take place in the coming months. Other initiatives to integrate the services at the lower levels have, meanwhile, been implemented.

### Services working together

The three defence services currently operate individually under their individual operational commands.

Theaterisation would entail putting specific units of personnel from all the three services under a single theatre commander so that they fight jointly as a single unit in a war, or conflict, rationalising the manpower and resources of individual services in the process.



Each of the three services has its own culture and ethos. With the creation of the theatre commands, their personnel, assets, infrastructure, and logistics would be integrated, so they can operate cohesively to attain defined military goals in specific theatres covering laid-down operational areas.

The Armed Forces have already been taking steps to bring in greater integration among the three services. There are plans to make Mumbai the first tri-service common defence station, and to set up additional joint logistics nodes across the country to boost integration in logistics needs, and to streamline supply chains and inter-service postings of officers.

### Commands & headquarters

The latest draft with the military envisions three adversary-based theatre commands — a western theatre command facing Pakistan, a northern theatre command facing China, and a maritime theatre command for threats emanating from the Indian Ocean Region.

There are plans to set up the western theatre command in Jaipur, and the northern theatre command in Lucknow. The maritime theatre command could be headquartered in Coimbatore, even though Karwar and Thiruvananthapuram have also been under consideration.

### **How will the creation of theatre commands rationalise the existing service commands?**

Currently, the Army and the IAF have seven commands each, while the Navy has three. In addition, there are two tri-service commands — the Andaman and Nicobar Command, and the Strategic Forces Command (SFC). There is also the Headquarters Integrated Defence Staff (HQIDS).

Post the creation of the theatre commands, three command headquarters of the services are likely to be transformed into theatre command headquarters.

The existing Andaman and Nicobar Command may be subsumed into one of the theatre commands (in the maritime theatre command, as per current plans), and the HQIDS will likely operate under the CDS.

The SFC will continue to operate independently, as per the plan.

### **Command leadership**

The three theatre commands will be headed by three theatre commanders who would likely be of the rank of General or equivalent.

According to current plans, the theatre commanders will report to a National Defence Committee, which is likely to be headed by the Defence Minister.

Additionally, there are plans to appoint a Vice CDS and a Deputy CDS. The Vice CDS is likely to look after strategic planning, capability development, and procurement-related matters, and will likely be an officer of the rank of General or equivalent.

The Deputy CDS will be responsible for operations, intelligence, and coordination of the allocation of assets among theatres. The Deputy CDS is likely to be a Lieutenant General or equivalent.

The three service Chiefs would be responsible for raising, training, and sustaining the individual services. It is not known whether they would continue to retain some operational roles. The three theatre commanders would be responsible for operations. However, none of these plans have got the final nod from the government yet.

Relevance: GS Prelims & Mains Paper II; Governance

Source: Indian Express

## **15. Special categories of voters, their voting methods**

### **Introduction**

The general rules established for voting under various sections of the Representation of the People Act, 1951 (RPA) state that all voters must vote in person, at their designated polling station, on the date and hours fixed for the poll and using EVMs.

However, special exceptions are made for certain categories of voters to ensure that everyone gets to exercise their franchise. Here are the alternative methods of voting available, and who all are eligible to avail them.

<b>ALTERNATIVE VOTING METHODS — AND WHO IS ELIGIBLE</b>			
<b>By Post</b>	<b>Facilitation Center</b>	<b>Postal Voting Center</b>	<b>Home/Hospital</b>
Special voters	Voters on election duty	Persons employed in essential services (AVES)*	Senior citizens (AVSC)*
Service voters			Persons with disability (AVPD)*
Electors subjected to preventive detention (also through special messenger)			Persons affected or suspected of having <a href="#">Covid-19</a> (AVCO)*
<i>*AV refers to 'absentee voters'</i>			

### **Postal Ballots**

'Postal ballot' allows voters who cannot be physically present in polling stations to vote remotely, as specified in Section 60 of the RPA. This method differs from normal voting in three ways:

- Polling takes place outside the polling station;
- It takes place without EVMs (EDC voters are an exception — more on them later);
- Polling takes place before the designated poll date in the constituency.

As per Rule 18 of The Conduct of Election Rules, 1961, the following classes of persons are entitled to vote by postal ballot:

**1. Special voters:** Individuals holding declared office under Section 20(4) of RPA, including the President, Vice President, Governors, Cabinet Ministers, other high-ranking dignitaries, etc. and their spouses.

**2. Service voters:** Members of the Indian armed forces, paramilitary forces, an armed state police member serving outside their state, or a government employee stationed abroad and their spouses residing with them.

**3. Voters on election duty:** This includes all Commission's observers, presiding officers, polling officers and agents, police personnel, and public servants assigned official tasks on polling day. Private individuals and non-government staff, such as videographers, control room staff, drivers, conductors, cleaners, helpline staff, etc., are also covered.

#### **4. Electors subjected to preventive detention**

**5. Absentee voters under Section 60 (c) of RPA, 1951:** In 2019, the Election Commission created the 'Absentee Voters' category. This includes senior citizens aged 85+ (AVSC), persons with disabilities having at least 40% disability (AVPD), Covid-19 suspect or affected persons (AVCO), and persons employed in essential services (AVES).

AVES includes officials certified to be on duty on the day of the poll but not on election duty, including railways, telecom, electricity, health, traffic, aviation, fire services, media persons authorised by ECI for poll day coverage, etc.

Those eligible for postal voting must submit a formal application to the Returning Officer within a set timeframe. Service voters and electors under Preventive Detention automatically receive postal ballots. Once issued, these voters cannot vote in person.

In 2016, Rule 23 was amended to introduce the Electronically Transmitted Postal Ballot System (ETPBS) for Service Voters, speeding up the delivery of postal ballots. ETPBS features encrypted ballots sent electronically via a secure portal. While the ballot is transmitted electronically, voters return their completed ballots via post at no cost.

#### **Facilitation centres, Postal voting centres**

Rule 18A, introduced in 2022, mandates voters on election duty to vote at designated Facilitation Centers using postal ballots. Previously, these voters could take their ballots home, which led to the risk of undue influence. These centres are located at training venues and designated offices, and operate before the election. The voting process, which is videotaped, involves casting votes into a steel trunk. After voting, postal ballots are placed in labelled cotton bags and kept in a strong room.

Similarly, an appropriate venue and room for the Postal Voting Centre (PVC) are identified to facilitate voting by absent voters in the Essential Services (AVES) category. These voters may come to get their postal ballots issued and cast a vote on any of the three fixed days from 9 AM to 5 PM.

The contesting candidates are notified about the location and schedules of these centres, and can send observers who are allowed to sign the postal ballot register and receive a copy.

### **Home Voting**

Over 81 lakh 85+ aged voters and 90 lakh PwD voters are registered in the electoral roll nationwide. For absentee voters over 85 (AVSC), PwD (AVPD) and AVCO, Booth Level Officers (BLOs) deliver Form 12D and compulsorily obtain acknowledgements from them. If the elector opts for the Postal Ballot, then the BLO collects the form for home voting within five days of the election's notification.

For home voting, teams consisting of two poll officers, a police security officer, a micro-observer, and a videographer are formed. Voters are notified of visits via SMS, post, or BLO; if a voter is unavailable after two attempts, no further action is taken.

Candidates, their agents, and media personnel are informed of the schedule and can observe the process. All visits are completed the day before the polls.

### **Voting in a different polling centre**

Suppose a person on election duty is deployed in the same constituency where they are enrolled as a voter. In that case, the Returning Officer can issue the applicant an Election Duty Certificate (EDC). This entitles them to vote at a polling station through EVM where they are on duty, which is not the station where they are enrolled as a voter since they are deputed through randomisation. However, if they are on duty in another constituency, they are entitled only to a postal ballot.

### **Proxy voting**

Service voters in the Armed and paramilitary forces can vote either by proxy or postal ballot. Those who choose the proxy voting method are known as 'Classified Service Voters' (CSVs). They must appoint a local resident as their proxy. The proxy votes at the designated polling station and indelible ink is applied to their left middle finger to indicate proxy voting.

### **Assisted Voting**

Suppose an elector is unable to vote due to blindness or other disability. In that case, the Presiding Officer may allow them to bring a companion over 18 into the voting booth to record a vote on their behalf. The indelible ink is applied to the companion's right index finger in such cases.

Relevance: GS Prelims & Mains Paper II; Governance

Source: Indian Express

## 16. Recent violations fire safety regulating leading to mass deaths

### Why in News?

A deadly fire at a gaming centre in Rajkot, Gujarat on May 25 killed at least 32 people, bringing focus back on the safety of public buildings and venues. The TRP Game Zone carnage unfolded in the evening, as fire spread inside the structure built with a metal frame and sheets, trapping the victims including several children. Two inquiries have been set up to go into the disaster, one a Special Investigation Team (SIT) by the State government and another by the Rajkot police.



The Gujarat High Court suo motu took up the incident and made critical observations on the functioning of the State administration, following which the Police Commissioner, Raju Bhargava, Additional Commissioner Vidhi Choudhary, and Municipal Commissioner Anand Patel were transferred. Rajkot municipal officials including town planning officers responsible for the prevention of illegal

constructions were suspended, and four people including the operator of the game zone, Dhaval Thakkar, were arrested.

### What was the other incident?

On May 25, seven babies died in a fire in a hospital for newborns in Vivek Vihar, Delhi, leading to the arrest of Naveen Khichi, owner of the New Born Baby Care Hospital, along with the doctor on duty. Preliminary reports suggested that a large number of oxygen cylinders stored in the facility aggravated the impact of the blaze. In both incidents, the focus is on fire certification by the authorities, issue of No Objection Certificates (NOC), and the failure of authorities to take cognisance of illegalities that were happening in full public view.



### What fire regulations govern safety?

The Union of India's position on fire safety is that the Model Building Bye-Laws, 2016 and its component Chapter 11 on "Fire Protection and Fire Safety Requirements" provides the necessary framework for State governments, which bear responsibility for fire safety under law. Ensuring adherence to fire safety norms and standards laid down in

Part 4 of the National Building Code (NBC) and incorporating mandatory provisions in the process is left to the States.

In the case of the Rajkot game zone, it was built apparently as a non-standard structure to evade regulatory requirements, and the inquiry would reveal whether it was qualified to be used as an assembly building offering leisure and entertainment services.

### **How have the courts viewed neglect of fire safety?**

Among the most high-profile deadly fire accidents that have led to the loss of life, the Uphaar cinema tragedy of 1997 in Delhi resulted in the conviction of the owners of the venue, Sushil Ansal and Gopal Ansal among others for negligence and tampering of evidence. The death of 59 people who were trapped in the balcony of the hall because of illegally installed seats and a blocked exit resulted in a protracted legal battle, with the families of the victims forming an association to seek justice. The Uphaar case was prosecuted with the charge of causing death by negligence (IPC 304A), hurt or grievous hurt by rash or negligent act (337, 338) by the owners of the cinema, and culpable homicide (304) and other sections in the case of theatre staff and public agency employees, such as the electricity authority. A transformer of the electricity authority that was placed without sanction and allowed without safeguards was thought to have triggered the inferno. The owners had to directly bear responsibility for the wilful structural deviations.

Essentially, the court held the owners of the property, employees and staff from the electricity agency liable for the devastating toll in the Uphaar tragedy for violating the law and later for payment of compensation. On June 13 last year, the anniversary of the blaze, the Association of Victims of Uphaar Tragedy blamed the judiciary for allowing the Ansal brothers to walk out of jail on a reduced sentence.

Relevance: GS Prelims & Mains Paper II; Governance

Source: The Hindu

### 1. How close is the World Health Organization to agreeing on pandemic response rules?

#### Why in News?

Health officials from the 194 member states of the World Health Organization hope next week to complete more than two years of negotiations on new rules for responding to pandemics when they gather in Geneva.

Negotiations are ongoing for two complementary deals that could be formalised at the May 27-June 1 meeting: an update to existing health rules on outbreaks and a new legally-binding treaty to shore up the world's defences against future pathogens after the COVID-19 pandemic killed millions of people.

Some observers say this World Health Assembly, set to be attended by some 100 ministers, is the single most important moment for the WHO since its 1948 creation.



#### What is the so-called Pandemic Treaty?

The WHO already has binding rules known as the International Health Regulations (2005) which set out countries' obligations where public health events have the potential to cross national borders. These include advising the WHO immediately of a health emergency and measures on trade and travel.

Adopted after the 2002/3 SARS outbreak, these regulations are still seen as functional for regional epidemics such as Ebola but inadequate for a global pandemic.

Much of the impetus for a separate treaty comes from a desire to address the COVID-era shortcomings of the current system, chiefly avoiding a repeat of the "vaccine apartheid" denounced repeatedly by Tedros, and ensuring faster, more transparent information sharing and cooperation.

One of the most important and fiercely debated sections of the treaty, Article 12, envisages reserving around 20% of tests, treatments and vaccines for the WHO to distribute to poorer countries during emergencies although the exact portion is still contested, negotiators say.

It would be only the second such health accord after the 2003 Framework Convention on Tobacco Control, a treaty which aims to reduce smoking via taxation and rules on labelling and advertising.

### **How will global health rules change?**

Updates to the IHR rules include a new alerts system for communicating different risk assessments for future outbreaks, following criticism that cumbersome existing rules slowed the global response to the COVID-19 emergency.

Currently, the WHO has only one level of emergency – a public health emergency of international concern (PHEIC) – whereas the new system envisages an intermediary stage called an “early action alert”.

Negotiators are also considering a “pandemic emergency” for the most serious public health threats, addressing a gap in its current system which does not use the term pandemic at all. Other revisions include attempts to bolster states’ obligations, in one case strengthening language on their duties to inform the WHO on public health events from “may” to “should”.

### **How do countries view the pact?**

Negotiations have been characterised by major rifts between wealthy and poorer countries’.

Besides the sharing of drugs and vaccines, one of the most contested aspects is financing, including whether to set up a dedicated fund or draw on existing resources, such as the World Bank’s \$1 billion pandemic fund.

Another factor constraining negotiators has been political pressure over the treaty, particularly by right-wing groups and politicians who say it threatens sovereignty, which the WHO strongly denies.

### **What happens next?**

The new IHR rules and the pandemic accord are designed to complement each other and views vary over whether one could exist without the other. Sources say the IHR talks are more advanced and more likely to pass, with negotiations close to completion.

However, two Western diplomats expressed fears that those seeking big concessions on the pandemic treaty will hold the IHR talks “hostage”.

Unlike the treaty, which would require ratification to take effect, possibly taking years, the IHR changes take effect automatically after 12 months unless countries opt out.

Relevance: GS Prelims & Mains Paper II; International Organisations

Source: Indian Express

## **2. Sierra Madre, an old ship fuelling China-Philippines tensions in South China Sea?**

### **Why in News?**

Countries such as China, the Philippines, Malaysia, Vietnam and Brunei Darussalam have long been making competing claims over regions of the South China Sea. Of late, the Philippines

and China in particular have clashed in the region, raising concerns about an escalation. An important part of this equation is Sierra Madre, a World War II-era ship.

In the 1990s, the Philippines decided to bring this ship to the Second Thomas Shoal, a submerged reef located in the South China Sea. The placement of the ship was deliberate, in order to further its territorial claims. Since then, the Philippines has sent smaller boats to the ship for repairs, and sending supplies to the crew onboard.

“Chinese coast guard and militia ships have repeatedly swarmed and collided with Philippine resupply vessels”. China was also found to have increased the deployment of its ships and directed water cannons at Filipino boats during supply missions to the Sierra Madre.



### **First, what is the Sierra Madre?**

The 100 ft-long Sierra Madre was constructed in the US for World War II (1939-45). Subsequently, it was sent to Vietnam during the US participation in the Vietnam War (1954-75). In 1976, it was transferred to the Philippines, an ally of the US.

In 1999, it was left on the Second Thomas Shoal, which is a part of the mostly uninhabited Spratly islands. A few years ago, China had laid claims on the nearby Mischief Reef. The move was an attempt at halting further Chinese assertions.

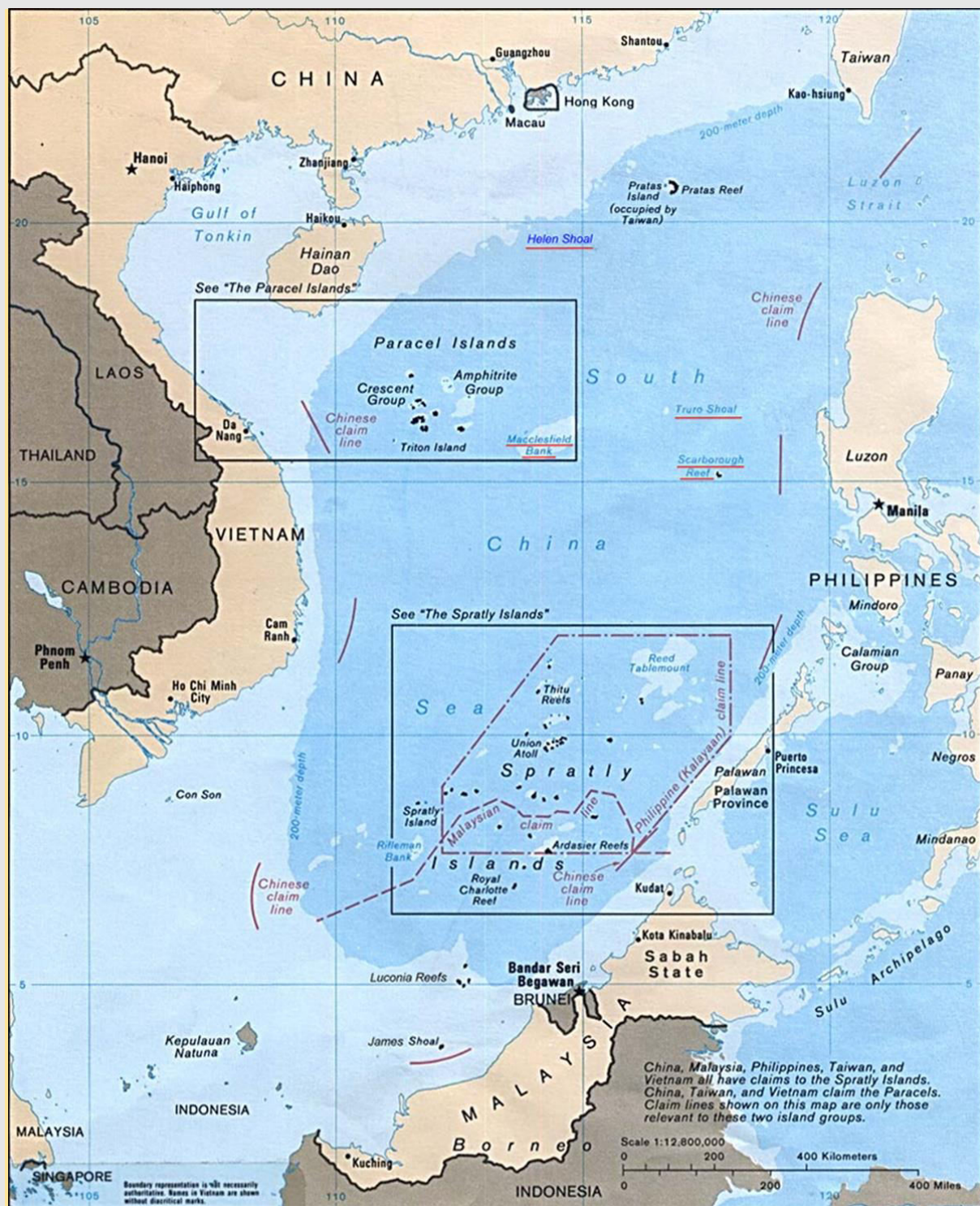
China has since demanded the ship's removal – something the Philippines has rejected. Today, the ship is largely dilapidated and rusting. However, for the Philippines, its removal would risk weakening its claims over the islands and Chinese presence being established.

### **What is the battle over Spratly islands?**

All countries bordering the sea have certain rights to access marine resources. An exclusive economic zone (EEZ) is an area of the ocean extending 200 nautical miles (370 km) beyond a nation's territorial sea (12 nautical miles or 12 miles from the coast). Within this area, a coastal nation has jurisdiction over both living and non-living resources.

For decades, countries in the region have extended overlapping claims on the South China Sea, claiming ownership over islands located there – such as the Spratly islands and the Paracel

islands. Along with issues over sovereignty, the rich oil and gas reserves in the region and its rich fishing waters have also encouraged countries to lay their claims.



### Dispute in recent years

The disputes gradually escalated and culminated in 2012 when China took effective control of the disputed Scarborough Shoal after a tense standoff.

The following year, Xi Jinping became the Chinese President. Under his rule, China has assumed a hardened stance on territorial claims and attempted aggressive posturing. It has claimed 90% of the South China Sea.

In 2016, an international tribunal in The Hague ruled in favour of the Philippines by noting China's activities in the dispute. Although the decision did not award sovereignty to any party, it said, "The Tribunal found that it could—without delimiting a boundary—declare that certain sea areas are within the exclusive economic zone of the Philippines, because those areas are not overlapped by any possible entitlement of China".

It also pointed to China's construction of artificial islands with helipads and buildings was "incompatible with the obligations on a State during dispute resolution proceedings, insofar as China has inflicted irreparable harm to the marine environment, built a large artificial island in the Philippines' exclusive economic zone, and destroyed evidence of the natural condition of features in the South China Sea that formed part of the Parties' dispute." China rejected the ruling.

#### **What has the US response been like?**

The US, which regards The Philippines as an important strategic ally, also voiced its support. In May 2023, the two countries also agreed on new guidelines to a defence treaty from 1951. It originally said the parties recognised "that an armed attack in the Pacific Area on either of the Parties would be dangerous to its own peace and safety and each party agrees that it will act to meet the common dangers in accordance with its constitutional processes."

Pentagon said in 2023: "The guidelines reaffirm that an armed attack in the Pacific, including anywhere in the South China Sea, on either of their public vessels, aircraft, or armed forces – which includes their Coast Guards – would invoke mutual defense commitments under Articles IV and V of the 1951 U.S.-Philippines Mutual Defense Treaty."

Relevance: GS Prelims & Mains Paper II; Bilateral Relations

Source: Indian Express

### **3. Pakistan's Hangor class submarines, built by China**

#### **Why in News?**

The first Hangor class submarine, built by China for Pakistan, was launched recently at a Wuhan shipyard. This was the first of eight submarines of this class that the Pakistan Navy is set to induct into its fleet by 2028.

#### **Basic characteristics**

The Hangor-class, an export variant of the Chinese Type 039A Yuan class, is a diesel-electric attack submarine, named after the now decommissioned PNS Hangor, which famously sank Indian frigate INS Khukri during the 1971 war.

“Diesel-electric” refers to the mode of propulsion — diesel engines power the submarine when surfaced or snorkelling (as they need air to operate), while a battery, charged by the diesel engine, allows the vessel to operate while submerged. The Hangor-class boasts four diesel engines.

Attack submarines are specifically designed for sinking other submarines or surface vessels using torpedoes, or in modern times, cruise missiles. The Hangor-class has six 21 inch torpedo tubes, and capabilities to launch anti-ship missiles, as well as the Babur-3 subsonic cruise missile, which has a range of 450 km.



### Comparison with India's Kalavari class

Pakistan's Hangor class is the direct counterpart of India's Kalavari class of submarines, based on the French Scorpene-class. India currently operates six Kalavari class submarines, with three more set to be inducted into service by the early 2030s. The Kalavari class, like the Hangor class, runs on diesel-electric propulsion.

Relevance: GS Prelims; Bilateral Relations

Source: Indian Express

## 4. Israel sanctions: Who has imposed curbs over its Gaza assault?

### Why in News?

Israel's allies have ramped up the pressure in recent weeks to allow more aid into Gaza to avert a worsening humanitarian crisis. But few have so far imposed sanctions on the Middle Eastern country, or boycotted products from Israel.

### Turkey raises the stakes

In its first significant measure against Israel since the war began, Turkey has announced it will not resume trade with Israel, worth \$7 billion (€6.52 billion) a year, until a permanent cease-fire and humanitarian aid are secured in Gaza.

The trade included \$5.4 billion in Turkish exports and \$1.6 billion in Israeli imports last year.

### **US, France and UK sanction Israeli settlers**

Among major Western powers, only France has mooted the idea of sanctions to pressure Israel to pull back its troops from Gaza and allow more humanitarian aid to reach displaced Palestinians.

In February, the Biden administration named two Israeli outposts and several Israeli settlers it accused of undermining stability in the landlocked territory. The State Department said the outposts had been bases for violence against Palestinians.

The White House also imposed sanctions on multiple Israeli men it accused of being involved in settler violence in the West Bank.

The sanctions typically freeze any US assets of those targeted and generally bar Americans from dealing with them. Canada, France and the UK imposed similar curbs on several Israeli settlers.

The Biden administration is also planning to require goods produced in West Bank settlements to be clearly marked. In 2019, the European Union's top court ruled that goods from West Bank settlements must be labeled as coming from occupied territory and not imply that they came from Israel.

### **Chile blocks Israel from aviation fair**

The Chilean government informed Israel last month that its companies would be banned from taking part in the 2024 International Air and Space Fair, FIDAE.

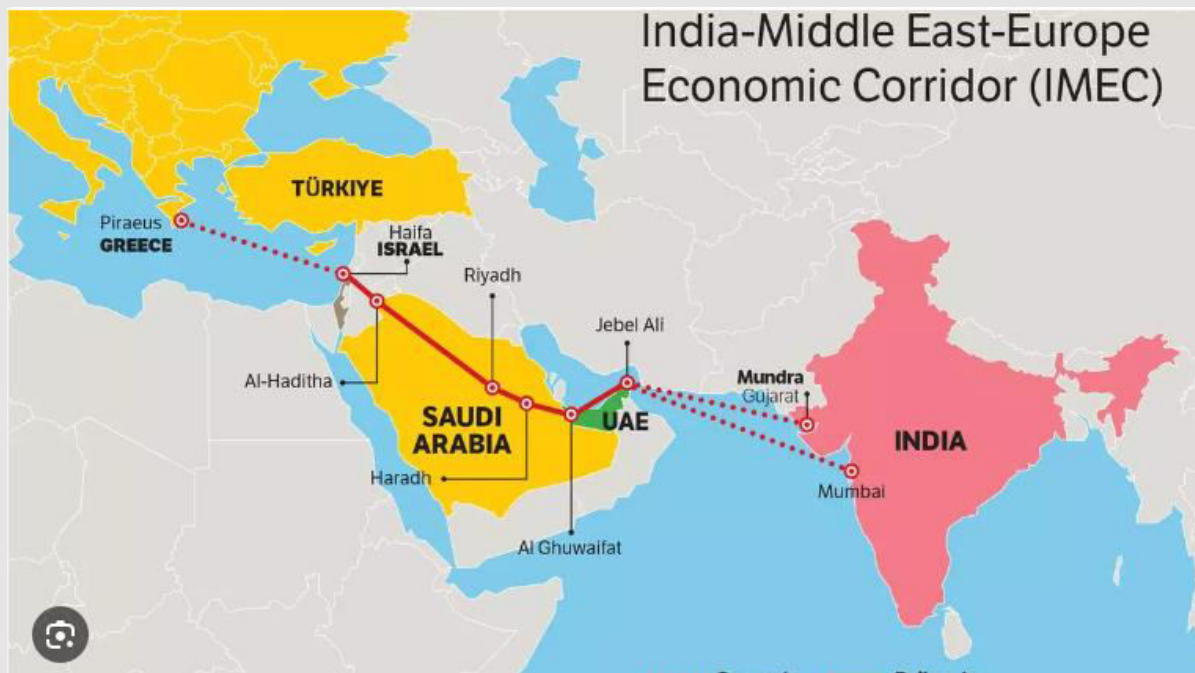
Organized by the Chilean Air Force, the fair is regarded as the main aerospace and defense show in Latin America, bringing together exhibitors from more than 40 countries.

As well as the ban, Chile has canceled all cooperation or training activities with Israel on Chilean territory. The government said it would no longer purchase any weapons, defense or security systems from Israel.

In January, Chile asked the International Criminal Court in The Hague to investigate Israel's actions in Gaza and the occupied territories.

### **Israel's tie normalization with Arab states hits the skids**

The Israel-Hamas war has halted progress on what is known as the India-Middle East-Europe Economic Corridor (IMEC) which aims to foster integration between Asia, the Persian Gulf and Europe.



The project will see new rail and shipping links built to counter China's massive Belt and Road (BRI) infrastructure initiative. But IMEC is understood to be on hold while the conflict plays out. There was hope the IMEC could help speed up the long-awaited rapprochement between Israel and Saudi Arabia, which the Biden administration hoped would help open the door for other Muslim countries to recognize Israel.

Arab nations have regularly condemned Israel's aggressive tactics against civilians as it seeks to root out the Hamas militant group in Gaza. Riyadh has warned that it would only normalize relations with Israel if there is a two-state solution between the Israelis and Palestinians.

Israel established ties with the United Arab Emirates, Morocco, Sudan and Bahrain in 2020 as part of the Abraham Accords.

<b>Consumer boycott targets:</b> 	<b>Divestment targets:</b> 
<b>Pressure (NON-BOYCOTT) targets:</b> 	<b>Organic boycott targets:</b> 

### **BDS movement urges global sanctions against Israel**

Boycott, Divestment and Sanctions (BDS) is a nonviolent Palestinian-led movement promoting boycotts, divestments and economic sanctions against Israel.

BDS now has branches in 40 countries and has also advocated a boycott of Israeli sporting, cultural and academic events, calling for pressure on foreign companies that “collaborate” with Israel.

The movement is regularly accused of antisemitism by Israel and the US.

Meanwhile, several apps are helping consumers boycott businesses deemed to be supporting Israel and its war on Gaza.

The apps, including one called Boycat, allow users to scan the barcode of any product and see its links to the Middle Eastern country. The app also offers a choice of products consumers may buy instead.

Relevance: GS Prelims & Mains Paper II; Bilateral Relations

Source: Indian Express

### **5. What a Blue Corner notice will mean for Prajwal Revanna**

#### **Why in News?**

The Central Bureau of Investigation (CBI) is likely to issue a Blue Corner notice against absconding Janata Dal (Secular) MP Prajwal Revanna. Prajwal fled to Germany on a diplomatic passport after nearly 3,000 videos showing him allegedly sexually abusing party workers and other women went viral on April 28.

#### **Interpol’s colour-coded notices**

A Blue or a Blue Corner notice is a part of Interpol’s elaborate system of colour-coded notices, which, according to the organisation’s website, enable countries to “share alerts and requests for information [on wanted persons/crimes] worldwide”. This sharing of critical crime-related information is crucial for tackling internationally spread out criminal activities.

There are seven types of notices — Red Notice, Yellow Notice, Blue Notice, Black Notice, Green Notice, Orange Notice, and Purple Notice. Each has a different implication.

**Red Notice:** To seek the location and arrest of persons wanted for prosecution or to serve a sentence.

**Yellow Notice:** To help locate missing persons, often minors, or to help identify persons who are unable to identify themselves.

**Blue Notice:** To collect additional information about a person's identity, location or activities in relation to a criminal investigation.

**Black Notice:** To seek information on unidentified bodies.

**Green Notice:** To provide warning about a person's criminal activities, where the person is considered to be a possible threat to public safety.

**Orange Notice:** To warn of an event, a person, an object or a process representing a serious and imminent threat to public safety.

**Purple Notice:** To seek or provide information on modus operandi, objects, devices and concealment methods used by criminals.

## TYPES OF INTERPOL NOTICES



**RED NOTICE:** To seek the location and arrest of wanted persons with a view to extradition or similar lawful action.



**YELLOW NOTICE:** To help locate missing persons, often minors, or to help identify persons who are unable to identify themselves.



**BLUE NOTICE:** To collect additional information about a person's identity, location or activities in relation to a crime.



**BLACK NOTICE:** To seek information on unidentified bodies.



**GREEN NOTICE:** To provide warnings and intelligence about persons who have committed criminal offences and are likely to repeat these crimes in other countries.



**ORANGE NOTICE:** To warn of an event, a person, an object or a process representing a serious and imminent threat to public safety.



**INTERPOL-UN SECURITY COUNCIL SPECIAL NOTICE:** Issued for groups and individuals who are the targets of UN Security Council sanctions committees.



**PURPLE NOTICE:** To seek or provide information on modus operandi, objects, devices and concealment methods used by criminals.

Source: [www.interpol.int](http://www.interpol.int)

NATION GRAPHICS

These notices are issued by the Interpol's General Secretariat at the request of a member country's Interpol National Central Bureau, and are made available for all member countries. The International Criminal Police Organization, commonly known as Interpol, facilitates worldwide police cooperation and crime control. Based out of Lyon, France, it is the world's largest international police organisation.

### **What Blue Corner notice means for Prajwal**

At this point of time, a Blue notice is simply to further the investigating agencies' enquiries.

The CBI website refers to them as 'B Series (Blue) Notices' or "enquiry notices" which are issued "to have someone's identity verified; to obtain particulars of a person's criminal record; to locate someone who is missing or is an identified or unidentified international criminal or is wanted for a violation of ordinary criminal law and whose extradition may be requested."

Generally speaking, Blue notices are issued prior to or immediately after the filing of criminal charges, whereas Red notices, which request the arrest of a fugitive, generally follow criminal convictions.

That being said, all Interpol's notices are completely discretionary, i.e. Interpol itself cannot compel law enforcement authorities to act on a particular notice. Very often, actual action on the notices is predicated on the relations between the two countries. Given India's amicable relations with Germany, where Prajwal has fled to, it will be fair to expect that Indian and German law enforcement will fruitfully cooperate to resolve the case.

In 2020, Interpol issued a Blue Notice to locate fugitive Godman Nithyananda, who had fled the country amidst allegations of sexual abuse and rape in 2019.

Relevance: GS Prelims & Mains Paper II; International Organisations

Source: Indian Express

## **6. 3-phase ceasefire deal that Hamas backed; Israel rejected as 'soft'**

### **Why in News?**

Israeli forces seized the control of Gaza's vital Rafah border crossing — the sole crossing between Egypt and southern Gaza recently. The development came a day after Palestinian militant group Hamas had agreed to a three-phased deal for a ceasefire and hostages-for-prisoners swap. Israel rejected the deal, saying it was not acceptable because its terms had been "softened".

Based on details available so far, the deal that the Palestinian group said it had agreed to included the following:



### **Phase one**

- \* A 42-day ceasefire, during which Hamas would free 33 Israeli hostages, alive or dead, in return for Israel releasing 30 children and women for each released Israeli hostage, based on lists provided by Hamas according to the earliest date of detention.
- \* From the first day, entry of intensive and sufficient quantities of humanitarian aid, relief materials, and fuel would be allowed. A total 600 trucks per day, including 50 fuel trucks, of which 300 would be for northern Gaza would arrive.
- \* Hamas would release three Israeli hostages on the third day of the agreement, and then release three more hostages every seven days, prioritising women if possible, including civilians and conscripts.
- \* In the sixth week, Hamas would release all remaining civilian hostages covered by this phase. Israel would release the agreed number of Palestinian prisoners in Israeli prisons.
- \* Israel would then partially withdraw troops from Gaza, and allow the free movement of Palestinians from south to north Gaza.
- \* Cessation of military flights over the Gaza Strip would take place for 10 hours per day and 12 hours on the day of releasing the hostages and prisoners.
- \* On the third day after releasing the first Palestinian prisoners, Israeli forces would completely withdraw from al-Rashid street in northern Gaza, and all military sites would be dismantled.
- \* On the 22nd day of the first phase, Israeli forces would withdraw from the centre of the strip, east of Salah al-Din road to an area near the Israeli border.

### **Phase two**

- \* Another 42 days with an agreement to restore a "sustainable calm" in Gaza.
- \* The complete withdrawal of most Israeli troops from Gaza.
- \* Hamas would release Israeli reservists and some soldiers in return for Israel releasing Palestinians from jail.

### **Phase three**

- \* Completion of exchanging bodies.
- \* Blockade of Gaza Strip would end.
- \* Implementation of a 3-5-year plan for reconstruction of Gaza would start. Homes, civilian facilities, and infrastructure, would be rebuilt. Compensation would be given to all those affected, under the supervision of a number of countries and organisations including Egypt, Qatar, and the UN.

Relevance: GS Prelims & Mains Paper II; International Issues

Source: Indian Express

## 7. History of India and Nepal's border issue

### Why in News?

Nepal's cabinet last week decided to put a map on its Rs 100 currency note showing certain areas administered by India in Uttarakhand as part of its territory, provoking External Affairs Minister S Jaishankar to say that such "unilateral measures" by Kathmandu would not change the reality on the ground.



### Territorial dispute

Kalapani is a region which is located in high Himalayas in the easternmost corner of Uttarakhand's Pithoragarh district. The region is surrounded between three places namely

Limpiyadhura, Lipulekh and Kalapani. Tibet Autonomous Region of China lies to the north of the region and Nepal lies to the East and South of the region.

Kalapani region is presently under India's control, but Nepal also claims the region. The region is the largest territorial dispute between India and Nepal consisting of atleast 37,000 hectares of land.

### **Origin of the dispute**

The present boundaries between India and Nepal are marked according to the Treaty of Sugauli signed between the Gurkha rulers of Kathmandu and the East India Company after the Gurkha War/Anglo- Nepal War (1814-16). According to this treaty, the King of Nepal was required to give up his claims over the region west to the river Kali and retain the territories located to the east of the river Kali.

River Kali originates in the High Himalayas and flows into the great plains of the Indian subcontinent. The dispute arises because of different interpretation of the source of river. According to government of Nepal, the source of river Kali is in the mountains near Limpiyadhura, which is higher in altitude than the rest of the river's flow. Accordingly, Nepalese government claims all territories to the east of river Kali right from mountains near Limpiyadhura.

On the other hand, India says the border begins at Kalapani which is where the river begins after merger of its tributaries. India also says the river actually takes the name Kali near Kalapani. Thus, the dispute is mainly because of the varying interpretation of the origin of the river.

### **Reasons for revival of dispute**

Presently, the Kalapani region is under control of India. In November 2019, India published a revised political map showing the newly created Union Territories of Jammu and Kashmir and Ladakh. The map showed Kalapani as part of Pithoragarh district in Uttarakhand.

India also inaugurated the Darchula-Lipulekh pass link road on 8th May, 2020. This road passes through disputed Kalapani region and is used by Indian pilgrims to reach Kailash Mansarovar.

### **Response of Nepal**

Nepal protested immediately at both the times- release of revised political map by India and inauguration of Darchula-Lipulekh pass link road.

The government of Nepal even released new political map that included territories of Limpiyadhura, Lipulekh and Kalapani. Thereafter, second amendment was passed to the constitution of Nepal to give constitutional status to the new political map.

Political experts argue that with the passage of the constitutional amendment, Nepal has adopted inflexible stand on the Kalapani region issue. Consequently, the chances of resolution of the issue by way of dialogue between both the sides are very bleak.

### Strategic importance of Kalapani region



### Lipulekh Pass

The Kalapani region is home to Lipulekh pass, which connects Indian side of Himalayas to Tibet. This pass holds multifaceted importance as follows:

1. The pass has been used by pilgrims to reach Kailash Mansarovar, believed to be abode of Lord Shiva.
2. The mountain communities living in the region have been able to access markets of nearby places by using the pass. The traders on both the sides have used the pass for trade purposes as it is one of the approved points for border trade.
3. The pass also holds utmost strategic significance for India. Lipulekh pas is strategically located as it is nearest to the National Capital Region and can be of particular concern in case of an armed conflict with China.
4. To enhance access to Lipulekh pass, Border Roads Organization has constructed 80 km Darchula-Lipulekh pass link road. This road was inaugurated on 8th May, 2020. The road goes right up to the Lipulekh pass on the LAC.

Besides promoting cross-border trade and serving defence purposes, the road will significantly reduce the distance to Kailash Mansarovar. Earlier, the pilgrims had to take route either via

Nepal or via Nathu La border in Sikkim, which entailed 20 per cent land journeys on Indian roads and 80 per cent land journeys in China. This ratio has now been reversed with the construction of Darchula-Lipulekh pass link road. Now pilgrims to Mansarovar will be required to cover 84 percent land journeys on Indian roads and only 16 percent in China.

Relevance: GS Prelims & Mains Paper II; Bilateral Relations  
Source: Indian Express

## 8. Why Vietnam wants US to change its 'non-market economy' status

### Why in News?

Vietnam has been pushing the President Joe Biden administration to quickly change its "non-market economy" classification to "market economy", in a bid to avoid high taxes imposed by the US on the goods imported from Vietnam.

Although Vietnam has emerged as one of the top trading partners of the US and helped thwart China's expanding influence in the region, it has continued to be on Washington's list of non-market economies for more than two decades. In total, the list includes 12 non-market economies such as Russia, China, and some countries which used to be a part of the erstwhile Soviet Union.



### What are 'non-market economies'?

The Department of Commerce in US administration has the authority to designate countries as NMEs. An NME is a country that Commerce determines "does not operate on market principles of cost or pricing structures, so that sales of merchandise in such country do not reflect the fair value of merchandise."

In designating a country as an NME, Commerce considers the extent to which

- (1) the country's currency is convertible;
  - (2) its wage rates result from free bargaining between labor and management;
  - (3) joint ventures or other foreign investment are permitted;
  - (4) the government owns or controls the means of production; and
  - (5) the government controls the allocation of resources and price and output decisions
- Other factors like human rights are also considered.

### **Purpose**

The non-market economy label allows the US to impose "anti-dumping" duties and other duties on goods imported from designated countries. In international trade, dumping is when a country's export prices are considered to be intentionally set below domestic prices, thereby inflicting harm to industries in the importing country. Anti-dumping duties essentially compensate for the difference between the imported good's export price and their normal value.

The level of anti-dumping duties is determined by relying on a third country, for instance, Bangladesh, which is a market economy. The US assesses the value of a product to be imported from a non-market economy like Vietnam based on what it is worth in Bangladesh and then assumes that this is the supposed production cost to a Vietnamese company. The company's own data about the costs are not considered.

### **Why does Vietnam want to get the 'market economy' status?**

Vietnam has argued that in recent years it has implemented enough economic reforms that should get its name off the non-market economies list. The country does meet a number of criteria for the status to be changed. For instance, Vietnam allows foreign investment, wages are determined by free negotiations between workers and management, and most of the means of production are not owned by the state.

The change in status will also help Vietnam get rid of the anti-dumping duties, making its products more competitive in the US market.

Relevance: GS Prelims & Mains Paper II; International Issues

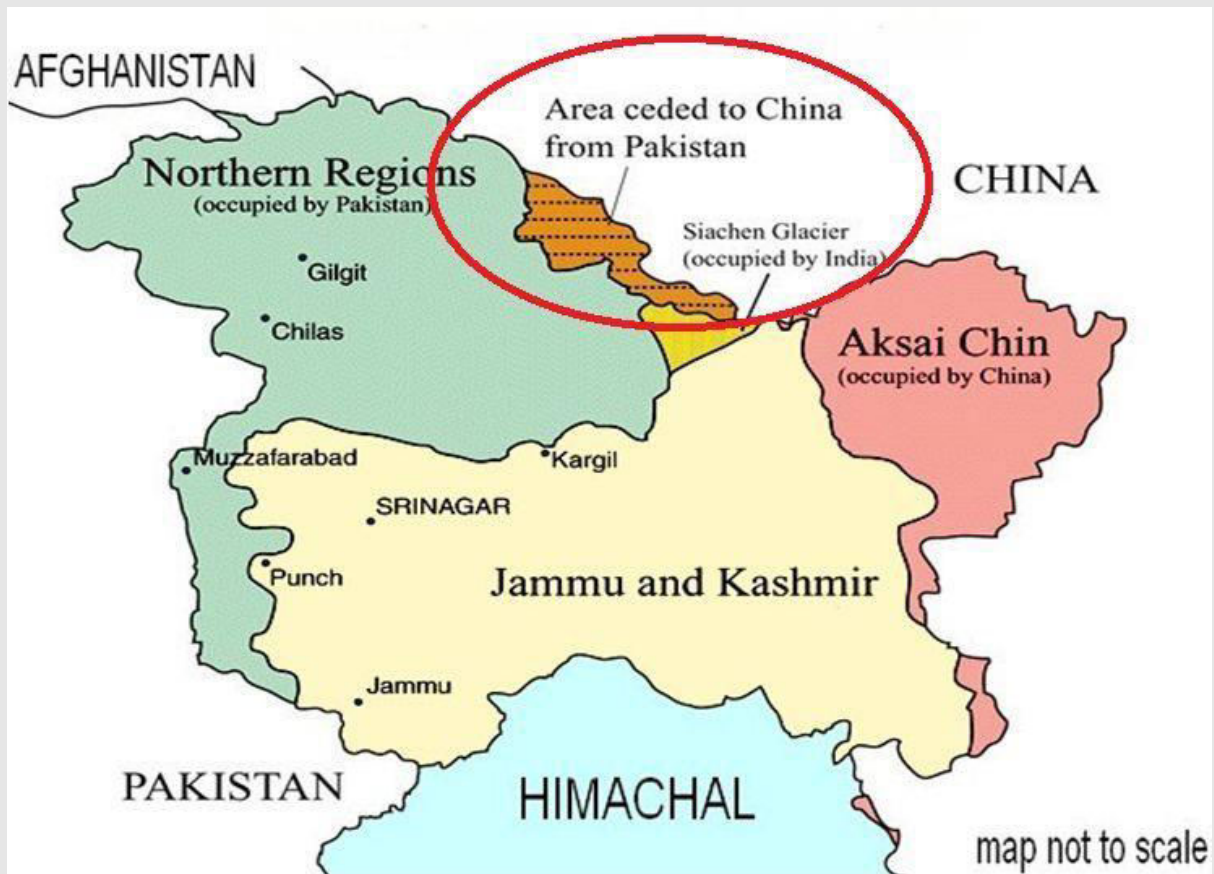
Source: Indian Express

## **9. Fuelled by Pakistan's economic crisis: why is PoK on the boil?**

### **Introduction**

Violent street protests in Pakistan Occupied Kashmir (PoK) have left a police officer dead and more than 90 people injured recently.

The violence erupted after about 70 members of the Joint Awami Action Committee, an organisation led by traders in the region, were arrested during a strike to protest the rising costs of food, fuel, and utilities. Pakistan's economic crisis and high inflation have resulted in hardships for its people, and a section of traders have been additionally hit by the stopping of trade with India.



### **The protests in PoK**

The traders took to the streets to protest against high electricity and food prices. There were similar protests against high electricity bills in August 2023 as well.

A general strike halted Muzaffarabad, the capital and largest city of PoK, as public transport, shops, markets, and businesses shut down. As large numbers of protesters broke barricades and clashed with police in the Mirpur and Muzaffarabad divisions. The paramilitary Rangers were called in to secure government buildings such as the legislative assembly and the courts.

Pakistan's economy has been witnessing extremely high inflation and dismal economic growth for more than two years due to rising energy costs. Consumer inflation has been above 20% since May 2022, and touched 38% in May 2023.

### **Alleged discrimination**

Leaders in PoK have been protesting alleged discrimination by the government in Islamabad in the distribution of power to the area. The region's premier Chaudhry Anwarul Haq has complained about not receiving the fair share of the 2,600MW of hydropower produced by the Neelum-Jhelum project.

Haq has also said that his request for resources to increase salaries of government employees in the recent budget was not accepted, and that he had been forced to divert development funds to pay them.

### **Collapse of India trade**

Traders in PoK were hit hard after India raised customs duty to 200% on Pakistani products such as dry dates, rock salt, cement, and gypsum following the Pulwama terror attack of February 2019. As a result, Pakistan's exports to India fell from an average of \$45 million per month in 2018 to only \$2.5 million per month between March and July 2019.

The situation was made more difficult after Pakistan stopped all trade following the constitutional changes carried out by India in Jammu and Kashmir in August 2019. India-Pakistan trade has shrunk to a low of about \$2 billion annually over the last five years, a small fraction of the \$37 billion trade potential estimated by the World Bank.

### **Pakistan's economic crisis**

Pakistan's foreign exchange reserves have fallen drastically ever since global food and fuel prices rose in the aftermath of the Russia-Ukraine war. A similar balance of payments crisis crippled Sri Lanka as well in 2022-23, leading India to extend support measures.

According to the State Bank of Pakistan, the country's forex reserves fell from a peak of \$20.1 billion in August 2021 to \$2.9 billion in February 2023, enough to cover only a month's imports. Pakistan imports nearly 40% of its total primary energy supply.

Pakistan's largely aid-dependent economy has an underdeveloped private sector, and its stock market has shown very little growth over the years. The country's Gross Domestic Product (GDP) shrank by 0.17% during FY23. The International Monetary Fund (IMF) recently said Pakistan needed gross financing worth \$123 billion over the next five years, and that the country was expected to seek \$21 billion in the fiscal year 2024-25 and \$23 billion in 2025-26.

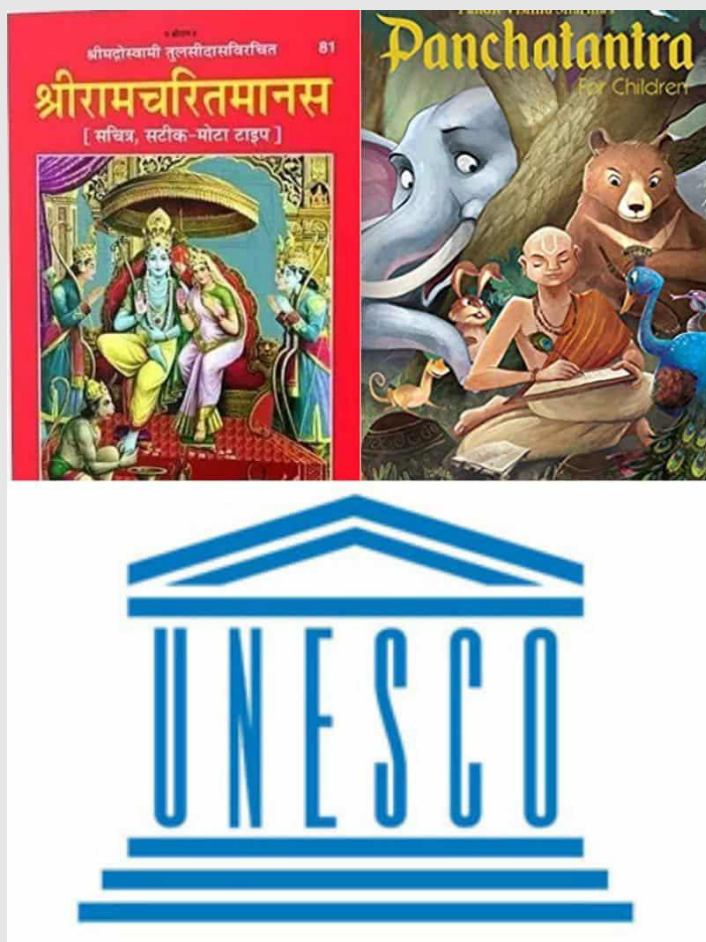
Relevance: GS Prelims & Mains Paper II; Bilateral Relations

Source: Indian Express

## **10. Ramcharitmanas, Panchatantra, and Sahrdayaloka-Locana enter 'UNESCO's Memory of the World Asia-Pacific Regional Register'**

### **Why in News?**

The Ramcharitmanas, Panchatantra and Sahrdayaloka-Locana have been included in 'UNESCO's Memory of the World Asia-Pacific Regional Register'. It signifies a step forward in global cultural preservation efforts, highlighting the importance of recognizing and safeguarding the diverse narratives and artistic expressions that shape our shared humanity



It is noteworthy that 'Sahṛdayaloka-Locana', 'Panchatantra', and 'Ramcharitmanas' were authored by Acharya Anandvardhan, Pt. Vishnu Sharma, and Goswami Tulsidas, respectively.

### **Role of Indira Gandhi National Centre for the Arts**

The Indira Gandhi National Centre for the Arts (IGNCA), played a vital role in securing a historic moment during the 10th meeting of the Memory of the World Committee for Asia and the Pacific (MOWCAP). At the gathering in Ulaanbaatar, 38 representatives from member states convened alongside 40 observers and nominees. Advocating for three Indian nominations, IGNCA ensured their placement in 'UNESCO's Memory of the World Asia-Pacific Regional Register'. This marks the first time IGNCA has submitted nominations to the Regional Register

since its inception in 2008.

After undergoing rigorous deliberations and receiving recommendations from the Register Subcommittee (RSC), and subsequent voting by member state representatives, all three nominations secured inclusion.

### **Memory of the World Programme**

UNESCO's Memory of the World (MoW) Programme is an international initiative launched to safeguard the documentary heritage of humanity against collective amnesia, neglect, decay over time and climatic conditions, as well as deliberate destruction. It calls for the preservation of valuable archival holdings, library collections, and private individual compendia all over the world for posterity, the reconstitution of dispersed or displaced documentary heritage, and increased accessibility to, and dissemination of, these items.

### **Overview**

The Memory of the World Register is a compendium of documents, manuscripts, oral traditions, audio-visual materials, library, and archival holdings of universal value. Inscription on the register leads to improved conservation of the documentary heritage by calling upon the program's networks of experts to exchange information and raise resources for the

preservation, digitization, and dissemination of the material. The program also uses technology to provide wider accessibility and diffusion of the items inscribed on the register.

Any organization or individual can nominate a documentary item for inscription on the register via UNESCO Member States through their National Commission for UNESCO or, in the absence of a National Commission, the relevant government body in charge of relations with UNESCO, involving, if one exists, the relevant national MoW committee. Two proposals per UNESCO Member State are considered in each nomination cycle, joint nomination proposals from two or more UNESCO Member States are unlimited. During its meetings, the International Advisory Council (IAC) examines the full documentation of the item's description, origin, world significance, and contemporary state of conservation. The IAC recommends to the Executive Board of UNESCO the items proposed for inscription.

Relevance: GS Prelims; International Organisations

Source: PIB

### **11. Three Indian literary works included in UNESCO's Memory of the World Regional Register: What is their significance?**

#### **Why in News?**

Three Indian literary works, Ramcharitmanas, Panchatantra, and Sahṛdayaloka-Locana, were added to UNESCO's Memory of the World Asia-Pacific Regional Register during the tenth meeting of the Memory of the World Committee for Asia and the Pacific (MOWCAP), held earlier this week in Ulaanbaatar, Mongolia.

#### **What is the significance of the works?**

The inclusion of the three works in the register highlights the significance of preserving and celebrating diverse narratives and artistic expressions that shape our shared humanity. These literary works have transcended time and place, leaving an indelible mark on readers and artists both within and outside India.

The three texts were picked due to their enduring worldwide appeal. For instance, the Ramayana and Ramcharitmanas are read in not only India but also in other Southeast Asian countries such as Cambodia, Thailand, Sri Lanka, and Indonesia.

The Panchatantra fables were zeroed in owing to their universal moral values. The 15th-century Sahṛdayaloka-Locana, by Kashmiri scholars Acharya Anandvardhan and Abhinavagupta, was chosen because of its aesthetics.

This is the first time since the MOWCAP was formed in 2004 that India has sent any nominations, and all three sent by the country have been accepted.

#### **What is the MoW register?**

UNESCO's MOW programme is an international cooperation strategy aimed at safeguarding, protecting, and facilitating access to and the use of documentary heritage, especially heritage that is rare and endangered. According to its charter, UNESCO launched the initiative in 1992

“to guard against collective amnesia” by calling upon the preservation of invaluable archive holdings and library collections all over the world and ensuring their wide dissemination.

The programme recognises documentary heritage of international, regional and national significance, maintains registers of it, and awards a logo to identified collections. It facilitates preservation and access without discrimination. It campaigns to raise awareness of the documentary heritage to alert governments, the general public, businesses and commerce to preservation needs and to raise funds.

Inscription on the register affirms the significance of the documentary heritage, makes it better known, and allows for greater access to it, thereby facilitating research, education, entertainment, and preservation over time.

### **What are the other items on the list?**

There are 494 inscriptions on the International MoW Register, as of May 2023, according to the UNESCO website. However, the MoW register operates on regional levels as well. The Memory of the World Asia-Pacific Committee (MOWCAP) — which has now included the three Indian texts — celebrates Asia-Pacific achievements in genealogy, literature, and science. Along with the three Indian items on the list, the Member States inscribed 20 items during the 2024 cycle, at the tenth General Meeting in Ulaanbaatar.

Since it was established in 1998, the MOWCAP Regional Register has inscribed 65 items from Asia-Pacific countries.

Relevance: GS Prelims & Mains paper II; International Organisations

Source: Indian Express

## **12. India- France joint military exercise Shakti commences in Meghalaya**

### **Introduction**

The 7th edition of India- France Joint Military Exercise SHAKTI is being held at Umroi, in a fully developed and modern Foreign Training Node in Meghalaya. The Exercise is scheduled to be conducted from 13th to 26th May 2024.



### **Aim of Exercise**

SHAKTI is to enhance joint military capability of both sides to undertake multi-domain operations. The joint exercise will focus on operations in the semi-urban and mountainous terrain. Objectives to be achieved from the joint training are high degree of physical fitness, rehearsing and refining drills for operations at tactical level and sharing of best practices.

Relevance: GS Prelims & Mains Paper II; Bilateral Relations

Source: PIB

### 13. UN-linked body defers accreditation of NHRC-India for second year in a row

#### Why in News?

In a setback for India's human rights record, the Geneva-based, United Nations-linked Global Alliance of National Human Rights Institutions (GANHRI) deferred the accreditation of the National Human Rights Commission-India (NHRC) for the second year in a row.

## UN-linked body defers NHRC-India accreditation for second year in a row

### The decision could now affect India's ability to vote at the Human Rights Council and some UNGA bodies

had cited a number of reasons for recommending the deferral, including the lack of transparency in appointing members to the NHRC, the appointment of police officers to oversee human rights investigations, and the lack of gender and minority representation on the member panel.

The deferral is likely to be reviewed later this year, during meetings in September, or again in May next year.

The NHRC's "A-status" has only been deferred once before, in 2016, but it was restored in 2017. This is the first time India's status has been suspended for two years in a row.

#### About NHRC

The NHRC was set up under the Protection of Human Rights Act, passed by Parliament in 1993. It has been accredited as an 'A' Status NHRI since the beginning of the accreditation process for NHRIs in 1999, which it retained in 2006, 2011 and in 2017 also after the deferment.

The 'A' status was deferred this time after civil society organisations and human rights activists wrote to the global body, expressing concerns about India's record.

The decision, which can affect India's ability to vote at the Human Rights Council and some UN General Assembly bodies, was taken on May 1, during the meeting of the Subcommittee on Accreditation (SCA), which included representatives from New Zealand, South Africa, Honduras, and Greece. Reasons for deferral

While the committee's latest report is still awaited, its previous report

Relevance: GS Prelims & Mains Paper II; International Organisations

Source: The Hindu

## 14. Why some Indians are turning to LMIA work permits to emigrate to Canada

### Introduction

The Canadian government imposed an intake cap on international student permit applications in January. It will be enforced for two years amid high levels of immigration that have reportedly put a strain on local resources. For 2024, the cap is expected to result in approximately 3,60,000 approved study permits, a decrease of 35 per cent from 2023.

Following the imposition of intake caps on international student admissions to Canada this year, many Indians hoping to emigrate have been turning to alternative routes. For many, the Labour Market Impact Assessment (LMIA) permit has emerged as a preferred option.



### What is LMIA?

The LMIA programme allows Canadian employers to hire foreign workers if recruitment efforts for hiring local employees fail. Employers need to post their job requirements on the official Canadian portal, and eligible foreign workers can apply through it.

According to the Canadian government's website, "A positive LMIA will show that there is a need for a foreign worker to fill the job. It will also show that no Canadian worker or permanent resident is available to do the job. A positive LMIA is sometimes called a confirmation letter." Once an employer gets the positive LMIA, workers can apply for the job. If they get selected, they will then need Canadian work permits. To apply for a work permit, a worker needs a job offer letter, a contract, a copy of the LMIA, and the LMIA number.

### Why is LMIA becoming popular among Indians, and who is applying under it?

Several factors are responsible. First, there is the increasingly competitive nature of the international student visa process, due to caps on international admissions.

Second, given labour shortages, roles such as farm/dairy workers, cooks, welders, plumbers, carpenters, and caregivers are being recruited for. Sectors such as healthcare and technology also have vacancies.

### **Why is LMIA is being preferred over the student visa route?**

The rising costs associated with student visas, including living expenses and tuition fees, are also deterring some people from seeking that route since their main goal for immigrating may be to work in Canada.

While study permits often require higher language proficiency scores, many jobs under LMIA accept lower scores in English proficiency tests like the International English Language Testing System (IELTS). Scores between the 4.5 and 5.5 bands each in the four modules of speaking, reading, writing, listening are acceptable for some jobs.

Relevance: GS Prelims & Mains Paper II; Bilateral Relations

Source: Indian Express

## **15. What is the UK's contaminated blood scandal, a deadly treatment disaster that claimed at least 3,000 lives?**

### **Introduction**

The report of an independent inquiry into the United Kingdom's contaminated blood scandal found that the government covered up errors that led to thousands of people being infected with HIV or hepatitis.

The contaminated blood scandal represents one of the deadliest treatment disasters in the history of the state-funded National Health Service (NHS).

Inquiry found that successive governments hid the truth to "save face and to save expense" and the cover-up was "more subtle, more pervasive and more chilling in its implications" than any orchestrated conspiracy plot.

### **Apology by PM**

Prime Minister Rishi Sunak said it was "a day of shame for the British state". "I want to make a wholehearted unequivocal apology for this terrible injustice," he told parliament. Details of the government's compensation will be released soon. Britain is expected to shell out more than 10 billion pounds (\$12.70 billion).

### **About Inquiry**

The inquiry was launched six years ago in 2017, when Theresa May was Prime Minister. It was to look into how tens of thousands contracted the deadly diseases from transfusions of



infected blood products in the 1970s and 1980s. Almost 3,000 people were estimated to have died of complications until 2019.

In October 2022, British authorities made interim payments of 100,000 pounds to each survivor and the bereaved kin. What exactly happened and how?

### **But first, what is Britain's National Health Service (NHS)?**

The NHS is an inclusive public health service under government administration, which was established by the National Health Service Act of 1946 and subsequent legislation in 1948. The entire population of the UK is covered, and health services are provided free of cost to the public, except for certain minimum charges.

The NHS constitutes four services — NHS in England, NHS Scotland, NHS Wales, and Health and Social Care in Northern Ireland. It is the world's fifth largest employer and the largest non-military public organisation, and wields significant market power.

### **So, what is the contaminated blood scandal?**

During the 1970s and 1980s, thousands of people who had the blood-clotting disorder haemophilia, were given blood donated or sold by people who were infected with the HIV virus and hepatitis. Tainted blood was also given to people who needed blood transfusions after childbirth or surgery.

The inquiry report has estimated that more than 30,000 people were infected with HIV, hepatitis C or both.

Nearly two-thirds of those who were infected with HIV later died of AIDS-related illnesses, and an unknown number transferred HIV to their partners. The report said that 2,400-5,000 recipients of blood developed hepatitis C, with the exact figure not known yet, as symptoms can show up years later.

### **Was all of this a gigantic mistake committed inadvertently?**

Several reports have stated that school children, some as young as 2 years old, were subjected to medical trials using infected blood products. Unsafe clinical testing involved children in the UK, despite families not consenting to take part.

The majority of the children who enrolled are now dead. Survivors told that they were treated like "guinea pigs".

The documents also showed that doctors in haemophilia centres used blood products, even though they were widely known as likely to be contaminated.

Relevance: GS Prelims; International Issues

Source: Indian Express

## 16. Why Norway, Ireland, and Spain have decided to recognise Palestine as a state

### Introduction

Norway, Ireland, and Spain said recently that they would recognise a state of Palestine on May 28, marking the first time a Western European country has committed to such recognition. Being recognised as a “state” by other countries can support a region’s aspiration to be seen as a legitimate political entity by the international community.



In a belligerent response, Israel has recalled its ambassadors from the three countries.

What does such a recognition mean, where does it sit with how the world views Palestine, and why does it matter?

### **Firstly, what does it mean to be recognised as a state?**

The Montevideo Convention on the Rights and Duties of States (1933), identified four conditions of a state: “a permanent population, defined territory, government, and capacity to enter into relations with other states”.

Statehood “has long been the central organising idea in the international system”. While several regions and peoples have over the years sought to declare themselves as independent states, their formal recognition depends on how the rest of the world views them.

### **Recognition by UN**

The United Nations has a broad criterion for accepting states as Members. Article 4 of the UN Charter states: “Membership in the United Nations is open to all other peace-loving states which accept the obligations contained in the present Charter and, in the judgment of the Organization, are able and willing to carry out these obligations.”

Procedurally, admission to the UN as a Member State is granted by a two-thirds majority vote in the UN General Assembly. However, the UNGA takes up the candidature only upon the recommendation of the UN Security Council.

The UNSC comprises five permanent members — the United States, the United Kingdom, Russia, China, and France — and 10 temporary member countries chosen on a rotational basis. For the UNSC recommendation to pass there must be a vote, with at least nine members in favour and no permanent members using their veto. Essentially, it is the P5 who determine the fate of an issue in the UNSC.

### **What is the status of Palestine at the UN?**

Currently, Palestine is a “Permanent Observer State” — and not a “Member State” — at the UN. There is one other Permanent Observer State in the UN — the Holy See, representing Vatican City.

As a Permanent Observer State, Palestine is allowed to “participate in all of the Organization’s proceedings, except for voting on draft resolutions and decisions in its main organs and bodies, from the Security Council to the General Assembly and its six main committees”.

Palestine graduated to the status of “non-member Permanent Observer State” from having Observer status in 2012. Mahmoud Abbas, President of the Palestinian Authority, had then hoped for the exercise to “breathe new life” into the peace process in the region.

Palestine has attempted to secure membership in the UN as a state in the past, most recently in April this year. In the UNSC, the United States, Israel’s staunchest ally, had vetoed its admission.

### **Which countries recognise Palestine as a state?**

Before the announcement by Norway, Ireland, and Spain, 143 of the UN's 193 members already recognised Palestine as a state. Most of these countries are in Asia, Africa, and South America. India accorded recognition in 1988.

Recognition as a state lies at the heart of the Palestinian people's right to self-determination, and to decide their political future and government.

The 1947 United Nations Partition Plan for Palestine (UNGA Resolution 181(II)) proposed the establishment of a Jewish state, an Arab state, and for the city of Jerusalem to be administered by the UN as a corpus separatum (separate body). This is also known as the 'two-state solution'.

However, Palestinian leaders rejected the Plan, which they believed went against Arab interests. The Arab-Israeli war broke out soon afterward, and Israel emerged as the winner. In 1949, the proposal for its UN membership was tabled, and all P5 members except the UK (which abstained) agreed.

### **What is the significance of the Norway-Ireland-Spain move?**

When a state recognises another, it usually leads to the setting up of an embassy and posting of diplomatic officials in that country. The Norwegian Foreign Minister has said that its representative office to the Palestinian Authority, which was opened in the West Bank in 1999, would become an embassy.

Spain's Prime Minister Pedro Sánchez has said he has taken the decision "out of moral conviction, for a just cause and because it is the only way that the two states, Israel and Palestine, can live together in peace". He has said that while "fighting the terrorist group Hamas is legitimate and necessary", Israel's Prime Minister Benjamin Netanyahu "is creating so much pain and so much destruction and so much rancour in Gaza and the rest of Palestine that the two-state solution is in danger".

The decision by the three countries could pave the way for others to follow suit. French President Emmanuel Macron said in February that it was not "taboo" for France to recognise a Palestinian state.

Relevance: GS Prelims & Mains Paper II; International Relations

Source: Indian Express

### **17. India and Iran signed a 10-year contract recently for the operation of a terminal in Iran's Chabahar port?**

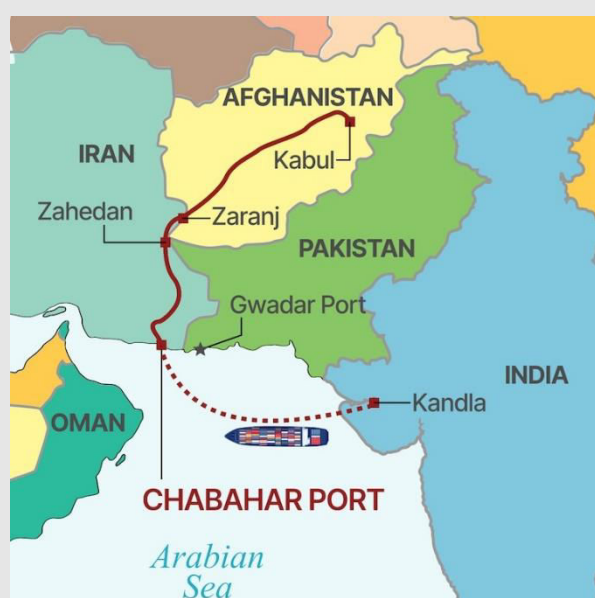
#### **Why in News?**

India and Iran signed a 10-year contract recently for the operation of a terminal at the strategically important Chabahar port in Iran.

Chabahar is a deep water port in Iran's Sistan-Baluchistan province, located 72 km west of Pakistan's Gwadar port. It is the Iranian port that is the closest to India, and is located in the open sea, providing easy and secure access for large cargo ships.

Union Minister for Shipping, Ports and Waterways Sarbananda Sonowal witnessed the signing of the contract between India Ports Global Ltd (IPGL) and Ports & Maritime Organisation of Iran (PMO) in Tehran.

IPGL will invest approximately \$120 million to equip and operate the port for the duration of the contract, and the two sides will further extend their cooperation in Chabahar thereafter. India has also offered a credit window in rupees equivalent to \$250 million for mutually identified projects to improve infrastructure related to the port.



### Slow start to project

Modern Chabahar came into being in the 1970s. In January 2003, President Khatami and then Prime Minister Atal Bihari Vajpayee signed off on an ambitious roadmap of strategic cooperation. Among the key projects the two countries agreed on was Chabahar, which held the potential to link South Asia with the Persian Gulf, Afghanistan, Central Asia, and Europe.

### Progress after 2015

While India spent about \$100 million to construct a 218-km road from Delaram in western Afghanistan to Zaranj on the Iran-Afghan border to link with Chabahar, the port

project itself progressed at a glacial pace. But things started to change in 2015 after talks between Iran and the P-5+1 bore fruit.

The attitude of the Donald Trump administration towards Iran complicated matters after 2017, but India appeared determined to stay the course. New Delhi managed to get a waiver from the US for the Chabahar project, citing access to Afghanistan as a reason.

India's approach also stemmed from the fact that China was aggressively pursuing President Xi Jinping's ambitious Belt and Road Initiative for massive infrastructure development across large parts of Asia and Africa.

### Developments in recent years

India has so far supplied six mobile harbour cranes (two of 140-tonne and four of 100-tonne capacity) and other equipment worth \$25 million.

IPGL has been operating Chabahar port through its wholly owned subsidiary, India Ports Global Chabahar Free Zone (IPGCFZ), since December 24, 2018.

The port has also facilitated the supply of humanitarian assistance, especially during the Covid-19 pandemic. Till date, a total of 2.5 million tonnes of wheat and 2,000 tonnes of pulses have been trans-shipped from India to Afghanistan through Chabahar port. In 2021, India supplied 40,000 litres of the environment friendly pesticide (malathion) through the port to Iran to fight locust attacks.

### Chabahar and INSTC

With the operationalisation of the long-term investment, Chabahar could potentially become an important hub to connect India with the landlocked countries of Central Asia and Afghanistan. However, to better realise its commercial and strategic potential, the development of the port must be integrated with the larger connectivity project of the International North South Transport Corridor (INSTC).



The INSTC, which was initiated by Russia, India, and Iran, is a multi-modal transportation route envisaged to link the Indian Ocean and Persian Gulf to the Caspian Sea via Iran, and onward to northern Europe via St Petersburg in Russia.

The INSTC envisages the movement of goods from Mumbai to Bandar Abbas in Iran by sea; from Bandar Abbas to Bandar-e-Anzali, an Iranian port on the Caspian Sea, by road; from Bandar-e-Anzali to Astrakhan, a Caspian port in the Russian Federation by ship across the Caspian Sea; and onward to other parts of the Russian Federation and Europe by rail.

However, the war in Ukraine and the destruction of Europe's relationship with Russia has since complicated the future of this project.

Relevance: GS Prelims & Mains Paper II; Bilateral Relations

Source: Indian Express

## **18. European Union investigating Facebook and Instagram on failing to protect Children**

### **Why in News?**

The European Union has opened fresh investigation into Meta's Facebook and Instagram over suspicions that they are failing to protect children on their platform, a violation that could result in fines of up to 6% of their annual worldwide revenue.

### **What led to the investigation?**

The 27-nation bloc has said it is concerned that Facebook and Instagram's recommendation engine could "exploit the weaknesses and inexperience" of children and stimulate "addictive behaviour". The bloc's executive arm further said that these systems could reinforce the so-called "rabbit hole" effect that leads users to watch increasingly disturbing content. As part of the probe, the commission will look into Meta's use of age verification tools to prevent children under the age of 13 from accessing Facebook and Instagram. And also find out whether the company is complying with the bloc's Digital Service Act (DSA) and enforcing a high level of privacy, safety and security for minors.

### **What does the DSA mandate?**

The bloc's DSA came into effect in February. It stipulates very large online platforms, which have over 45 million users in the EU, to provide an option in their recommender systems that is not based on user profiling and share their data with the Commission and national authorities to assess compliance under the law.

The platforms are also required to take measures to protect minors from content that may impair their physical, mental or moral development. Additionally, platforms must take targeted measures to protect the rights of minors, including age verification and parental control tools that are aimed at helping minors signal abuse or obtain support.

### **What are the general practices of protecting minors online?**

With children growing up in an increasingly digital world, it has become increasingly difficult for parents and caregivers to ensure their online safety.

Parents are advised to ensure they are up to date with online risks and have set up safeguards to protect their child's digital experience.

These could include setting up of kid's profiles, choosing age-appropriate apps and games and setting up child-friendly sites and search engines, and ensuring age restricted content is inaccessible on the devices and platforms they are using. Parents are also advised to supervise and spend time with their children online to ensure they do not engage in harmful activities or fall prey to online predators.

And minors using social media platforms must ensure they know how to report and "block" accounts with offensive material and foster open conversations to ensure an adult is available if something doesn't feel right.

Relevance: GS Prelims & Mains Paper II; International Organisations

Source: Indian Express

### 19. How Watermelon became a Palestinian symbol

#### Why in News?

Actor Kani Kusruti posed with a watermelon clutch at the Cannes Film Festival. Amidst Israel's ongoing assault on Gaza, this is being viewed as an expression of solidarity with Palestinians, with the humble watermelon long considered a symbol of their struggle.



Palestine Flag

#### Why watermelon

A watermelon when sliced shows the colours of the Palestinian flag — red, green, black, and white. This makes it a useful symbol of Palestinian identity, especially since carrying and displaying the Palestinian flag has often been barred by Israeli authorities. On social media too the watermelon emoji has gained currency, with many claiming that posts with more overt Palestinian symbols are restricted by the US-headquartered tech platforms.

Notably, watermelons are widely cultivated in Palestine, from the West Bank to Gaza, and feature prominently in Palestinian cuisine.

### Symbol of protest

Palestine has been on the boil since last year, even before the October 7 Hamas attack that triggered the bloodbath in Gaza by Israel. Flowing the Palestinian flag is not legally banned in Israel, but the police often crack down, claiming the flag could “disturb peace”.

Relevance: GS Prelims & Mains Paper II; Governance

Source: Indian Express

## 20. What is a civil nuclear cooperation agreement? Why does Saudi Arabia want one with the US? How would the US benefit from such a deal? What are some likely hurdles to it?



### Why in News?

White House National Security Adviser Jake Sullivan will visit Saudi Arabia this weekend for talks expected to touch on a civil nuclear cooperation agreement, one piece of a wider arrangement that the USA hopes will lead to normalisation of Israeli-Saudi relations.

Below is a description of the key issues involved in a US-Saudi civil nuclear deal, what risks and benefits it may offer the United States and Saudi Arabia, and how it fits within US efforts to broker Israeli-Saudi reconciliation.

### What is a civil nuclear cooperation agreement?

Under Section 123 of the US Atomic Energy Act of 1954, the United States may negotiate agreements to engage in significant civil nuclear cooperation with other nations.

It specifies nine non-proliferation criteria those states must meet to keep them from using the technology to develop nuclear arms or transfer sensitive materials to others. The law stipulates congressional review of such pacts.

### Why does Saudi Arabia want a US nuclear cooperation agreement?

As the world’s largest oil exporter, Saudi Arabia at first glance is not an obvious candidate for a nuclear pact typically aimed at building power plants to generate electricity.

There are two reasons Riyadh may wish to do so.

The first is that under Crown Prince Mohammed bin Salman’s ambitious Vision 2030 reform plan, the kingdom aims to generate substantial renewable energy and reduce emissions. At least some of this is expected to come from nuclear energy.

Critics cite a second potential reason: that Riyadh might wish to develop nuclear expertise in case it someday wishes to acquire nuclear weapons despite the safeguards enshrined in any deal with Washington to prevent this. The Saudi crown prince has long said that if Iran developed a nuclear weapon, Saudi Arabia would follow suit, a stance that has fueled deep concern among arms control advocates and some U.S. lawmakers over a possible US-Saudi civil nuclear deal.

The Sunni Muslim kingdom and Shi'ite revolutionary Iran have been at odds for decades.

### **How would the US benefit from a civil nuclear deal with Saudi Arabia?**

There could be strategic and commercial gains.

The Biden administration has made no secret of its hope to broker a long-shot, multi-part arrangement leading Saudi Arabia and Israel to normalize relations. It believes Saudi support for normalization may hinge partly on striking a civil nuclear deal.

The strategic benefits would be to shore up Israel's security, build a wider coalition against Iran and reinforce U S ties to one of the wealthiest Arab nations at a time when China is seeking to extend its influence in the Gulf.

The commercial benefit would be to put U.S. industry in a prime spot to win contracts to build Saudi nuclear power plants, as U.S. atomic companies compete with Russia, China and other countries for global business.

### **What are the hurdles to a US-Saudi civil nuclear deal?**

To start, it is all but inconceivable while the Gaza war rages.

Israel invaded the Gaza Strip after Hamas-led gunmen on Oct 7 attacked southern Israeli communities, killing about 1,200 people and taking 253 hostages, according to Israeli figures. The Gaza death toll, health officials in the Hamas-run coastal enclave say, has risen to more than 35,000 and malnutrition is widespread.

It is hard to imagine the Saudis being willing to normalize relations while Palestinians are dying in such numbers.

### **What is the wider pact in which a nuclear deal might figure?**

The United States hopes to find a way to give Saudi Arabia several things it wants – a civil nuclear pact, security guarantees and a pathway toward a Palestinian state – in return for Riyadh agreeing to normalize relations with Israel. Earlier this month, the Biden administration and Saudi Arabia were finalizing an agreement for U.S. security guarantees and civilian nuclear assistance to Riyadh.

However, the wider Israel-Saudi normalization envisaged as part of a Middle East "grand bargain" remains elusive.

### **What are some of the key issues to be worked out in a Saudi-US nuclear deal?**

A key issue is whether Washington might agree to build a uranium enrichment facility on Saudi territory, when it might do so, and whether Saudi personnel might have access to it or it would be run solely by U.S. staff in a "black box" arrangement.

Without safeguards built into an agreement, Saudi Arabia, which has uranium ore, could theoretically use an enrichment facility to produce highly enriched uranium, which, if purified enough, can yield fissile material for bombs.

Relevance: GS Prelims & Mains Paper II; International Relations

Source: Indian Express

### **21. Why has a UN body withheld accreditation to India's NHRC?**

#### **Why in News?**

For the second year in a row, an organisation affiliated with the UN human rights office has deferred accreditation for India's human rights body, the National Human Rights Commission (NHRC).



Without accreditation from the Geneva-based Global Alliance of National Human Rights Institutions (GANHRI), NHRC cannot represent India or vote at the UN Human Rights Council (formerly United Nations Commission on Human Rights).

The delay in accreditation can also be cited to raise questions about the independence, competence, and fairness of the NHRC. The NHRC, which was established on October 12, 1993 after Parliament enacted the Protection of Human Rights Act (PHRA), is currently chaired by former Supreme Court judge Arun Mishra.

#### **What is the accrediting agency?**

GANHRI, which represents about 120 national human rights institutions, is responsible for reviewing and accrediting these institutions in compliance with the Paris Principles every five years.

GANHRI acts through its Subcommittee on Accreditation (SCA), which categorises member NHRIs into two groups, 'A' and 'B'. As of November 29, 2023, 120 NHRIs were accredited by GANHRI, 88 of which were given 'A' rank, indicating full compliance with the Paris Principles; the remaining 32 were put under 'B', indicating partial compliance.

#### **And what are the Paris Principles?**

The Paris Principles, formally Principles Relating to the Status of National Human Rights Institutions, which were adopted by the UN General Assembly on December 20, 1993, set out minimum standards that NHRIs must meet in order to be considered credible and to operate effectively.

The Paris Principles lay down six main criteria to determine which NHRIs are functioning effectively, and would receive accreditation from GANHRI.

These principles are:

- (i) broad mandate based on universal human rights norms and standards;
- (ii) autonomy from the government;
- (iii) independence guaranteed by the statute or Constitution;
- (iv) pluralism, including membership that broadly reflects their society;
- (v) adequate resources; and
- (vi) adequate powers of investigation.

These Principles also say that NHRIs should be equipped to receive complaints and cases brought by individuals, third parties, NGOs, trade unions, or other organisations representative of professionals such as lawyers and journalists.

### **What happens if India loses accreditation?**

NHRIs with 'A' status can participate in the UN Human Rights Council, its subsidiary bodies, and some UNGA bodies and mechanisms. They are also eligible for full membership of GANHRI, which includes the right to vote and hold governance positions.

NHRIs accredited with 'B' status can participate in GANHRI meetings, but cannot vote nor hold governance positions.

Unless India is accredited, the NHRC can't represent the country at the UN Human Rights Council, or vote or hold governance positions. India's review has been deferred, with no final decision yet.

### **Why has India's accreditation been put on hold?**

The decision was taken after an SCA meeting held on May 1 at the United Nations Palais des Nations in Geneva. The SCA has such sessions twice a year, and receives detailed briefings on each country. Subsequently, a pre-session is held to ascertain issues for consideration, followed by an interview with each country's human rights institution.

The May 1 meeting was chaired by New Zealand. South Africa, Sri Lanka, and Spain were among the countries that participated.

The committee is yet to release its report. However, last year's report listed the areas where the NHRC was seen as not properly adhering to the Paris Principles. These included a lack of transparency in NHRC appointments, conflict of interest caused by the appointment of police to oversee investigations, and no minority or female representation on the panel.

Also, on March 26, nine human rights organisations, including Amnesty International and Human Rights Watch, jointly wrote to GANHRI expressing concern about India's human rights institutions. "...The United Nations High Commissioner for Human Rights, Volker Türk, [has] raised concerns about the increasing restrictions on the civic space and discrimination against minorities in India ahead of the country's General Elections," the letter said. These concerns were also raised by UN human rights experts who drew attention to "attacks on minorities, media and civil society" in India, it said.

The letter urged GANHRI-SCA to amend the current 'A' rating of the NHRC.

### **What is India's record of accreditation with GANHRI?**

The NHRC was established in 1993, and was accredited for the first time in 1999. It got 'A' rank in 2006, and retained it in 2011. In 2016, accreditation was deferred due to reasons that included the appointment of political representatives, and the failure to ensure gender balance and pluralism in NHRC staff, but the SCA ultimately gave NHRC 'A' status in 2017.

Last year, the SCA withheld India's accreditation again, and gave six reasons for it, including that the NHRC couldn't create conditions for operating without government interference, that there were too many government officials and individuals affiliated with the ruling party in the NHRC.

Relevance: GS Prelims & Mains Paper II; International Organisations

Source: Indian Express

## **22. What does President Ebrahim Raisi's passing mean for the future of Iran**

### **Introduction**

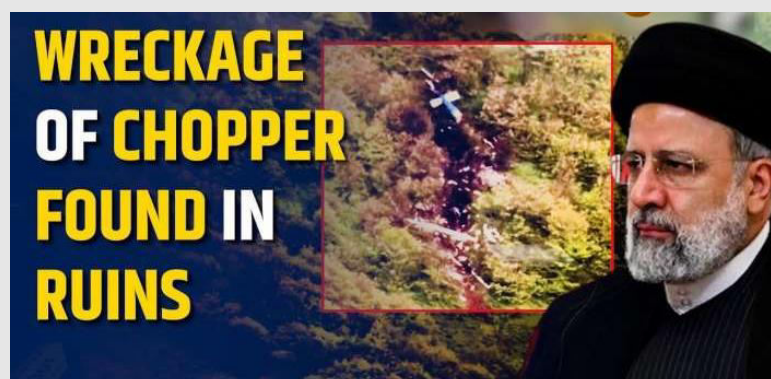
Being Iran's President is not easy. The highest elected office in the country is not the most powerful one. The President is answerable to the Supreme Leader, who is appointed by a body of senior clerics. The President's main responsibility is to run the day-to-day affairs of the country, especially its crisis-ridden, sanctions-hit economy. The President also has to run a delicate foreign policy in a hostile region.

Ebrahim Raisi, the 63-year-old former judiciary chief who became Iran's eighth President in 2021, was doing just that, until May 19, 2024, when he was killed in a helicopter crash.

### **Immediate priority**

Iran faces three broad challenges in the wake of Raisi's death. Tehran's immediate priority is to put in place an orderly transition so that the "nation would not be disrupted at all", as Supreme Leader Ali Khamenei has said. Mr. Khamenei has already approved First Vice-President Mohammad Mokhber as acting head of the executive branch of the state. Authorities have announced that elections would be held on June 28.

When Raisi became President, all branches of Iran's government — executive, judiciary and legislature — came under the control of conservatives. But what worries the establishment is the dwindling turnout. For years, Iran's clerical leadership would use high voter turnout as a



marker of legitimacy. If the voter turnout was 85% in the 2009 presidential elections, it fell to 48% in 2021 when Raisi was elected. When the country is preparing to hold a snap election, the establishment would like to see not just the election of another conservative as President but also a high turnout.

### **Larger transition**

Secondly, Raisi's abrupt death did disrupt Iran's bigger transition plans as well. Mr. Khamenei, the most powerful man in Iran, is 85 years old and ailing. Many Iran watchers saw Raisi as an ideal candidate to succeed Mr. Khamenei. Raisi was relatively young, ideologically committed, had the blessings of the establishment and successfully negotiated between the different branches of the state and made his standing stronger ever since his election. But now, Iran has to start from scratch to find Mr. Khamenei's successor. Different names are being added to the list, including Mojtaba Khamenei, the son of the Supreme Leader, and Alireza Araf, an influential white-turbaned cleric who heads Friday prayers at the Qom Shia seminary.

### **Regional tensions**

Raisi's death comes at a time when regional tensions are at an all-time high. After the Israel-Hamas war began on October 7, 2023, regional focus shifted to Iran's support for non-state actors in West Asia, including Hamas, Hezbollah and Houthis. Last month, Iran launched an unprecedented drone and missile attack on Israel, after its consulate in Damascus was struck. Hezbollah is fighting a slow-burning war with Israel on its northern border. Houthis, the Yemeni militia, is carrying out attacks targeting vessels in the Red Sea, "in solidarity with Palestinians".

In recent months, Iran has flexed its muscles both through its proxies and directly in West Asia. A change in presidency is unlikely to alter Iran's overall security doctrine, which has been laid out by the clerical and military establishment. But for the smooth implementation of this multi-layered security strategy, which involves both state and non-state actors, in a hostile region, Iran needs a cohesive national leadership. The challenge before the Ayatollahs is to stay the political course irrespective of the unexpected disruptions.

Relevance: GS Prelims & Mains Paper II; International Issues

Source: The Hindu

## **23. What is the case against WikiLeaks' Julian Assange, who can now appeal his extradition to the US?**

### **Why in News?**

The High Court in London recently allowed WikiLeaks founder Julian Assange to appeal against his extradition to the United States. The US government has made several attempts in recent years to have Assange face trial on its soil over charges of espionage.

The recent order comes as a relief for Assange, who has spent the last few years in the UK in confinement to evade extradition attempts. In the late 2000s, his website WikiLeaks made public thousands of pieces of confidential documents linked to the US military. These revelations are at the centre of the criminal charges against him now.

### **Who is Julian Assange and what is WikiLeaks?**

Assange, 52, is an Australian citizen. Early on in his life, he displayed an interest in computer hacking. These skills were put to use in a website he founded in 2006, called WikiLeaks. It describes itself as a media organisation that publishes confidential government and corporate documents for maintaining transparency.

Assange shot to global prominence in a few years, thanks to his website. Some of its most notable "leaks" were documents from the US government, saying the US military had killed hundreds of civilians in unreported incidents during the wars in Afghanistan and Iraq.

In 2010, WikiLeaks leaked more than 250,000 classified cables from US embassies to prominent media outlets, such as The Guardian and The New York Times.

### **What was the US government's response?**

In 2019, the US government indicted Assange on 18 charges for violating the Espionage Act and the Computer Fraud and Abuse Act. It alleged that WikiLeaks obtained its information illegally and sharing it endangered the lives of its officials in foreign countries.

He was also alleged to have "conspired" with US Army intelligence analyst Chelsea Manning. Manning was posted in Iraq and helped leak documents to WikiLeaks. She was sentenced to 35 years in jail following a court martial, but the term was commuted and she was released in 2017.

Since 2019, attempts have been made to extradite Assange and have him face trial in the US. However, Assange and his lawyers have argued against this.

### **What has happened to Assange since the leaks were made?**

# JULIAN ASSANGE

## a brief timeline of legal woes

2006

**OCTOBER**

WikiLeaks is founded.



2010

**APRIL**

WikiLeaks releases video of a US air strike that **KILLED CIVILIANS** in Baghdad, Iraq.

**JULY**

WikiLeaks releases classified US military reports about the **AFGANISTAN WAR**.

**NOVEMBER**

A Swedish court orders Assange's arrest over **RAPE ALLEGATIONS**. He is arrested in Britain in October 2010 but freed on bail.



2012

**JUNE**

Assange takes refuge in the **ECUADORIAN EMBASSY** in London, sidestepping extradition to Sweden for sexual assault charges.

2019

**APRIL**

Assange is **ARRESTED** by British authorities. The US Justice Department also charges him with conspiring to hack into a Pentagon computer network to obtain classified documents with the help of army intelligence analyst Chelsea Manning.



**MAY**

Assange is indicted on 17 counts of violating the **ESPIONAGE ACT** by the US Department of Justice.

**JUNE**

The US Justice Department officially requests that Britain extradite Assange to face espionage charges.

2020

**FEBRUARY**

Assange's **EXTRADITION HEARING** begins at a London court.



2021

**JANUARY**

District judge Vanessa Baraitser at Westminster Magistrate's Court blocks extradition citing Assange's 'frail' mental health and **RISK OF SUICIDE**.

**DECEMBER**

The high court overturns the previous judgment by the Westminster Magistrates' Court and decides that Assange can be extradited to the United States.



2022

**JANUARY**

British court rules that Assange can appeal a decision that would allow the U.S to extradite him where he would face charges under the Espionage Act. If extradited and charged he would spend **LIFE IN PRISON**.

**MARCH**

UK Supreme Court rules that Assange is **DENIED PERMISSION** to appeal against US extradition.

Around the time of the US documents' leaks, Assange was in Sweden. Here, two women associated with WikiLeaks accused him of sexual assault and molestation. He denied the charges and claimed they were part of American attempts for extradition. In a bid to escape them, he fled to London.

Swedish police then issued an international arrest warrant against him. Assange surrendered to police in the UK and was detained, but later granted bail. However, a district court ruled for his extradition to Sweden.

Fearing arrest, Assange entered the Embassy of Ecuador in 2012 to seek asylum, which was granted by the South American country. For the next few years, Assange stayed there in a house arrest-like situation and attempted to appeal against the Sweden case.

Over time, he began having run-ins with the Ecuador government, leading to his expulsion from the embassy and revocation of the asylum in 2019. This led to dramatic scenes, with the London police sweeping in to arrest Assange for "failing to surrender to the court" over a warrant issued in 2012.

By late 2019, the Swedish cases against him had been dropped due to multiple factors, including the evidence being dated. However, Assange now had the US case to worry about.

#### **How has the US attempted to extradite Assange?**

Assange was sentenced to 50 weeks in prison for his actions in the UK in 2012. Since then, he has been lodged in a high-security prison near London. Also in 2019, the US indicted him and began extradition proceedings with the UK government.

A long legal battle thus began, with Assange appealing against the extradition at various levels of the UK judicial system, and the US government countering them. The main issue here was whether Assange would be treated humanely and receive a fair trial upon reaching the US, if extradited.

Relevance: GS Prelims & Mains Paper II; International Issues

Source: Indian Express

#### **24. What is Copernicus Emergency Management Service, called in to locate Raisi's chopper?**

##### **Why in News?**

Soon after Iranian President Ebrahim Raisi's helicopter crashed, the European Union (EU) activated its rapid satellite mapping service to help search efforts, following a request for assistance from Iran. The wreckage of the helicopter was found in less than 24 hours.

The rapid mapping service is one of the crucial components of the Emergency Management Service (EMS), which comes under the EU's Copernicus programme. What is the Copernicus EMS, and how does its rapid mapping service work?

### **What is the Europe Union's Copernicus programme, to begin with?**

The Copernicus programme is part of the EU's space programme and aims to monitor the Earth and its environment by collecting data from a set of satellites known as the Sentinels. It also gets data from contributing missions (existing commercial and public satellites) and in situ or non-space sources such as ground stations.

The data are processed and analysed to generate value-added information, which can be used for a wide range of applications in many areas. These include land management, the marine environment, the atmosphere, emergency response, security, and climate change.

Launched in 1998, the Copernicus programme was earlier called Global Monitoring for Environmental Security (GMES). Currently, it is implemented by the European Commission (EC) with support from the ESA and the European Environment Agency (EEA).

### **And what is Copernicus EMS?**

The Copernicus EMS has been in operation since 2012, and provides geo-spatial information derived from satellite remote sensing and in situ data sources to help manage natural disasters, man-made emergencies, and humanitarian crises.



There are two components of the service: the mapping component and the early warning component. The former provides maps and analysis based on satellite imagery; the latter issues alerts about floods, droughts, and forest fires, and gives near-real time assessment of

forest fire impacts.

The mapping component has two modules: rapid mapping (RM); risk and recovering mapping (RRM). The RM, which was activated to look for Rishi's crashed helicopter, provides maps within days or hours, anywhere in the world. The RRM delivers maps that are required for disaster management — and not for immediate responses — within weeks or months. It is used for prevention, preparedness, disaster risk reduction, and recovery.

Relevance: GS Prelims; Science & Technology

Source: Indian Express

## **25. Antarctic Parliament meets in Kochi: What's on the table?**

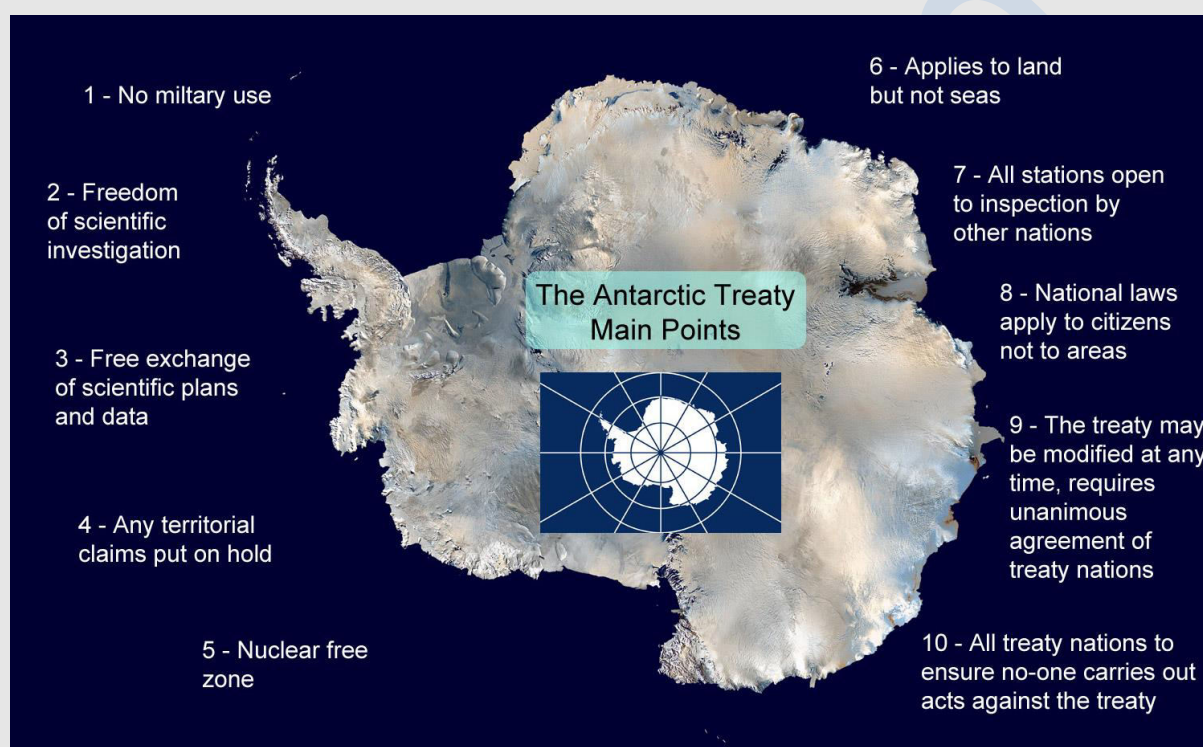
### **Introduction**

India is hosting the 46th Antarctic Treaty Consultative Meeting (ATCM 46), also known as the Antarctic Parliament, from May 20-30 in Kochi. The National Centre for Polar and Ocean

Research, Goa, through the Ministry of Earth Sciences (MoES), has organised the meeting, which will be attended by the 56 member countries of the Antarctic Treaty. India had last hosted the ATCM in New Delhi in 2007.

### The Antarctic Treaty

Twelve countries — Argentina, Australia, Belgium, Chile, France, Japan, New Zealand, Norway, South Africa, the USSR, the United Kingdom, and the United States — were the original signatories to the Antarctic Treaty, which was signed on December 1, 1959. The treaty came into force in 1961, and a total of 56 countries — including India, in 1983 — have joined it since then.



The Antarctic Treaty, which was signed during the Cold War, effectively designated Antarctica as a “no man’s land”, outside the bounds of international geopolitical competition. A few key features of the treaty are:

- \* Antarctica shall be used only for peaceful purposes, and no militarisation or fortification shall be allowed.
- \* All signatories will have the freedom to carry out scientific investigations, and should share plans for scientific programmes, extend required cooperation, and freely make available the data gathered.
- \* Nuclear testing or disposal of radioactive waste materials shall be prohibited anywhere in Antarctica.

Today, the treaty forms the basis of all governance and activities in Antarctica, the fifth-largest continent on the planet.

### **India in Antarctica**

Since 1983, India has been a consultative party to the Antarctic Treaty. In this capacity, India votes and participates in all key decision-making processes regarding Antarctica. Of the 56 nations that are part of the Antarctic Treaty, 29 have consultative party status.

India has undertaken scientific research in Antarctica since 1981. The first Indian Antarctica research station, Dakshin Gangotri, was set up in 1983, some 2,500 km from the South Pole in Queen Maud Land. The station operated till 1990.

In 1989, India set up its second Antarctica research station, named Maitri, in the Schirmacher Oasis, a 3-km wide ice-free plateau with over 100 freshwater lakes. It is still operational and located about 5 km from Russia's Novolazarevskaya Station, and 90 km from Dakshin Gangotri. According to the National Centre for Polar and Ocean Research, Maitri can accommodate 65 persons in summer, and 25 in the winter.

In 2012, India inaugurated Bharati, its third Antarctica research station, located around 3,000 km east of Maitri, on the Prydz Bay coast. Although the station focuses on oceanographic and geologic study, the Indian Space Research Organisation (ISRO) utilises it for receiving Indian Remote sensing Satellite (IRS) data. The station can support up to 72 individuals during summer, and 47 in winter.

India plans to open a new station, Maitri II, a few kilometres from the ageing Maitri station. Operations are set to begin by 2029.

In 2022, India enacted the Antarctic Act, reaffirming its commitment to the Antarctic Treaty.

### **Agenda before ATCM**

1. The ATCM is meant to facilitate a global dialogue on law, logistics, governance, science, tourism, and other aspects of the southern continent.
2. During the conference, India will seek to promote the idea of peaceful governance in Antarctica, and underline that geopolitical tensions elsewhere in the world should not interfere with the protection of the continent and its resources.
3. India would also introduce a new working group for regulating tourism on the continent. The Netherlands, Norway, and some other European countries that share India's views on formulating regulations for tourism in Antarctica, will be part of this working group, which hopes to come to a consensus regarding some actionable guidelines. Currently, tourism to Antarctica is driven by tour operators, and little is known about the threat tourists may pose to Antarctica's fragile ecosystem.

4. During the Kochi meet, India will also officially table its plan to construct Maitri II before the members. Any new construction or initiative in Antarctica requires the ATCM's approval.

5. The ATCM will see discussions on sustainable management of Antarctica and its resources; biodiversity prospecting; inspections and exchange of information and data; research, collaboration, capacity building and cooperation; and climate change impacts on Antarctica and beyond.

Relevance: GS Prelims & Mains Paper II; International Organisations

Source: Indian Express

## 26. An overview of Europe's AI convention

### Why in News?

The global governance of Artificial Intelligence (AI) is becoming more complex even as countries try to govern AI within their borders in various ways, ranging from acts of law to executive orders. Many experts have articulated a global treaty to this effect, but the obstacles in its path are daunting.

### What is Europe's AI convention?

Although there are many ethical guidelines, 'soft law' tools, and governance principles enshrined in many documents, none of them are binding or are likely to result in a global treaty. There is also no ongoing negotiation for an AI treaty at the global level anywhere. Against this background, the Council of Europe (COE) took a big step by adopting the Framework Convention on Artificial Intelligence and Human Rights, Democracy and the Rule of Law, also known as the 'AI convention', on May 17.



The COE is an intergovernmental organisation formed in 1949, with currently 46 members. The agreement is a comprehensive convention covering AI governance and links to human rights, democracy, and the responsible use of AI. The framework convention will be opened for signature on September 5.

### What is a framework convention?

A 'framework convention' is a legally binding treaty that specifies the broader commitments and objectives under the convention, and sets mechanisms to achieve them. The task of setting specific targets is left to subsequent agreements. Those agreements that are negotiated under the framework convention will be called protocols. For example, the Convention on Biological Diversity is a framework convention while the Cartagena Protocol on Biosafety is a protocol under it that deals with living modified organisms.

The framework convention approach is useful because it allows flexibility even as it encodes the core principles and processes by which the objectives are to be realised. Parties to the convention have the discretion to decide the ways in which to achieve the objectives, depending on their capacities and priorities.

### **What is the scope of the convention?**

Article 1 of the convention states: "The provisions of this Convention aim to ensure that activities within the lifecycle of artificial intelligence systems are fully consistent with human rights, democracy and the rule of law".

Article 3 states: "The scope of this Convention covers the activities within the lifecycle of artificial intelligence systems that have the potential to interfere with human rights, democracy, and the rule of law as follows: a. Each Party shall apply this Convention to the activities within the lifecycle of artificial intelligence systems undertaken by public authorities or private actors acting on their behalf. b. Each Party shall address risks and impacts arising from activities within the lifecycle of artificial intelligence systems by private actors... in a manner conforming with the object and purpose of this Convention."

### **Why do we need the AI convention?**

The AI convention doesn't create new and/or substantive human rights specific to AI. Instead, it asserts that existing human and fundamental rights that are protected by international and national laws will need to stay protected during the application of AI systems as well. The obligations are primarily directed towards governments, which are expected to install effective remedies and procedural safeguards. In all, the convention takes a comprehensive approach to mitigating risks from the use of AI systems for human rights and democracy. There are bound to be challenges to implementing it, particularly at a time when AI regulation regimes are yet to be fully established and technology continues to outpace policy.

Relevance: GS Prelims & Mains Paper II; International Organisations

Source: The Hindu

## **27. ICJ orders Israel to halt military assault in Rafah: The case and the ruling**

### **Why in News?**

The International Court of Justice (ICJ) at The Hague, Netherlands, recently ordered Israel to halt its military assault in the city of Rafah, located in the southernmost part of Gaza. The 15-judge Bench, however, stopped short of ordering a full ceasefire throughout the enclave.

In its ruling, the court also directed Israel to open the Rafah crossing between Egypt and Gaza to allow the flow of humanitarian aid. It asked the Jewish state to provide access for any fact-finding or investigative missions sent by the UN to investigate the genocide allegations in Gaza. Israel was ordered to report back on its progress to the ICJ within a month.

Rulings by ICJ are legally binding but it has no way of enforcing them. However, experts believe the latest order can deepen Israel's isolation from the rest of the world.



### **What was the case?**

The ruling is the latest pronouncement by the court in a case brought by South Africa against Israel in December 2023, accusing the latter of a genocide in the Gaza Strip.

Since the case has begun, the court has given a series of rulings. For instance, in January, it ordered Israel to take action to prevent acts of genocide against Palestinians. Two months later, the ICJ ruled that Israel must ensure that basic food supplies arrive without delay to Palestinians in Gaza.

The new order has come in regard to a fresh request made by South Africa on May 10.

The country approached ICJ, asking for an urgent order to protect the Palestinians in Gaza from "grave and irreparable violation of their rights", owing to Israel's ongoing military assault on Rafah.

The country accused Israel of conducting a "brutal military attack on the sole remaining refuge" of the Palestinian people in Gaza, who were simultaneously being subjected to a "humanitarian aid blockage". South Africa called for an urgent ceasefire "for the sake of humanity" and "to prevent further violations of the Genocide Convention".

### **What did the ICJ rule?**

The ICJ, in a 13:2 majority, ruled that Israel must "immediately halt its military offensive and any other action in the Rafah Governorate that may inflict on the Palestinian group in Gaza conditions of life that could bring about its physical destruction in whole or in part." The two dissenting votes came from Uganda and Israel.

Relevance: GS Prelims & Mains Paper II; International Organisations

Source: Indian Express

## **28. Why does instability and chaos persist in Haiti? Did the resignation of former Prime Minister Ariel Henry stop gang violence in the region?**

### **Why in News?**

Following a three-month forced shutdown, Haiti's main international airport in Port-au-Prince reopened, sparking hopes for shipment of essential products. However, gang violence persists in the capital, though most of the gangs' demands have been addressed.

### What is being done for stability?

After Prime Minister Ariel Henry's resignation on April 24, the formation of a Council with seven members was the first major development. The Council has been tasked with restoring order in Haiti, setting the agenda of a new Cabinet, forming a national security council, and appointing an electoral commission to help conduct polls. It enjoys the backing of the Caribbean countries and the U.S.

Caricom, a Caribbean trade bloc which helped form the council, said that the installation of the "politically inclusive council signals the possibility of a new beginning for Haiti."



### What is the situation at present?

The gang violence continues. The insufficiently armed national police are still unable to counter the violence. Gang violence has become a part of daily life in Haiti over the last two decades, enabled by a weakened security apparatus, lack of effective law enforcement and widespread impunity. In the first three months of 2024, as per UN estimates, more than one person was killed due to gang violence every hour.

In May, UNICEF's Representative in Haiti, Bruno Maes, noted that the "health system is on the verge of

collapse" as it is faced with "violence, mass displacement, dangerous epidemic and increasing malnutrition." Six out of 10 hospitals that are operational in the country are barely managing to function, and the biggest problem currently is the "strangling of supply chains." About 1.6 million of the 4.4 million in Haiti face emergency levels of food insecurity, and the expected arrival of the monsoons will bring with it waterborne diseases such as cholera.

### What is next for Haiti?

There are three specific challenges for Haiti. First, the divide within the transitional Council underscores the inherently fragile political landscape of the country. Second, the persistent threat posed by armed gangs continues to loom large over Haiti, perpetuating a cycle of violence and insecurity that hampers efforts to restore law and order. Gangs have warned of more violence if they are not given a seat at the table with the Council, and if their demand for amnesty for their crimes is not granted.

Third, the deployment of a UN-backed security mission, comprised of Kenyan police forces, has sparked controversy and raised concerns about potential violation of human rights. While

the mission aims to bolster efforts to combat gang violence and restore stability, there are fears that it may inadvertently exacerbate tensions and contribute to human rights abuses.

Relevance: GS Prelims; International Issues

Source: The Hindu

### 1. Need for 'balanced fertilisation'

#### Introduction

Balanced fertilisation — discouraging farmers from applying too much urea, di-ammonium phosphate (DAP) or muriate of potash (MOP), which only have primary nutrients in high concentrations — is likely to be a key policy goal for the government taking over after the Lok Sabha elections.

The fiscal ended March 2024 saw urea consumption hit a record 35.8 million tonnes (mt), 16.9% higher than the 30.6 mt in 2013-14. The consumption of urea, containing 46% nitrogen (N), actually fell during 2016-17 and 2017-18, which was attributed to the mandatory coating of all urea with neem oil from May 2015.

Neem coating was intended to check illegal diversion of the highly-subsidised urea for non-agricultural uses, including by plywood, dye, cattle feed and synthetic milk makers. Neem oil supposedly also acted as a mild nitrification inhibitor, allowing more gradual release of nitrogen. Improved nitrogen use efficiency, in turn, brought down the number of urea bags required per acre.

All-India Consumption of Fertiliser Products ( <i>in lakh tonnes</i> )					
	Urea	DAP	MOP	NPKS	SSP
2003-04	197.67	56.25	18.41	47.57	25.44
2013-14	306.00	73.57	22.80	72.64	38.79
2014-15	306.10	76.26	28.53	82.78	39.89
2015-16	306.35	91.07	24.67	88.21	42.53
2016-17	296.14	89.64	28.63	84.14	37.57
2022-23	357.25	104.18	16.32	100.74	50.17

<b>2023-24</b>	357.80	108.12	16.45	110.73	45.44
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*Source: Fertiliser Association of India.*

Despite compulsory neem-coating, and the government reducing the bag size from 50 to 45 kg in March 2018, the consumption of urea has only gone up during the last six years.

### **Nutrient-based subsidy**

Fertilisers are basically food for crops, containing nutrients necessary for plant growth and grain yields. Balanced fertilisation means supplying these primary (N, phosphorus-P and potassium-K), secondary (sulphur-S, calcium, magnesium) and micro (iron, zinc, copper, manganese, boron, molybdenum) nutrients in the right proportion, based on soil type and the crop's own requirement at different growth stages.

The nutrient-based subsidy (NBS) system, instituted in April 2010 was expected to promote balanced fertilisation. Under it, the government fixed a per-kg subsidy for N, P, K and S. The subsidy on any fertiliser was, thereby, linked to its nutrient content. The underlying idea was to induce product innovation and wean away farmers from urea, DAP (18% N and 46% P content) and MOP (60% K), in favour of complex fertilisers containing N, P, K, S and other nutrients in balanced proportions with lower concentrations.

NBS achieved its objective initially. Between 2009-10 and 2011-12, DAP and MOP consumption declined, while that of NPKS complexes and single super phosphate (SSP: 16% P and 11% S) rose. But NBS failed simply because it excluded urea. With its maximum retail price (MRP) being controlled, and cumulatively raised by just 16.5 per cent – from Rs 4,830 to Rs 5,628 per tonne – post the introduction of NBS, consumption of urea increased.

### **The challenge**

The last couple of years have seen even non-urea fertilisers being brought under price control, first informally and formally since January 2024 in the run-up to the elections. The MRPs of these fertilisers were earlier set by the companies selling them, with the government merely paying a fixed per-tonne subsidy linked to their nutrient content.

The restoration of controls, industry sources say, has worsened the nutrient imbalances.

Relevance: GS Prelims & Mains Paper III; Economics

Source: Indian Express

## **2. Chocolate industry meltdown: What led to the rise in prices of cocoa beans**

### **Why in News?**

Chocolate the most sought after edible indulgence in the world. But now, the chocolate industry is in a meltdown. The price of cocoa beans, the most important raw material in chocolates, has skyrocketed, hitting a record \$12,000 a tonnes in April, around four times last year's price. Cocoa processors — who turn the beans into butter and liquor that are then converted to chocolate by companies — have thus reduced production because they cannot afford the beans.



### **Reasons for skyrocketing prices**

The immediate reason for the ongoing crisis is the bad harvest season in West African countries Ghana and Ivory Coast, where 60% of the world's cocoa beans come from. Due to the development of El Niño — a weather pattern, which refers to an abnormal warming of surface waters in the equatorial Pacific Ocean — in 2023, West Africa experienced heavier-than-usual rainfalls.

This created an ideal ground for the spread of black pod disease, which causes cocoa pods (a case that holds a plant's seeds) to rot on the branches of cocoa trees. The consequence is the

drop in crop yield.

Climate change is also a driving factor. With rising temperatures, rainfall in the region has become erratic — a problem for moisture-sensitive cocoa trees. Moreover, extreme weather events such as heat waves, droughts, and heavy rainfalls, have made these trees more vulnerable.

### **Low income of farmers**

The underlying issue is that the big chocolate companies do not pay enough to the cocoa farmers in West Africa. These farmers earn on average as little as less than \$1.25 a day, which is well below the United Nations' absolute poverty line of \$2.15 per day.

At the same time, the four biggest chocolate companies have made huge profits from chocolate sales. While Lindt, Mondelēz, and Nestlé together raked in nearly \$4 billion last year, Hershey's confectionery profits totalled \$2 billion, according to the latest report. Despite such financial gains, these companies have not done much to help raise farmers' income.

Experts believe that the prominent chocolate companies have the room to redistribute wealth down the supply chain. Unless they do that the scarcity of cocoa beans is likely to persist, leading to further exploitation of farmers and a rise in chocolate prices.

Relevance: GS Prelims; Economics

Source: Indian Express

### 3. US Fed will keep rates steady amid high inflation: Why this matters for the global economy

#### Why in News?

The US Federal Reserve recently said it is holding its benchmark rate steady after an uptick in inflation, and that it would continue to watch incoming price data before taking a call on when to cut rates. This could be significant given that at the start of this year, most analysts had predicted a Fed rate cut at its May 1 meeting and a total of three rate cuts in 2024.

#### Inflation “still too high”

According to data released by the US Labour Department’s Bureau of Labour Statistics on April 10, the consumer price index in the US increased by 0.4 per cent month-on-month and surged 3.5 per cent year-on-year, overshooting Wall Street expectations.

US Fed Chair Jerome Powell said Monday inflation was “still too high” and rate cuts would not be on the cards until he had “greater confidence” that price growth was inching down towards its 2 per cent target.

#### Why are these signals from the US Fed important?

Like other central banks such as the RBI, as the US Fed conducts monetary policy, it influences employment and inflation primarily by using policy tools to control the availability and cost of credit in the economy. The Fed’s primary tool of monetary policy is the federal funds rate, changes in which influence other interest rates — which in turn influence borrowing costs for households and businesses, as well as broader financial conditions.

When interest rates go down in an economy, it becomes cheaper to borrow; so households are more inclined to buy more goods and services, and businesses have an incentive to borrow funds to expand operations, buy equipment or to invest in new projects.

Improved demand for goods and services ends up pushing up wages, and helps rekindle the growth cycle. Even though the linkages of monetary policy to inflation and employment are not direct or immediate, monetary policy is a key factor in curbing runaway prices or stoking the growth impetus.

Theoretically, a signal to cut policy rates in the US should be a positive for emerging market economies, especially from a debt market perspective. Emerging economies such as India tend to have higher inflation and, therefore, higher interest rates than in developed countries.

As a result, investors, including Foreign Portfolio Investors, tend to borrow in the US at lower interest rates in dollar terms, and invest that money in the bonds of countries such as India in rupee terms to earn a higher rate of interest.

#### What will be the impact on other markets, including India?

A cut in rates in the US could have a three-pronged impact. When the Fed cuts its policy rates, the difference between the interest rates of the two countries could widen, thus making

countries such as India more attractive for investment. The lower the rate in the US, the higher the arbitrage opportunity.

A lower rate signal by the Fed would also mean a higher impetus to growth in the US, which could be yet positive news for global growth, especially when China is reeling under the impact of a real estate crisis and showing signs of slowing down.

### **Impact on Interest Rates in India**

For the RBI, like other central banks, the likelihood of a future rate cut is somewhat predicated on the US Fed's decision to cut rates.

On April 5, the six-member Monetary Policy Committee of the RBI had kept the repo rate – the rate at which India's central bank lends money to banks to meet their short-term funding needs – unchanged for the seventh consecutive time at 6.5 per cent, while indicating the possibility of retail inflation coming below the crucial level of four per cent in the second quarter (July-September) of FY 2025.

This has raised expectations of a rate cut later this year, but in all probability that could happen only after the US Fed cuts its benchmark rates.

The RBI last cut the repo rate by 40 basis points to 4 per cent in May 2020 when the Covid pandemic raged across the country affecting the entire economy, leading to slowdown in demand, production cuts and job losses. Since then, the RBI has hiked the repo rate by 250 points to 6.5 per cent in order to tackle runaway inflation.

Relevance: GS Prelims & Mains Paper III; Economics

Source: Indian Express

## **4. The socio-ecological effects of LPG price hikes**

### **Introduction**

Data from the 2014-2015 ACCESS survey, conducted by the Council on Energy, Environment and Water, found LPG's cost to be the foremost barrier to its adoption and continued use in rural poor households. Thus, 750 million Indians primarily use solid cooking fuels — wood, dung, agricultural residues, coal, and charcoal — every day. Solid cooking fuels are associated with innumerable health hazards and socio-economic and environmental impacts.



### **Has the govt. pushed LPG use?**

The Indian government has often placed a premium on the cooking fuels in rural households transitioning to LPG. The Rajiv Gandhi Gramin LPG Vitruk scheme was launched in 2009 to

increase LPG distribution in remote areas; nearly 45 million new LPG connections were thus established between 2010 and 2013.

Direct benefit transfers for LPG under the 'PAHAL' scheme were initiated in 2015. In 2016, direct home-refill deliveries were implemented and the 'Give it Up' program enrolled around 10 million LPG consumers to voluntarily discontinue subsidies.

The Pradhan Mantri Ujjwala Yojana (PMUY) followed, to install LPG connections in 80 million below-poverty-line households. The scheme also provides a subsidy of ₹200 for every 14.2-kg cylinder, which increased to ₹300 in October 2023.

### **Fast forward to 2022**

Of the 54 countries whose LPG prices were available, those in India were reportedly the highest, around ₹300/litre. In 2023, a study done by the author and Amir Kumar Chhetri showed how local communities of the Jalpaiguri district in West Bengal depend on the forests for fuelwood. The landscape has highly degraded forest remnants in a mosaic of tea estates, human settlements, and agricultural land, thanks to a history of forest conversion and fragmentation.

Based on 40 focal group discussions in tea-estate labour colonies and in forest and revenue villages, the study found that residents in the area depend mainly on forests for fuelwood, for both household consumption and to sell. Roughly half of the 214 local shops in 10 markets used fuelwood; the shop-workers reported the cost of a commercial cylinder, ₹1,900, to be exorbitant. Around 38.5% of Jalpaiguri's population is below the poverty line and most of them work in tea estates with a daily wage of ₹250. Against this backdrop, the persistent use of fuelwood as cooking fuel is unsurprising.

### **What are suitable alternatives?**

While the act of collecting fuelwood gives the people cooking fuel, it also degrades the forest and forces people to risk adverse encounters with wild animals. Due to various government schemes, most households in Jalpaiguri have LPG connections but few refill the cylinder even twice a year. On introduction of the PMUY scheme, many households quickly switched to LPG from fuelwood, and reported that their cooking activities became fast and smokeless, they could forgo the need to rise early and the time and effort spent in collecting fuelwood. But the hike in the price of LPG rendered these advantages short-lived.

Devising locally acceptable, suitable, and sustainable alternatives to fuelwood is important to secure the forests, wildlife and locals' livelihoods. Work is ongoing with the West Bengal Forest Department and Joint Forest Management Committees to help four villages acquire saplings of high fuelwood value on the conditions that they will be native species, prohibited from logging, unpalatable to elephants and will be maintained by locals.

### **What next?**

Findings suggest that the LPG price rise, especially over the last decade, could cause socio-ecological crises in places where there are no viable alternatives to fuelwood and socio-economic deprivation is common. Future governments must focus on making, and keeping,

LPG affordable. At the same time, they also need to endeavour to free solid cooking fuels from socio-ecological endangerment, like, say, with a national policy on introducing smokeless cooking stoves that consume less fuelwood.

Relevance: GS Prelims & Mains Paper III; Economics

Source: The Hindu

## 5. What the draft Digital Competition Bill proposes, why Big Tech opposes it

### Introduction

Taking a leaf out of the European regulatory handbook, India has proposed a new digital



competition law that could stop tech giants like Google, Facebook, and Amazon from self-preferencing their own services, or using data gathered from one company to benefit another group company.

The draft law, called the Digital Competition Bill, 2024, also has provisions to set presumptive norms to curb anti-competitive practices before they actually

take place, and promises to impose heavy penalties — which could amount to billions of dollars — for violations. If this were to go in force, it could require big tech companies to make fundamental changes to their various platforms.

The proposal is similar to the EU's Digital Markets Act (DMA), which went into complete effect earlier this year, and requires large tech firms like Alphabet, Amazon and Apple to open their services, and not favour their own at the expense of rivals. The law came in on the back of a long history of anti-competitive practices by these companies.

The Ministry of Corporate Affairs (MCA), which is handling the draft, has called for comments.

### Key proposals of the draft digital competition Bill

#### 1. Predictive regulation

Due to the complex world of digital markets, which are ever-growing with increasing interlinkages between various offerings made by a single company, regulating for market abuse after it takes place (as in an ex-post framework) is not optimal. Instead, a forward-looking, preventive, and presumptive law (an ex-ante framework), which foresees the potential harms that can arise out of antitrust issues and prescribes pre-determined no-go areas is perhaps the way forward. This is one of the foremost proposals in the draft Bill.

Currently, India follows an ex post antitrust framework under the Competition Act, 2002. One of the biggest criticisms of the law has been that regulating after the incidence of market abuse involves delays — by the time the offending company has been penalized.

## **2. Significant entities**

The Bill proposes that for certain “core digital services” like search engines, and social media sites, the Competition Commission of India (CCI) should designate companies as “Systematically Significant Digital Enterprise (SSDE)” depending on various quantitative and qualitative parameters such as turnover, user base, market influence etc.

Entities that don’t fall under these parameters can still be designated as SSDEs if the CCI believes that they have a significant presence in any given core digital service. Entities which are designated as SSDEs, have been prohibited from engaging in practices such as self-preferencing, anti-steering, and restricting third party applications. If they violate these requirements, they can be fined up to 10% of their global turnover.

## **3. Associate Digital Enterprises**

Understanding the role that data collected by one company of a major technology group can play in benefitting other group companies, the Bill proposes to designate associate digital enterprises (ADEs).

If an entity of a group is determined to be an associate entity, they would have the same obligations as SSDEs depending on the level of their involvement with the core digital service offered by the main company. Illustratively, if one were to look at Google Search and how it steers direction data to Google Maps, the latter can theoretically be deemed an ADE. Same would apply to YouTube too, depending on the level of data sharing that happens between the core Google Search and how that plays out in the recommendations that YouTube makes to users.

## **Criticism of the draft**

There has been resistance to this Bill.

1. For big tech companies, an ex-ante framework with its strict prescriptive norms could lead to significant compliance burden, and shift focus from innovation and research to ensuring that companies do not presumptively engage in an anti-competitive practice. As a result, the tech giants are calling for the current competition law to be strengthened rather than moving towards an ex-ante framework.

2. If the law were to go into effect as is, it would mean that a company like Apple will have to allow iPhone users to be able to download apps from a third-party app store, over Apple’s own store — something that the company has lobbied against vehemently. While Android’s relatively open nature over iOS allows such ‘sideloading’ of apps, Google too has advocated against it, primarily claiming that apps that are downloaded from outside their stores can have potential security ramifications.

3. Companies are also understood to be concerned about the broad definition — both quantitative and qualitative — of who a significant platform could be. Unlike EU’s DMA which specifically names the ‘gatekeeper’ entities, that decision in India’s draft law has been left to

the discretion of the CCI. Companies believe that could lead to arbitrary decision making, which could potentially also impact start-ups. Companies are claiming that if they have to make the changes to their platform and cut down on data sharing, that could also impact smaller businesses who rely on their platforms to reach a big target audience.

Relevance: GS Prelims & Mains Paper III; Economics

Source: Indian Express

## 6. How Punjab and Haryana remain key to national food security

### The importance of Punjab and Haryana to India's food security

The two breadbasket states, whose farmers led the protests against the Bharatiya Janata Party-led government's now-repealed three agricultural reform laws during 2020-21, have together accounted for 75.5% of the total wheat procured for the Central foodgrain pool in the current marketing season.

Government agencies have so far bought about 25.5 million tonnes (mt) of the 2023-24 winter-sown crop harvested from late-March. Out of that, 12.2 mt has come from Punjab and over 7 mt from Haryana.

### Wheat lynchpins

Till the mid-2000s, Punjab and Haryana contributed 90% or more of the wheat for feeding the public distribution system (PDS) and other government programmes.

With the Green Revolution (the cultivation of high-yielding varieties) spreading to other states, and their governments also establishing infrastructure for buying grain at minimum support prices (MSP) from farmers, the ratio dipped to roughly 65% by the early 2010s. In recent years, the contribution of Punjab and Haryana has increased again.

**TABLE 1: Wheat Procurement for Central Pool (lakh tonnes)**

	2019-20	2020-21	2021-22	2022-23	2023-24
<b>Punjab</b>	<b>127.14</b>	<b>132.22</b>	<b>96.45</b>	<b>121.17</b>	<b>122.31</b>
<b>Haryana</b>	<b>74.00</b>	<b>84.93</b>	<b>41.86</b>	<b>63.17</b>	<b>70.32</b>
<b>MP</b>	129.42	128.16	46.04	70.97	45.66
<b>UP</b>	35.77	56.41	3.36	2.20	8.47

<b>Rajasthan</b>	22.25	23.40	0.10	4.38	8.35
<b>TOTAL*</b>	<b>389.93</b>	<b>433.44</b>	<b>187.92</b>	<b>262.02</b>	<b>255.24</b>
*Includes other states; Figures are for Crop Year (July-June) 2023-24, till May 15.					
Source: Department of Food and Public Distribution.					

### The rice situation

In rice, government procurement was traditionally concentrated in Punjab and Haryana, plus the Godavari-Krishna and Kaveri delta regions of Andhra Pradesh (AP) and Tamil Nadu (TN).

Like with wheat, there has been a diversification here as well, with new states — especially Telangana, Chhattisgarh, Odisha and even UP — becoming major contributors to the Central pool. In the process, the combined share of Punjab and Haryana in total rice procurement has fallen from 43-44% in the early 2000s to an average of 28.8% in the four years ended 2022-23.

**TABLE 2: Rice Procurement for Central Pool (lakh tonnes)**

	2019-20	2020-21	2021-22	2022-23	2023-24
<b>Punjab</b>	<b>108.76</b>	<b>135.89</b>	<b>125.48</b>	<b>122.01</b>	<b>124.14</b>
<b>Haryana</b>	<b>43.07</b>	<b>37.89</b>	<b>37.06</b>	<b>39.77</b>	<b>39.42</b>
<b>Telangana</b>	74.54	94.53	73.94	88.35	43.87
<b>AP</b>	55.33	56.66	44.61	27.55	18.82
<b>Chhattisgarh</b>	50.53	47.62	61.65	58.65	97.10
<b>Odisha</b>	47.98	52.58	48.31	53.83	39.45
<b>UP</b>	37.90	44.78	43.91	43.89	36.05
<b>MP</b>	17.40	24.97	30.70	31.02	28.23

<b>Bihar</b>	13.41	23.84	30.09	28.17	20.78
<b>Tamil Nadu</b>	22.04	30.53	18.76	23.01	18.30
<b>W Bengal</b>	18.38	18.90	24.01	21.82	12.64
<b>TOTAL*</b>	<b>518.26</b>	<b>601.71</b>	<b>575.88</b>	<b>568.66</b>	<b>497.24</b>

*\*Includes other states; Figures are for Crop Year (July-June) 2023-24, till May 15.*

*Source: Department of Food and Public Distribution.*

Relevance: GS Prelims & Mains Paper III; Economics

Source: Indian Express

## 7. RBI approves ₹2.11-lakh crore surplus bonanza to Govt for FY24

### Introduction

The Reserve Bank of India's central board of directors declared a bonanza to the Central Government, approving a massive, all-time high surplus transfer of ₹2,10,874 crore for FY24.

### Impact

This bumper surplus transfer could help the government either borrow less in FY25 or step up capital expenditure. If the government borrows less, government security (G-Sec) yields could soften, thereby lowering its borrowing cost.

### Previous surplus transfer

The previous highest surplus transfer was ₹1,76,051 crore in 2018-19. The surplus transfer in FY24 is 2.41 times the previous year's ₹87,416 crore. It is also much higher than both the budgeted and street estimates of ₹1-lakh crore surplus.

### Reason for high surplus

Economists attributed the higher-than-anticipated surplus to higher interest income, led by an increase in both global and domestic yields. There were also revaluation gains on forex reserves.

### RBI Statement

In a statement, the RBI said that during accounting years 2018-19 to 2021-22, owing to the prevailing macroeconomic conditions and the onslaught of the Covid-19 pandemic, the Board had decided to maintain the risk provisioning under the Contingent Risk Buffer (CRB) at 5.50

per cent of the Reserve Bank's Balance Sheet size to support growth and overall economic activity.

With the revival in economic growth in FY23, the CRB was increased to 6 per cent. As the economy remains robust and resilient, the Board has decided to increase the CRB to 6.50 per cent for FY24.

The Board thereafter approved the transfer of ₹2,10,874 crore as surplus to the Central Government for the accounting year 2023-24.

Relevance: GS Prelims & Mains Paper III; Economics

Source: Hindu Business Line

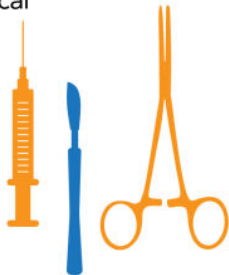
### 8. Why is Ethylene Oxide used for sterilisation of Indian spices? What is the method that the EU prefers?

#### Why in News?

Last month, Hong Kong and Singapore recalled certain spice mix products of the MDH and Everest Group allegedly over the presence of a higher than prescribed level of the sterilising agent Ethylene Oxide (ETO). The Indian authorities have now initiated several measures to ensure that Indian spices comply with food safety standards of the importing countries.




#### What is ethylene oxide?

Ethylene oxide is a flammable gas produced by industry. Ethylene oxide is used to make other chemicals and is used to sterilize medical supplies and food products like spices.



ATSDR Toxicological Profile for Ethylene Oxide

#### Health effects of exposure


-  Cancer
-  Impacts on the nervous system
-  Impacts on kidney function

ATSDR Toxicological Profile for Ethylene Oxide

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#### Ethylene oxide releases in TRI

The **chemical manufacturing** sector reports the most releases. Most ethylene oxide is released **to air**.



U.S. EPA TRI, Reporting Year 2022

#### Where does contamination occur?

India does not use ETO as a pesticide but only as a sterilising agent to reduce microbial load in finished (spice) goods. Most of the agro products, including spices, are heaped in mandies (auction yards for farmers) where they are contaminated by human, bird, reptile and insect contact. Many of the large factories receive material from the mandies, which is then fed on automated lines. It leaves them with high microbial levels and forces them to opt for ETO sterilisation.

### **How big are Indian spice exports?**

A quick export estimate data available with the Spices Board India shows that India enjoys a significant share in the global market for spices and spice products. In 2023-2024, India exported spices worth \$4.4 billion (nearly 14 lakh tonnes), which is 12.3% higher than the financial year 2022-2023. China, Bangladesh, west Asian countries and the U.S. are important markets for Indian spices.

### **What has been impact of the recall?**

An office bearer of the Federation of Indian Spice Stakeholders pointed out that Singapore and Hong Kong had not banned the Indian products, but only recalled them. Exports have resumed to these countries and hence there may not be much impact in the coming months because of this issue. India's share in total spice production globally is about 70%.

Countries have different standards for ETO and maximum (pesticide) residue levels (MRL). The European Union has stringent norms for both ETO and MRLs while Japan largely sources only organic products. The industry has been talking to the Indian government demanding discussions with the EU to relax the norms in order to boost Indian spice exports to the EU market.

### **What has the Spices Board done?**

Following the recall by Hong Kong and Singapore, the Spices Board issued a detailed protocol to all manufacturing exporters to prevent ETO contamination. The Board also said it was starting mandatory testing of spice consignments to Singapore and Hong Kong for ETO. It has also taken up with the international food standards body the need for ETO usage limit as it varies for each country.

Relevance: GS Prelims & Mains Paper III; Economics

Source: The Hindu

## **9. What prompted the central bank to increase its scrutiny of the gold loan business of NBFCs?**

### **Why in News?**

The Reserve Bank of India (RBI) earlier this month asked gold loan lenders to stick to regulatory norms while lending in a bid to tighten its grip over Non-Banking Financial Companies (NBFCs). The RBI has increased its scrutiny of NBFCs after it found certain NBFCs to be flouting regulatory norms. In March, the RBI banned IIFL Finance from issuing fresh gold loans after the firm was found violating lending norms.

### **What are the RBI's gold loan norms?**

The RBI stipulates lenders to comply with certain norms while lending money in lieu of gold. For instance, lenders are not allowed to lend any amount of money that is greater than 75% of the value of the gold that is submitted as collateral by the borrower. This is to ensure that banks have sufficient cushion to absorb any losses by selling the gold in case the borrower defaults on the loan.

And in order to comply with income tax rules, the RBI also mandates that when a loan is disbursed to a borrower, no more than ₹20,000 can be disbursed in the form of cash; the remaining loan amount needs to be deposited in the borrower's bank account. It also instructs lenders to conduct the auction of any gold (in case a borrower defaults) in a fair and transparent manner in locations that are accessible to the borrowers.



It is believed that the RBI is working on detailed guidelines for gold loans that lenders will have to follow.

### **Why does the RBI want to reinforce these norms now?**

The RBI says it has found some NBFCs to be violating regulations linked to gold-based lending. IIFL Finance was disciplined in March for violating norms related to the size and form of loan disbursements, the evaluation and assaying of gold, the levying of charges, and irregularities in the auction process. For instance, the RBI found that there were loan-to-value irregularities in over two-thirds of defaulted accounts in the case of IIFL Finance.

It should be noted that NBFCs may want to increase the size of their loan book at an aggressive pace in an attempt to grow their business, and thus may be willing to offer loans of value that exceed 75% of the value of the underlying collateral. To do this, NBFCs may try to deliberately overestimate the value of the gold that the borrowers submit as collateral. It is thus not surprising that the RBI has raised concerns about the way in which gold is assayed and valued by NBFCs.

Lenders such as IIFL Finance were using internal assayers to evaluate the value and the purity of the gold offered as collateral by borrowers. This is in contrast to gold loans extended by banks wherein external assayers determine the value and purity of the gold. It should be noted that the gold loan portfolio of NBFCs has increased at an aggressive pace since the pandemic, growing over four fold from about ₹35,000 crore at the end of financial year 2020 to about ₹1,31,000 crore by the end of FY 2023.

The RBI may fear that such aggressive lending by NBFCs is happening in widespread violation of lending norms and that this could potentially cause systemic trouble in the future as the gold loan industry grows in size rapidly.

### **How will the RBI's scrutiny affect NBFCs?**

The NBFCs expect the RBI's scrutiny of their lending practices to affect their growth and profitability. The RBI's insistence that no more than ₹20,000 shall be disbursed as cash when a loan is approved, for instance, is expected to make NBFC gold loans less attractive.

The NBFCs have taken pride in offering emergency cash to borrowers at short notice unlike banks, particularly to those who are not part of the banking system and deal primarily in cash. Many NBFCs might also have to become less aggressive in their lending practices as the RBI enforces the loan-to-value rules more strictly.

It should be noted that the RBI had temporarily allowed lenders to make loans up to 90% of the value of the underlying gold collateral during the pandemic to help borrowers, and this also helped NBFCs expand their loan books aggressively.

Further, measures to make the auction process more transparent and accessible to borrowers could increase the cost of doing business for NBFCs and lead to higher borrowing rates for lenders. The RBI, on the other hand, may believe that its lending norms will make the gold loan business more sustainable and help avoid systemic risks in the long run.

Relevance: GS Prelims & Mains Paper III; Economics

Source: The Hindu

### 1. What is the role of hydropower in a world facing increasing drought?

#### Why in News?

Recent droughts in Colombia and Ecuador have severely hampered energy supplied by hydropower. How viable is the low-carbon renewable in an increasingly hot and dry world?

Hydropower has become a vital clean energy source, today providing more electricity than all other renewables combined.

But recent power shortages in Ecuador and Colombia have highlighted its vulnerability in the face of climate change.

A drought fueled by the El Nino weather phenomenon has reduced reservoir water levels in hydropower plants, which both countries rely on for most of their electricity. This has led Ecuador to declare a state of emergency and institute power cuts. In neighboring Colombia, water has been rationed in the capital and the country has halted electricity exports to Ecuador.



#### Climate change: an increasing concern for the industry

Hydropower functions by harnessing the movement of water flowing through a turbine, which generates electricity as it spins. Hydropower is dependent on water so clearly if there is no water at all then hydropower cannot be used, disrupting energy production.

Droughts — and sudden floods which can also damage dams — made more frequent and severe by climate change, are therefore an “increasing concern” for hydropower.

#### 2023 saw historic drop in hydropower

Ecuador and Colombia are not isolated cases. While hydropower remains the world’s largest renewable source of electricity and had been increasing by 70% over the last two decades, in the first half of 2023 its global output saw a historic drop.

Drought — likely exacerbated by climate change — drove an 8.5% drop in hydroelectricity around the world during this period.

China, the world’s largest hydroelectricity generator, accounted for three quarters of the global decline. In 2022 and 2023 droughts led to Chinese rivers and reservoirs running dry, causing power shortages and forcing the country to ration electricity.

### **The road to net-zero**

Despite the climate-risks associated with the technology, it is still considered by many to have a continued role in decarbonizing the global economy.

Building more medium scale plants, rather than the mega dams of the past, would help mitigate the climate-risks associated with overdependence on one big piece of infrastructure.

While the International Energy Agency predicts hydropower will eventually be overtaken by wind and solar, they state it will remain the world's largest source of renewable electricity generation into the 2030s. Yet the agency anticipates a significant slowdown in industry growth this decade could jeopardize net-zero ambitions.'

Hydropower capacity needs to double by 2050 if the world is to stay on track for limiting global temperature increases to 1.5C, according to the International Renewable Energy Agency. The IHA estimates this would require a significant increase in investment — approximately \$130bn annually from now to 2050.

### **Hydropower's stabilizing role**

While climate change is going to increase the risks for hydropower, better management of water within a basin and how plants are integrated with other renewables can improve resilience to drought.

Hydropower is also needed to stabilize electricity generation, providing power when wind and solar can't. Hydropower can act as a very large battery, because you can switch it on and off very quickly. Hydropower plants are usually also able to ramp electricity generation up and down more quickly than coal, nuclear or natural gas.

Pumped-storage hydropower, which pumps water uphill when electricity is cheap and releases it downhill when electricity is expensive can also help. These schemes consume relatively little water because it is recycled. They are not totally immune to drought but are more so than traditional hydropower schemes.

Relevance: GS Prelims & Mains Paper III; Environment

Source: Indian Express

## **2. Maharashtra to translocate tigers to Sahyadri reserve: Role of wildlife corridors in tiger conservation**

### **Why in News?**

To revive the population of tigers in Sahyadri Tiger Reserve (STR) — the lone tiger reserve in the Maharashtra western region — the state's forest department will soon translocate tigers from Tadoba-Andhari Tiger Reserve (TATR) in Chandrapur district.

However, the objective of the project can only be achieved if the Sahyadri-Konkan wildlife corridor — forests in STR, Goa, and Karnataka serve as the corridor — is secure enough and free from human disturbances, according to the experts.



### But first, why is Maharashtra planning to translocate tigers to STR?

The STR, located in northern Western Ghats, was established in January 2010 and straddles Kolhapur, Satara, Sangli, and Ratnagiri districts in western Maharashtra. It comprises Chandoli National Park and Koyna Wildlife Sanctuary.

The tiger population in the region has been historically low due to poaching, poor prey base, and changing habitat. Even after the STR was notified, the number of tigers did not increase as breeding tigers did not colonise the reserve.

Photo evidence of tiger presence within the boundaries of STR has been few and pugmark evidence has shown the presence of seven to eight tigers from time to time.

One way the population can increase is through the inflow of tigers from the forests, located towards the south of STR, in Goa and Karnataka, especially with the strengthening of the wildlife corridor. However, the spike in tiger numbers can take years this year.

As a result, the translocation of tigers has been opted for short-term outcomes.

### Is translocation the best approach for tiger recovery?

Tiger translocation projects have been undertaken in India since 2008. Sariska Tiger Reserve, in 2008, and Panna Tiger Reserve, in 2009, have witnessed successful tiger reintroduction and translocation projects. There have also been failures and shelving of reintroduction plans, like

in the case of Satkosia Tiger Reserve in Odisha, which was the country's first inter-state translocation project.

Tiger corridors are crucial for the long-term and sustainable success of a translocation project. Even after translocations, one must ensure that corridors are strengthened and they are free of major disturbances. This will ensure dispersal of tigers to other source population areas.

### **What role do wildlife corridors play in conservation?**

Corridors are essentially habitats and pathways that connect wildlife populations, which are fragmented by human settlements and infrastructure works.

They are crucial for the long-term survival of the tiger population as they help guard against localised extinctions and ensure the exchange of gene flow, which helps in population diversity. Tigers have large home ranges and often travel long distances in search of mates and food. In doing so, they make use of these wildlife corridors and cross several human-dominated landscapes. The role played by corridors in conservation is a well-established one and has been incorporated into policy decisions as well.

Mitigation measures such as underpasses, and wildlife crossings are now routinely ordered to safeguard tigers and other wildlife in projects where linear infrastructure projects fragment habitats.

### **Examples**

The construction of an overpass on the National Highway- 7 to protect the migratory route of tigers underneath between the Kanha and Pench Tiger Reserves is one instance of embedding mitigation measures to protect corridors.

Tigers routinely use the space beneath the elevated stretch of the highway to cross the forests. In 2014-15, the National Tiger Conservation Authority and Wildlife Institute of India (WII) mapped 32 major tiger corridors in the country across four broad tiger landscapes – Shivalik Hills and Gangetic plains, Central India and Eastern Ghats, Western Ghats, and the North East Hills.

### **What is the importance of the Sahyadri-Konkan corridor?**

The Sahyadri-Konkan corridor or the Sahyadri-Radhanagari-Goa-Karnataka corridor is crucial for the long-term survival of tiger populations in northern Western Ghats. This corridor connects the source population area in Kali Tiger Reserve in Karnataka to the forests in Goa's hinterland, which in turn provides tigers connectivity to Radhanagari Wildlife Sanctuary, conservation reserves in Sindhudurg district and STR.

The high occurrence of human-dominated settlements and development activities fragments this corridor at several locations, posing a threat to tiger movement and raising the chances of man-animal conflict. With authorities planning the translocation of tigers to Sahyadri, strengthening this corridor is crucial. Without those efforts, even a breeding population of tigers would face difficulties in dispersing to other forests.

### 3. A new biocontrol agent to manage 'foot rot' disease in Basmati crop: Why this matters

#### Why in News?

The Punjab Agricultural University (PAU), Ludhiana, has developed biocontrol agent *Trichoderma asperellum* (2% WP), and registered it with the Central Insecticides Board and Registration Committee (CIBRC). The biocontrol agent will help Punjab farmers manage the deadly 'foot rot' or 'bakanae' disease that plagues the crops of Basmati rice, varieties of fragrant rice that are popular world over.

#### Foot rot

Rice is cultivated in two stages. Seeds are first sown in a nursery bed, where they sprout and grow into seedlings, which are then transplanted into a well-puddled and prepared field. Foot

#### Foot Rot or Bakanae Disease of Rice



rot is a fungal disease that affects Basmati rice crops particularly at the seedling stage, though it might also cause infection after transplantation in case infected seedlings are transplanted.

It is caused by the fungus *Fusarium verticillioides*, a soil-seed borne pathogen which spreads the infection through the root of the plant, and eventually leads to the colonisation of the stem base. Infected seedlings first turn pale yellow, then

elongate and dry up, and eventually (usually) die.

The prevalence of foot rot in the Basmati crop reduces yields and threatens the state's export prospects. In some cases, farmers need to uproot their entire transplanted seedlings.

#### Current management practices

To prevent the disease from occurring and spreading, farmers resort to early seedling treatment, try and use disease-free seeds, and destroy infected seedlings. Timely seed nursery management is crucial — experts recommend seed sowing in the first fortnight of June, and transplantation in July. Sowing in May often leads to problems as the month's high temperatures are favourable to the disease. Fields where the nursery is being set up must also be well-drained, with proper irrigation, to avoid the spread of foot rot.

Currently, seedlings are treated with *Trichoderma harzianum* before sowing and transplantation. Seeds are also treated with fungicides such as Sprint 75 WS (carbendazim + mancozeb) before sowing. But these are the chemical treatments which are harmful for the

soil, and can be toxic for consumers of the rice. The fungicide carbendazim is already banned in Punjab because it leaves behind high residues.

#### **PAU's solution to tackle foot rot**

This is where PAU's newly-developed biocontrol agent comes in. *Trichoderma asperellum* is ecofriendly in nature. This biocontrol agent offers a non-chemical alternative to traditional pesticides, aiding in disease management while minimising environmental harm.

The use of *Trichoderma asperellum* showed "excellent results" during the experimental phase, as a means to combat foot rot "without leaving harmful residues on the crop" and "compromising environmental safety". It can be used to treat both the seeds and the seedlings.

#### **Challenge**

The challenge now is to ensure the distribution of this agent among farmers. MOU has been signed with a private company for the large-scale manufacturing and distribution of *Trichoderma asperellum*, with the aim of making it available to farmers from the coming season. This would be a major development in Punjab, which, along with Haryana, accounts for more than 70% of India's basmati exports.

Relevance: GS Prelims; Environment

Source: Indian Express

### **4. Illegal mining in Sariska**

#### **Why in News?**

The Supreme Court has ordered the Rajasthan government to shutter 68 mines operating within a 1-kilometre periphery of the critical tiger habitat (CTH) of the Sariska reserve. The order, passed on May 15, is the latest of many attempts by the country's top court since the 1990s to halt the mining of marble, dolomite, and limestone in Sariska in violation of laws. Both the Wildlife Protection Act, 1972 and Environment Protection Act, 1986 prohibit quarrying in and around a tiger reserve.

#### **In the 1990s**

In May 2005, the SC ordered the CBI to investigate the disappearance of tigers from the reserve in the Aravalli roughly halfway between Delhi and Jaipur. That was almost a decade and a half after the court first took up the issue of illegal mining in Sariska.

In October 1991, in a PIL filed by a local NGO, the SC issued an interim order that "no mining operation of any nature shall be carried on in the protected area" of Sariska, and set up a fact-finding committee under the chairmanship of Justice M L Jain, a retired judge of the High Court.

The Jain Committee found in 1992 that the protected areas covered "about 800 sq km". In April 1993, the SC ordered the closure of 262 mines within that area.

# SC: **NO MINING** WITHIN 1 KM RADIUS OF SARISKA



## **In the 2000s**

Ten years later, the Central Empowered Committee (CEC) of the SC submitted a damning report on mining in the Sariska tiger reserve. In September 2005, the SC laid down rules for issuing temporary mining permits in forest areas. In August 2006, it said, as an interim measure, one-kilometre safety zone shall be maintained.

But the mines were back in business in 2008 after the Rajasthan government claimed that the sanctuary boundary had been demarcated, and allowed quarries outside the 100-metre periphery of the sanctuary. The state stuck to the 100-metre regulation in its draft Eco-Sensitive Zone (ESZ) notification for Sariska in 2011.

## **In 2023**

The apex court finally ruled in April 2023. The order left the specifics of ESZs to the Centre and the state, and focussed on mining — prohibiting it within 1 km of national parks and sanctuaries.

On May 15, the SC criticised the Rajasthan government for misinterpreting this order as being not applicable to tiger reserves. The court clarified that the 2023 direction applied to tiger reserves which “stand on a higher pedestal”.

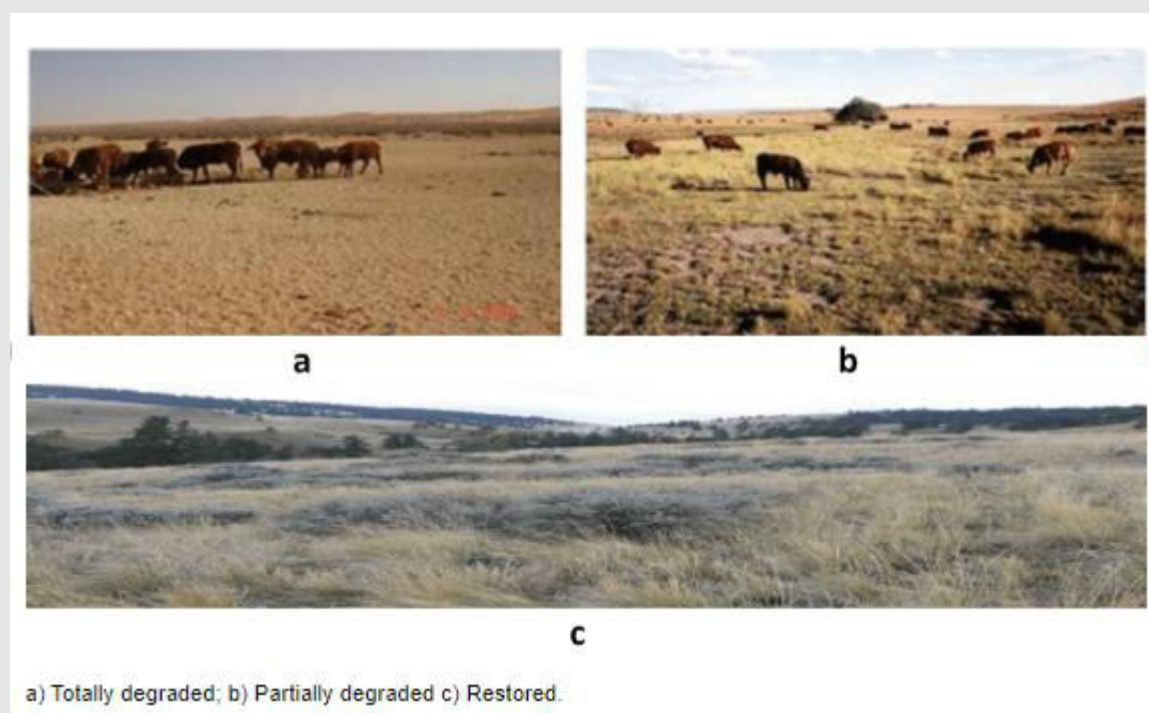
Relevance: GS Prelims & Mains Paper III; Environment

Source: Indian Express

**5. Half of world's rangelands are degraded, UN study finds: What are rangelands, why they matter**

## **Why in News?**

About half of the world's rangelands are degraded and need policy interventions, and communities depending on them need focused support, according to a new report of the United Nations Convention on Combating Desertification (UNCCD).



What are rangelands? Why are they important? What does the UNCCD report find?

### **What are rangelands?**

The UNCCD report defines rangelands as natural or semi-natural ecosystems that are grazed by livestock or wild animals. Rangelands contain vegetation such as grasses, shrubs, bushes, open forests, and agroforestry systems (land which contains trees and crops or pastures).

Currently, rangelands cover 80 million sq km of Earth's terrestrial surface area (over half of Earth's land), and are thus the largest land cover or land use type in the world. They act as carbon sinks (which absorb more carbon from the atmosphere than they release), storehouses of freshwater, and prevent desertification of land. Millions of people worldwide depend on rangelands for food security, and livelihoods.

Rangelands generate 16% of global food production and 70% of feed for domesticated herbivores. In India, rangelands occupy about 1.21 million sq km, from the Thar Desert to Himalayan meadows.

### **What does the UNCCD report say?**

The UNCCD report found that nearly 50% of the world's rangelands can be considered "degraded" and are facing a "silent demise".

Climate change, unsustainable land and livestock management practices, biodiversity loss, and the conversion of rangelands to farmlands are some of the primary drivers of rangeland degradation. Uncertainty over land rights among pastoralist communities, who depend on rangelands for their livelihood, also leads to their degradation.

This, in turn, severely affects the communities dependent on rangelands as their deterioration impacts soil fertility and biodiversity, leading to a dip in incomes and rise in conflicts with authorities over grazing rights.

### **Who are pastoralists?**

Pastoralism is a livelihood system based on livestock production. This includes livestock rearing, dairy production, meat production, wool production, and leather production.

The communities and groups, both indigenous and non-indigenous, who are involved in livestock production are known as pastoralists. These communities rear sheep, goats, cattle, horses, donkeys, camels, yaks, llamas, alpacas, and pigs. Some pastoralist communities also rear ducks and chickens.

Their livelihood is highly dependent on the quality of pasture (or rangelands) they have access to, and their rights over them. However, since they still remain on the margins of society, they have little say in policy-making.

Globally, an estimated 500 million pastoralists are involved in livestock production and allied occupations. In India, while there are no official figures, research and advocacy groups peg their population at around 13 million people, across 46 groups including Gujjars, Bakarwals, Rebaris, Raikas, Kurubas, and Maldharis, to name a few.

### **What are pastoralists' economic contributions in India?**

India is home to 20% of the world's livestock population. Around 77% of these animals are reared in pastoralist systems, meaning they are either herded or left to range on common lands, according to the Accounting for pastoralists in India (2020) report. Pastoralists also protect indigenous livestock breeds, and protect traditional knowledge about animal rearing.

Currently, India is the largest producer of milk in the world, accounting for 23% of global dairy production. It is also the largest producer of buffalo meat and largest exporter of sheep and goat meat. Pastoralists are a major contributor in this sector.

Relevance: GS Prelims & Mains Paper III; Environment

Source: Indian Express

**6. The cultivation of paddy varieties like PUSA-44, which takes longer to grow and requires more water, has been discouraged in Punjab. Why are farmers in several districts unwilling to stop their cultivation?**

### Why in News?

Punjab's paddy farmers have started sowing seeds for this year's kharif season, even as the high-yield, long-duration growth variety PUSA-44 has been banned in the state since last year. Chief Minister Bhagwant Mann also claimed recently that the government managed to decrease area under PUSA-44 cultivation in 2023 as compared to 2022. This reportedly saved 5 billion cusecs of water, given its higher irrigation needs, and Rs. 477 crores through reduced power consumption.



However, preventing farmers from sowing PUSA-44 and two other non-recommended long-duration varieties could prove quite challenging in many districts.

### First, why did Punjab ban PUSA-44?

In October 2023, the Punjab government banned PUSA-44. Cultivation of other varieties, such as Peeli PUSA and Dogar PUSA, has also been discouraged as they take between 158 to 162 days to grow, from sowing nursery to harvesting.

The longer duration means five to six extra cycles of irrigation, all while Punjab faces severe groundwater depletion. Moreover, this variety is also known to exacerbate the issue of stubble burning in the state. The straw stubble or residue of the rice crop planted in the kharif season (from July to October) is left in the fields as the winter crops (for the rabi season from November to March) are set to be planted.

To clear their fields in time for planting the next season's crops, farmers burn the stubble. This, along with wind movements and other factors, contributes greatly to winter pollution in northern India.

### Why are farmers reluctant to stop cultivation of these varieties?

What makes the three varieties attractive to farmers is their higher yield of around 32 to 36 quintals per acre, against 30 to 31 quintals of the regular varieties. Farmers also get Minimum Support Price, or a guaranteed minimum price from the government, for selling paddy. Simply, higher yield equals higher incomes.

### How effective can the ban be?

Barnala-based farmer Sham Singh said, "Even if the government bans the sale of PUSA-44 seeds, it wouldn't significantly impact farmers because every farmer who sows them keeps the seeds for the next season, and many seed multiplying stores have already sold the seeds to interested farmers." He said the decision on continuing the cultivation ultimately lies with the farmer.

Relevance: GS Prelims & Mains Paper III; Environment

Source: Indian Express

## 7. Not just Delhi: How temperature records are tumbling across the world

### Why in News?

The extremely high temperatures recorded in New Delhi in the last two days are extraordinary. But they are in keeping with the global trend in the last couple of years that has seen record-breaking temperatures being reported from several locations across the world.

For example, the United Kingdom crossed 40 degree Celsius for the first time ever in July 2022. A small town in China's northwest recorded 52 degree Celsius last year, the highest ever for that country. In 2021, Sicily in Italy recorded 48.8 degree Celsius, the highest for Europe ever. These are just a few examples.

An analysis by Carbon Brief, a UK-based publication focused on climate change, last year showed that nearly 40% of the Earth had recorded its highest-ever daily temperature between 2013 to 2023. This includes places in Antarctica as well. The highest temperature in India, in Rajasthan's Phalodi, was also recorded during this period.

However, the highest ever temperature recorded anywhere on Earth, 56.7 degree Celsius in a place called Death Valley in the desert of California, United States, was recorded more than 100 years ago, in 1913.

### WHY MUNGESHPUR IS UNDER LENS

➤ If it gets IMD's stamp, Wednesday's reading of 52.9°C at Mungeshpur in northwest Delhi will **break record of 51°C in Phalodi (Raj)** in May 2016

➤ Why the doubt? Maximum temperature in Mungeshpur 3.8°C higher than next highest temp in city — Najafgarh, at 49.1°C. An **automatic weather station, Mungeshpur sometimes prone to errors**



A dust storm & 'trace' rain brought brief respite on Wednesday

➤ 46.8°C logged at base station Safdarjung **2nd highest temp ever** at the station after 47.2 on May 29, 1944

### Delhi Anomaly

If the 52.9 degree Celsius recorded at one of the stations in Delhi recently is verified, it would be an all-time high for India. But as of now it is suspect. The India Meteorological Department (IMD) said it was checking the authenticity of the reading by an automatic weather station in Mungeshpur, located on the northern outskirts of Delhi, bordering Haryana.

The doubts over the Mungeshpur reading stems mainly from the fact that none of the other stations in Delhi — there are 20 of them — recorded a temperature that was close to 52.9 degree Celsius. The maximum temperature in other stations of Delhi was recorded by the Najafgarh station, which gave a reading of 49.1 degree Celsius. The station that is taken to be representative of Delhi — Safdarjung — showed a maximum temperature of 46.8 degree Celsius. This itself was an 80-year record, the highest since 1944.

Even if the Mungeshpur data was not so overtly suspicious — and IMD officials admit it is — a record-breaking temperature like this would have needed a verification. Met offices across the world do a double-check on any such extreme weather event.

### **Heatwaves in Northern India**

But record-breaking or not, there is no doubt about the fact that Delhi, and indeed most of northern India, is going through one of the worst heatwaves. In most places, maximum temperatures are 5 to 10 degree Celsius above normal.

### **Global Warming**

The year 2024 was predicted to be extremely warm. Last year had emerged as the warmest year on record, globally, and the effect was expected to continue this year as well. And so far, it has.

April 2024 was the 11th consecutive month when the global average monthly temperature for that month touched a new record, according to the Copernicus Climate Change Service, an agency of the European Commission. The one year period between May 2023 to April 2024 was warmer than any previous 12-month period, about 1.61 degree Celsius higher than the pre-industrial (1850-1900) average.

The warming over India is not as pronounced as the world taken as a whole. Annual mean temperatures over India have risen by about 0.7 degree Celsius compared to 1900 levels. This is significantly lower than the 1.59 degree Celsius rise for average land temperatures across the world. If oceans too are included, global temperatures right now are at least 1.1 degree Celsius higher than pre-industrial averages.

### **Stronger Heatwaves**

However, heatwaves over India are noticeably more severe. In 2023, heatwave conditions prevailed even in February, technically a winter month for which heatwave thresholds are not even defined because they are not expected.

The current spell of high temperatures in Delhi, and most of north India, looks anomalous mainly because it is being compared to normal temperatures that are based on averages of 1981-2010 period. Going forward, 45 degree Celsius plus temperatures are likely to very quickly become the new normal, and a 50 degree Celsius reading will no longer look suspicious.

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

PrepMate

### 1. Aviation carriers of India

#### Why in News?

On March 5, both aircraft carriers of the Indian Navy, INS Vikramaditya and INS Vikrant, showcased "twin carrier operations" with MiG-29K fighter jets taking off simultaneously from both and landing cross deck. This demonstrated an ability that only a handful of nations can boast of. Further one of the carriers, INS Vikrant is indigenously designed and constructed. Commissioned in September 2022, INS Vikrant has been fully operationalised and integrated into the operational cycle in record time. As the two carriers sailed, they were joined by a flotilla of frontline warships of the Indian Navy, a combined tonnage of around 1,40,000 as well as aircraft.

#### What does INS Vikrant signify?

A carrier is a floating city. The design work on the Indigenous Aircraft Carrier (IAC)-I, later christened Vikrant, began in 1999; however 2005-2006 were probably the most crucial years for the carrier and for India's war shipbuilding.



The crucial decision was on the warship grade steel, DMR-249 steel, which till then was procured from Russia. After much brainstorming, it was decided that it would be developed and produced in India, a collaborative effort between the Steel Authority of India, the Defence Research Development Organisation (DRDO) and the Indian Navy. DMR-249 steel is now being used

for the construction of all warships in the country.

#### What is the composition of INS Vikrant?

Delays notwithstanding, Vikrant is an engineering marvel. It has a total area in excess of 12,450 sq. metre which equals to about two and a half hockey fields. The 262m long and 62m wide ship is powered by four General Electric LM2500 engines generating 88 MW of power giving it a maximum speed of 28 Knots and an endurance of 7,500 nautical miles.

Built at an overall cost of around ₹20,000 crore and 76% indigenous content, the ship has around 2,200 compartments, for a crew of around 1,600 that include specialised cabins to accommodate women officers and sailors. Vikrant houses two galleys which cater to all onboard, preparing upto 4,500-5,000 meals every day.

#### What are its capabilities?

Vikrant can operate an air wing of 30 aircraft comprising MiG-29K fighter jets, Kamov-31, MH-60R multi-role helicopters, in addition to indigenous Advanced Light Helicopters and Light

Combat Aircraft (Navy). It uses the STOBAR (Short Take-Off but Arrested Recovery) method to launch and recover aircraft for which it is equipped with a ski-jump to launch aircraft, and three 'arrestor wires' for their recovery. About 200 men start the day by preparing the flight deck for flying operations.

While the present Vikrant was the first carrier built in the country, India has had a long history of operating carriers. The erstwhile 19,500 tonnes Vikrant was India's first carrier purchased from the U.K., which arrived in 1961 and played a vital role in the 1971 war. Then came the 28,700 tonnes INS Viraat commissioned in 1987, formerly HMS Hermes, also from the U.K. Both of them have retired. INS Vikramaditya procured from Russia and commissioned in 2013 is India's third carrier.

### **After Vikrant, what next?**

The Navy has already moved a case for a second Indigenous Aircraft Carrier (IAC-II), a repeat of a Vikrant-like carrier. The proposal was cleared by the Defence Procurement Board last September and has since been forwarded for approval by the Defence Acquisition Council, expected to be taken up once it meets after the elections.

The IAC-II displacing 45,000 tonnes will see some modifications and newer technologies incorporated in the original design of the Vikrant and will also be manufactured by Cochin Shipyard Limited (CSL). It will take around eight to 10 years to build a new carrier.

The proposed IAC-II has often been referred to as India's third aircraft carrier. However, that is not entirely right. Design, construction and operationalisation of a carrier takes a long time and the IAC-II, if it comes in time, will be a timely replacement for INS Vikramaditya.

### **Global Trend**

While debate around carriers versus submarines continue, there is a renewed global interest with several countries now going for carriers of varying sizes. The U.S. is fielding new super carriers, and the U.K. has inducted new carriers while France and Russia have announced plans to build new ones. Japan has begun converting its helicopter carriers to operate F-35 fighter jets. Last month, China announced that it is building its fourth aircraft carrier, likely a nuclear-powered super carrier. From commissioning its first carrier, Liaoning, in 2012, launching second carrier Shadong in 2017, third carrier Fujian in 2022 and the fourth to be unveiled soon, China's pace is absolutely unprecedented.

Relevance: GS Prelims & Mains Paper III; Science & Technology

Source: The Hindu

## **2. Covishield could cause blood clots in very rare cases**

### **Why in News?**

Global pharmaceutical giant AstraZeneca has said that its AZD1222 vaccine against Covid-19, which was made under licence in India as Covishield, could cause low platelet counts and formation of blood clots in “very rare” cases.

AstraZeneca has accepted a link between the vaccine and Thrombosis with Thrombocytopenia Syndrome (TTS), a medical condition characterised by abnormally low levels of platelets and the formation of blood clots.

AstraZeneca’s vaccine formula was licensed to Pune-based vaccine maker Serum Institute of India (SII) during the coronavirus pandemic for the manufacture of Covishield. More than 175 crore doses of Covishield have been administered in India.



### **What exactly has AstraZeneca said?**

AstraZeneca spoke about TTS in court documents following a suit brought against the company in the United Kingdom. The pharmaceutical giant is being sued over health claims related to the vaccine that it developed in collaboration with the University of Oxford amid the Covid-19 pandemic in 2020.

The case was lodged last year by Jamie Scott, a father of two, who was left with a permanent brain injury after developing a blood clot after he received the vaccine in April 2021.

The report said that in all, “fifty-one cases have been lodged in the High Court (in the UK), with victims and grieving relatives seeking damages estimated to be worth up to £100 million”.

In court documents from February, AstraZeneca denied that “TTS is caused by the vaccine at a generic level”. However, it admitted to the possibility of TTS as a result of its vaccination in “very rare cases”.

### **Why have these concerns surfaced now, four years after the outbreak?**

These concerns have in fact, been reported earlier. But this is the first time that AstraZeneca has confirmed the link between TTS and its vaccines.

Before the Covid-19 vaccines were rolled out in India, the Indian government had issued a fact sheet in January 2021, in which it specifically said that Covishield (the Indian variant of AstraZeneca’s vaccine) should be given with “caution” to individuals with thrombocytopenia, that is, a condition of low platelet counts. Covishield and Covaxin were the two Covid vaccines given to Indians.

### **Were incidents of blood clots reported in India as well?**

The Indian government said in May 2021 that 26 potential thromboembolic events, or formation of clots in blood vessels, had been reported since Covishield began to be administered.

In the case of Covaxin, which was India's indigenous vaccine manufactured by Bharat Biotech, it said "no potential thromboembolic events" had been reported.

The Ministry had added that scientific literature suggests "this risk (of blood clotting) is almost 70% less in persons of South and Southeast Asian descent in comparison to those from European descent".

In 2023, the WHO incorporated vaccine-induced immune thrombotic thrombocytopenia (VITT) into its classification of TTS.

Relevance: GS Prelims & Mains Paper III; Science & Technology

Source: Indian Express

### 3. Why has NASA launched a tiny satellite to measure heat lost from Earth's poles?

#### Why in News?

On May 25, the National Aeronautics and Space Administration (NASA) launched one of the two climate satellites, which would study heat emissions at Earth's poles, from Māhia, New Zealand. The second satellite will be launched in the following days.

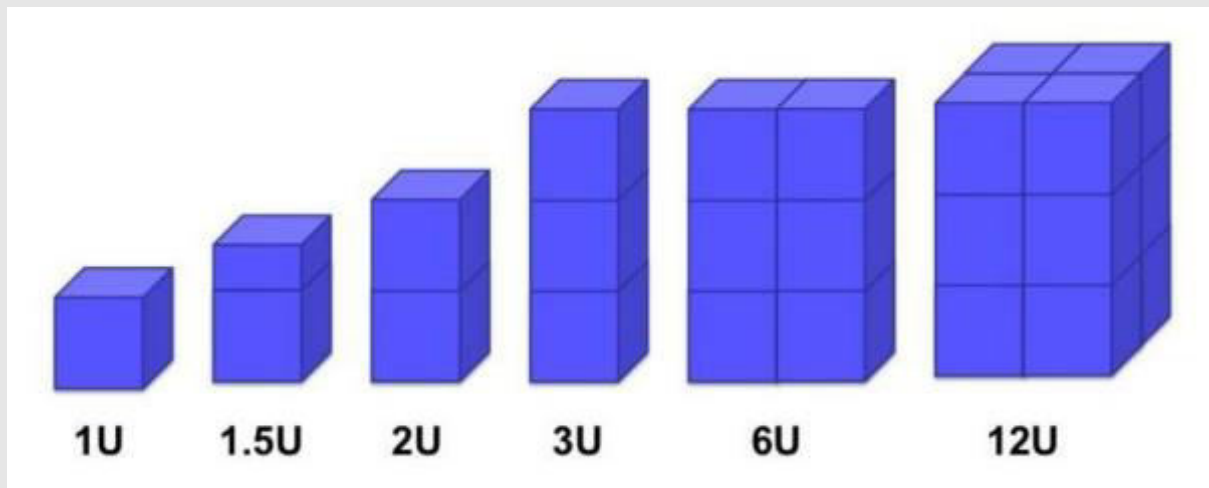
The two shoebox-sized cube satellites, or CubeSats, will measure how much heat the Arctic and Antarctica — two of the coldest regions on the Earth — radiate into space and how this influences the planet's climate. The mission has been named PREFIRE (Polar Radiant Energy in the Far-Infrared Experiment) and was jointly developed by NASA and the University of Wisconsin-Madison (US).

#### But first, what are CubeSats?

CubeSats are essentially miniature satellites whose basic design is a 10 cm x 10 cm x 10 cm (which makes up for "one unit" or "1U") cube — just a little bigger than a Rubik's cube — and weight not more than 1.33 kg.

These satellites were first developed in 1999 by California Polytechnic State University at San Luis Obispo (Cal Poly) and Stanford University as educational tools. However, owing to their low cost and less mass in comparison to traditional satellites, they began to be put in orbit for technology demonstrations, scientific research, and commercial purposes.

Each of the PREFIRE satellites is a 6U CubeSat. They measure around 90 cm in height and nearly 120 cm in width when the solar panels, which will power the satellite, are deployed. The two satellites will be placed in a near-polar orbit (a type of low Earth orbit) at an altitude of about 525 kilometres.



### **Why do researchers want to measure heat emissions at Earth's poles?**

It has to do with the Earth's energy budget, which is the balance between the amount of heat incoming to Earth from the Sun and the amount of heat outgoing from Earth into space. The difference between the two determines the planet's temperature and climate.

A large amount of the heat radiated from the Arctic and Antarctica is emitted as far-infrared radiation — wavelengths of 3  $\mu\text{m}$  to 1,000  $\mu\text{m}$  within the infrared range of electromagnetic radiation. However, there is currently no way to measure this type of energy. As a result, there is a gap in knowledge about the planet's energy budget.

### **What is the PREFIRE mission?**

The PREFIRE mission will change that. Its two CubeSats can study far-infrared radiation from the Earth's pole and the data collected by them would help scientists better understand the energy budget of the planet.

The CubeSats will also measure the amount of far-infrared radiation trapped by atmospheric water vapour and clouds at the poles and how this influences the greenhouse effect in the region.

Relevance: GS Prelims & Mains Paper III; Science & Technology

Source: Indian Express

## **4. AI in football: How new tech can help teams take more effective corner kicks**

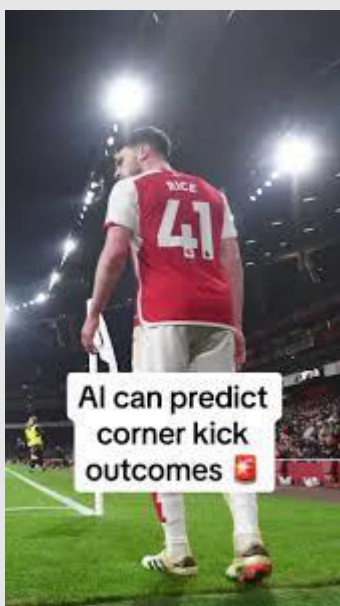
### **Why in News?**

In Liverpool's 4-0 victory against Barcelona in the 2019 Champions League semifinal, striker Divock Origi scored a goal that was later voted as the greatest in the club's 130-year history.

Right-back Trent Alexander-Arnold earned a corner for his side, placed the ball within the corner arc, and pretended to walk away — before suddenly turning back and drilling a fast, low kick straight to Origi, who lobbed the ball in the top left corner of the net.

While football does not usually see predictable situations, corner kicks are different in that they are eminently repeatable, and teams spend hours training for them. The Alexander-Arnold-Origi goal was clearly the result of a practised routine, and even small advantages in the strategy for approaching corner kicks can make a big difference to the tournament outcome for a team.

This is where artificial intelligence (AI) — which is generally seen as having limited impact in sports other than perhaps board games such as chess or individual track and field events — could potentially play a role.



### **DeepMind's TacticAI**

Google's DeepMind has introduced TacticAI: an AI system that can provide experts with tactical insights, particularly on corner kicks, through AI.

A corner is awarded when the ball passes over the goal line after touching a player of the defending team. The average Champions League game sees about 10 corner kicks, and predicting their outcomes is complex, given the randomness in gameplay from individual players, and the dynamics among them.

Despite the limited availability of gold-standard data on corner kicks however, TacticAI says it has achieved encouraging results by using "a geometric deep learning approach" that helps create more generalisable models.

### **Why specifically corners**

The focus on corner kicks is somewhat strategic as well. The models began with trying to predict aspects of open play in a football match, but there are pitfalls: even if a model were to give a suggestion about the current state of open play, a coach cannot always meaningfully act on it in that moment. Shouted instructions during open play may confuse players, or let the other side in on team tactics.

Corner kicks are apt for strategising by leveraging AI tools, primarily because they are moments when the game is effectively frozen — and always starts from the same kind of position at the corner of the pitch while giving players an immediate opportunity to score. Strategies for corners are usually also decided long before the players actually go on to the pitch, so that there is no confusion on match day.

Relevance: GS Prelims & Mains Paper III; Science & Technology

Source: Indian Express

## 5. Why are Indian spices facing the heat?

### Why in News?

At least five countries — including Singapore, Hong Kong and the U.S. — have announced an investigation into possible contamination of spice mixes sold by Indian brands, MDH and Everest. The complaints cite the presence of ethylene oxide (EtO), a toxic chemical used as a food stabilizer, beyond permissible limits. The Spices Board of India in response has initiated mandatory testing of products shipped abroad and is reportedly working with exporters to identify the root cause of contamination.



### Which countries have flagged safety of Indian spices?

The domino first shook on April 5, when Hong Kong's Centre for Food Safety suspended the sale of three MDH spice blends (Madras curry powder, Sambhar masala and Curry powder masala) and Everest Fish curry masala. The spice mixes had high levels of ethylene oxide, the regulator said, and advised

consumers against purchasing these products. Days later, Singapore ordered a recall of the Everest spice mix, stating that it is unfit for human consumption.

### What are the health concerns?

MDH and Everest's spice mixes allegedly contain high levels of EtO, a prohibited pesticide. EtO is a colourless, flammable gas that was originally intended for sterilising medical devices. It is used as a chemical in industrial settings, agriculture, and as a sterilising agent in food products, including spices, dried vegetables and other commodities. The chemical lends life to the spice industry — it reduces microbial contamination, and in turn, extends products' shelf life.

However, this process is not always airtight. The improper and excessive use of EtO may leave behind residues, causing toxic and even carcinogenic compounds to form, thus contaminating the product. One such compound is ethylene glycol, an ingredient which was found in Indian-made cough syrups that were linked to the deaths of more than 300 children in Cameroon, Gambia, Indonesia and Uzbekistan. Long-term exposure to ethylene oxide is associated with cancers including lymphoma and leukaemia, some evidence shows.

### Is there a history of rejections in U.S.?

A scrutiny of FDA's import refusal report, for the calendar year 2023, cites at least 30 instances wherein entry was refused because the products appeared to contain salmonella. These are agents known to cause salmonellosis — a common bacterial food-borne illness. Other than this, there have been at least 11 counts of products being rejected because of misbranding, adulteration, artificial colouring or incorrect labelling.

The U.S. Dept of Agriculture had in February 2022 stated that India and Mexico were the top sources of pathogen-based food import refusals.

Relevance: GS Prelims & Mains Paper III; S&T

Source: The Hindu

## 6. What is Artificial General Intelligence (AGI), and why are people worried about it?

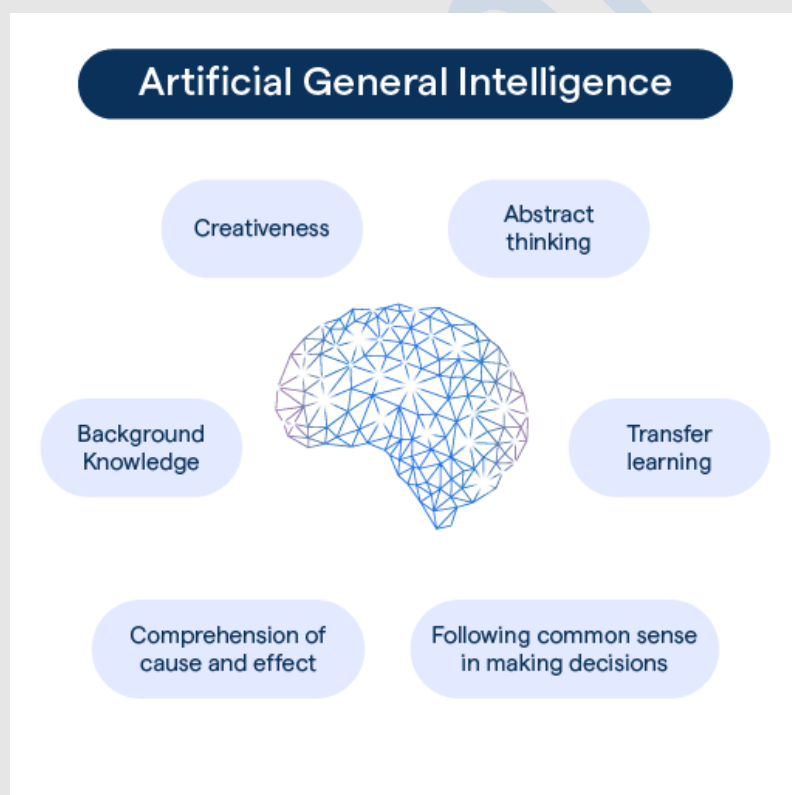
### Why in News?

In a recent interview, Sam Altman, CEO of OpenAI, expressed his commitment to invest billions of dollars towards the development of Artificial General Intelligence (AGI). But even as Altman continues to champion what is considered to be the pinnacle of AI development, many in the global tech community are very apprehensive.

### What is AGI?

AGI refers to a machine or a software that can perform any intellectual task that a human can do. This includes reasoning, common sense, abstract thinking, background knowledge, transfer learning, ability to differentiate between cause and effect, etc.

In simple words, AGI aims to emulate human cognitive abilities such that it allows it to do unfamiliar tasks, learn from new experiences, and apply its knowledge in new ways.



Humans learn through their experiences — in school, home, or elsewhere; by talking to people or observing things; by reading books, watching television, reading articles, etc. The human brain then uses the information it has gathered to make decisions (often subconscious) that solve any given problem, or come up with a new one.

With AGI, researchers aim to build a software or computer that can do all this — everything that a human computer does. Think of having a super intelligent robot friend who can understand everything you

say, learn new things just the way you do, and even think of problems to find solutions.

### **How is AGI different from AI we already use?**

The main difference between AGI and the more common form of AI, also known as narrow AI, lies in their scope and capabilities.

Narrow AI is designed to perform specific tasks such as image recognition, translation, or even playing games like chess—at which it can outdo humans, but it remains limited to its set parameters. On the other hand, AGI envisions a broader, more generalised form of intelligence, not confined to any particular task (like humans).

This is what puts AGI at the summit of all developments in artificial intelligence. Since the very beginning, the thrust behind AI development has been to broaden its capabilities. The reason why ChatGPT, launched in November 2022, piqued global interest was its ability to come up with human-like text responses.

Since then, AI models have gotten progressively better and more sophisticated, as billions of dollars have been pumped in to fuel research. The creation of AGI is like the final frontier in this development.

### **Is this a new idea?**

No. The idea of AGI first emerged in the 20th century with a paper written by Alan Turing, widely considered to be the father of theoretical computer science and artificial intelligence. In 'Computing Machinery and Intelligence' (1950), he introduced what is now known as the Turing test, a benchmark for machine intelligence. Simply put, if a machine can engage in a conversation with a human without being detected as a machine, according to the Turing test, it has demonstrated human intelligence.

When Turing wrote this influential paper, humans were nowhere close to developing artificial intelligence — even computers were in their nascency. Yet, his work led to wide-ranging discussions about the possibility of such machines, as well as their potential benefits and risks.

### **How can AGI help humanity?**

In theory, AGI has innumerable positive implications. For instance, in healthcare, it can redefine diagnostics, treatment planning, and personalised medicine by integrating and analysing vast datasets, far beyond the capabilities of humans.

In finance and business, AGI could automate various processes and enhance the overall decision-making, offering real-time analytics and market predictions with accuracy.

When it comes to education, AGI could transform adaptive learning systems that work towards the unique needs of students. This could potentially democratise access to personalised education worldwide.

OpenAI's Sam Altman in an interview with The Wall Street Journal said that AGI will lead to a "lot of productivity and economic value", and will be "transformative", promising unprecedented problem-solving capabilities and creative expression.

### **What then drives the skepticism regarding AGI?**

Despite the promise AGI holds, it continues to fuel widespread apprehensions, due to a number of reasons. For instance, the humongous amount of computational power required to develop AGI systems raises concerns about its impact on the environment, both due to the energy consumption and generation of e-waste.

AGI could also lead to a significant loss of employment, and widespread socio-economic disparity, where power would be concentrated in the hands of those who control the AGI. It could introduce new security vulnerabilities, the kind we have not even thought about yet, and its development could outrun the ability of governments and international bodies to come up with suitable regulations. And if humans were to become dependent on AGI, it might even lead to the loss of basic human skills and capabilities.

But the most serious fear regarding AGI is that its abilities can outpace human beings', making its actions difficult to understand and predict. This might even lead to a situation where it becomes 'too' independent, so much so that humans simply lose control. And like in many sci-fi movies, this might lead to a point where AGI takes actions against human well-being.

In a 2014 interview to the BBC, the late professor Stephen Hawking said, "The development of full artificial intelligence could spell the end of the human race."

Similarly, AI pioneers Yoshua Bengio, Geoffrey Hinton, and Yann LeCun, collectively known as the Godfathers of AI, have often warned about the catastrophic outcomes of creating AGI, with Hinton even comparing AGI's dangers to that posed by nuclear weapons.

Today, most thinkers in the field advocate for stringent regulations to ensure that the development of AGI is in line with human values and safety standards.

Relevance: GS Prelims & Mains Paper III; Science & Technology

Source: Indian Express

## **7. Cybercrimes in trend: How criminals based in southeast Asia are trapping Indians online**

### **Why in News?**

A large number of Indians are falling prey to financial fraud carried out over the Internet, allegedly by criminals based in three contiguous southeast Asian countries: Myanmar, Laos, and Cambodia.

In its analysis of trends seen from January to April, the Indian Cybercrime Coordination Centre (I4C) found that 46% of such frauds reported in this period — in which the victims cumulatively lost an estimated Rs 1,776 crore — originated in these three countries.

### About I4C

The I4C works under the Union Home Ministry “to create an effective framework and ecosystem for the prevention, detection, investigation, and prosecution of cybercrime in the country”.

### Crime Data

National Cybercrime Reporting Portal (NCRP) data show 7.4 lakh complaints were made between January 1 and April 30 this year, while 15.56 lakh complaints were received in all of 2023.

A total 9.66 lakh, 4.52 lakh, 2.57 lakh, and 26,049 complaints were received in 2022, 2021, 2020, and 2019 respectively.

### Types of cybercrime

The I4C has identified four broad categories of fraud originating from these three countries, following certain modus operandi.

**Trading scam:** The alleged fraudsters issued ads on social media offering free trading tips, often using pictures of well-known stock market experts and fake news articles. The victims were asked to join a WhatsApp group or Telegram channel, where they would receive “tips” on making money by investing in shares.



After a few days, the victims would be asked to install some specific trading applications and register themselves in order to receive further guidance on making “huge” profits. The victims would start “investing” on the apps, following recommendations made by the cybercriminals. None of these apps would be registered with the stock market regulator

Securities and Exchange Board of India (SEBI), but the victims typically neglected to check this.

The victims deposited money in particular bank accounts to “buy shares”, and were shown some fake profits in their digital wallets. But when they tried to withdraw this “money”, they were shown a message that they could do so only after they had accumulated a certain amount, say Rs 30-50 lakh, in their wallet. This meant the victim had to keep “investing” and, sometimes, had to also pay “taxes” on the “profits” they were purportedly earning.

**Digital arrest:** Potential victims would get a call in which the caller would tell them that the victims had sent or were the intended recipients of a parcel containing illegal goods, drugs, fake passports, or other contraband.

In some cases, relatives or friends of the target would be told that the target had been found to be involved in a crime.



Once they had the target — who would be chosen carefully — in their net, the criminals would contact them over Skype or another video calling platform. They would pose as law enforcement officials, often wearing uniforms and calling from places resembling police stations or government offices, and demand money for a “compromise” and “closure of the case”.

In certain cases, the victims were “digitally arrested”, which meant they were forced to stay visible to the criminals until their demands had been met.

**Investment scam (task-based):** Victims typically received a WhatsApp message from an overseas number, purportedly belonging to a representative of a company, with an offer to earn a large sum of money, say, Rs 30,000, while working from home.

Those who responded were told they would have to help boost the social media ratings of some entities by giving them a five-star rating. After the “task” was completed, victims received a “code”, which they were asked to share with their “admin” on Telegram.

The “admin” would ask the victims where they wanted to receive their money and, after a few five-star rating “tasks” on YouTube or Google reviews etc. were completed, would deposit a small sum, perhaps Rs 500.

At this point, the victim would be asked to participate in a “pre-paid” or “merchant” task, in which a higher return would be promised after a certain amount — which could be between Rs 1,500 and Rs 1 lakh — had been deposited. Victims who refused were blocked, but those who chose to participate were told the money and profit would come to them in a day.

However, the following day, the victims would be told that their “performance score” was not good enough, and they needed to improve it by participating in new tasks so they could get their money.

**Romance/dating scam:** This was a somewhat more conventional trap, though laid online. The victims, who were male, were lured by people they thought were foreign women. These “women” would propose relationships or marriage, and then make plans to come and meet in person. However, the victim would typically get a call from the “woman” that she had been detained at the airport, and needed money to get out.

On its website, the US FBI, which has dealt with such cases, says romance scamsters are experts at appearing genuine, caring, and believable. These con artists lurk on most dating and social media sites, and seek to quickly gain the victim's trust.

### **Why Southeast Asia**

I4C zeroed in on Myanmar, Laos, and Cambodia after analysing data on its National Cybercrime Reporting Portal (NCRP), inputs received from states and Union Territories, and some open-source information.

The I4C has found that many web applications used in the crime had Mandarin characters. Thus, Chinese connection cannot be ruled out.

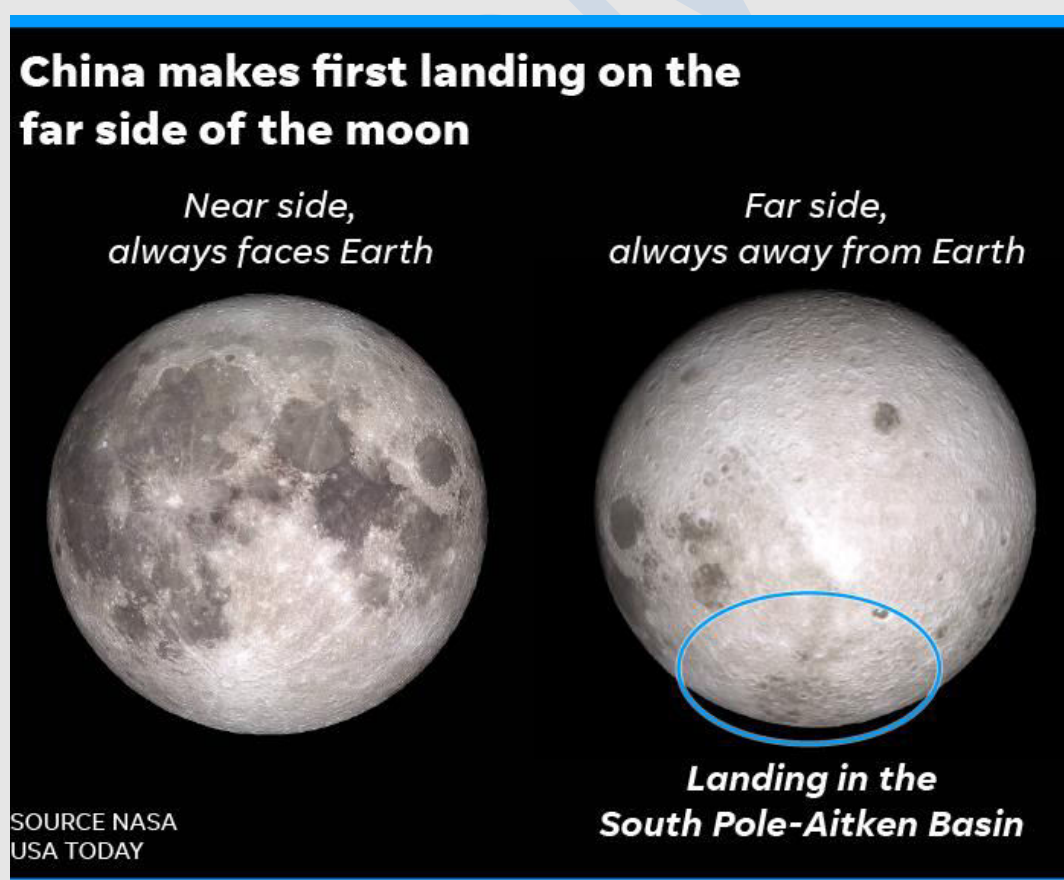
Relevance: GS Prelims & Mains Paper III; Science & Technology

Source: Indian Express

## **8. Why has China sent a mission to the far side of the Moon?**

### **Why in News?**

Recently, China launched its second mission to the far side of the Moon. If successful, it will be the world's first mission to bring back samples from the part of the Moon that the Earth never gets to see.



The mission, known as Chang'e-6, lifted off from the Wenchang Space Launch Center. Around 30 minutes after the launch, the spacecraft separated from the rocket and began its five-day-long journey towards the Moon.

### **Why explore the far side of the Moon?**

The Moon's far side is often referred to as the dark side because it cannot be seen from the Earth, not because it does not catch the Sun's rays. The Moon is tidally locked with the Earth and therefore, we see only one side of the Moon, also known as the near side.

The far side has been under the spotlight in recent years as it is very different from the near side.

Examining the samples from the far side can help scientists solve mysteries about the origin and evolution of the Moon — till now, scientists have only been able to analyse samples from the near side. The far-side samples can also give answers to the longstanding question: why is it different from the near side?

### **What will the Chang'e-6 mission do?**

The Chang'e-6 is a 53-day-long mission. After reaching the Moon's orbit, the mission's orbiter will circle the natural satellite while its lander will descend into the 2,500-kilometre-wide South Pole-Aitken basin on the lunar surface.

After collecting samples through scooping and drilling, the lander will launch an ascent vehicle, which will transfer the samples to the orbiter's service module. This module will then return to the Earth.

China is the only country to achieve a soft-landing on the far side of the Moon. In 2019, its Chang'e-4 mission landed on the region and explored the Moon's Von Karman crater with the help of a rover.

Relevance: GS Prelims & Mains Paper III; Science & Technology

Source: Indian Express

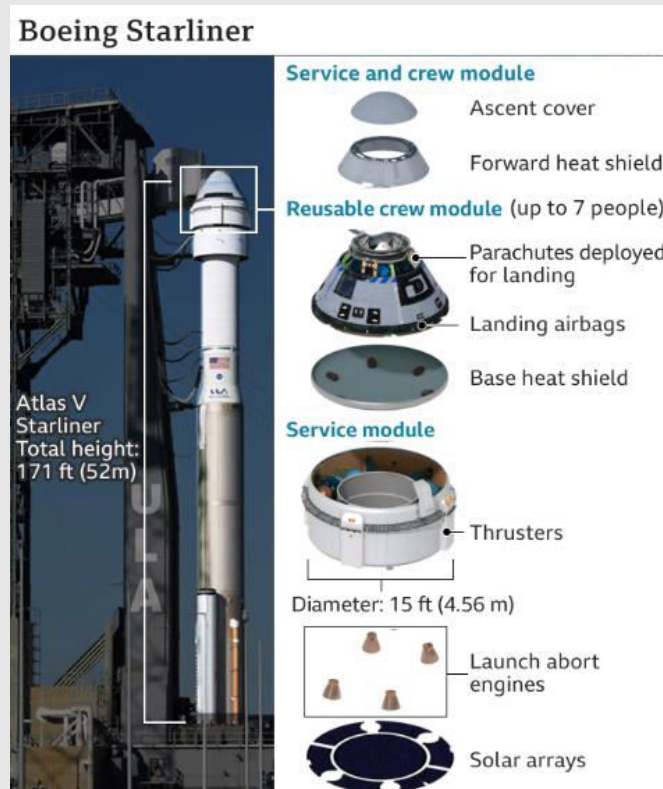
## **9. Why is the launch of Boeing's Starliner significant?**

### **Why in News?**

Boeing's Starliner spacecraft, carrying two NASA astronauts, will be launched by an Atlas V rocket from the Kennedy Space Center in Cape Canaveral, Florida, to the International Space Station (ISS) on May 7.

This will be Starliner's first crewed test flight. If the mission is successful, Boeing will become the second private firm to be able to provide NASA crew transport to and from the ISS, alongside Elon Musk's SpaceX.

The stakes are high, especially for Boeing. The image of its airline business has been tarnished by a recent series of safety and regulation issues. The company's space sector is also under pressure as the launch of Starliner's crewed test flight has been delayed for several years due to technical setbacks.



### But first, what is Boeing's Starliner?

Starliner is a partially reusable crew capsule, officially known as CST-100 (crew space transportation). The capsule, which is 5 m tall and 4.6 m wide, consists of two modules. One is the crew module, which can accommodate seven astronauts — although, for trips to the ISS, it will be modified for four astronauts and cargo. The crew module can be reused up to 10 times, with a six-month turnaround.

The other is the service module — the powerhouse of the spacecraft — which supplies electricity, propulsion, thermal control, air, and water in space. This module is expandable.

### What is the mission?

The main objective of the mission is to see how Starliner performs in space with a crew onboard. It is supposed to dock with the ISS — a day after the launch — for around 10 days before it returns to the Earth.

But before Starliner automatically docks with the space station, the crew members, who are NASA astronauts Barry "Butch" Wilmore and Sunita Williams, will test flying it manually. The crew will also "test seats, assess onboard life-support and navigation systems, as well as evaluating the system that moves cargo into the ISS. The space suits worn by Wilmore and Williams will also be tested — these blue suits are around 40% lighter than their predecessors and have touchscreen-sensitive gloves.

During the return journey, NASA and Boeing will be keeping an eye on the spacecraft's heat shield and parachutes. They will slow the descent before airbags open to soften the moment of impact with the ground — unlike other crew capsules, Starliner will land on the ground and not in the sea.

### What caused the delay?

After NASA retired its space shuttle fleet in 2011, it invited commercial space companies to help it transport astronauts and cargo to the ISS. Two companies got the contracts: SpaceX

and Boeing. While SpaceX has been ferrying astronauts to and from the ISS since 2020, Boeing is yet to successfully launch its first crewed flight, something which may change soon.

Starliner's first uncrewed flight itself came after four years of delay. Although it was set to take off in 2015, the company postponed it to 2019. When it did finally happen, a series of software and hardware failures thwarted the spacecraft from getting into its planned orbit and docking with the ISS. As a result, Boeing delayed the launch of Starliner's first crewed flight.

### **Why is the mission significant?**

The mission's success is crucial for both NASA and Boeing. Currently, NASA has only one private company, SpaceX, which can take its astronauts and cargo to the ISS. Starliner getting approval for conducting routine flights to and from the ISS would give NASA a backup and option to not depend on one company or vehicle for space launches.

If Starliner completes its objectives, it will also help Boeing challenge SpaceX's dominance in the commercial space industry.

Relevance: GS Prelims; Science & Technology

Source: Indian Express

## **10. GOLDENE: A sheet of gold that is only one atom thick**

### **Why in News?**

For the first time, researchers have created a free-standing sheet of gold that is only one atom thick. This makes gold the first metal to be formulated into (freestanding) 2D sheets — opening up a host of exciting possibilities for the future.

### **Developing goldene**

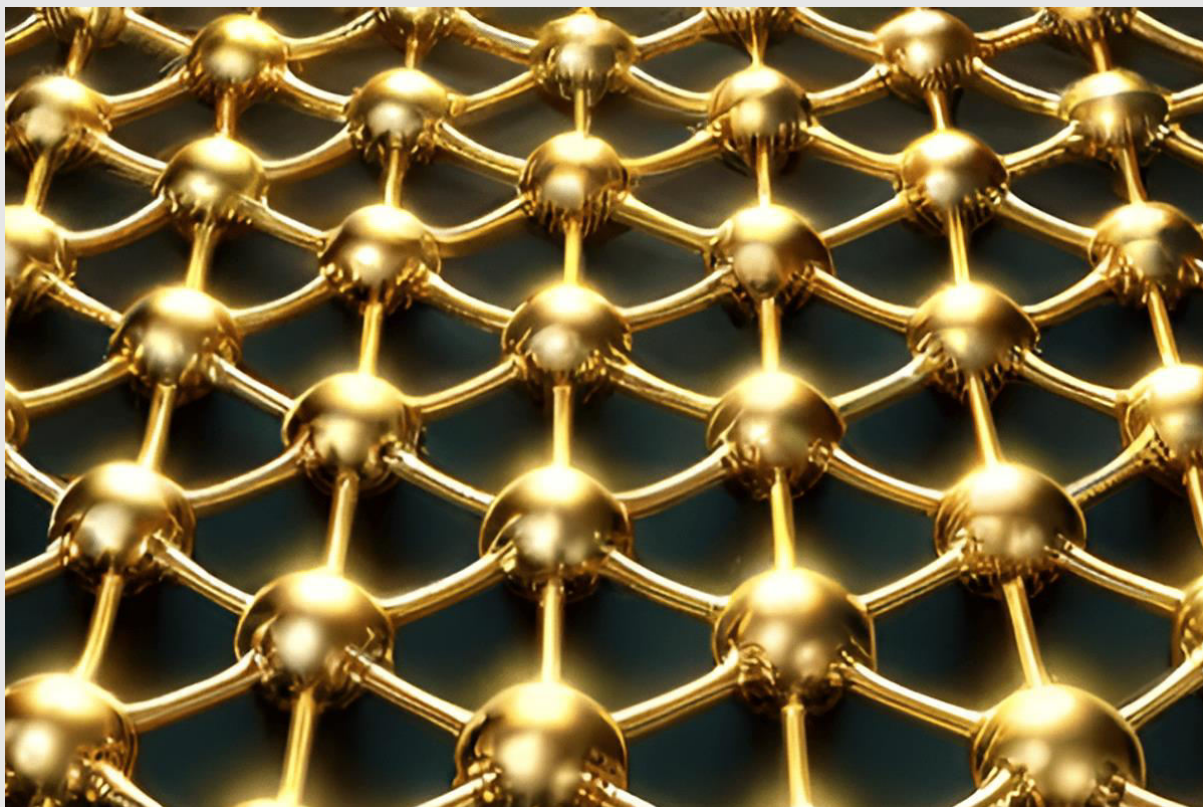
Creating 'goldene', as the one-atom thick material has been named, was not easy for the scientists. It is not that such 2D materials have not been created before.

Since the 2004 development of graphene, the atom-thin material made of carbon, scientists have identified hundreds of 2D materials.

However, coming up with atom-thin metallic sheets has been a challenge, due to metals' tendency to cluster together to make nanoparticles instead. While scientists have previously produced gold sheets sandwiched between other materials, "goldene is the first free-standing 2D metal.

### **Method of Creation**

To create goldene, researchers first sandwiched an atomic monolayer of silicon between layers of titanium carbide. When they deposited gold on top of this sandwich structure, the gold atoms diffused into the material and replaced the silicon atoms, forming a trapped monolayer of gold atoms.



Subsequently, scientists etched away the titanium carbide layers to create a free-standing, one atom thick layer of gold. This was done with the help of an age-old Japanese technique used to forge katanas and high-quality knives, using a chemical popularly known as Murakami's reagent.

These sheets of goldene are roughly 100 nanometres thick (a nanometre is a billionth of a metre), approximately 400 times thinner than the thinnest commercially available gold leaf.

### **Many potential applications**

Scientists believe that the super thin, super light material can potentially revolutionise the electronics industry. Goldene holds promise because it's much more economically viable than thicker, three-dimensional gold. This means that electronics, which use gold due to its electrical conductivity, can potentially use lesser amounts for the same purpose.

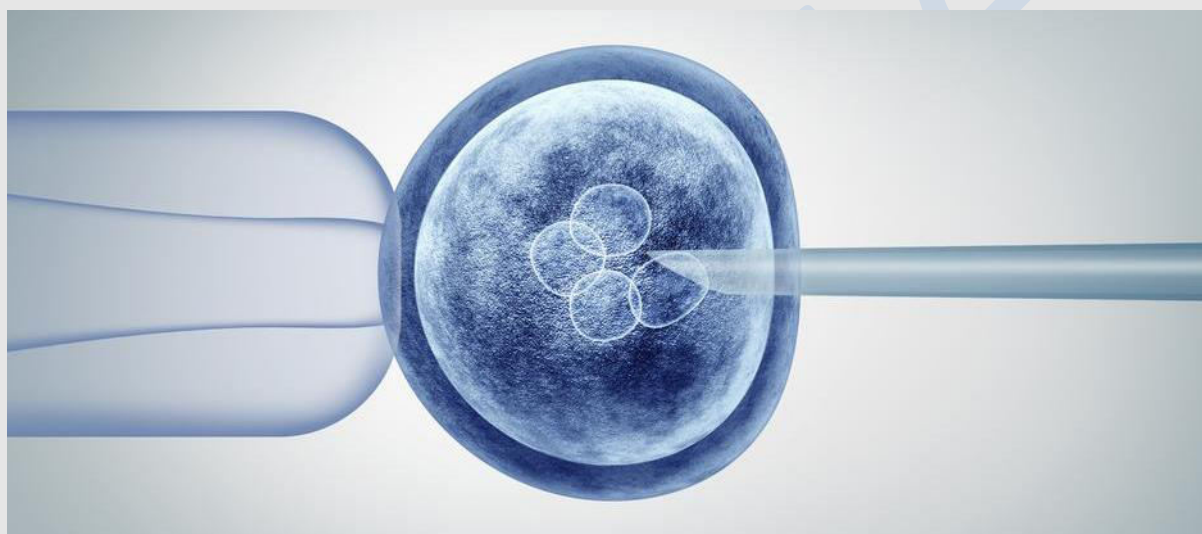
Moreover, the technique used by the scientists to create goldene can, in theory, also be applicable to other metallic objects. Scientists are already working to make 2D sheets of iridium and platinum.

Lastly, goldene possibly also has some special properties, like other previously developed 2D materials. This is due to the fact that each gold atom, in this case, has only six neighbouring atoms, compared to 12 in a three-dimensional crystal. Scientists say that future applications could include carbon dioxide conversion, hydrogen-generating catalysis, selective production of value-added chemicals, hydrogen production, water purification, etc.

## 11. How a CRISPR gene editing trial was able to treat some cases of inherited blindness

### Why in News?

Scientists have said they used a human gene editing tool, CRISPR-Cas9, to restore vision in people with a rare form of inherited or congenital blindness. The researchers said 11 out of the 14 people in a clinical trial experienced improved vision, without serious adverse side effects. They said the study was also the first to use gene therapy to treat children who had been born with a form of blindness.



### CRISPR gene editing brings 'BRILLIANCE'

The trial was called "BRILLIANCE" and 12 adults and two children, who had a rare form of inherited blindness, known as Leber congenital amaurosis (LCA), participated in it. LCA affects about one in 40,000 people and causes severe vision loss at an early age. This blindness is caused by a gene mutation that prevents a protein from functioning properly. That protein — CEP290 — is critical for sight.

Participants in the study received a single dose of a CRISPR gene therapy called EDIT-101. CRISPR-Cas9 is a precise way of altering DNA. It cuts out specific strands of DNA — the thing that makes us who we are — and replaces them with a new strands.

In the case of EDIT-101, the treatment cuts out the mutation in CEP290 and inserts a healthy strand of DNA back into the gene. This restores normal function of the protein CEP290, allowing the retina to detect light.

In 2020, Emmanuelle Charpentier and Jennifer A. Doudna were awarded the Nobel Prize in chemistry for discovering CRISPR-Cas9.

### **The future of CRISPR gene editing**

More than 200 people have been treated with experimental CRISPR technologies. But so far, only one CRISPR treatment has been approved for clinical use — Casgevy, a treatment for sickle-cell disease — which has been available in the US, the UK, and the EU since December 2023.

Scientists have said they are entering a new phase in genome editing technologies, which they say they can safely help and cure — not just treat — patients with a variety of diseases. Ongoing clinical trials are testing other CRISPR therapies for HIV/AIDS, diabetes, cancer, cardiovascular diseases, and antibiotic resistance.

Relevance: GS Prelims & Mains Paper III; Science & Technology

Source: Indian Express

### **12. West Nile fever cases detected in Kerala: What is the disease, how can it be prevented?**

#### **Why in News?**

The Kerala government recently said that cases of West Nile fever have been reported from three districts in the state – Thrissur, Malappuram and Kozhikode. One person died of the viral disease on Monday and six other cases have been reported in recent days.

According to the health department, West Nile virus can cause a fatal neurological disease in humans. However, approximately 80 percent of those infected will not show any symptoms.

#### **What is the West Nile Virus?**

The West Nile Virus (WNV) is a mosquito-borne, single-stranded RNA virus. It is a flavivirus and is related to the viruses that cause Japanese encephalitis and yellow fever.

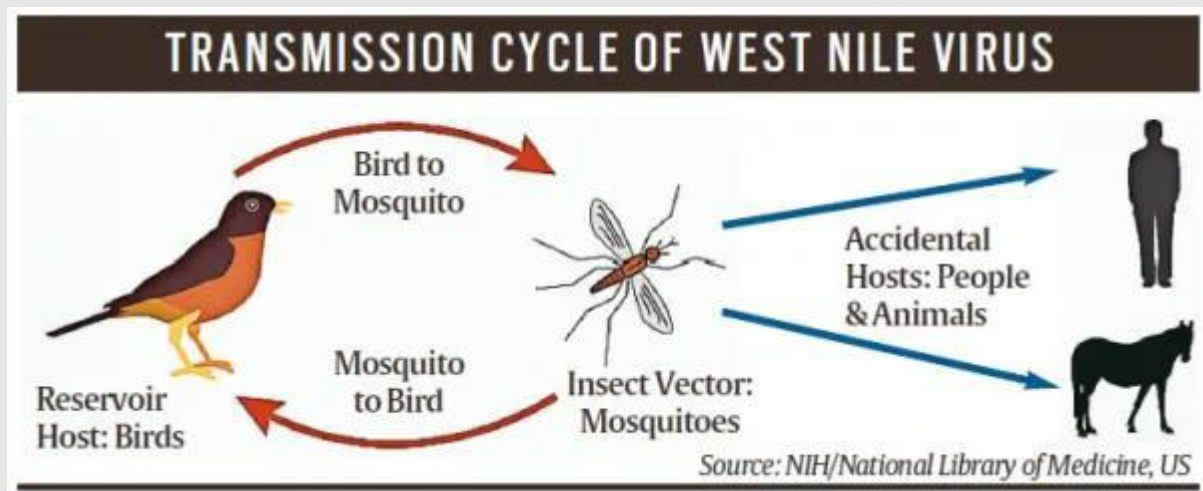
#### **How does the West Nile Virus spread?**

Culex species of mosquitoes act as the principal vectors for transmission. Infected mosquitoes spread the disease among humans and animals, including birds, which are the reservoir host of the virus.

Mosquitoes become infected when they feed on infected birds, which circulate the virus in their blood for a few days. The virus eventually gets into the mosquito's salivary glands. During later blood meals (when mosquitoes bite), the virus may be injected into humans and animals, where it can multiply and possibly cause illness.

WNV can also spread through blood transfusion, from an infected mother to her child, or through exposure to the virus in laboratories. It is not known to spread by contact with infected humans or animals.

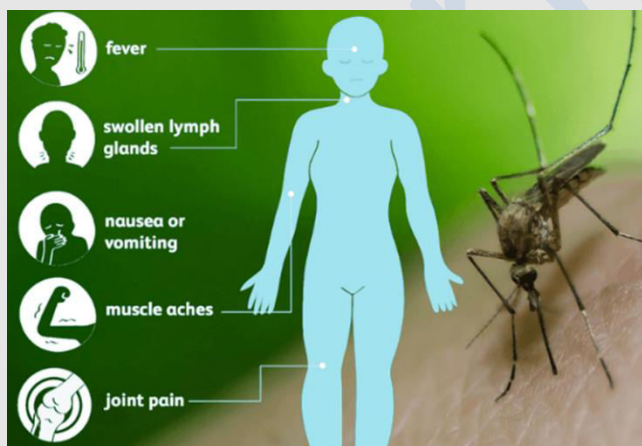
According to the US Centers for Disease Control and Prevention (CDC), it does not spread "through eating infected animals, including birds."



The CDC notes that the incubation period for WNV disease is typically 2 to 6 days, but can range from 2 to 14 days, and can be several weeks in immunocompromised people.

To date, no human-to-human transmission of WNV through casual contact has been documented.

### What are the symptoms of West Nile fever?



The disease is asymptomatic in 80% of the infected people. The rest develop what is called the West Nile fever or severe West Nile disease. For them, the symptoms include fever, headache, fatigue, body aches, nausea, rash, and swollen glands.

It usually turns fatal in persons with comorbidities and immuno-compromised persons (such as transplant patients). But the death rate is relatively low compared to Japanese encephalitis,

which shows similar symptoms.

### What is the treatment for West Nile Virus disease?

No WNV-specific prophylaxis, treatment or vaccine is available. Only supportive treatments are given to neuroinvasive WNV patients. Health authorities globally advise for personal protective measures to reduce the risk of mosquito bites, such as using mosquito repellents. Public health departments are to also ensure larval source reduction, especially at breeding and resting sites for the mosquito vectors.

### **What are some preventive measures against West Nile Virus?**

In most countries, the peak for WNV infections generally coincides with the period when mosquito vectors are most active and the ambient temperature is sufficiently high for virus multiplication. Since WNV outbreaks in animals precede human cases, the establishment of an active animal health surveillance system to detect new cases in birds and horses is considered essential.

Health Minister George also suggested wearing clothing that completely covers the body, use of mosquito nets and repellants, and keeping one's home and surroundings clean.

### **Why is it called West Nile Virus?**

The virus was first isolated in a woman in the West Nile district of Uganda in 1937. It was identified in birds (crows and columbiformes like doves and pigeons) in the Nile delta region in 1953. Before 1997, WNV was not considered pathogenic for birds, but then, a more virulent strain caused deaths of different bird species in Israel, presenting signs of encephalitis and paralysis.

WNV outbreak sites are found along major bird migratory routes. Today, the virus is found commonly in Africa, Europe, the Middle East, North America, and West Asia.

Relevance: GS Prelims; Science

Source: Indian Express

## **13. ISRO successfully tests 3D-printed rocket engine**

### **Introduction**

Indian Space Research Organisation (ISRO) recently successfully tested a liquid rocket engine made with the help of additive manufacturing technology — commonly known as 3D printing.

The engine, PS4, which is used as the engine for the fourth stage of the Polar Satellite Launch Vehicle (PSLV), was redesigned by ISRO for production using 3D printing.

### **What is 3D printing?**

3D printing is a process that uses computer-created design to make three-dimensional objects layer by layer. It is an additive process, in which layers of a material like plastic, composites or bio-materials are built up to construct objects that range in shape, size, rigidity, and colour.

### **How is 3D printing done?**

To carry out 3D printing, one needs a personal computer connected to a 3D printer. All they need to do is design a 3D model of the required object on computer-aid design (CAD) software and press 'print'. The 3D printer does the rest of the job.

### **Additive and Subtractive manufacturing**

3D printers construct the desired object by using a layering method, which is the complete opposite of the subtractive manufacturing processes. Think about the great Italian sculptor

Michelangelo making his masterpiece sculpture David. He famously carved out the colossal statue from one single block of marble. This is an ideal example of the subtractive manufacturing method.



3D printers, on the other hand, build from the bottom up by piling on layer after layer until the object looks exactly like it was envisioned.

#### **How different from 2D printers?**

The (3D) printer acts generally the same as a traditional inkjet printer in the direct 3D printing process, where a nozzle moves back and forth while dispensing a wax or plastic-like polymer layer-by-layer, waiting for that layer to dry, then adding the next level. It essentially adds hundreds or thousands of 2D prints on top of one another to make a three-dimensional object.

Notably, these machines are capable of printing anything from ordinary objects like a ball or a spoon to complex moving parts like hinges and wheels.

#### **Why did ISRO use 3D printing to build the PS4 engine?**

The technology helped ISRO bring down the number of parts in the engine from 14 to a single piece. The space agency was able to eliminate 19 weld joints and saved 97% of raw material. It also reduced the overall production time by 60%.

Relevance: GS Prelims & Mains Paper III; Science & Technology

Source: Indian Express

#### **14. What FLiRT, a new set of Covid-19 variant detected in the US**

## Introduction

For most of this year, the JN.1 variant of the coronavirus accounted for an overwhelming majority of COVID-19 cases. But now an offshoot variant called KP.2 is taking off. The variant, which made up just 1% of cases in the United States in mid-March, now makes up more than one-quarter.

KP.2 belongs to a subset of COVID variants that scientists have cheekily nicknamed "FLiRT," drawn from the letters in the names of their mutations. They are descendants of JN.1, and KP.2 is "very, very close" to JN.1.

While cases currently don't appear to be on the rise, researchers and physicians are closely watching whether the variant will drive a summer surge.



## The Current Spread of COVID

Experts said it would take several weeks to see whether KP.2 might lead to a rise in COVID cases and noted that we have only a limited understanding of how the virus is spreading. Since the public health emergency ended, there is less robust data available on cases, and doctors said fewer people were using COVID tests.

## The Latest on Symptoms and Long COVID

Doctors said the symptoms of both KP.2 and JN.1 — which now makes up around 16% of cases — are most likely similar to those seen with other variants. These include sore throat, runny nose, coughing, head and body aches, fever, congestion, fatigue and, in severe cases, shortness of breath.

Fewer people lose their sense of taste and smell now than did at the start of the pandemic, but some people will still experience those symptoms.

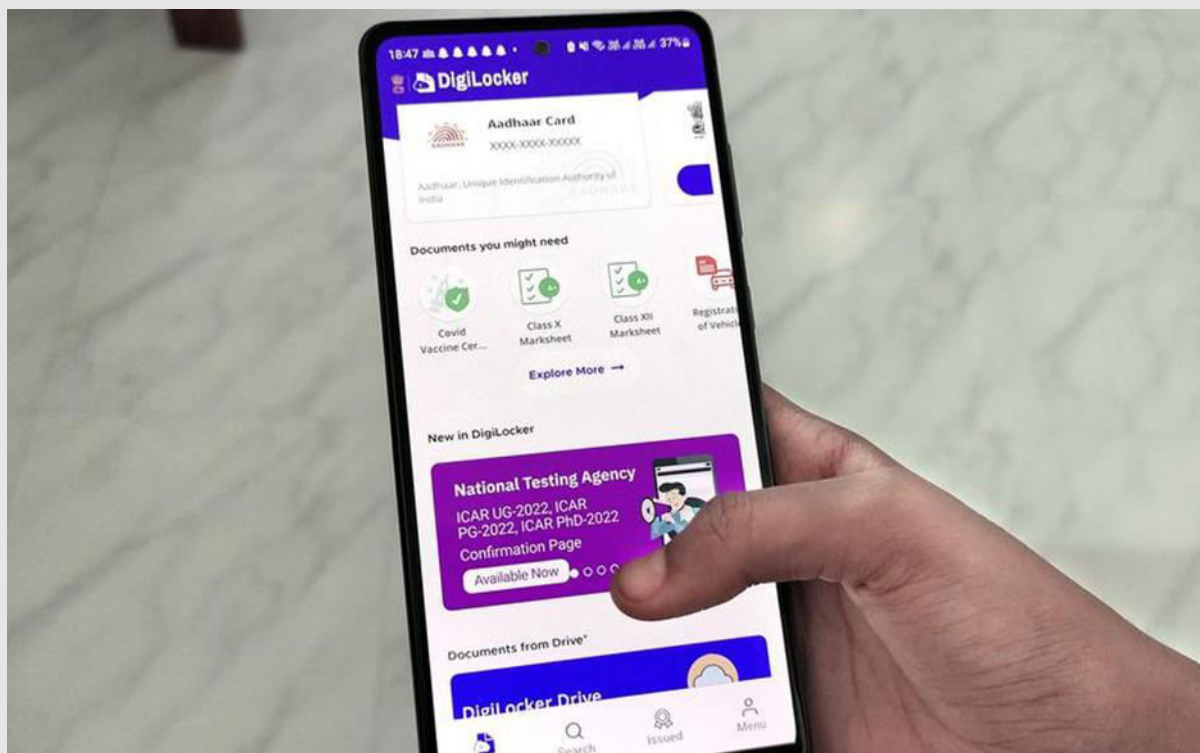
Relevance: GS Prelims; Science & Technology

Source: Indian Express

## 15. What is DigiLocker and does it keep your data and documents safe?

### Why in News?

As thousands of students across the country rush to their computers to check their board exam results, many of them now have the option of viewing their scores and even obtaining their verified marksheets through the Indian government's DigiLocker platform. While 10th standard students from the State Board of Tamil Nadu can get their 2024 results from DigiLocker, this facility is coming soon to the students of the CBSE board.



### **What is DigiLocker and who uses it?**

The DigiLocker platform, launched in 2015, operates as an app to store users' digital records. The app can be used when applying for a passport, reviewing marksheets, or proving one's identity during travel. The app is part of the Indian government's paper-free initiative aimed at letting users access, verify, and store essential documents in a digital wallet so that they are easy to retrieve and present to officials when required.

As per DigiLocker's website: "The issued documents in DigiLocker system are deemed to be at par with original physical documents as per Rule 9A of the Information Technology (Preservation and Retention of Information by Intermediaries providing Digital Locker facilities) Rules, 2016 notified on February 8, 2017 vide G.S.R. 711(E)."

### **Why are users adopting DigiLocker?**

DigiLocker is a paperless solution meant to ensure that a user can access the latest and updated versions of their documents online in order to prove their identity and their credentials at any given moment. To the verifying officials, this helps in keeping at bay fake, poor quality print copies, and outdated documents that miss key details.

Also, for the user, this app helps eliminate the need to carry separate sets of documents while they are on the move. Instead, the documents can be fetched or stored in a local device. In theory, these digital documents are no less valid than their originals. Additionally, the DigiLocker website noted that using the app can help with faster service delivery.

### **How secure is DigiLocker?**

DigiLocker is a flagship initiative of the Ministry of Electronics & IT (MeitY) under the Digital India programme, meaning it is a government approved application and is ideally maintained with strict security protocols framed by officials.

According to DigiLocker's own website, it has standard security measures in place including encryption, multi-factor authentication (OTP verification), timed log outs, and security audits. However, any government database that stores citizens' information and documents is inevitably an attractive target for hackers who steal user data and sell it on the dark web.

### **What are some issues with DigiLocker?**

People who are not used to smartphones or those find it difficult to navigate apps may struggle to download DigiLocker, use OTPs, and fetch their credentials unless they have assistance. Those who cannot read are also at a disadvantage.

Another hurdle is that people with multiple names, aliases, inconsistent spellings, or even slightly mismatched certificates may not be able to smoothly fetch their documents via DigiLocker as the app needs the submitted details to match the issuer's data exactly. Users have in the past complained that even subtle changes such as capitalised letters and initials can lead to failure.

Furthermore, there is no uniformity in how different government authorities and law enforcement bodies in India review official documents. While some insist on being shown virtual documents through DigiLocker, others claim the original hard copies are mandatory.

Relevance: GS Prelims & Mains Paper III; Science & Technology

Source: The Hindu

## **16. First human recipient of pig kidney transplant dies: What is xenotransplantation, why pigs are used**

### **Why in News?**

The first recipient of a modified pig kidney transplant passed away recently, around two months after the surgery was carried out. The family members of 62-year-old Richard "Rick" Slayman and the Massachusetts General Hospital, where the procedure was performed, did not link the transplant operation to his death.

### **What is xenotransplantation?**

According to the US Food and Drug Administration (FDA), "Xenotransplantation is any procedure that involves the transplantation, implantation or infusion into a human recipient of either (a) live cells, tissues, or organs from a nonhuman animal source, or (b) human body fluids, cells, tissues or organs that have had ex vivo contact with live nonhuman animal cells, tissues or organs."

Essentially, it is the use of animal cells and organs to heal humans. Xenotransplantation involving the heart was first tried in humans in the 1980s. The need for such a procedure was

felt because of the significant gap between the number of transplantations needed by patients and the availability of donor organs.

According to one estimate, In the United States alone, there are nearly 90,000 people waiting for a kidney transplant, and more than 3,000 people die every year while still waiting.

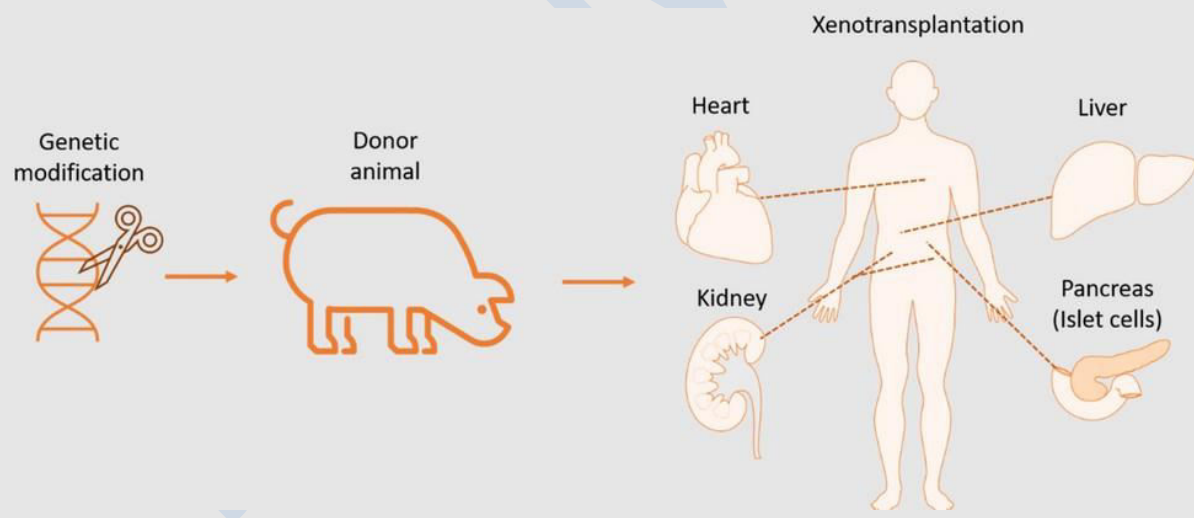
### **How does xenotransplantation happen?**

Sewing a pig kidney into a donated body isn't much different than a regular transplant, and "post-surgery immune-suppressing drugs are standard, too."

But there are several crucial additional steps. For one, the animal organ selected has to undergo genetic modifications, so that the human body does not reject it.

A report from the Harvard Medical School, whose physicians were involved in Slayman's operation, said 69 genomic edits were made to the pig kidney in his case. The gene editing technology CRISPR-Cas9 was employed to "Remove certain pig genes that produce sugars with antibodies our immune systems react to" and "Add certain human genes to improve the kidney's compatibility with humans."

Even after the operation, constant monitoring needs to be done to check the body's response to the organ.



### **Why are pigs often used for xenotransplantation?**

Pig heart valves have been used for replacing damaged valves in humans for over 50 years now. The pig's anatomical and physiological parameters are similar to that of humans, and the breeding of pigs in farms is widespread and cost-effective.

Also, many varieties of pig breeds are farmed, which provides an opportunity for the size of the harvested organs to be matched with the specific needs of the human recipient.

In January 2022, the first xenotransplantation of a genetically-modified pig heart was done. However, the patient passed away after two months due to a range of factors, including being tainted with a latent virus in the pig heart, which may have contributed to the dysfunction of the transplant.

### **What are the complications in xenotransplantation?**

First, it has to be ensured that the body does not reject the organ. One method of doing this is embedding the pig's thymus gland, responsible for "educating" the immune system, underneath the outer layer of the kidney. This helps keep away any new or delayed immune responses.

There are concerns of potential infection of recipients with both recognised and unrecognised infectious agents and the possible subsequent transmission to their close contacts and into the general human population.

Another public health concern is the possibility of cross-species infection by retroviruses, which may be latent and lead to disease years after infection.

Relevance: GS Prelims & Mains Paper III; Science & Technology

Source: Indian Express

## **17. GPT-4o, OpenAI's newest AI model that makes ChatGPT smarter and free for all**

### **Why in News?**

OpenAI introduced its latest large language model (LLM) called GPT-4o, billing it as their fastest and most powerful AI model so far. The company claims that the new model will make ChatGPT smarter and easier to use.



Until now, OpenAI's most advanced LLM was the GPT-4, which was only available to paid users. However, the GPT-4o will be freely available. LLMs are the backbone of AI chatbots. Large amounts of data are fed into these models to make them capable of learning things themselves.

### **What is GPT-4o?**

GPT-4o ("o" stands for "Omni" here) is being seen as a revolutionary AI model, which has been developed to enhance human-computer interactions. It lets users input any combination of text, audio, and image and receive responses in the same formats. This makes GPT-4o a multimodal AI model – a significant leap from previous models.

### How is GPT-4o better?

1. Unlike its predecessors that required multiple models to handle different tasks, GPT-4o uses a single model trained end-to-end across various modalities – text, vision, and audio.

Essentially, this means the GPT-4o comes with an integration that allows it to process and understand inputs more holistically. For example, GPT-4o can understand tone, background noises, and emotional context in audio inputs at once. These abilities were a big challenge for earlier models.

2. When it comes to features and abilities, GPT-4o excels in areas like speed and efficiency as it responds to queries as fast as a human does in conversation, in around 232 to 320 milliseconds. This is a big leap over previous models, which came with response times of up to several seconds.

3. It comes with multilingual support, and shows significant improvements in handling non-English text, making it more accessible to a global audience.

4. The GPT-4o also features enhanced audio and vision understanding. During the demo session at the live event, ChatGPT solved a linear equation in real-time when the user was writing it on paper. It could gauge the emotions of the speaker on camera and identify objects.

### What are GPT-4o's limitations?

Although it is claimed to be the most advanced model, GPT-4o is not without limitations. On its official blog, OpenAI said that GPT-4o is still in the early stages of exploring the potential of unified multimodal interaction, meaning certain features like audio outputs are initially accessible in a limited form only, with preset voices.

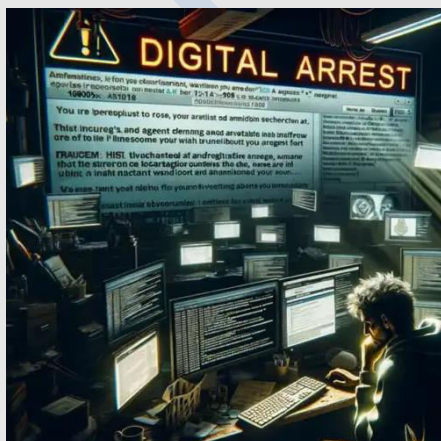
Relevance: GS Prelims; Science & Technology

Source: Indian Express

## 18. What is 'digital arrest'?

### Why in News?

Following increasing reports of "digital arrests" by cybercriminals posing as law enforcement officers, the central government has collaborated with Microsoft to block more than 1,000 Skype IDs used for online intimidation, blackmail, and extortion. The government has advised people to file a complaint immediately after an incident.



### What is Digital arrest?

Online frauds and criminals typically call potential victims and tell them that they have sent or are the intended recipients of a parcel containing illegal goods, drugs, fake passports or any other contraband item. In some cases, the criminals contact relatives or friends of the target and

tell them that the target has been found to be involved in a crime or an accident, and is in their custody.

The criminals, who often use pictures or identities of police personnel to convey authenticity, usually demand money from the target for a 'compromise' and closure of the case. In certain cases, the victims are "digitally arrested", and forced to stay visible over Skype or other video conferencing platforms to the criminals until their demands are met.

The cybercriminals are also known to use studios that look like police stations or government offices, and to wear uniforms similar to those of law enforcement agencies.

Victims around the country have reported having lost large sums of money to these criminals.

### **Actions by the Centre**

Intelligence agencies have concluded that the incidents are part of an organised online economic crime racket being run by cross-border crime syndicates. The Indian Cyber Crime Coordination Centre (I4C) under the Ministry of Home Affairs, which coordinates the response to cybercrime in the country, has blocked more than 1,000 Skype IDs linked to such activities, after collaborating with Microsoft.

It is also working to block SIM cards, mobile devices and "mule" accounts used by the cybercriminals. Money mules are "innocent victims who are duped by fraudsters into laundering stolen/ illegal money via their bank account(s).

When such incidents are reported, the money mule becomes the target of police investigations, due to their involvement.

Relevance: GS Prelims & Mains paper III; Science & Technology

Source: Indian Express

## **19. What are AI agents, that power OpenAI's GPT4o and Google's Project Astra?**

### **Introduction**

The recently launched GPT-4o by OpenAI and Project Astra by Google have one thing in common: both are capable of processing the real world through audio and visual inputs and provide intelligent responses and assistance. In other words, the new AI models can have instant real-time conversations with a user.

Known as 'AI agents', GPT-4o and Project Astra have been touted as far superior to conventional voice assistants such as Alexa, Siri, and Google Assistant. The launch of these models marks a new phase in AI — the transition from chatbots to multimodal interactive AI agents.

### **What are AI agents?**

AI agents are sophisticated AI systems that can engage in real-time, multi-modal (text, image, or voice) interactions with humans. Unlike conventional language models, which solely work on text-based inputs and outputs, AI agents can process and respond to a wide variety of inputs including voice, images, and even input from their surroundings.

### **How are they different from large language models?**

While large language models (LLMs) like GPT-3 and GPT-4 have the ability to only generate human-like text, AI agents make interactions more natural and immersive with the help of voice, vision, and environmental sensors. Unlike LLMs, AI agents are designed for instantaneous, real-time conversations with responses much similar to humans.

LLMs lack contextual awareness, while AI agents can understand and learn from the context of interactions, allowing them to provide more relevant and personalised responses. Also, language models do not have any autonomy since they only generate text output. AI agents, however, can perform complex tasks autonomously such as coding, data analysis, etc. When integrated with robotic systems, AI agents can even perform physical actions.

### **What are the potential uses of AI agents?**

AI agents can serve as intelligent and highly capable assistants. They are capable of handling an array of tasks, from offering personalised recommendations to scheduling appointments. Reports suggest that AI agents can be ideal for customer service as they can offer seamless natural interactions, and resolve queries instantly without actually the need for human interventions.

In the field of education and training, AI agents can act as personal tutors, customise themselves based on a student's learning styles, and may even offer a tailored set of instructions. In healthcare, they could assist medical professionals by providing real-time analysis, diagnostic support, and even monitoring patients.

### **Are there any risks and challenges?**

While AI agents showcase immense potential for the future, they are not without risks. Privacy and security are a key area of concern as AI agents gain access to more personal data and environmental information. Just like any AI model, AI agents can carry forward biases from their training data or algorithms, leading to harmful outcomes. As these systems become more common, appropriate regulations and governance frameworks should be laid out to ensure their responsible deployment.

Relevance: GS Prelims; Science & Technology

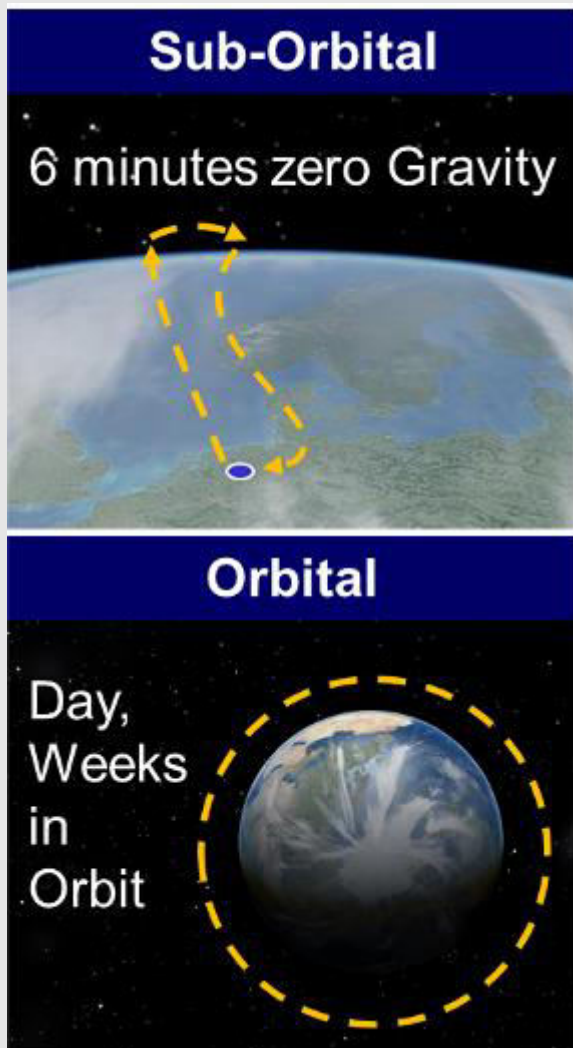
Source: Indian Express

## **20. Gopi Thotakura becomes first Indian space tourist: What is space travel?**

### **Introduction**

Recently, India-born aviator and commercial pilot Gopi Thotakura along with five other space tourists became the latest set of individuals to make a short recreational trip to space.

Thotakura, who is based in the United States, is the first space tourist from India but about 50 others have made such trips, most of them in the last three years.



### **First Indian space tourist**

Thotakura flew aboard a spacecraft of Blue Origin, one of the few private space companies offering a joy ride to people wanting to venture into space. The whole journey, from take off to landing lasted only about ten minutes, during which the spacecraft attained a maximum height of about 105 km from the Earth. The passengers — among them a 90-year-old American — got to experience weightlessness for a few minutes and observe the Earth from a height.

### **Crossed Karman Line**

It was one of the shortest and quickest trips to space. Space travel begins at about 100 km altitude from Earth, after crossing the so-called Karman line, which is widely accepted as the boundary line separating the Earth's atmosphere from outer space. Anything flying below this altitude is called an aircraft while those crossing this line get classified as a spacecraft.

### **Sub-orbital flight**

Thotakura's journey was what is called a sub-orbital space flight. The spacecraft did not get into an orbit around the Earth. It crossed the

Karman line, stayed there for some time, and then descended back to Earth. Most space tourism flights on offer are of this nature only.

But longer joy rides in space are also available. Space tourists have orbited around the Earth, and even spent a few days on the International Space Station (ISS), the permanent space laboratory that goes around the Earth at an altitude of about 400 km.

In fact, the first space tourist, Dennis Tito, an American who paid to travel on a Russian Soyuz spacecraft in 2001, spent over seven days on the ISS. Between 2001 and 2009, the Russians took seven tourists to the space station, and one of them, Charles Simonyi, travelled twice.

However, there was a lull in private space tourism after 2009, till the year 2021 when suddenly it became hyperactive.

### Entry of private space players

Three of the leading players in private space tourism — Virgin Galactic, Blue Origin, and SpaceX — executed their first missions in 2021. Within 10 days of each other in July of that year, Virgin Galactic and Blue Origin launched their respective bosses — Richard Branson and Jeff Bezos — into space. Both these flights were suborbital missions, lasting a few minutes just above the boundary line of space, giving their passengers, four of them on each spacecraft, an experience of weightlessness.

SpaceX did not have a mission of its own, but its Crew Dragon spacecraft was chartered by billionaire Jared Issacman to go into space. Issacman and his three co-passengers circled the Earth for three days, becoming the first set of people to orbit the Earth without the help of professional astronauts.

That same year Japanese billionaire Yusaku Maezawa, and two others, boarded the Russian Soyuz spacecraft to reach the ISS where they spent 12 days.

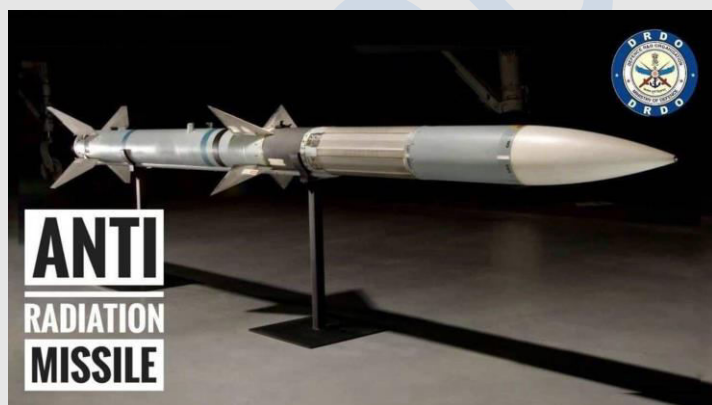
Relevance: GS Prelims & Mains Paper II; Science & Technology

Source: Science & Technology

## 21. RudraM-II air-to-surface missile successfully flight-tested

### Why in News?

Defence Research & Development Organisation (DRDO) successfully flight-tested the RudraM-II air-to-surface missile from Su-30 MK-I fighter aircraft off the coast of Odisha.



### About Rudram – II

RudraM-II is an indigenously-developed solid-propelled air-launched missile system meant for Air-to-Surface role to neutralise many types of enemy assets including source of electromagnetic radiations. A number of state-of-the-art indigenous technologies developed by various DRDO laboratories have been incorporated

in the missile system.

It will be manufactured jointly by Bharat Dynamics Limited and Bharat Electronics Limited after trials and introduction. DRDO also involved Adani Defence and Aerospace under Development cum Production Partner programme for mass production.

Relevance: GS Prelims; Science & Technology

Source: PIB

## 22. Start-up Agnikul launches world's first rocket with fully 3D-printed engine

### Why in News?

The Chennai-headquartered space start-up Agnikul Cosmos Private Ltd. launched the world's first rocket — Agnibaan Sub Orbital Technology Demonstrator (SOrTeD) — with a single-piece 3D-printed engine from Sriharikota. Agnikul is a IIT-Madras incubated start-up.

### Dhanush

Agnibaan SOrTeD is India's first launch from a private launchpad, called 'Dhanush', established by Agnikul.

### Semi-Cryogenic engine

It is also India's first semi-cryogenic engine-powered rocket launch and the world's first single-piece 3D-printed engine designed and built indigenously. Cryogenic engines, such as the one on the Geosynchronous Satellite Launch Vehicle (GSLV), use a propellant combination of liquid hydrogen and liquid oxygen. The semi-cryo system, on the other hand, uses refined kerosene (a rocket-grade version named ISROSENE by ISRO) and liquid oxygen.

Relevance: GS Prelims; Science & Technology

Source: The Hindu

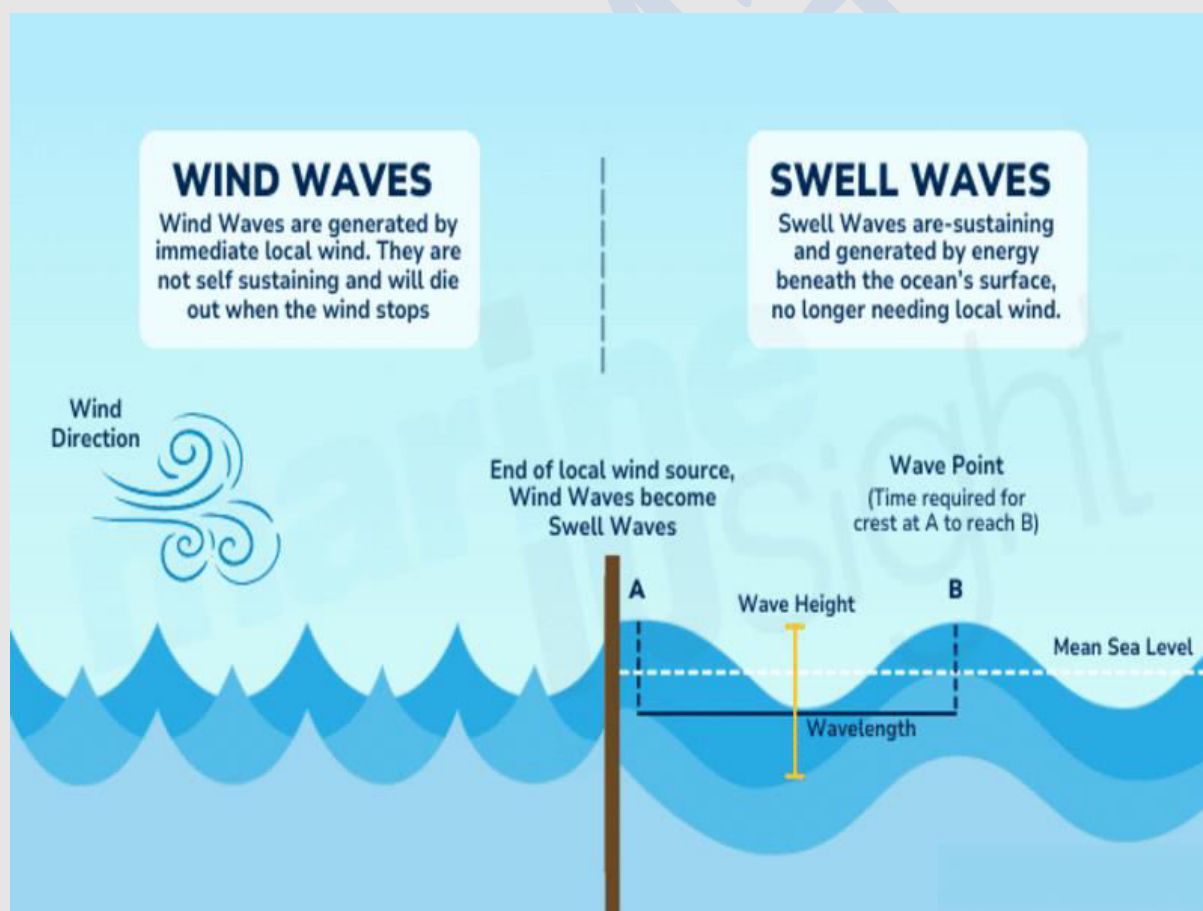
### 1. Swell waves likely to hit several coastal areas over the weekend, says INCOIS: What are these waves?

#### Why in News?

The Indian National Centre for Ocean Information Services (INCOIS) recently forecasted that high sea waves, also known as swell waves, might hit the western coast of India.

INCOIS cautioned fishermen and coastal population and urged for total suspension of operational/recreational activities at beach/nearshore regions.

In March, swell waves led to flooding in several areas of Kerala — the worst affected were Alappuzha, Kollam, and Thiruvananthapuram districts. Such flooding events are called Kallakkadal in Kerala.



#### What are swell waves?

These waves are formed by an ocean swell, hence the name swell surge. Ocean swells occur not due to the local winds, but rather due to distant storms like hurricanes, or even long

periods of fierce gale winds. During such storms, huge energy transfer takes place from the air into the water, leading to the formation of very high waves. Such waves can travel thousands of kilometres from the storm centre until they strike shore.

Usually, states like Kerala witness swell waves as a result of strong winds in the southern part of the Indian Ocean, where an ocean swell is generated, and the waves then travel north to reach the coast in two or three days.

The March swell waves were generated after a low atmospheric pressure system moved over the region from the South Atlantic Ocean — 10,000 kilometres off the Indian coast. The arrival of the pressure system resulted in strong winds, which led to the formation of swell waves of up to 11 metres in height. These waves hit the Kerala coast and Lakshadweep.

To forecast swell waves, INCOIS launched the Swell Surge Forecast System in 2020 which can give forewarning seven days in advance.

### **What is the difference between swell waves and tsunamis?**

Unlike swell waves, a tsunami is a series of enormous waves created by an underwater disturbance usually associated with earthquakes occurring below or near the ocean. Tsunamis are around 10 times faster than swell waves. Although both swell waves and tsunamis slow down near the coast, the latter hit land at 30–50 km/h.

Relevance: GS Prelims & Mains Paper I; Geography

Source: Indian Express

## **2. Why are cancer cases soaring in India?**

### **Cancer capital of the world?**

In fact, a report released by the Indian multinational health care group, Apollo Hospitals, last month labeled the South Asian nation as “the cancer capital of the world.”

The study revealed an alarming picture of declining overall health across the country, pointing to soaring cases of cancer and other non-communicable diseases nationwide.

The report found that at present, one in three Indians is pre-diabetic, two in three are pre-hypertensive, and 1 in 10 struggles with depression. Chronic conditions like cancer, diabetes, hypertension, cardiovascular diseases, and mental health disorders are now so prevalent that they have reached “critical levels”.

The study projected the number of annual cancer cases to rise from almost 1.4 million in 2020 to 1.57 million by 2025. Breast, cervix, and ovarian cancer are the most common forms of cancer affecting women. And among men, they are lung cancer, mouth cancer, and prostate cancer.

Contributory factors to rising incidence are advancing age, unhealthy diets with ultra-processed foods stoking inflammation, exposure to air pollution laden with carcinogens and climate change with increased exposure to ultraviolet radiation.

### **Children increasingly affected by cancer**

The Apollo Hospitals report also details how certain cancers are affecting younger people sooner than in countries like the US and the UK. The median age for lung cancer is 59 in India, for instance, but 70 in the US, 75 in the UK and 68 in China.

Around a million new cases of cancer are diagnosed in India every year, of which about 4% are in children.

Doctors and other health professionals say there is a shortage of pediatric oncology facilities in the country, particularly in government-run hospitals.

### **Regular screenings needed**

Experts said low health screening rates in the country pose a significant challenge for the fight against cancer, and stressed the importance of preventive health care measures.

India has a screening program in place for oral, breast, and cervical cancer, but screening rates are less than 1%, according to national data, despite the WHO's recommendation that at least 70% of women should get tested.

Relevance: GS Prelims & Mains Paper III; Disaster Management

Source: Indian Express

## **3. What is the banned organisation Sikhs for Justice?**

### **Why in News?**

Delhi Lieutenant-Governor V K Saxena recently recommended a National Investigation Agency (NIA) probe against jailed Delhi Chief Minister Arvind Kejriwal for allegedly receiving political funding from Sikhs for Justice (SFJ), a New York-based pro-Khalistan organisation that is banned in India.

Sources in the LG House told that the recommendation was made based on a complaint by Ashoo Mongia of the World Hindu Federation, a diaspora-based Hindu advocacy organisation. Mongia alleged that Kejriwal's Aam Aadmi Party received \$16 million from SFJ for "facilitating the release of Devinder Pal Bhullar and espousing pro-Khalistani sentiments".

### **What is Sikhs for Justice (SfJ)?**

SFJ was founded in 2007 by Gurpatwant Singh Pannun, a US-based attorney who is currently in his late 40s. According to its website, SFJ seeks to achieve "self-determination for the Sikh people in their historic homeland" in "Indian held Punjab", and "establish a sovereign state, popularly known as Khalistan".

Thus far, SFJ's most notable activity has been the so-called 'Referendum 2020' for the secession of Punjab — specifically the Indian state and not the Pakistani province — held among the Sikh diaspora in some cities.



### **Doublespeak of Pannun, SFJ**

Despite supposedly "turning a page" from the violence-ridden past Khalistan movement, SFJ and Pannun have not been shy to glorify terrorists and mass murderers.

For instance, the campaign headquarters for the 'referendum' in Canada is named after 'Shaheed' (martyr) Talwinder Singh Parmar, the mastermind behind the 1985 Air India bombing which killed 329 innocents, and remains the deadliest mass murder in Canadian history.

SFJ has also repeatedly hailed Indira Gandhi's killers, Beant Singh and Satwant Singh. In a viral video from 2020, Pannun promised to gift new iPhones to anyone who flew the Khalistan flag in honour of 'Shaheed' Beant Singh.

### **Banned in India**

India refers to Pannun as a terrorist, and has banned SFJ under the Unlawful Activities (Prevention) Act, 1967. The Home Ministry's 2019 notification issuing the ban says: "In the garb of the so-called referendum for Sikhs, SFJ is actually espousing secessionism and militant ideology in Punjab, while operating from safe havens on foreign soils and actively supported by inimical forces in other countries." Currently, almost a dozen cases are registered against Pannun and SFJ in India.

Relevance: GS Prelims & Mains Paper III; Internal Security

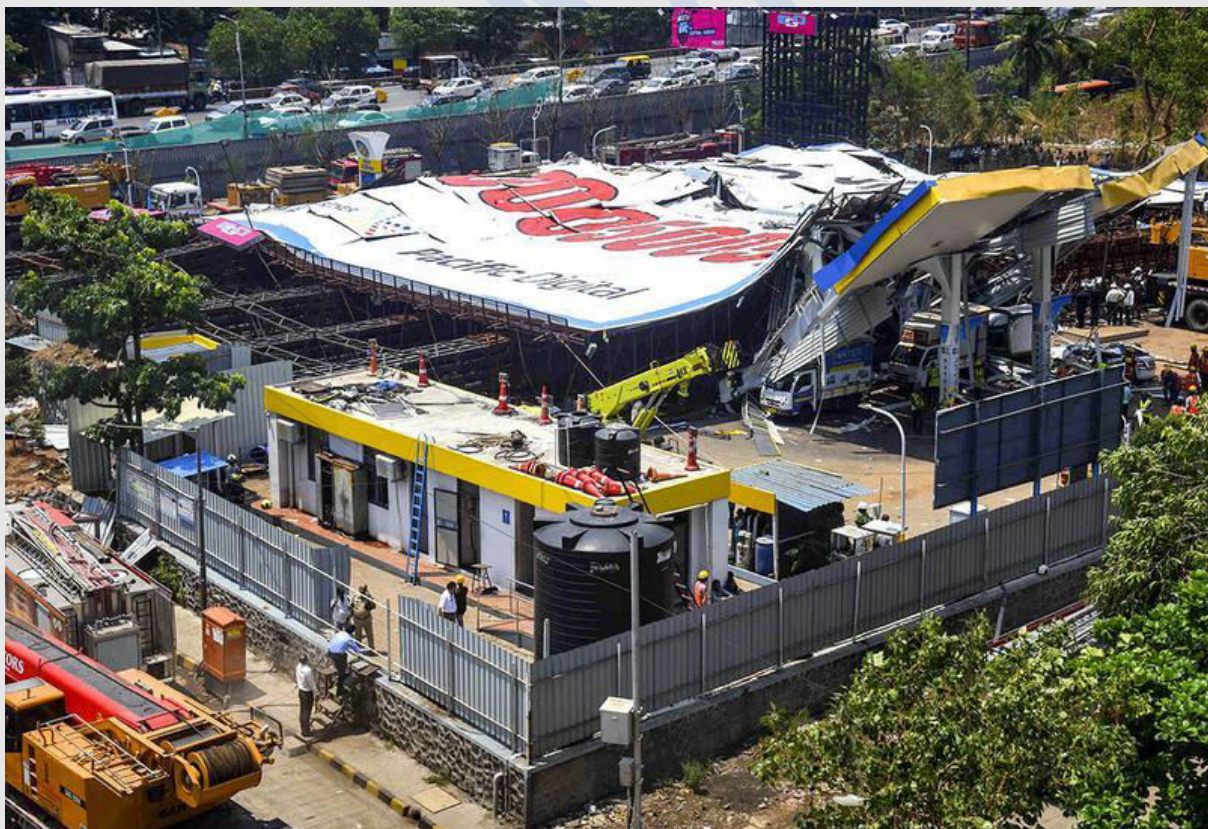
#### 4. Mumbai Billboard Collapse

##### Why in News?

A giant advertisement hoarding sized 120 feet by 120 feet in Mumbai's Ghatkopar area collapsed in a dust storm in Mumbai on May 13, killing at least 16 people. The brunt of the monstrous 250-tonne structure's fall was borne by a petrol pump below, where many of the victims were either fuelling up or going about their duties. The owner of the hoarding erected on massive metal frames in April, 2023 on Government Railway Police (GRP) land, Bhavesh Bhinde, absconded after the crash, but was later arrested in Rajasthan.

##### Who is responsible?

Pressure has built up on the Municipal Corporation of Greater Mumbai (BMC) to inspect and take action on illegal or unstable hoardings in the city, and to ask Railways and Mumbai Port Trust to provide stability certificates for others. Other cities too responded to the incident. Officials in Chennai, where a ban on hoardings is being lifted, removed over 460 structures. Several hundred applications to install hoardings are pending in the city. In Pune, a large hoarding fell on a parked truck soon after the Ghatkopar incident, but caused no injuries.



##### What safety norms apply to hoardings?

Local bodies issue licences for advertisement hoardings, particularly in bigger cities, stipulating that these structures should be approved by an executive authority. In Mumbai's case, the Mumbai Municipal Corporation Act (MMC) dating back to 1888 and amended over time stipulates that written permission of the Municipal Commissioner is needed to put up such structures.

Advertisement hoardings must meet norms, and these were apparently liberalised for Greater Mumbai through the Policy Guidelines for Display of Advertisements 2018 to tap the city's full financial potential. It is this document that makes structural stability certification from a registered structural engineer a condition for putting up hoardings, including sky signs that are larger than 100 sq. ft. For an on-ground hoarding on a site other than the business premises, the size limit is 40 feet by 40 feet as per this document.

By all accounts, the massive hoarding in Ghatkopar did not meet size norms but was not brought down by official agencies in spite of being a highly visible hazardous structure.

From a technical perspective, the Bureau of Indian Standards (BIS) lays out specifications for wind loads on hoardings under IS875, Part 3, giving formulae on how to calculate the force coefficients applicable to these wind-facing structures. If such standards are indeed applied by municipal bodies around the country, the data is not made public. No database of permits could be located on the BMC website in the hoardings section.

### **How is climate change a challenge?**

The biggest threat to cities, especially along India's peninsular coastline, is extreme weather such as cyclones intensified by climate change. The northern Indian Ocean, which contributes extreme weather systems to the region, hosts 6% of global cyclones but has disproportionately high impacts each year.

Data shows that summer monsoon rainfall over the sub-continent may be decreasing overall, but the number of extreme weather events involving heavy rain in a short period is rising. Along with cyclonic winds, torrential rainfall and heavy winds threaten coastal cities. This is a clear call to city governments to review conventional ideas on giant outdoor open-sky hoardings put up close to human activity.

### **Don't governments have legal liability?**

Yes, the government and the owners of the private structures do have liability. Most recently, in 2022, the Delhi High Court dismissed an appeal filed by the Bank of Baroda, against a single judge's order in BoB versus Mahesh Gupta, granting compensation in a case where a man was struck by a sign board and the head injury led to his death.

The bank contended that heavy wind struck Delhi on the day of the incident and it was thus an act of god. This was rejected by the court, which observed that since Delhi witnesses such winds in May each year, it was a foreseeable risk. Moreover, the bank had control of the signboard and had not proved that it had periodically inspected it to ensure its stability and integrity. Extreme rainfall and winds are foreseeable events now across the country, with clear

warnings available from weather agencies. Governments have to show due diligence to avert harm to citizens from official actions. Much like the Ghatkopar case, where many people were trapped in a hoarding collapse, the court held in the Delhi case thus: the deceased writ petitioner was a passer-by who met with the accident while exercising his right of passage on a public pathway which abutted the building in which the bank was housed.

Applying such a principle clearly makes several connected individuals liable for negligence in the Ghatkopar case, beginning with the owners of the land, the agency that put up the structure and the line officials responsible for enforcement, extending to the civic officials and police who witnessed flagrant violation of rules but took no action.

Relevance: GS Prelims & Mains Paper III; Disaster Management

Source: The Hindu

## 5. Cyclone Remal to hit Bengal: How and why are cyclones named?

### Introduction

Cyclone Remal will likely make landfall between West Bengal's Sagar Island and Bangladesh's Khepupara, the India Meteorological Department (IMD) said. It will be the first pre monsoon tropical cyclone on the Bay of Bengal this year.

The name Remal, meaning 'sand' in Arabic, was chosen by Oman, and assigned according to the standard convention of naming tropical cyclones in the region. Why does Oman, on the Arabian Sea, get to choose the name of a cyclone in the Bay of Bengal? And why are cyclones named, in the first place?

### List of 169 cyclone names

The World Meteorological Organisation (WMO) is a 185-member strong United Nations agency. The Economic and Social Commission for Asia and the Pacific (ESCAP) is a regional commission under the jurisdiction of the UN Economic and Social Council, formed to increase economic activity in Asia and the Far East.

Realising the importance of an effective cyclone warning and disaster mitigation in the North Indian Ocean region (comprising both the Arabian Sea and the Bay of Bengal), WMO came together in 1972 to establish the Panel on Tropical Cyclones (PTC). The PTC originally comprised eight member countries — Bangladesh, India, Maldives, Myanmar, Pakistan, Sri Lanka, Sultanate of Oman and Thailand.

In its twenty-seventh session held in 2000 in Muscat, Oman, the PTC agreed to assign names to the tropical cyclones in the Bay of Bengal and Arabian Sea. After each country in the panel sent its recommendations, the PTC finalised its list and started naming cyclones in the region in 2004. The PTC, in 2018, expanded to include Iran, Qatar, Saudi Arabia, United Arab Emirates and Yemen.

In April 2020, a list of 169 cyclone names were released — 13 suggestions each from the 13 countries. It is this list that is currently being used to name cyclones.

## New List of Names for Tropical Cyclone over North Indian Ocean

The Weather Channel

Place	List 1	List 2	List 3	List 4	List 5	List 6	List 7	List 8	List 9	List 10	List 11	List 12	List 13
Bangladesh	Nisarga	Biparjoy	Arnab	Upakul	Barshan	Rajani	Nishith	Urmi	Meghala	Samiron	Pratikul	Sarobor	Mahanisha
India	Gati	Tej	Murasu	Aag	Vyom	Jhar	Probaho	Neer	Prabhanjan	Ghurni	Ambud	Jaladhi	Vega
Iran	Nivar	Hamoon	Akvan	Sepand	Booran	Anahita	Azar	Pooyan	Arsham	Hengame	Savas	Tahamtan	Toofan
Maldives	Burevi	Midhili	Kaani	Odi	Kenau	Endheri	Riyau	Guruva	Kurangi	Kuredhi	Horangu	Thundi	Faana
Myanmar	Tauktae	Michaung	Ngamann	Kyarhit	Sapakyee	Wetwun	Mwaihout	Kywe	Pinku	Yinkaung	Linyone	Kyeekan	Bautphat
Oman	Yaas	Remal	Sail	Naseem	Muzn	Sadeem	Dima	Manjour	Rukam	Watad	Al-jarz	Rabab	Raad
Pakistan	Gulab	Asna	Sahab	Afshan	Manahil	Shujana	Parwaz	Zannata	Sarsar	Badban	Sarrab	Gulnar	Waseq
Qatar	Shaheen	Dana	Lulu	Mouj	Suhail	Sadaf	Reem	Rayhan	Anbar	Oud	Bahar	Seef	Fanar
Saudi Arabia	Jawad	Fengal	Ghazeer	Asif	Sidrah	Hareed	Faid	Kaseer	Nakheel	Haboob	Bareq	Alreem	Wabil
Sri Lanka	Asani	Shakhti	Gigum	Gagana	Verambha	Garjana	Neeba	Ninnada	Viduli	Ogha	Salitha	Rivi	Rudu
Thailand	Sitrang	Montha	Thianyt	Bulan	Phutala	Aiyara	Saming	Kraison	Matcha	Mahingsa	Phraewa	Asuri	Thara
United Arab Emirates	Mandous	Senyar	Aloor	Nahhaam	Quffal	Daaman	Deem	Gargoor	Khubb	Degl	Athmad	Boom	Saffar
Yemen	Mocha	Ditwah	Diksam	Sira	Bakhur	Ghwyzi	Hawf	Bahaf	Brom	Shuqra	Fartak	Darsah	Samhah

### How the naming convention works

There are some basic guidelines that countries needed to follow while sending in their proposals. These include ensuring that the proposed name

- is neutral to (a) politics and political figures (b) religious believes, (c) cultures and (d) gender;
- does not hurt the sentiments of any group of population over the globe;
- is not very rude and cruel in nature;
- is short, easy to pronounce, and not offensive to any PTC member;
- is at most eight letters long;
- is provided with its pronunciation and voice over; and
- is not repeated (not before, not after).

The list of proposed names arranges the countries in alphabetical order, and lists all the names suggested by them alongside. Then these names are allotted to any cyclone, which takes place in the region, on a rotational basis regardless of which country proposed it.

For instance, the first cyclone after the list was named Nisarga (Bangladesh's name choice), which hit Maharashtra, followed by Gati (India's choice, hit Somalia), Nivar (Iran's choice, hit Tamil Nadu), and so on.

After all the names of one column are exhausted, i.e. one name suggested by each country has been used, names from the next column are chosen, again starting from Bangladesh (for instance, after Mocha, the next cyclone was named Biparjoy).

After this list is exhausted (which might take more than a decade, maybe even decades), a new list will be submitted by PTC members.

**Why name cyclones at all?**

Adopting names for cyclones makes it easier for people to remember, as opposed to numbers and technical terms. Apart from the general public, it also helps the scientific community, the media, disaster managers etc. With a name, it is easy to identify individual cyclones, create awareness of its development, rapidly disseminate warnings to increase community preparedness and remove confusion where there are multiple cyclonic systems over a region. Other regions of the world have similar naming conventions for tropical storms.

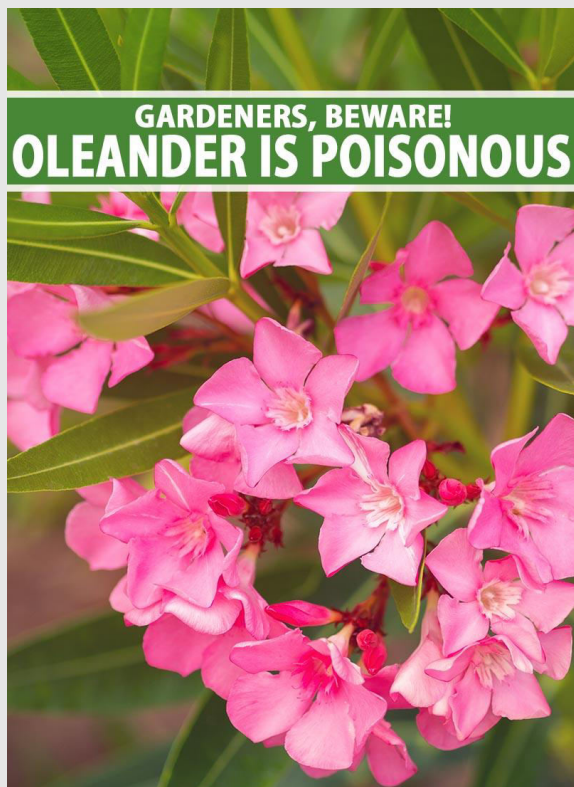
Relevance: GS Prelims & Mains Paper III; Disaster Management

Source: Indian Express

### 1. Why Kerala has banned oleander flowers in temple offerings

#### Why in News?

Two Kerala government-controlled temple boards, which together manage 2,500-odd temples in the state, have banned use of oleander flowers (locally known as arali) in temple offerings after a 24-year old woman died after accidentally chewing some oleander leaves.



Here is all you need to know about oleander, its medicinal uses, and toxicity.

#### First, what exactly happened?

Surya Surendran, a 24-year old nurse, died on April 30, prima facie due to accidental oleander poisoning. Surendran had gotten a new job in the UK, and was set to depart on April 28. That morning, however, she chewed some leaves of the oleander plant which grew outside her house in Pallipad, Alappuzha. She was on her phone, and probably did not understand how dangerous this was.

She soon developed uneasiness, and vomited a few times. Later that day, she collapsed at the Kochi airport, and died a couple of days later at a hospital. When asked about what she had eaten, she had told doctors about chewing oleander leaves and flowers. The forensic surgeon, who conducted her autopsy, informed

the police about poisoning from oleander.

#### What is oleander?

Nerium oleander, commonly known as oleander or rosebay, is a plant cultivated worldwide in tropical, subtropical, and temperate regions. Known for its drought tolerance, the shrub is often used for ornamental and landscaping purposes.

In Kerala, the plant is known by the names of arali and kanaveeram, and is grown along highways and beaches as a natural, green fencing. There are different varieties of oleander, each with a flower of a different colour.

#### How is oleander used in traditional medicine?

The Ayurvedic Pharmacopoeia of India (API), a government document that describes the quality, purity, and strength of drugs used in Ayurveda, mentions oleander. According to API, an oil prepared from the root bark can be used to treat skin diseases.

### How toxic is oleander?

Even though it is prescribed in some ayurvedic formulations, oleander's toxicity has also long been recognised across the world. Moreover, ingestion or inhalation of smoke from burning oleander can also be intoxicating.

This is due to the properties of cardiac glycosides (a type of chemical) including oleandrin, folinerin, and digitoxigenin, which are present in all parts of the plant.

Cardiac glycosides are steroidal compounds capable of exerting pharmacological effects on cardiac muscle. The primary therapeutic value of these glycosides lies in their ability to exert profound tonic effects on the heart [stronger and faster heart contractions]. However, the therapeutic window is small and overdose/toxicity is frequently encountered when using these drugs.

Effects of oleander toxicity include nausea, diarrhea, vomiting, rashes, confusion, dizziness, irregular heartbeat, slow heartbeat, and, in extreme cases, death.

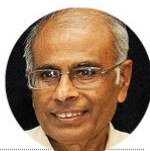
Relevance: GS Prelims; Miscellaneous

Source: Indian Express

## 2. Rationalist Narendra Dabholkar's murder case

### The man who stood for science

- Narendra Dabholkar practiced medicine for 12 years before taking up social work in the 1980s, inspired by social reformer B Premanand
- Authored more than 40 books that were translated into multiple languages
- Conducted seminars in schools against beliefs in black magic and to spread awareness about science
- Challenges to religious figures like Sathya Sai Baba and others to prove their unscientific claims earned social acclaim
- Started organisation 'Parivartan' with wife Shaila Dabholkar; helps people with alcohol and drug de-addiction as well as mental health problems



### Why in News?

More than a decade after the murder of rationalist Dr Narendra Achyut Dabholkar, a Special Unlawful Activities (Prevention) Act (UAPA) Court in Pune pronounced its verdict recently.

Two alleged assailants, Sachin Andure and Sharad Kalaskar, were convicted and sentenced to life imprisonment, while three others – Dr Virendrasinh Tawade, Sanjeev Punalekar and his aide Vikram Bhawe – were acquitted for the lack of evidence.

Dabholkar's murder and three other similar murders, that of communist leader Govind Pansare (February 2015), Kannada

scholar MM Kalburgi (August 2015) and Bangalore journalist Gauri Lankesh (September 2017), had sparked nationwide debate surrounding issues of freedom of speech and various hostile forces to rational thought.

Over the years, the investigating agencies examining these cases have pointed to some similarities and the possibility of common perpetrators.

## The three other murders

**Dr Govind Pansare, 82:** Member of Communist Party of India and labour union leader, he was shot at his residence in Maharashtra's Kolhapur district on Feb 20, 2015. He succumbed to his injuries



**Professor MM Kalburgi, 77:** The academic was shot dead at his residence in Dharwad in Karnataka on Aug 30, 2015. He had retired as vice-chancellor of Kannada University in Hampi.



**Gauri Lankesh, 55:** The editor of Lankesh Patrike was shot dead outside her residence in Bengaluru on Sep 5, 2017. She was an outspoken critic of rightwing politics and a champion of Dalit, tribal and minorities' rights.



### Who was Narendra Dabholkar?

In late 1980s, Dabholkar revitalised the superstition thought process by founding Maharashtra Andhashraddha Nirmoolan Samiti (MANS) after leaving his decade-long medical practice. He aggressively took on deep rooted superstitious practices and their proponents.

Over the years, while MANS continued efforts towards eradication of superstitious activities, Dabholkar made several attempts to build an anti-superstition legislative framework. He not only faced opposition by various organisations and political parties but also delays in enacting the law by the governments of the time.

Ironically, within days after his murder, the Maharashtra government cleared the pending Anti-Superstition and Black Magic ordinance, which became law in December 2013. Along with being the long-time editor of Marathi weekly Sadhana, which champions liberal thought, Dabholkar was very active in movements dedicated to scientific temperament and equality among various sections of the society.

Dabholkar was shot dead by two men while he was on a morning walk on a bridge near Omkareshwar temple in Pune on August 20, 2013. He was 67.

Relevance: GS Prelims & Mains Paper I; Indian Society

Source: Indian Express

### 3. Aurora lights in India: What caused them to be visible even from Ladakh?

#### Why in News?

Aurora lights in red hues were visible from Ladakh's pristine skies late at night recently. Astronomers of the Indian Institute of Astrophysics, Bengaluru (IIA) captured the auroras through all-sky cameras positioned around the Indian Astronomical Observatory (IAO) in Hanle, Ladakh. Owned and operated by the IIA, IAO is equipped with these cameras capable of constantly imaging the sky.



Red aurora lights decked the skies over the Indian Astronomical Observatory (IAO) in Hanle, Ladakh. (Photo via IIA)

These lights, called auroras, are usually seen in high-latitude regions, namely the North and the South Pole. When witnessed near the North they are called Aurora Borealis, while those in

the South are called Aurora Australis. Why were they seen across a wider region recently, including India?

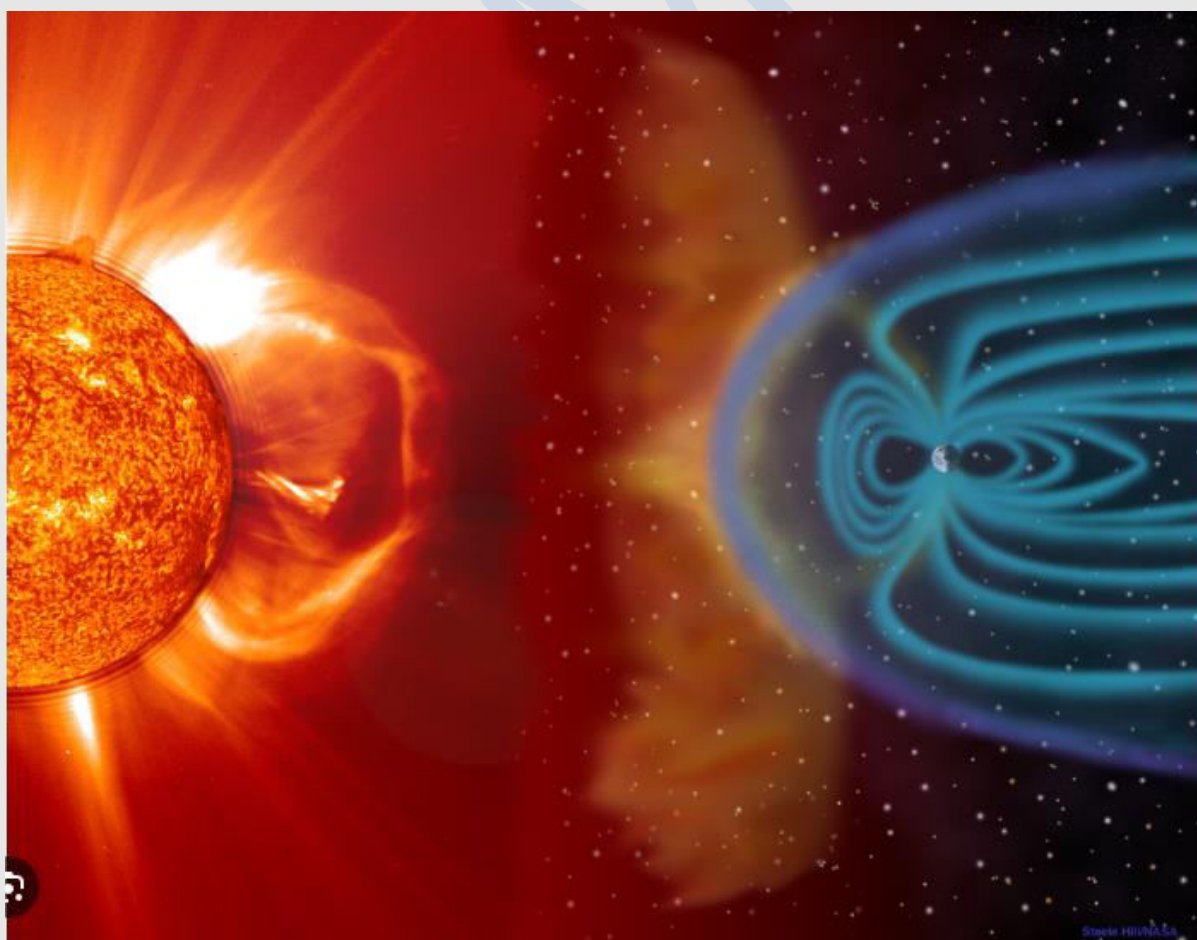
### **First, what are auroras?**

Auroras are bright and colourful lights, formed due to an active interaction in Space between charged solar winds and the Earth's magnetosphere. Solar winds are ejections of charged particles from the Sun's atmosphere, mostly composed of protons and electrons.

The magnetosphere is the region surrounding the Earth. It protects the Earth against solar winds and is strongest at the poles. However, sometimes solar wind particles flow down the Earth's magnetic field. Auroras are produced when these particles collide with atoms and molecules in the Earth's upper atmosphere. The collisions produce light, much like how electrons flowing through gas in a neon light collide with neon and other gasses to produce different colored light bulbs.

### **So why were auroras visible from Ladakh?**

It has to do with heightened solar flare activity in Space. Solar physicists at the Centre of Excellence in Space Science India, at the Indian Institutes of Science Education and Research (IISER) Kolkata, said that at least four strong solar storms arrived over Earth recently.



The source of these storms was Coronal Mass Ejections (CMEs), which are large ejections of magnetic particles and plasma from the Sun's corona – the outermost part of its atmosphere. According to Indian solar physicists, the intensity of these incoming solar storms was much higher than average.

One of the manifestations of the solar storm's interactions with the Earth's atmosphere was the emergence of auroras in red, violet and blue colours. So strong were the storms that the aurora lights were visible from many lower-latitude regions. The auroras were also visible in parts of the US and the UK. Scientists said that a solar storm with a similar intensity had earlier affected Earth in November 2003.

### **What is happening to the Sun?**

Currently, there are several magnetically active regions on the visible solar disk, producing multiple high-energy flares. These continuous solar storms hold a strong potential for disturbing Space weather and causing major disturbances to the Earth's magnetosphere, lasting for the next two days.

### **How hazardous are solar storms?**

Intense solar storms can be harmful as they can interfere with and threaten the smooth operations of satellites operating in the Low Earth Orbit or LEO (an altitude ranging between 200-1,600km).

The highly energetic particle environment created by these solar storms can also induce heating in the upper atmosphere. This increases the risk of radiation hazards, causing a drag effect on satellites positioned at LEO. An excessive drag can mean satellites facing intolerable amounts of friction, which in extreme cases can ignite and burn down the satellites, ceasing their operations completely.

Relevance: GS Prelims

Source: Indian Express

## **4. What is Naegleria fowleri or 'brain-eating amoeba', which led to a girl's death in Kerala?**

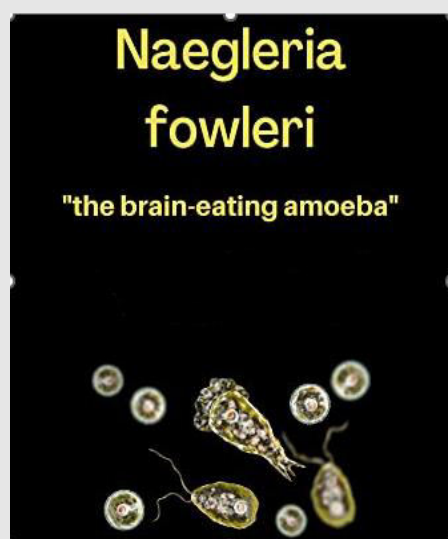
### **Why in News?**

A five-year-old girl undergoing treatment for primary amoebic meningoencephalitis (PAM), a rare infection caused by *Naegleria fowleri* or "brain-eating amoeba", died at the Government Medical College Hospital in Kozhikode recently.

In the past too, the rare yet deadly infection has claimed several lives. What are the circumstances under which one can be affected by it and what are the symptoms associated with it? We explain.

### **What is primary amoebic meningoencephalitis?**

Primary amebic meningoencephalitis (PAM) is a rare brain infection that is caused by *Naegleria fowleri*. It is a free-living amoeba or a single-celled living organism.



*Naegleria fowleri* lives in warm fresh water and soil around the world, and infects people when it enters the body through the nose. Higher temperatures of up to 115°F (46°C) are conducive to its growth and it can survive for short periods in warm environments.

The amoeba can be found in warm freshwater, such as lakes and rivers, swimming pools, splash pads, surf parks, or other recreational venues that are poorly maintained or minimally chlorinated.

#### **How does *Naegleria fowleri* infect people?**

*Naegleria fowleri* enters the body through the nose, usually when people are swimming. It then travels up to the brain, where it destroys the brain tissue and causes swelling.

In the recent Kozhikode case, it is being suspected that the girl was infected while swimming in a local river. On May 1, she bathed in the river along with four children, but the others did not develop symptoms and their test results were negative.

Notably, people cannot get infected with *Naegleria fowleri* from drinking water contaminated with the amoeba. PAM is also non-communicable.

#### **What are the symptoms of primary amebic meningoencephalitis?**

In the initial stage, the symptoms include headache, fever, nausea and vomiting. Later on, the patient may have a stiff neck and experience confusion, seizures, hallucinations and slip into a state of coma.

According to the US Centers for Disease Control and Prevention (CDC), "Most people with PAM die within 1 to 18 days after symptoms begin. It usually leads to coma and death after 5 days."

#### **Past incidents of infection**

There have been 20 reported cases of PAM in India, with the Kozhikode case being the seventh such infection in Kerala. In July 2023, a 15-year-old boy died of it in Alappuzha. The first incident in Kerala was also reported in Alappuzha in 2016, perhaps due to the large number of water bodies here.

Relevance: GS Prelims

Source: Indian Express

## 5. How Pune crash accused blood alcohol level can be ascertained, despite sample tampering

### Why in News?

The 17-year-old son of a Pune builder was reportedly inebriated while driving at high speed when he crashed into a motorbike killing two young IT professionals on May 19. It has now come to light that blood samples collected to test for alcohol content at the time of the incident were swapped by the forensics team. One of India's top forensics experts explains why blood samples should be collected immediately after an incident, and what happens if they aren't.

Approximate Blood Alcohol Content (BAC) In One Hour									
Source: National Highway Traffic Safety Administration									
Drinks	Body Weight In Pounds								Influenced
	100	120	140	160	180	200	220	240	
1	.05	.04	.03	.03	.03	.02	.02	.02	Possibly
2	.09	.08	.07	.06	.05	.05	.04	.04	
3	.14	.11	.11	.09	.08	.07	.06	.06	Impaired
4	.18	.15	.13	.11	.10	.09	.08	.08	
5	.23	.19	.16	.14	.13	.11	.10	.09	Legally Intoxicated
6	.27	.23	.19	.17	.15	.14	.12	.11	
7	.32	.27	.23	.20	.18	.16	.14	.13	
8	.36	.30	.26	.23	.20	.18	.17	.15	
9	.41	.34	.29	.26	.23	.20	.19	.17	
10	.45	.38	.32	.28	.25	.23	.21	.19	

Subtract .015 for each hour after drinking.

### When should a blood sample be collected after such an incident?

A blood sample should ideally be collected within 10 hours of the incident. The washing rate of alcohol is around 10-15 mg/ 100 mL/hour (i.e., in a sample of 100mL of blood, with the passing of each hour, 10-15 mg of alcohol is metabolised). This rate differs from person to person — young men are likely to process it faster than older men and women. The 10-15 mg/mL/ hour rate is just an average.

Based on the blood alcohol level found in a sample, it is very easy to determine the levels at the time of the incident. It is even possible to calculate the blood alcohol level at the time of an incident after 10 hours have passed, based on the trace amounts found in the blood. But this is not ideal.

### What happens if the alcohol is completely metabolised by the time a sample is collected?

Even when the blood alcohol level is found to be zero, it doesn't invalidate that the person had been drinking. The lab report is just one of the things that forms the basis of evidence a forensic doctor presents in court. The number of drinks consumed can be reconstructed from the bills at the bar, statements of the bar owner or staff, and available CCTV footage. Looking at the number of drinks consumed, the blood alcohol level can be calculated using an easy formula.

In the Pune case, such a scientific reconstruction can be used to determine the accused's blood alcohol levels. This would be permissible in court.

**How can tampering of blood samples be prevented?**

The samples are sealed and handed over to the authorities to prevent tampering. Yet, it is possible to tamper with them, especially during transit. This is why AIIMS now has a machine to calculate the blood alcohol level on site, so that samples do not have to be sent out for testing.

Relevance: GS Prelims; Miscellaneous

Source: Indian Express

## Practice Questions

1. What is 'Sierra Madre' in context of South China Sea Dispute?
  - a. It is a point which is claimed by all the nations.
  - b. It is a site where nations dump their waste.
  - c. It is a ship parked to claim territory.
  - d. It refers to temporary peace adopted among disputing nations.
  
2. The right to vote is not available to how many of the following persons:
  1. A person convicted and sentenced for a criminal act
  2. A person in police custody accused of murder, but not yet convicted
  3. A person in prison on charges of Preventive detention
  - a. Only One
  - b. Only Two
  - c. All Three
  - d. None
  
3. Which region of the world is the largest producer of cocoa, which is used to make chocolate?
  - a. East Africa
  - b. Southern Europe
  - c. West Africa
  - d. Central America
  
4. Which of the following is not an implication of reduction of interest rates in the US?
  - a. Inflation in the US
  - b. Promotion of Exports from India to the US
  - c. Fall in foreign investment to India
  - d. Increase of interest rates by RBI
  
5. How many of the following qualities are likely to be demonstrated by Artificial General Intelligence (AGI)?
  1. Abstract Thinking
  2. Transfer Learning
  3. Comprehension of Cause and Effect
  4. Background Knowledge
  5. Creativeness
  6. Common sense
  - a. Three Only
  - b. Four Only
  - c. Five Only

d. All Six

6. How many of the following colour notices can be issued by Interpol?

1. Red Notice
  2. Blue Notice
  3. Green Notice
  4. Yellow Notice
- a. One Only
  - b. Two Only
  - c. Three Only
  - d. All Four

7. What is Goldene?

- a. Health syrup created from real gold
- b. Largest ever discovered gold mine
- c. Free-standing sheet of gold that is only one atom thick
- d. Lab grown gold sheets which mimic real gold

8. The first Indian Defence University is proposed to be set up at

- a. Chennai
- b. Ahmedabad
- c. Gurgaon
- d. Hyderabad

9. CRISPR is least likely to be used to overcome which of the following medical problems?

- a. Leber congenital amaurosis
- b. Sickle-cell disease
- c. Cancer
- d. Covid-19

10. If the Department of Commerce in US administration designate any country as Non-Market Economy, then what are the implications of such designation?

- a. The US exporters do not sell their products in that country.
- b. The US does not trade with that country.
- c. The US economic sanctions are applicable on that country.
- d. The US imposes high taxes on goods imported from that country.

11. Which of the following statements is most appropriate about 'Foot Rot' Disease?

- a. It is a plant disease which occurs due to excessive decomposition by bacteria.
- b. It is an animal disease which occurs due to Maggot attack.

- c. It is a plant disease which occurs due to fungal attack.
- d. It is an animal disease which occurs due to biomagnification in food chain.

12. In May 2024, ISRO demonstrated its capability to Print 3D

- a. Complete Polar Satellite Launch Vehicle
- b. Complete engine for fourth stage of PSLV
- c. Complete Cryogenic engine
- d. Complete Remote sensing satellite

13. A candidate can simultaneously contest for how many Lok Sabha Seats

- a. One
- b. Two
- c. Three
- d. Any Number

14. Consider the following statements about Aurora Lights:

- 1. Aurora lights are formed due to collision of Solar coronal mass ejections with the earth's upper atmosphere.
- 2. Aurora lights are stronger at the equator than at the poles because of bulge at the equator.

Which of the statements given above is/are correct?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

15. The joint military exercise 'Shakti' is conducted between India and

- a. Nepal
- b. US
- c. France
- d. UK

16. GPT-4o, the new AI assistant by OpenAI, demonstrates which of the following capabilities?

- 1. It lets users input any combination of text, audio, and video and receive responses in the same formats.
- 2. GPT-4o responds to queries as fast as a human does in conversation.
- 3. It can provide multilingual support.

How many of the above statements are correct?

- a. Only One
- b. Only Two

- c. All Three
- d. None

17. The International North South Transport Corridor (INSTC) is proposed to pass through how many of the following countries:

- 1. Russia
- 2. Iran
- 3. Afghanistan
- 4. Tajikistan
- a. Only One
- b. Only Two
- c. Only Three
- d. All Four

18. What is Digital Arrest?

- a. Locking of accounts on social media associated with illegal activities
- b. Freezing of bank accounts to prevent money laundering
- c. Claim by cybercriminals of holding friend or relative of a person
- d. False reporting of profiles on social media platforms leading to their blockage

19. Which of the following is the naturally occurring hormone, which helps in ripening of fruits?

- a. Ethylene
- b. Calcium carbide
- c. Acetylene
- d. Methylene

20. The US enters into Civil nuclear cooperation with other nations as per provisions of

- a. US Atomic Energy Act
- b. United Nations Framework Convention on Climate Change
- c. US Prevention of Climate Change Act
- d. US Global Promotion of Renewable Energy Act

21. IMD issues heatwave alerts in various colour codes. Consider the following pairs of colour codes and what they imply:

- 1. Green Alert- Normal Day
- 2. Yellow Alert - Heat Alert
- 3. Purple Alert - Severe Heat Alert for the day
- 4. Red Alert - Extreme Heat Alert for the day

How many of the above pairs are correctly matched?

- a. Only One
- b. Only Two
- c. Only Three
- d. All Four

22. In Iran's Political Set-up, the most powerful position is that of

- a. President
- b. Prime Minister
- c. Supreme Religious Leader
- d. Head of Quds Corps

23. Consider the following Research Centre's of India in Antarctica:

- 1. Dakshin Gangotri
- 2. Maitri
- 3. Bharati
- 4. Maitri - II

How many of the above Research Centres are operational in 2024?

- a. Only One
- b. Only Two
- c. Only Three
- d. All Four

24. Which of the following Digital assistants best qualifies the definition of 'AI Agent'?

- a. Siri by Apple
- b. Alexa by Amazon
- c. Astra by Google
- d. GPT-4 by OpenAI

25. Which of the following statements is incorrect about Status of Palestine in the international community?

- (a) It is a Permanent Observer State at UN
- (b) It is recognized as State by India
- (c) It is recognized as State by more than 2/3rd of the world's nations.
- (d) It is recognized as State by all the permanent members of UNSC.

The Global Plastic Treaty is expected to be concluded in current year in the month of December at

- a. Ottawa, Canada
- b. Paris, France
- c. Durban, South Africa
- d. Busan, South Korea

26. Which fruit is considered as symbol of Palestinian resistance?

- (a) Apple
- (b) Watermelon
- (c) Strawberry
- (d) Blueberry

27. Consider the following Statements in context of special voter groups during elections in India. Which of the following Statements is correct?

- (a) A person aged 75+ can seek home voting option.
- (b) Person employed in Armed forces can cast ballot through Assisted Voting.
- (c) A blind person or person suffering from other disability can cast vote through Proxy Voting.
- (d) A person on election duty in the same constituency, where they are enrolled as a voter, can cast vote at a polling station where they are on duty.

28. Which of the following advantages are offered by CubeSat over Traditional Satellites?

- Low cost of development
- Easy Deployment in orbit
- Large Size
- Less Mass

How many of the above Statements are correct?

- (a) Only One
- (b) Only Two
- (c) Only Three
- (d) All Four

29. PUSA-44 which has been banned for cultivation in Punjab, is a seed variety of

- (a) Rice
- (b) Wheat
- (c) Sugarcane
- (d) Cotton

30. RudraM –II is a

- (a) Air to Air missile
- (b) Surface to Surface missile
- (c) Surface to Air missile
- (d) Air to Surface missile

31. Which of the following countries has witnessed significant political instability in 2024, leading to resignation of its Prime Minister, due to gang violence?

- (a) Papua New Guinea
- (b) Costa Rica
- (c) Venezuela
- (d) Haiti

## Answer Key

1.(c)	2.(a)	3.(c)	4.(d)	5.(d)
6.(d)	7.(c)	8.(c)	9.(d)	10.(d)
11.(c)	12.(b)	13.(b)	14.(a)	15.(c)
16.(b)	17.(b)	18.(c)	19.(a)	20.(a)
21.(c)	22.(c)	23.(b)	24.(c)	25.(d)
26.(b)	27.(d)	28.(c)	29.(a)	30.(d)
31.(d)				

## Explanations

1.(c) Countries such as China, the Philippines, Malaysia, Vietnam and Brunei Darussalam have long been making competing claims over regions of the South China Sea. Of late, the Philippines and China in particular have clashed in the region, raising concerns about an escalation. An important part of this equation is Sierra Madre, a World War II-era ship.

In the 1990s, the Philippines decided to bring this ship to the Second Thomas Shoal, a submerged reef located in the South China Sea. The placement of the ship was deliberate, in order to further its territorial claims.

2.(a) Section 62 of the RP Act provides a series of restrictions on the right to vote including sub-clause (5) which states in broad terms "No person shall vote at any election if he is confined in a prison, whether under a sentence of imprisonment or transportation or otherwise, or is in the lawful custody of the police".

With an exception provided for those in preventive detention, this provision effectively bars every individual who had criminal charges framed against them from casting their vote unless they have been released on bail or have been acquitted.

3.(c) West African countries Ghana and Ivory Coast, contribute 60% of the world's cocoa beans.

4.(d) Usually, if interest rates are reduced in the US, then Central banks of other countries such as RBI also reduce interest rates in their country.

Options (a), (b) and (c) can happen due to reduction of interest rates in the US.

5.(d) All the mentioned qualities are expected to be demonstrated by AGI.

6.(d) All the mentioned colour notices are issued by Interpol.

7.(c) For the first time, researchers have created a free-standing sheet of gold that is only one atom thick. This makes gold the first metal to be formulated into (freestanding) 2D sheets — opening up a host of exciting possibilities for the future.

8.(c) In principle' approval has been accorded for setting up of the IDU in Gurgaon.

9.(d) CRISPR is a genome editing technology and thus, can be used to treat genetic disorders.

10.(d) The non-market economy label allows the US to impose "anti-dumping" duties and other duties on goods imported from designated countries.

11.(c) Foot rot is a fungal disease that affects Basmati rice crops particularly at the seedling stage.

12. (b) Indian Space Research Organisation (ISRO) recently successfully tested a liquid rocket engine made with the help of additive manufacturing technology — commonly known as 3D printing.

The engine, PS4, which is used as the engine for the fourth stage of the Polar Satellite Launch Vehicle (PSLV), was redesigned by ISRO for production using 3D printing.

13.(b) A sub-section, 33 (7), of the RPA, allowing a candidate to contest from two seats, was introduced through an amendment in 1996, prior to which there was no bar on the number of constituencies from which a candidate could contest.

14.(a) Statement 2 is incorrect: Auroras are more intense over the magnetic poles of the earth, than at the equator.  
Statement 1 is correct.

15.(c) The 7th edition of India- France Joint Military Exercise SHAKTI is being held at Meghalaya.

16.(b) Statement 1 is incorrect. GPT-4o does not let users input videos. Users can input, text, audio and images only.  
Remaining Statements are correct.

17.(b) The INSTC is proposed to pass through Russia and Iran. However, it is not proposed to be passing through Afghanistan and Tajikistan.

18.(c) Online frauds and criminals typically call potential victims and tell them that they have sent or are the intended recipients of a parcel containing illegal goods, drugs, fake passports or any other contraband item. In some cases, the criminals contact relatives or friends of the target and tell them that the target has been found to be involved in a crime or an accident, and is in their custody.

19.(a) Ethylene, a naturally occurring hormone in fruits, regulates the ripening process by initiating and controlling a series of chemical and biochemical activities.

20.(a) Under Section 123 of the US Atomic Energy Act of 1954, the United States may negotiate agreements to engage in significant civil nuclear cooperation with other nations.

It specifies nine non-proliferation criteria those states must meet to keep them from using the technology to develop nuclear arms or transfer sensitive materials to others. The law stipulates congressional review of such pacts.

21.(c) Pair 3 is incorrectly matched. IMD issues Orange alert (not Purple Alert) for Severe heat for the day.  
Rest of the pairs are correctly matched.

22.(c) The President is the highest elected office in Iran, but is not the most powerful one. The President is answerable to the Supreme Leader, who is appointed by a body of senior clerics.

23. (b) Statement 1 is incorrect: The first Indian Antarctica research station, Dakshin Gangotri. The station operated till 1990.  
Statements 2 and 3 are correct: Maitri and Bharati are operational.

Statement 4 is incorrect: Maitri - II is planned, not yet operational.

24.(c) AI agents are sophisticated AI systems that can engage in real-time, multi-modal (text, image, or voice) interactions with humans. Unlike conventional language models, which solely work on text-based inputs and outputs, AI agents can process and respond to a wide variety of inputs including voice, images, and even input from their surroundings.

Out of above, Astra by Google is regarded as AI agent. GPT-4o is regarded as AI agent, not GPT -4.

25.(d) Palestine is not recognized as State by the US, which is a permanent member of UNSC.

26.(b) A watermelon when sliced shows the colours of the Palestinian flag — red, green, black, and white. This makes it a useful symbol of Palestinian identity.

27.(d) Option (a) is incorrect: A person aged 85+ can seek home voting option.  
Option (b) is incorrect: Person employed in Armed forces can cast ballot through Proxy Voting.

Option (c) is incorrect: A blind person or person suffering from other disability can cast vote through Assisted Voting.

Option (d) is correct statement.

28.(c) As compared to Traditional satellites, Cubesats are small in size. Thus, they have low cost of development, they are easy to deploy in orbit and they have less mass.

Only Statement 3 is incorrect. Remaining Statements are correct.

29.(a) In October 2023, the Punjab government banned PUSA-44, which is a seed variety of rice.

30.(d) RudraM –II is launched from fighter aircraft against variety on enemy terrestrial assets. Thus, it is Air to Surface missile.

31.(d) Prime Minister Ariel Henry resigned on April 24, due to ongoing gang violence in Haiti.