

NEWS JUICE MONTHLY

1st April to 30th April, 2023

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from Civil Services Exam Point of View!

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Message from Shubham Singla

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Civil Services Coach

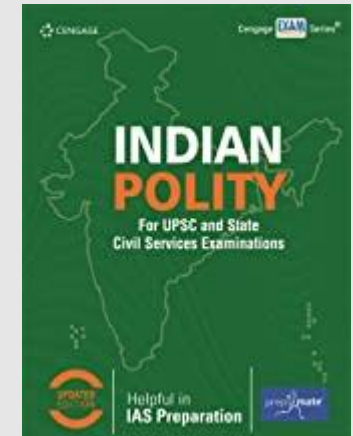
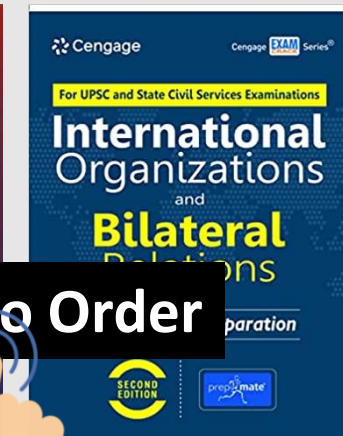
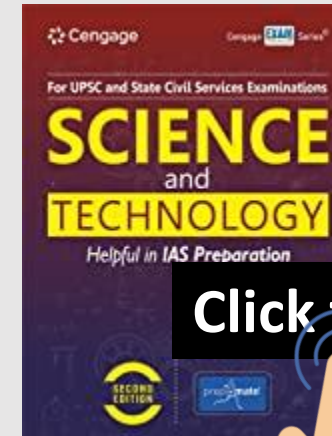
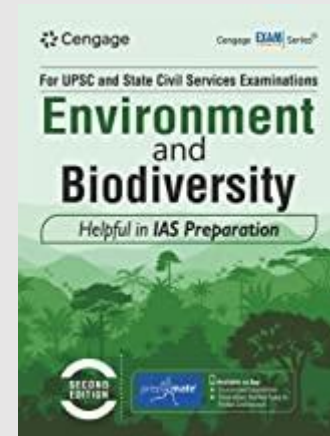
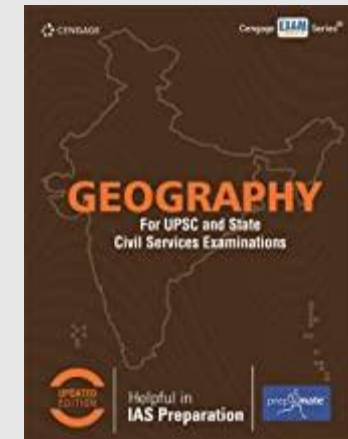
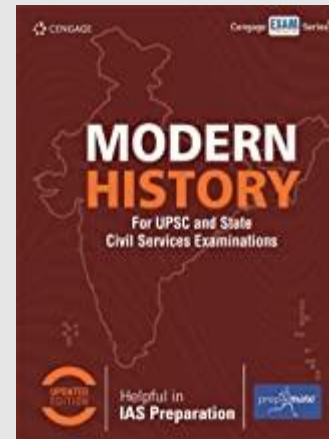
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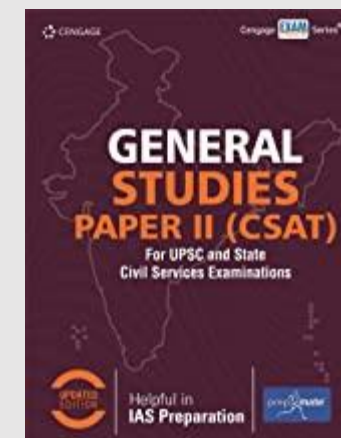
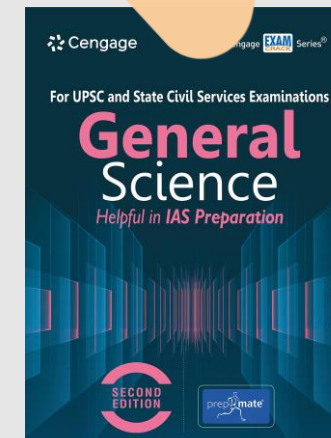
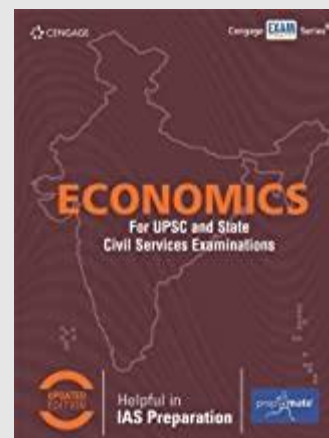
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POLITY & GOVERNANCE

Four men, earlier sentenced to death for the 2008 Jaipur blasts get acquitted

Relevance: Prelims & Mains Paper II; Governance



Why in news?

- The Rajasthan High Court has acquitted four men who were sentenced to death in 2019 in connection with the 2008 Jaipur bomb blasts.
- These blasts which took place on May 13 that year killed 71 people and injured 185 others.
- In 2019, a special court in Jaipur had convicted the four men for the blasts, acquitting a fifth.
- The acquittal of fifth has also been upheld in the High Court.

The blasts details

- Nine bombs, using RDX, exploded at eight locations in Jaipur's crowded old city between 7.15 pm and 7.45 pm. The sequence of the blasts was so planned that people fleeing one blast site ran into more explosions at the others. Some explosives were tied to bicycles.
- The first bomb went off around 7.15 pm at the bustling Johari Bazaar. As panic spread, more bombs exploded at the Hanuman Mandir, Hawa Mahal, Badi Chaupad, Tripolia Bazar, and Chandpole. Being a Tuesday, the Hanuman Mandir was packed with devotees.
- The police also located and defused more bombs. This was the first time Jaipur, a tourist hub, saw a terror attack on its soil.

Indian Mujahideen responsible

- A day after the blasts, **the Indian Mujahideen, then a little-known outfit**, sent an email to a media house, **claiming responsibility for the attack**.
- In the email, they attached a video of a bicycle laden with explosives. Police confirmed the serial number of the bicycle matched one of those used in the blast.
- The email claimed **Jaipur was chosen as a target to disrupt its tourism industry, and warned India against supporting the U.S. on international issues**.
- **In the aftermath of the blasts, tourism was temporarily hit in Jaipur, and there were also doubts over foreign players participating in the then-newly-born Indian Premier League.**

Arrests and conviction

- The first person to be arrested was Shahbaz Hussain, in August 2008. He had been accused of sending the email that claimed responsibility for the attack. He was acquitted in 2019 for want of evidence.
- Between Dec 2008 and December 2010, Mohammad Saif, Mohammad Sarwar Azmi, Mohammad Salman and Saifurrehman were arrested.
- In 2019, all four were convicted and sentenced to death for their role in the bomb blasts. All four hail from Azamgarh, Uttar Pradesh.
- Three more accused — Yasin Bhatkal, Asadullah Akhtar, and Aariz — are currently in Tihar Jail, facing trial in other blast cases.
- Two others accused were killed in the Batla House encounter in Delhi in 2008.

What is 'hue and cry' notice?



Relevance: Prelims & Mains Paper II; Governance

Why in news?

- In its bid to arrest the fugitive pro-Khalistan preacher Amritpal Singh, Punjab police has issued a "hue and cry notice" against him.
- The notice with Amritpal's photograph, describes his appearance and says that he is "6 feet" tall with "fair wheatish complexion", and "if any person is having any knowledge/information about his whereabouts, he/she may inform police".
- The notice has been sent to district police heads across the country.

Origin

- The phrase 'hue and cry' in present-day terms is often associated with a strong protest or public anger or disapproval on any issue.
- However, in policing terms, the phrase traces its origin to 1285 when England's King Edward I signed the "Statute of Winchester" to deal with security and peacekeeping on a local level by reforming the existing police system.
- The Statute made it a law stating that "if citizens saw a crime, they not only had to report it, but take up a cry to alert the police."
- The 'hue and cry' rule simply meant that if a suspect or a criminal was running down the street in front of some bystanders, then each of them had to yell to help the police identify and catch them.
- The Statute said that "anyone, either a constable or a private citizen, who witnessed a crime shall make hue and cry, and that the hue and cry must be kept up against the fleeing criminal from town to town and from county to county, until the felon is apprehended and delivered to the sheriff".

The Indian Scenario

- With several colonial-era laws, rules and terms still continuing to be in practice in India even after 75 years of Independence, 'hue and cry' has managed to retain its place in policing vocabulary.
- Police rules in several states, including Punjab, have 'hue and cry notices' as a legal procedure in their rulebooks.
- Police issues a 'hue and cry notice' when it requires help of public in cases such as locating missing persons, identifying unclaimed bodies, and looking out for a suspect among others.
- In current times, police have minimized the use the term 'hue and cry' notice. It is mostly done in cases where it really wants to stress on the seriousness of the matter and to create "panic" among the public.
- Notably, 'Hue and cry notice' is broadly an English translation of the Urdu phrase "ishtihar-e-shor-e-goga". It translates to "create a noise or outcry about something which needs immediate public attention."

SVAMITVA Scheme



Relevance: Prelims; Governance

Why in news?

- The Central Sector Scheme “SVAMITVA” aims to provide the ‘Record of Rights’ to village household owners possessing houses in inhabited areas (Abadi) in villages.
- The scheme aims to cover all the village household owners possessing houses in inhabited (Abadi) areas in villages of the country.

Implementation

- Under the scheme, land parcels in rural inhabited area of all the villages of the country are surveyed. It helps in determination of clear ownership of property.
- The scheme is being implemented with the collaborative efforts of the Ministry of Panchayati Raj, Survey of India (Sol), State Revenue Department, State Panchayati Raj Department and National Informatics Centre.
- The Scheme facilitates monetisation of properties leading to ease of securing bank loans, reduction of property related disputes, comprehensive village level planning and providing a basis for assessment of property tax, which would accrue to the Gram Panchayats directly in States where it is devolved.

Muslim personal law's stand on inheritance



Relevance: Prelims & Mains Paper II; Governance

Why in news?

- A Muslim couple from Kerala recently decided to get their marriage registered under the Special Marriage Act (SMA), almost 30 years after having solemnised their nikaah according to Islamic principles.
- The couple claimed to have got the marriage registered under SMA, so that principles of the secular Act could apply to matters of inheritance in his family, and enable his daughters to inherit the couple's property under the Indian Succession Act, 1925. The couple has three daughters and no sons.
- This decision has put the spotlight on Islamic principles of inheritance.

What's Islamic law's view on this?

- The Koran, through Surah Nisa clearly outlines the principles of inheritance for both direct and indirect heirs.
- Verse 7 states, "For men there is a share in what their parents and close relatives leave, and for women there is a share in what their parents and close relatives leave — whether it is little or much. These are obligatory shares."
- According to unanimously agreed rules on the division of property in Islam, a daughter gets half the share of the son. So if a son inherits a plot of 100 metres from the father, the daughter gets a plot of 50 metres or half the value of the 100-metre plot.
- On marriage, according to Islam, it is the man who is supposed to bear the family expenses, including residence, food, clothing and medicine besides maintenance of his wife, education of his children and looking after his parents.

(More ahead)

(cont'd)

- If the husband dies before his wife, she gets a one-eighth share of his property, if the couple has children. Otherwise, she gets one-fourth.
- There is also a share for paternal uncles, aunts, etc, as long as they are blood relatives. Same for grandparents if they are alive.
- The problem, as in the case of the Kerala couple arises, when a couple has only a daughter or daughters.
- The daughters can inherit only two-thirds of father's property, as the holy book says, "If you leave only two or more females, their share is two-thirds of the estate."
- Beyond that, the shares are for the mother and for paternal blood relatives.

Options under Islamic law

- Within Islamic law, options are available to such a couple in case they want the property to remain within the family.
- The first option is to **make a will or vasiyat under which a person can declare that upon his death, a particular heir shall inherit not more than one-third of the property.**
- This is often done in case one of the children is not financially sound, or has special needs, or has served his or her parents more than other children. For instance, if two children stay abroad and one child stays back with parents to look after them in old age, such a provision may be used.
- Besides vasiyat, there is **also the concept of virasat (inheritance).** Under it, there is the option of hiba which allows unrestricted transfer of wealth or property to a person during the lifetime of the donor.
- In the case of the Kerala couple, hiba provisions could have been used to transfer all the property in the name of the daughters during the lifetime of the parents. This is like a gift deed. Importantly, while the Islamic division of property clauses for relatives comes into force once a person dies, a gift deed can be made during one's lifetime.

Lok Sabha passes Competition (Amendment) Bill



Relevance: Prelims & Mains Paper II; Governance

Why in news?

- The lower house of Parliament (Lok Sabha) has passed the Competition (Amendment) Bill, 2023. It seeks to **amend the Competition Act, 2022.**
- One of the major changes in the amended law is that it gives the Competition Commission of India (CCI) **the power to penalise entities found engaging in anti-competitive behaviour based on their global turnover.**
- **So far, the penalties were decided as a percentage of erring entities' "relevant" turnover, which typically means their annual domestic turnover.**

The global turnover provision

- **The new provision on global turnover in this bill will not be exclusively applicable to tech companies, they are likely to be most affected by it since the nature of their business spans across the globe.**
- Typically, the revenue these businesses earn from their India operations is much smaller than their income in other regions such as the US and Europe.
- In the European Union, the penalty imposed on an entity for anti-competitive activity has been limited to 10% of the overall annual turnover of the company.
- The 10% limit can be based on the turnover of the group to which the company belongs if the parent of that group "exercised decisive influence over the operations of the subsidiary during the infringement period".

The earlier definition of 'turnover' in India

- The definition of “turnover” had been a widely debated subject regarding the competition law.
- On 8 May, 2017, in a landmark judgement, the top court had upheld the principle of “relevant turnover” for the determination of penalties in competition law contraventions.
- In a case related to alleged contravention of the Competition Act, 2002 in the public procurement of Aluminium Phosphide tablets by the Food Corporation of India, the CCI had imposed a penalty at the rate of 9% of the total turnover of the concerned tablet manufacturers, Excel Corp. Care Limited, United Phosphorus Limited, and Sandhya Organic Chemicals Private Limited.
- The Competition Appellate Tribunal (COMPAT) had however later said that the turnover will have to be “relevant” turnover, that is turnover derived from the sales of goods or services.
- Ultimately, the Supreme Court had held that the imposition of penalty adopting the criteria of “relevant turnover” will be “more in tune with ethos of the Act and the legal principles which surround matters pertaining to imposition of penalties.”

Other amendments

- The changes in the Competition (Amendment) Bill, 2023 will allow the CCI to have a greater say in mergers and acquisitions.
- Entities will have to seek its approval in case a deal value is worth more than Rs 2,000 crore, and both the parties have a substantial business operation in India.
- The CCI could also incentivize parties in ongoing cartel investigations in terms of lesser penalty to disclose information regarding other cartels.
- The bill has also reduced the time limit for approval of mergers and acquisitions from the existing 210 days to 150 days.

ISRO's Reusable Launch Vehicle Mission RLV LEX



Relevance: Prelims & Mains Paper II; Governance

Why in news?	Advantages of RLVs	Global RLV scenario
<ul style="list-style-type: none">- The Indian Space Research Organisation and its partners successfully demonstrated a precise landing experiment for a Reusable Launch Vehicle at the Aeronautical Test Range (ATR), Chitradurga, Karnataka.- Several private launch service providers and govt space agencies are working on developing reusable launch systems in the world alongside ISRO.- The Reusable Launch Vehicle Autonomous Landing Mission (RLV LEX) test was the 2nd of 5 tests that are a part of ISRO's efforts to develop RLVs, or space planes/shuttles,- They can travel to low earth orbits to deliver payloads and return to earth for use again.	<ul style="list-style-type: none">- With the costs acting as a major hindrance to space exploration, a reusable launch vehicle is considered a low-cost, reliable, and on-demand mode of accessing space.- Nearly 80 to 87% of the cost in a space launch vehicle goes into the structure of the vehicle. The costs of propellants are minimal in comparison.- By using RLVs the cost of a launch can be reduced by nearly 80% of the present cost.	<ul style="list-style-type: none">- Reusable space vehicles have been in existence for a long time with NASA space shuttles carrying out dozens of human space flight missions.- The use case for reusable space launch vehicles has revived with the private space launch services provider Space X demonstrating partially reusable launch systems with its Falcon 9 and Falcon Heavy rockets since 2017.- SpaceX is also working on a fully reusable launch vehicle system called Starship.

SC directs Media One's licence to be renewed



Relevance: Prelims & Mains Paper II; Governance

Why in news?

- The Supreme Court has set aside the Centre's order refusing to grant the renewal of the broadcast licence to the Malayalam news channel Media One.
- Notably, Media One had been denied security clearance by the Ministry of Home Affairs (MHA) over alleged links with the Jamaat-e-Islami-Hind.
- As a result, the Ministry of Information and Broadcasting, had on Jan. 31, 2022, refused to renew this channel's broadcast licence. Following this the channel was taken off air.
- A bench presided by Chief Justice of India D Y Chandrachud also set aside the Kerala High Court order which upheld the government action and directed that the licence be renewed in four weeks' time.
- The Supreme Court has also criticised the Centre's "cavalier" manner in which it presented its evidence in a sealed cover and raised the matter of "national security".

SC's different view than the High Court

- During this case's hearing in the Kerala High Court, the Centre told the HC that the decision to revoke the licence was based on grounds of national security.
- On February 9, 2022, a single bench of the HC upheld the ban on the channel. This order was upheld even after an appeal.
- The HC division bench observed that when certain issues with respect to security of the State are concerned, the govt is at liberty to decline to renew the permission granted without disclosing complete reasons for the non-renewal.
- Later, in its order, the SC contended that the fundamental right to freedom of speech and expression, which includes press freedom, can be restricted only on the grounds enumerated under Article 19(2) and that there was no allegation that the channel violated the Program Code.

NCERT textbook revision leads to controversy



Relevance: Prelims & Mains Paper II; Governance

Why in news?

- The NCERT textbooks are the centre of yet another political controversy.
- **The central govt has been accused of rewriting history taught to students in schools.**
- Notably, this is **the third round of revisions** to these books over the past eight years.

Recent revisions

- **The first round, in 2017**, was termed a “review” rather than a revision. The need was cited to update the textbooks to reflect recent events and changes, including the landmark Goods and Services Tax (GST) legislation, as justification for the exercise.
- The review resulted in 1,334 changes across 182 books, with new references to schemes introduced by the Modi govt, increased content on ancient Indian knowledge and practices, and a focus on nationalist icons who had been overlooked in the country’s collective memory, as per BJP and right-wing advocates.
- **In 2018**, at the request of then education minister Prakash Javadekar, the NCERT initiated a second round of revisions, known as “textbook rationalisation”, to reduce the “syllabus burden” on students. According to Javadekar, NCERT textbooks were “cramped”, so he announced plans to reduce content by half across all subjects.
- This exercise led to the deletion of several chapters in history textbooks on clothing, how social movements influenced how we dressed, and another on the history of cricket in India and its connection to the politics of caste, region and community.
- **Less than three years later, the NCERT announced a third round of textbook rationalisation.** The official reason for this latest exercise was to reduce the curriculum load further, and to help students recover from learning disruptions caused Covid-19.

Reasons behind controversy

- The latest round of textbook rationalisation has resulted in some of the most sweeping changes in the curriculum since the NDA govt came to power.
- These changes include removing all references to the 2002 Gujarat riots, reducing content related to the Mughal era and the caste system, and dropping chapters on protests and social movements.
- Many of these changes are seen as ‘political’ — and the govt is facing allegations of using the rationalisation exercise to align the curriculum with the ideology of the BJP, and to control what students learn in school.
- Recent changes in NCERT textbooks include the removal of a mention of Mahatma Gandhi’s unpopularity among Hindu extremists, and of the ban imposed on the Rashtriya Swayamsevak Sangh (RSS) in the aftermath of his assassination.
- These changes have been criticised by academics and opposition parties.

Removal of content on Mughal Empire

- Some of the content on the Delhi Sultanate and the Mughal Empire has been removed from the history textbook for Class 7.
- The chapter ‘The Mughal Empire’, Our Past – II, has undergone deletions — including a two-page table on the milestones and achievements of the reigns of the emperors Babur, Humayun, Akbar, Jahangir, Shah Jahan, and Aurangzeb.

Previous controversies

- Over the years, NCERT textbooks have become the govt's medium for political communication and a battleground of competing ideologies.
- New textbooks were drafted in 2002-03 when the first NDA government (of Prime Minister A. B. Vajpayee) was in power.
- These textbooks were scrapped immediately after the UPA-I government came to power in 2004.
- The UPA govt made its own changes to school textbooks. In 2012, cartoons that were deemed derogatory to Jawaharlal Nehru and B R Ambedkar were removed from political science textbooks.
- Academics criticised the decision, and NCERT advisers Yogendra Yadav and Suhas Palshikar resigned from their positions.

Changes benefit parties in power!

- School textbooks have always been seen as playing a crucial role in shaping national narratives, and as a tool for cultivating a desired national identity.
- NCERT textbooks are read by more than 5 crore students in 18 states around the country. They are seen by political parties as a large captive audience with impressionable minds.
- It's not just school students either — candidates preparing for competitive exams such as the Civil Services Examination, SSC, JEE, and NEET, also rely on these textbooks.

NCF 2023 Draft proposals aim to reshape the Indian school system

Relevance: Prelims & Mains Paper II; Governance

Why in news?

- School system in India may undergo a major restructuring. This is because an expert committee appointed by the Union govt has recommended **several changes to it.**
- The Ministry of Education has released **the pre-draft of the National Curriculum Framework (NCF)** for school education for public feedback.
- These discussions involve the national steering committee led by **former ISRO chairperson K Kasturirangan that developed it.**

What is NCF?

- The NCF, which was last revised in 2005 under the Congress-led UPA govt, is **a key document based on which textbooks are prepared.**
- **The current set of NCERT textbooks** other than the deletions, **are all based on the NCF 2005.** Before 2005, the NCF was revised thrice, including once under the NDA govt led by A. B. Vajpayee.
- The latest round of revision is underway since Sept. 2021.
- Apart from textbooks, the NCF, after its adoption by the CBSE and other state boards, will also restructure various other aspects of the classroom, including choice of subjects, pattern of teaching, and assessment.

Proposed changes for class IX and X

- As per the NCF pre-draft, the students of class IX and X will have to study 16 courses categorised under eight curricular areas.
- These areas are Humanities (that includes languages), Mathematics & Computing, Vocational Education, Physical Education, Arts, Social Science, Science, and Inter-disciplinary Areas.
- Students will have to clear eight board exams, each of which will assess their hold on courses they learnt in class IX and X, to obtain the final certification which will factor in their performances in exams held over two years.
- Under the current system, there are no such links between class IX and X and students across most boards have to pass at least five subjects to clear class X.

Proposed changes for class XII

- The committee has recommended the introduction of a semester system in class XII. The final certification will be based on the cumulative result of each of the examinations.
- In terms of subjects, students will be given a choice to pick 16 courses from eight curricular areas.
- Currently, in Class 12, CBSE students appear for the board exam in at least five subjects and a maximum of six and there is little scope for them to pursue multidisciplinary education.
- In other words, a student who has picked a combination of Physics, Mathematics and Chemistry cannot simultaneously study History or Political Science. However, under the proposed system, that will be possible.

Proposed changes for younger students

- The NCF's pre draft suggests a play based approach for children aged 3-8 enrolled in grades between preschool and class II.
- Textbooks are to be used from Grade 1 and most of the content should be concrete materials – toys, puzzles, and manipulatives.
- For grades III, IV, V or the preparatory stage, children are to be introduced to textbooks on languages, mathematics, while also retaining the activity and discovery-based approach.
- In the middle stage (class VI, VII, VIII), natural as well as social sciences will be introduced.
- As per the govt, the textbooks based on the revised NCF will be taught in schools starting from the 2024-25 academic session.

AAP becomes a national party while NCP, Trinamool lose this tag



Relevance: Prelims & Mains Paper II; Governance

Why in news?

- The Election Commission has recognized the Aam Aadmi Party (AAP) as a national party. On the other hand, it has revoked that status of the All India Trinamool Congress, Nationalist Congress Party (NCP) and the Communist Party of India (CPI).
- The Commission said that NCP and Trinamool Congress will be recognized as state parties in Nagaland and Meghalaya respectively based on their performance in the recently concluded Assembly elections.
- The BJP, Congress, CPI(M), Bahujan Samaj Party (BSP), National People's Party (NPP) and the AAP are the remaining national parties now.

What is a national party?

- A national party is one that has a presence 'nationally', as opposed to a regional party whose presence is restricted to only a particular state or region.
- National parties are usually India's bigger parties, such as the Congress and BJP. However, some smaller parties are also recognized as national parties.
- A certain stature is sometimes associated with being a national party, but this does not necessarily translate into having a lot of national political clout.
- Some parties, despite being dominant in a major state — such as the DMK in Tamil Nadu, BJD in Odisha, YSRCP in Andhra Pradesh, RJD in Bihar, or TRS in Telangana — and having a major say in national affairs, remain regional parties.

How is a national party defined?

- The **ECI has laid down the technical criterion** for a party to be recognized as a national party. A party may gain or lose national party status from time to time, depending on the fulfilment of these laid-down conditions.
- As per the ECI's Political Parties and Election Symbols, 2019 handbook, a political party would be **considered a national party if:**
 - i. it is 'recognized' in four or more states; or
 - ii. if its candidates were polled at least 6% of total valid votes in any four or more states in last Lok Sabha or Assembly elections and has at least four MPs in the last Lok Sabha polls; or
 - iii. if it has won at least 2% of the total seats in the Lok Sabha from not less than three states.

How is a state party defined?

- To be recognized as **a state party**, a party needs:
 - i. at least 6% vote-share in the last Assembly election and have at least 2 MLAs; or have 6% vote-share in the last Lok Sabha elections from that state and at least one MP from that state; or
 - iii. at least 3% of the total number of seats or three seats, whichever is more, in the last Assembly elections; or
 - iii. at least one MP for every 25 members or any fraction allotted to the state in the Lok Sabha; or
 - iv. have at least 8% of the total valid votes in the last Assembly election or Lok Sabha election from the state.

AAP's recognition as National Party

- The **AAP** is in power with big majorities — and very large vote shares — in **Delhi** and **Punjab**.
- In the **Goa Assembly elections** in March last year, it **received 6.77%** of the vote.
- While going into the Gujarat-Himachal elections towards the end of 2022, the party already fulfilled the criteria for recognition as a state party in three states.
- It then required 6% of the vote in the Assembly elections in either Himachal or Gujarat to be recognized in a fourth state — which would qualify it for recognition as a national party.
- While the AAP got only 1% of the vote in Himachal, **the almost 13% vote it got in Gujarat was more than double required to be recognized as a state party there. That made it four states.**

Amended IT Rules aim to curb 'fake news'

Relevance: Prelims & Mains Paper II; Governance

Why in news?

- The Ministry of Electronics and Information Technology has **amended the Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Rules, 2021**.
- The amendment **empowers the Union Govt to designate an official fact checker for misinformation and 'fake news'**.

Tougher action against 'fake news'

- **The fact check unit of the Press Information Bureau (PIB), which has been 'exposing' WhatsApp forwards and news articles on Central govt schemes and depts for years, will be notified as the official fact checker for the Union Govt.**
- **As such, whenever any news is notified as fake, social media companies will lose their "safe harbour" (legal immunity) for such content. They will have to delete the content. Else, they will face lawsuits or other legal action.**
- **Social media companies have traditionally enjoyed legal immunity for content posted by users, as the Information Technology Act, 2000 treats them as intermediaries.**
- **Under the IT Rules, they lose this status if, among other things, they don't have a grievance officer for India, or don't address user complaints on time.**
- **Now, they will also lose their safe harbour immunity for posts that have been flagged by the govt as misinformation.**

Move raises concerns

- The govt claims to have conducted consultations with stakeholders before notifying this particular part of the amendment.
- However, organisations like the **Editors Guild of India and the Internet Freedom Foundation (IFF)** have called the amendment “akin to censorship” and “legally contentious,”
- This indicates that they were either not consulted or that their views were not taken into account.

Response of Platforms

- It is unclear how platforms will respond. **Generally, U.S. social media firms have been hesitant to be pulled into public confrontations with the govt, preferring to silently comply with takedown notices.**
- Twitter which is now owned by Elon Musk has been an exception.
- It is contesting some censorship orders in the Karnataka High Court. However, while the case continues, it has been taking down accounts and posts of journalists, politicians and activists upon the govt’s requests.

Supreme Court's public interest immunity claim procedure



Relevance: Prelims & Mains Paper II; Governance

Why in news?

- The Supreme Court recently set aside the Centre's order imposing a broadcast ban on the Malayalam news channel MediaOne.
- The top court set aside a March 2, 2022 judgment of the Kerala High Court that had upheld the I&B Ministry's order. In making its decision, the High Court had relied on material disclosed solely to it by the Home Ministry in a 'sealed cover'.
- The SC, which has repeatedly expressed unhappiness with so-called "sealed cover jurisprudence", also devised a procedure for "public interest immunity claim" as a less restrictive alternative to sealed covers for deciding claims involving state secrets.

Public interest immunity claim

- As per SC, the validity of a claim involving national security considerations must be based on the test of "
 - (i) whether there is material to conclude that the non-disclosure of information is in the interest of national security; and
 - (ii) whether a reasonable prudent person would draw the same inference from the material on record".
- However, in the MediaOne case, the court said that even if one assumes that the non-disclosure was in the interests of confidentiality and national security, the means adopted by the govt did not satisfy the proportionality standard.
- The court added that while public interest immunity claims also impact the principles of natural justice, sealed cover proceedings go a step ahead and infringe on the principles of natural justice as well as the principles of open justice.

Directions on amicus curiae

- In its judgment, the Supreme Court directed **how the process of appointing an amicus curiae** (“friend of the court” in Latin) **will take effect.**
- Firstly, the court-appointed amicus, **shall be given access to the materials sought to be withheld by the state.**
- The amicus curiae will be **allowed to interact with the applicant and their lawyer before the proceedings to ascertain their case, and enable them to make effective submissions on the necessity of disclosure.**
- However, the court specified that “the amicus curiae shall not interact with the applicant or their counsel after the public interest immunity proceeding has begun and the counsel has viewed the document sought to be withheld.”
- Finally, the amicus **“shall to the best of their ability represent the interests of the applicant” and would be bound by oath to not disclose or discuss the material with any other person.**

Article 145 of Constitution

- One of the overwhelming considerations behind the court giving directions to appoint an amicus as a bridge between the opposing parties with conflicting interests in public interest immunity claims was **Article 145 of the Constitution, which warrants that all judgments of SC to be delivered in open court.**
- Article 145(4) lays down that **“No judgment shall be delivered by the Supreme Court save in open Court, and no report shall be made under article 143 save in accordance with an opinion also delivered in open Court”.**
- While the court recognised that public interest immunity proceedings will take place in a closed setting, it stated clearly that the “Court is required to pass a reasoned order for allowing or dismissing the claim in open court.”

Solar Energy Corporation of India gets 'Miniratna Category-I' status



Relevance: Prelims & Mains Paper II; Governance

Why in news?

- The **Solar Energy Corporation of India Limited (SECI)** has been accorded the status of **Miniratna Category-I Central Public Sector Enterprise (CPSE)**.
- Incorporated in the year 2011, **SECI is the primary implementing agency of the Ministry of New and Renewable Energy for Renewable Energy schemes/projects towards fulfillment of India's international commitments.**
- Till date, SECI has awarded Renewable Energy (RE) project capacities of over 56 GW. SECI is also active in setting up of projects through its own investments as well as for other public sector entities as Project Management Consultant (PMC).

What is 'Miniratna Category-I' status?

- Miniratnas companies are those Public Sector Undertakings (PSU's) who:
 - **have made profits continuously for the last three years or**
 - **earned a net profit of ₹30 crores or more in one of the three years.**
- The companies having 'Miniratna Category-I' status **could invest up to Rs. 500 crore or equal to their net worth, whichever is lower without any explicit govt approval.**
- **Presently, out of the total 74 Miniratnas in India, 62 are Miniratna Category-I companies.**



Maternity benefits to adoptive mothers face get challenged in SC



Relevance: Prelims & Mains Paper II; Governance

Why in news?

- The Supreme Court has agreed to hear a petition challenging the constitutional validity of Section 5(4) of the Maternity Benefit Act, 1961.
- A Public Interest Litigation (PIL) has been filed against this act by Karnataka-based Hamsaanandini Nanduri.

Section 5(4) and why it's been challenged?

- The original 1961 legislation of the Maternity Benefit Act did not have specific provisions for mothers who adopt. These were inserted with the 2017 amendment to this Act.
- As per Section 5(4) of the amended Act, “A woman who legally adopts a child below the age of three months or a commissioning mother shall be entitled to maternity benefit for a period of twelve weeks from the date the child is handed over to the adopting mother or the commissioning mother, as the case may be.”
- The term “commissioning mother” refers to a surrogate mother and has been defined as “a biological mother who uses her egg to create an embryo implanted in any other woman.” A woman adopting a child older than three months gets no benefits.
- The PIL challenges Section 5(4) on grounds of being “discriminatory” and “arbitrary” towards adoptive mothers..
- Also, as per the plea, Section 5(4) conflicts with Section 38 of the Juvenile Justice Act, 2015, which requires any orphaned, abandoned, or surrendered child to be declared “legally free for adoption” by Child Welfare Committee. This process takes two months.

Maternity Benefit Act, 1961

- The Maternity Benefit Act was originally passed by Parliament on December 12, 1961, to regulate the employment of women in “certain establishments” for the period before and after childbirth and “to provide for maternity benefit and certain other benefits.”
- Section 4 of the 1961 Act prohibited the employment of or work by women during a certain period and under sub-section (1) stated, “No employer shall knowingly employ a woman in any establishment during the six weeks immediately following the day of her delivery or her miscarriage.”
- The right to paid maternity leaves was also given under Section 5 of the 1961 Act, although the period of such leave could not exceed twelve weeks, six weeks up to and including the day of delivery and six weeks immediately following that day.
- No woman could be allowed to avail maternity benefits if she had not worked in the establishment for at least “one hundred and sixty days in the twelve months immediately preceding the date of her expected delivery.”
- These benefits would be allowed without dismissing the female worker from service or reduction of wages. Violating provisions of the Act could result in three months’ punishment, with or without a fine.

Not entirely effective!

- A much-received criticism of Maternity Benefit Act is that it does not apply to the unorganised sector.
- In 2020, a report revealed that three years after the amendment Act was passed, women’s participation dropped in more than five out of 10 sectors since the implementation of the Act.
- As per the report, after maternity, women face several challenges. Most of the women (30%) cited wage cuts followed by resistance or lack of support from family (25%) and access to childcare (20%).

PM Modi unveils first AIIMS in the Northeast



Relevance: Prelims & Mains Paper II; Governance

Why in news?

- Prime Minister Narendra Modi recently inaugurated the first All India Institute of Medical Sciences (AIIMS) in the Northeast at Changsari near Guwahati.



What is All India Institute of Medical Sciences (AIIMS)

- The All India Institutes of Medical Sciences (AIIMS) is a group of autonomous government public medical universities of higher education under the jurisdiction of Ministry of Health and Family Welfare, Government of India.
- These institutes have been declared by an Act of Parliament as Institutes of National Importance.
- AIIMS New Delhi, the earliest of all AIIMS institutes, was established in 1956.
- Since then, 24 more institutes were announced.
- As of April 2023, 21 institutes are operating and 3 more are expected to become operational by 2025.

Gangster-politician Atiq Ahmed, brother Ashraf shot dead



Relevance: Prelims & Mains Paper II; Governance

Why in news?

- Gangster-turned-politician Atiq Ahmed and his brother Ashraf were recently shot by three men near a medical college in Prayagraj. The shooting was caught on camera as media persons had been following the duo.
- Uttar Pradesh Chief Minister Yogi Adityanath has ordered an inquiry and constituted a three-member judicial commission to probe the killing. Police have identified the assailants as Lavlesh Tiwari, Arun Maurya and Sunny Singh. As per their families, the latter were jobless and addicted to drugs. Neither of them was involved in their family affairs for a long time.
- The killers were quoted as saying, “We wanted to finish the gang of Atiq and Ashraf and become famous” since “this would benefit us in the future”.
- Notably, just two days earlier, Ahmad’s 19-year-old son Asad and an accomplice, Ghulam, were killed in a police encounter in Jhansi.
- Atiq and his family members had repeatedly sought protection from courts saying they faced threats and their lives were in danger.

A long criminal record!



- Atiq Ahmed was a former MP and five-time MLA from Uttar Pradesh. His political journey began in 1989 when he won the MLA seat from Allahabad West as an independent candidate.
- After retaining his seat in the next two Legislative Assembly elections, Ahmed joined the SP and won his fourth consecutive term in 1996. Three years later, he became part of Apna Dal and once again won the seat in 2002.
- The next year, he returned to SP and became an MP in 2004 from the Phulpur Lok Sabha constituency, a seat once held by India's first Prime Minister Jawaharlal Nehru.
- Ahmed suffered a major political setback when he was named in the murder case of Raju Pal. This incident took place after Raju defeated Ahmed's brother, Ashraf, in a 2005 Assembly bypoll.
- On Jan 25, 2005, Raju was shot dead near his house while he was returning from a hospital along with his two associates. This led to the lodging of an FIR against Atiq, Ashraf and others.
- Due to political and police pressure, Atiq Ahmed finally surrendered in 2008 only to be released in 2012. He then contested the 2014 Lok Sabha elections on an SP ticket but lost. SP eventually distanced himself from Ahmed due to his criminal record.
- In 2017, Atiq was arrested in an assault case. Despite being in prison, he contested against PM Narendra Modi for the Varanasi Lok Sabha seat in 2019. He got just 855 votes.
- In all, the 60-year-old Atiq was facing over 70 cases of murder, attempt to murder, criminal intimidation and assault.

The Umesh Pal murder case



- Umesh Pal who was killed in February was an eyewitness in the Raju Pal murder case.
- As per his wife, in 2006, Atiq Ahmed and his associates kidnapped her husband and forced him to give a statement in their favour in court.

SC begins hearing pleas on same-sex marriage, limits scope up to civil union



Relevance: Prelims & Mains Paper II; Governance

Why in news?

- A five-judge bench of the Supreme Court, headed by Chief Justice of India DY Chandrachud has begun hearing a batch of petitions seeking legal recognition of same-sex marriage.
- The Centre, through Solicitor General Tushar Mehta, has contested the maintainability of the petitions, and also the judiciary's right to confer legal recognition on the "socio-legal institution" of marriage,
- However, the CJI has clarified that the hearing's scope would be limited to developing a notion of a "civil union" that finds legal recognition under the Special Marriage Act.

Civil union

- A "civil union" refers to the legal status that allows same-sex couples specific rights and responsibilities normally conferred upon married couples.
- Although a civil union resembles a marriage and brings with it employment, inheritance, property, and parental rights, there are some differences between the two.

Countries that allow civil unions

- The U.S., Norway, Sweden and Austria are few countries that allowed same-sex unions, before legalizing marriage.
- Similarly, countries like Brazil, Uruguay, Andorra, and Chile had also recognised the right of same-sex couples to enter into civil unions, even before they formally recognised their legal right to marriage.

CBI summons Satya Pal Malik in the Reliance insurance scam case



Relevance: Prelims & Mains Paper II; Governance

Why in news?

- Former Jammu and Kashmir Governor Satya Pal Malik has been called by the CBI to answer queries related to an alleged Reliance insurance scam case.

Details

- In Oct. 2021, Malik alleged that **when he was the J&K governor, he was offered Rs 300 crore in bribes to clear two files.**
- While he didn't specify what files those were, one of these were related to **the govt's deal with Reliance General Insurance for providing health insurance to govt employees.**
- **Malik had cancelled the deal in Oct. 2018. The other matter referred to civil works relating to the Kiru Hydel Power Project.**
- Notably, this will be the 2nd time that Malik would appear before the CBI regarding the matter. He was earlier questioned by the agency in Oct. last year.

Allegations against Reliance

- Reliance General Insurance Company and Trinity Reinsurance Brokers Ltd have been mentioned as accused in one of two FIRs registered by the CBI. They've been accused of causing loss to the state exchequer during 2017 and 2018.
- The govt at the time had floated tenders for group health insurance to govt employees. However, it received only one bid. It then hired insurance broker Trinity to float tenders on its behalf.
- Seven insurance companies made the bid, including Reliance, which eventually qualified. It was paid a premium of over Rs 61 crore by the state administration.
- After Governor Malik raised objections, the matter was examined by the state Anti-Corruption Bureau (ACB) and Finance Department.

Findings of the ACB report

- The J&K ACB report which came out in Nov. 2021, found no irregularity in this case. It only recommended a recovery of Rs 44 crore from Reliance as an excess premium since the contract was cancelled.
- But the Finance Dept, in a Feb. 2022 report mentioned that there were irregularities in awarding the contract.
- These included the e-tendering process not being followed, change of criteria for re-tender after only one response was received to the first tender, changes in agreement with Trinity after it was already signed, and release of the first instalment of premium before the agreement was signed with Reliance.
- It was after this that Lieutenant-Governor Sinha, in March 2022, announced to hand over the case to the CBI for further investigation.

CMs of Assam-Arunachal Pradesh sign an MoU over border dispute

Relevance: Prelims & Mains Paper II; Governance

Why in news?

- Assam Chief Minister Himanta Biswa Sarma and his Arunachal Pradesh counterpart Pema Khandu have signed a Memorandum of Understanding (MoU) over the long-standing border dispute between the two states.
- The two states share a roughly 800-km long border. The disputed areas the MoU deals with, are 123 border villages. They span 12 districts of Arunachal Pradesh and 8 districts of Assam.

Timeline of this dispute

- Before North East Frontier Agency or NEFA (former name of what is now Arunachal Pradesh) was carved out of Assam in 1954, a sub-committee headed by then Assam Chief Minister Gopinath Bordoloi had made a set of recommendations in relation to the administration of NEFA and submitted a report in 1951.
- On the recommendations of this report, around 3,648 km of the “plain” area were transferred from NEFA to Assam’s then Darrang and Lakhimpur districts.
- When Arunachal was made a Union Territory in 1972, it argued that its several forested tracts in the plains were unilaterally transferred to Assam.



Past efforts to resolve this issue

- In April 1979, a high-powered tripartite committee was constituted to delineate the boundary on the basis of Survey of India maps, as well as discussions with both sides.
- While around 489 km of the 800 km were demarcated by 1983-84, further demarcation could not take place because Arunachal did not accept the recommendations and claimed several km of the 3,648 sq km, which was transferred to Assam in line with the 1951 report.
- Assam objected to this and filed a case in the Supreme Court in 1989, highlighting an “encroachment” made by Arunachal Pradesh.
- To resolve the dispute between the states, the apex court appointed a local boundary commission in 2006, headed by a retired SC judge.
- In 2014, the local commission submitted its report. Several recommendations were made (some of which suggested Arunachal Pradesh get back some of the territory which was transferred in 1951), and it was suggested that both states should arrive at a consensus through discussions. However, nothing came of it.

Issues agreed upon till now

- Assam CM Sarma and Arunachal CM Khandu commenced CM-level talks over this border issue in 2022. The **dispute over 37 of these 123 villages** had been resolved on July 15, 2022, itself with **the signing of the Namsai Declaration between both CMs, where they “agreed in principle” over them.**
- This effectively reduced the number of disputes to be resolved to 86.
- Through the MoU, the **dispute over another 34 villages has been “amicably resolved”.**
- Of the 71 villages over which an understanding has been reached, the following has been decided:
 - One village in Arunachal Pradesh as per the notified boundary will be included in Assam
 - 10 villages in Assam as per the notified boundary will remain with Assam
 - 60 villages in Assam as per the notified boundary will be included in Arunachal Pradesh
- The **village boundaries of 49 of the remaining villages are unresolved.** The Regional Committees will finalize the boundaries within a period of 6 months “through continuous dialogue”.
- Both state governments agree that no new claim area or village will be added in the future beyond these 123 villages. Efforts will be made to prevent any new encroachment in the border areas”. The MoU is “full and final” in respect to the 123 villages.

Rajasthan drafts law for gig workers' welfare



Relevance: Prelims & Mains Paper II; Polity & Governance

Why in news?

- The Rajasthan govt has prepared the draft of a new law which proposes to levy a “welfare cess” on consumers to ensure better rights and facilities for gig workers.

Details

- As per the draft of this bill, the govt proposes to constitute a welfare board for the platform-based gig workers to register them and their aggregators.
- The board will be chaired by the state labour minister, and will have representatives from gig workers' unions, aggregators, and members of civil society.
- The cess to be levied on consumers is likely to be 1% of the total value of the service or delivery (such as a taxi ride or a food order).
- The board, will formulate schemes for the benefit of the gig workers, provide them immediate financial assistance in case of accidents and medical emergencies.
- It will also offer them health insurance coverage under state govt schemes, apart from ensuring gratuity, scholarships, and pensions.

How will this be done?

- The board will generate a unique ID for a gig worker, which would be valid for three years. The information of all registered gig workers will be maintained in a database.
- This will help workers seek benefits from govt welfare schemes such as PM Sambhal scheme (which provides for old age pension), and also to file complaints against aggregators over payment disputes and other issues.
- To fund the welfare of gig workers, the state govt has proposed the Rajasthan Platform-Based Gig Workers Social Security and Welfare Fund, which will start with seed money of ₹200 crore.
- A 1% gig worker welfare cess will be levied on the consumer. It will be collected and used for their welfare by the board.

Penalties



- The Rajasthan govt plans to put in place strict provisions against violations by aggregators.
- They include not filing annual reports, and not integrating gig worker data with the board's database – ranging from ₹10 lakh for the first violation to a maximum of ₹1 crore for subsequent breaches.
- The board can also recommend the state govt to suspend and prohibit the operations of the aggregator.

What are gig workers?

- Gig workers are those workers who are engaged in temporary or freelance work, and workers of app-based cab and food-delivery service providers such as Ola, Uber, Swiggy, and Zomato.
- As of July 2022, around 7.7 million people are employed as gig workers across the country. This number is likely to treble by 2029-30.
- There were 225,000 to 270,000 gig workers in Rajasthan in Aug. 2022 with about 50,000 employed with Ola and 35,000 with Uber.
- A survey found that more than 50% of these workers did not have any health insurance and about 40% were not covered under the state govt's accidental insurance.



INTERNATIONAL ORGANISATIONS & BILATERAL RELATIONS

Aung San Suu Kyi's party gets dissolved



Relevance: Prelims & Mains Paper II; International Relations

Why in news?

- Myanmar's main political party, the National League for Democracy (NLD) has been dissolved.
- The country's popular leader Aung San Suu Kyi was leading this party since it was founded in 1988.
- This move from Myanmar's junta (military govt.) signifies that it wants to hold on to its power by conducting bogus elections.
-

Details

- Feb. 1, 2021 marked the 2nd anniversary of the military coup that erased the NLD's 2020 election victory. Notably, NLD crushed the United Solidarity and Development Party (USDP), a military proxy in these elections.
- Under the military-drafted 2008 Constitution, a state of emergency can be imposed only for two years, and thereafter, elections have to be held within six months.
- But on Feb. 1, the junta extended the emergency by another six months, which will end on August 31. This means that an election could be held by February 2024, unless another extension is planned.
- The Burmese army is worried over Suu Kyi's immense popularity which was clearly evident in the 2012 bye-elections two years after her release, and then in the 2015 and 2020 elections. The party won more than 4/5ths of the seats in the parliament in 2020, an increase over its 2015 success.
- The Burmese army then carried out a coup over fears that with her absolute majority, Suu Kyi might rewrite the military-drafted Constitution to exclude it from politics.

The New election law

- Under the **Political Parties Registration Law** announced in Jan., Myanmar's existing parties got 60 days to re-register or be automatically dissolved.
- The **NLD**, which had announced it would not contest the election, did not register. As such, it was dissolved on March 28.
- Notably, some 80 of its leaders are in prison, including the 77-year-old Suu Kyi who is serving a 33-year sentence.
- Out of the 92 parties before the coup, less than 60 had re-registered by the deadline. Parties that have registered must contest.
- The **new law imposes other tough conditions on national parties**. They have to show **100,000 party members** within 90 days of registration (the previous requirement was for 1,000); and **100 million kyat (or about \$ 35,000) in the party's registered bank account**.
- They must **open party offices in half of the 330 townships within 180 days**, and **contest at least half the constituencies countrywide, against just three previously**.

A country in turmoil!

- Myanmar's current junta has **failed to establish control over the country**.
- Like the Taliban in Afghanistan, the **Myanmar military is immune to international pressure**. Even China, which carries influence over the Tatmadaw (the military), seems to have a limited say.

Russia gets ready to deploy tactical nuclear weapons in Belarus

Relevance: Prelims & Mains Paper II; International Relations

Why in news?

- Russia has announced its plans to deploy tactical nuclear weapons on the territory of Belarus.
- Belarus which has close military ties with Russia, provided support in the invasion of neighbouring Ukraine in Feb. 2022.
- As per Putin, by stationing tactical nuclear weapons in Belarus, Russia will be doing what the U.S. has done for decades by putting its nuclear weapons in Belgium, Germany, Italy, the Netherlands, and Turkey.
- Russia argues that the U.S. has breached the pact by deploying them on the territory of its NATO allies.

What are tactical nuclear weapons?

- Tactical nuclear weapons are intended to destroy enemy troops and weapons on the battlefield. They have a relatively short range and a much lower yield than nuclear warheads fitted to long-range strategic missiles that are capable of destroying whole cities.
- Unlike strategic weapons, which have been subject to arms control agreements between Russia and the U.S., tactical weapons never have been limited by any such pacts.
- Russia has also not released their numbers. The U.S. believes Russia has about 2,000 tactical nuclear weapons. They include bombs that can be carried by aircraft, warheads for short-range missiles, and artillery rounds.
- While strategic nuclear weapons are fitted to land- or submarine-based intercontinental ballistic missiles that are constantly ready for launch, tactical nuclear weapons are stored at a few tightly guarded storage facilities in Russia, and it takes time to deliver them to combat units.

Implications

- The deployment of tactical nuclear weapons to Belarus, which has a 1,084-km border with Ukraine, would allow Russian aircraft and missiles to reach potential targets there more easily and quickly.
- It would also extend Russia's capability to target several NATO members in Eastern and Central Europe.
- Notably, Russia will retain control over any nuclear weapons deployed to Belarus, just like the US controls its tactical nuclear weapons on the territory of its NATO allies.

First time

- If Russia sends nuclear weapons to Belarus, it will mark **their first deployment outside Russian borders since the early 1990s.**
- Belarus, Ukraine, and Kazakhstan inherited massive nuclear arsenals after the collapse of the Soviet Union in 1991 but agreed to ship them to Russia in the following years.
- Ukraine has responded to Putin's move by calling for an emergency meeting of the UN Security Council.

AFINDEX-23



Relevance: Prelims; Bilateral Relations

Why in news?

- The 2nd edition of joint military exercise “The Africa-India Field Training Exercise (AFINDEX-2023)” took place at Foreign Training Node, Aundh, Pune.
- A total of 25 nations of the African continent participated in the multinational exercise.

Saudi Arabia joins SCO as Dialogue Partner



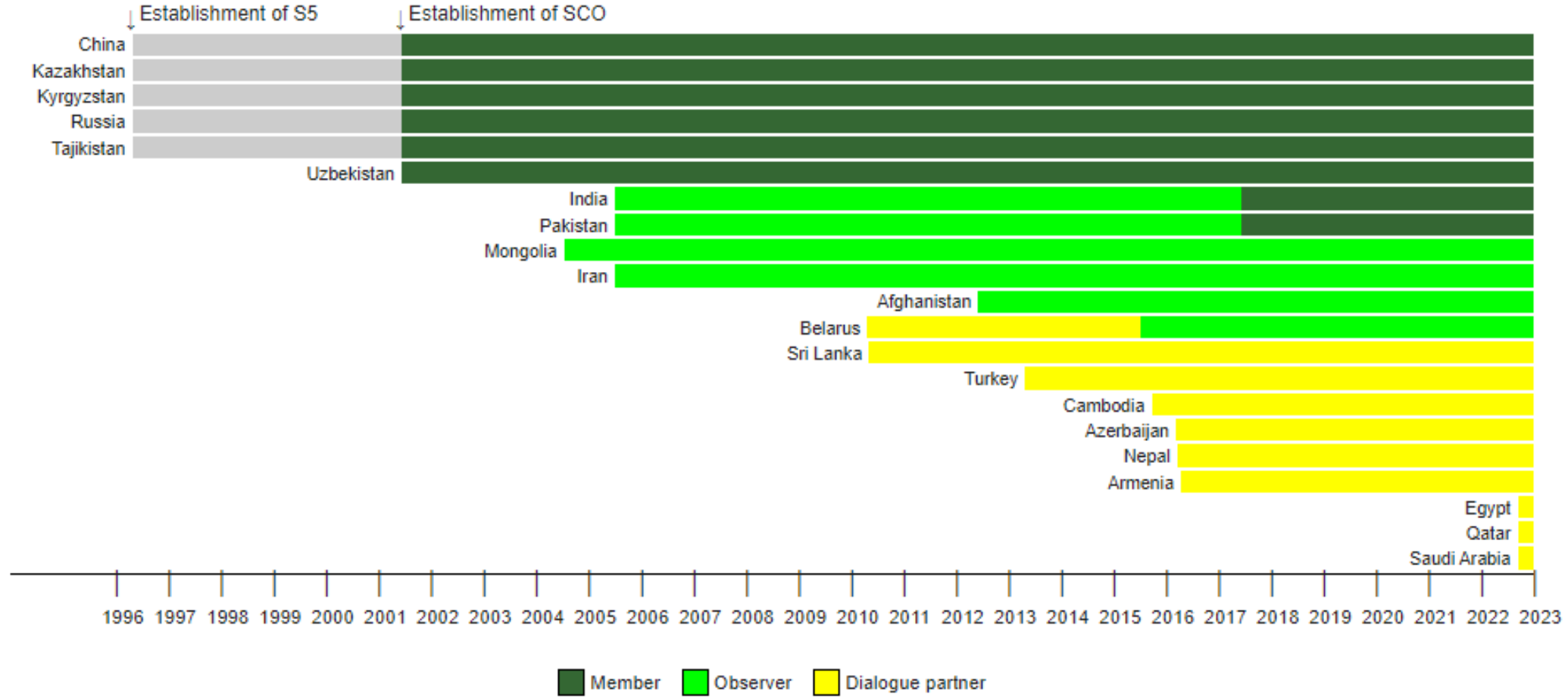
Relevance: Prelims & Mains Paper II; International Organisations

Why in news?

- Saudi Arabia has agreed to join the Shanghai Cooperation Organisation (SCO) as a “dialogue partner”.
- Saudi Arabia joining SCO as dialogue partner is the latest indication of closer political ties with China.
- Saudi Arabia’s move to partner with the bloc comes less than three weeks after the unveiling of a landmark China-brokered reconciliation deal between Saudi Arabia and Iran.

About SCO

- The SCO was established in 2001 as a political, economic and security organisation.
- The SCO currently comprises eight Member States (China, India, Kazakhstan, Kyrgyzstan, Russia, Pakistan, Tajikistan and Uzbekistan), four Observer States interested in acceding to full membership (Afghanistan, Belarus, Iran, and Mongolia) and Nine “Dialogue Partners” (Armenia, Azerbaijan, Cambodia, Turkey, Nepal, Sri Lanka, Egypt, Qatar and Saudi Arabia).
- In 2021, the decision was made to start the accession process of Iran to the SCO as a full member, and Egypt, Qatar as well as Saudi Arabia became dialogue partners.



Britain joins trans-Pacific trade pact CPTPP



Relevance: Prelims & Mains Paper II; International Organisations

Why in news?

- Britain has agreed to join the **Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP)**, a trade pact based around the Pacific rim.
- This move comes as Britain seeks to build ties around the world after leaving the European Union.

What is CPTPP?

- CPTPP is **a free trade agreement (FTA) that was agreed in 2018 between 11 countries – Australia, Brunei, Canada, Chile, Japan, Malaysia, Mexico, New Zealand, Peru, Singapore and Vietnam.**
- Britain will become the 12th member, and the first to join this partnership since its formation.
- **CPTPP countries will have a combined GDP of 11 trillion pounds (\$13.6 trillion) once Britain joins, or 15% of global GDP.**
- CPTPP does not have a single market for goods or services, and so regulatory harmonization is not required, unlike the European Union, whose trading circle Britain left at the end of 2020.

Finland joins NATO and Sweden yet to Join



Relevance: Prelims & Mains Paper II; International Organisations

Why in news?

- Sweden's path to NATO membership remains blocked by Turkey and Hungary.
- This comes as Sweden's neighbour Finland officially joined the 30-member alliance after its application was ratified in record time.
- Analysts do not expect Turkey to ratify Sweden's application until after Turkey's May 14 election at the earliest.
- Even then, it is unclear what would change Turkey's President Tayyip Erdogan's current stand. Meanwhile, Hungary is believed to be following Turkey in this regard.

Background of this issue

- Russia's invasion of Ukraine in February last year convinced Sweden and Finland to end long-held policies of military non-alignment.
- Both countries see NATO, with its collective defence clause, as the best way to ensure their security.
- The majority of NATO members have quickly ratified their applications, arguing that Finland – which shares a 1,300-km border with Russia – and Sweden would strengthen the alliance in the Baltic region.
- After initial objections, the Turkish parliament gave its approval for Finnish membership last week.
- But Turkey has so far refused to do so in the case of Sweden saying the latter does not take Turkey's security concerns seriously. It has also pointed out that Sweden needs to address several issues, agreed under a deal struck last year in Madrid.

Turkey's objections

- Sweden has criticised Turkey for human rights abuses and over democratic standards. This has angered Turkey's politicians.
- As per Turkey, Sweden gives shelter to members of what it considers terrorist groups – a charge Sweden denies. Turkey has also demanded the extradition of such persons as a step toward ratifying Swedish membership. Notably, Sweden's courts have blocked some expulsions.
- In recent weeks, Turkey has objected to protests in Stockholm during which the Muslim holy book, the Koran, was burned and, on a separate occasion, an effigy of Erdogan (Turkish President) was hanged upside down.
- While Turkey says these are hate crimes, as per Sweden such protests are covered by freedom of speech laws.
- Turkey's upcoming elections are being viewed as President Erdogan's biggest political challenge during his two decades in power. The NATO issue may help divert voters' attention away from a cost-of-living crisis.
- An opposition win, being considered a real possibility, would boost Sweden's chances of a quick accession.

Hungary's similar stand

- As per Hungary, Sweden has had a hostile attitude towards it for years.
- It is angry about Swedish criticism of its Prime Minister Viktor Orban over the perceived erosion of rule of law. Orban denies this accusation.
- Unlike Turkey, Hungary does not have a list of demands, but says grievances need to be addressed before it can ratify Sweden's accession to NATO.

Sweden's security concerns

- As per Sweden, its security position is **better now** than **prior to its application to NATO**.
- Sweden has received assurances of support from countries including the U.S, Britain and Germany.
- According to NATO Secretary-General Jens Stoltenberg, **"it would be inconceivable that the alliance would not support Sweden if it were threatened"**.
- Sweden already cooperates closely with NATO and integration measures are moving forward.
- **Sweden has a strong air force and a submarine fleet suited to Baltic Sea conditions. This will be a boost for NATO in this region.**



Deep sea mining divides opinion



Relevance: Prelims & Mains Paper II; International Organizations

Why in news?

- After two weeks of negotiations, the International Seabed Authority has now decided that companies can apply from July to mine the ocean floor.
- However, campaigners and even corporations are pushing back due to fears of the massive environmental impact.
- Currently, there is no internationally agreed code for mining under the ocean.

High demand for energy-powering metals

- Rare earth minerals and metals such as copper or nickel for batteries, cobalt for electric cars or manganese for steel production are fundamental to the renewable energy technologies.
- But while demand is rising fast, the resources are also becoming scarcer globally. As per estimates, in just three years the world will need twice as much lithium and 70% more cobalt. Notably, this is despite the slow progress of the energy transition.
- As per the International Energy Agency, if climate goals were actively followed through the massive expansion of renewable energy, about five times as much lithium and four times as much cobalt would be needed by 2030.
- The projected production volumes for these raw materials fall far short of demand. To close this gap, some countries and companies now want to mine the resources in the deep sea.

Seabed holds valuable manganese nodules

- The polymetallic nodules, also known as manganese nodules, are driving the rush to mine seabeds. These potato-sized lumps contain high proportions of nickel, copper, manganese, rare earths and other valuable metals.
- The best-studied area is currently the seabed at between 3,500 and 5,500 m in the Clarion-Clipperton Zone in the eastern Pacific Ocean near the US state of Hawaii.
- Spanning thousands of km, this area contains more nickel, manganese and cobalt than any known area on land.
- The basin in the central Indian Ocean and the seabed off the Cook Islands, Kiribati atolls and French Polynesia in the South Pacific are also of interest for potential extraction.
- Although manganese nodules are not yet being mined anywhere in the world, that could soon change as they practically lie directly on the seabed and can be easily extracted without breaking up rock layers or eroding the seabed.

Mining endangers marine life



- Seabed mining is made easy when a huge vacuum can simply travel over the ocean floor to suck up the nodules. They are then brought to the surface with a hose.
- But the living part of the seabed is destroyed along with the nodules. All organisms, bacteria and higher organisms that live in and on the sediment and on the nodules are completely sucked in the vacuum.
- Rapid regeneration is impossible because it can take a million years for a nodule to grow a few mm.
- Scientists and opponents of deep-sea mining also fear that the clouds of sediment from the suction could cause enormous damage to ecosystems within a radius of several hundred km.
- Potential victims would include plants, creatures in the middle water depths and microorganisms whose respiratory tracts could be blocked by the sediment.

Justifications!

- As per a deep sea-mining company, **deep-sea mining could be less damaging to the environment than extraction on land**. As per it, it would emit 80% less greenhouse gas emissions.
- **The company also claims deep-sea mining would barely impact carbon reservoirs such as forests and soils, would not displace people, would use less fresh water and release fewer toxins.**
- **It adds that deep-sea mining would be largely automated, avoiding the exploitation of cobalt miners, including children, in Congo, where most of the world's cobalt is mined today.**

Green light from the ISA

- The possible exploitation of deep-sea deposits is regulated by the Jamaica-based International Seabed Authority (ISA). It was established under the UN Convention on the Law of the Sea. It has awarded 31 exploration contracts so far worldwide, but none for commercial mining activities.
- These permits allow companies to explore the resources and potential for future extraction, but also require them to collect data for environmental analysis.
- Recently, the 167 member states of the ISA continued 10 years of negotiations for a global mining code. They hope to adopt this code by July.
- The Pacific island state of Nauru has been collaborating with a deep sea-mining company to force through a code by 2023 so applications can be decided. But other island nations have called for a moratorium on deep-sea mining.
- Notably, companies including BMW, Volkswagen, Google, Philips and Samsung SDI have joined a call for a moratorium launched by the wildlife conservation organization WWF. They have pledged not to use raw materials from the deep seabed or finance deep-sea mining for the time being.

UN to start allowing deep sea mining operations from July



Relevance: Prelims & Mains Paper II; International Relations

Why in news?

- The United Nations has decided to allow deep-sea mining operations.
- The International Seabed Authority (ISA) has decided that it will start taking permit applications in July from companies that want to mine the ocean's floor.
- The Jamaica-based ISA was established under the UN Convention on the Law of the Sea. It holds authority over the ocean floors outside of its 167 member states' Exclusive Economic Zones.
- The undersea mining will be conducted to extract key battery materials — cobalt, copper, nickel, and manganese — from potato-sized rocks called “polymetallic nodules” found at depths of 4 km to 6 km (about 2.5 miles to 3.7 miles).

Lack of mining code

- Presently, there is no mining code in place regarding such operations.
- In the absence of such a mining code, which has been under discussion for nearly 10 years, the 36-member ISA governing council is uncertain about the process it should adopt for reviewing applications for mining contracts.

Decision raises concerns!

- Several nations have called for a moratorium (official ban or suspension) on industrial mining at the ISA's council meeting.
- Non-governmental organizations and experts have warned against the damaging repercussions of deep-sea mining.
- According to them, “Deep-sea mining would go beyond harming the seabed and have a wider impact on fish populations, marine mammals, and the essential function of the deep-sea ecosystems in regulating the climate.”

Israeli police raid on Jerusalem's Al-Aqsa Mosque angers Palestinians



Relevance: Prelims & Mains Paper II; International Relations

Why in news?	History and importance of Al-Aqsa Mosque
<ul style="list-style-type: none">- A recent Israeli police raid on Jerusalem's Al-Aqsa mosque has triggered a furious reaction from Palestinians across the occupied West Bank and the wider Arab and Muslim world.	<ul style="list-style-type: none">- The Al-Aqsa lies at the heart of Jerusalem's Old City on a hill known to Jews as Har ha-Bayit, or Temple Mount. Muslims call it al-Haram al-Sharif, or The Noble Sanctuary. Muslims regard this site as the third holiest in Islam, after Mecca and Medina.- Al-Aqsa is the name given to the whole compound and is home to two Muslim holy places: the Dome of the Rock and the Al-Aqsa Mosque, also known as the Qibli Mosque, which was built in the 8th century AD.- The compound overlooks the Western Wall, a sacred place of prayer for Jews, for whom the Temple Mount is their most sacred site.- Jews believe biblical King Solomon built the first temple there 3,000 years ago. A second temple was razed by the Romans in AD 70.- Israel captured the site in the 1967 Middle East war and annexed it with the rest of East Jerusalem and adjoining parts of the West Bank. However, this move is not recognized internationally.

A flashpoint in the Israeli-Palestinian conflict!

- The Al-Aqsa compound has long been a flashpoint for deadly violence over matters of sovereignty and religion in Jerusalem.
- Under the longstanding “status quo” arrangement governing the area, which Israel says it maintains, non-Muslims can visit but only Muslims are allowed to worship in the mosque compound.
- Jewish visitors have increasingly prayed more or less openly at the site in defiance of the rules, and Israeli restrictions on Muslim worshippers’ access to the site have led to protests and outbreaks of violence.
- Clashes at the site in 2021 contributed to setting off a 10-day war with Gaza.



China woos Bhutan with an aim to consolidate its position on Doklam



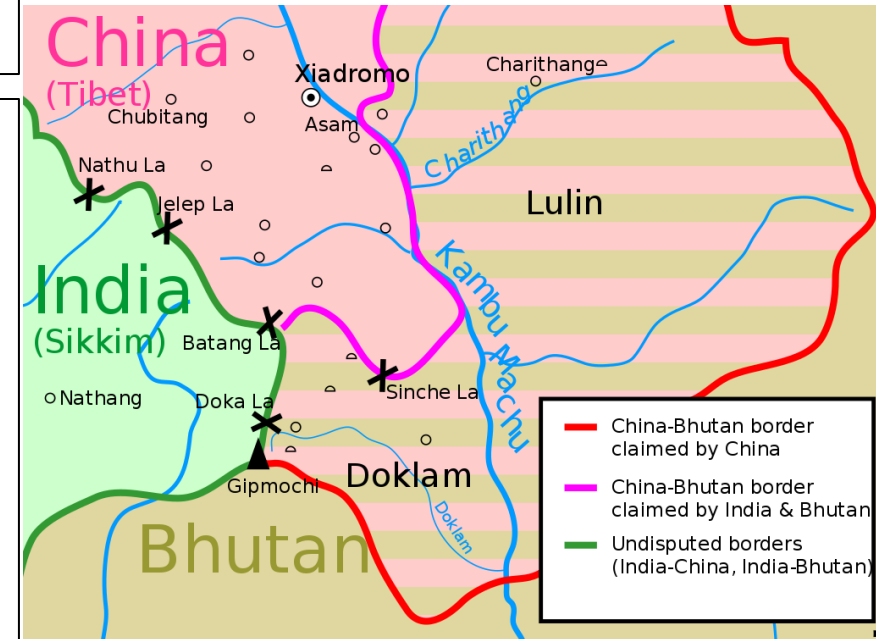
Relevance: Prelims & Mains Paper II; Bilateral Relations

Why in news?

- Bhutan's King Jigme Khesar Namgyel Wangchuck recently visited India.
- The two sides tried to play down the controversy in India over the remarks of the Bhutanese Prime Minister Lotay Tshering about border talks between his country and China.
- Notably, in an interview, published days before the King's visit to India, Tshering said Bhutan and China had "come to understand each other", and were close to resolving their boundary disputes.
- Tshering also denied there were Chinese incursions in Bhutan's territory.

Bhutan-China 'understanding'

- In January, Bhutan and China held talks in Kunming. These talks focussed on Doklam and areas near the India-Bhutan-China trijunction in the west.
- The two sides agreed to simultaneously push forward the implementation of all the steps of the Three-Step Roadmap.
- The "Three-Step Roadmap for Expediting the China-Bhutan Boundary Negotiations" refers to an agreement reached between the two countries in April 2021.



Doklam and the Chinese tactics against India

- A China-Bhutan agreement on the boundary, especially if it includes Doklam, would have **direct and immediate implications for India's security**.
- Notably, Indian and Chinese troops **faced off for 73 days in 2017 in Doklam**.
- India considers these Chinese actions as the latter's attempt to change the Bhutan-China border unilaterally, thereby violating two agreements with Bhutan in 1988 and 1998.
- China's aim in doing so was to move the trijunction point from Batang La further south to Gyomochen, in violation of the 2012 agreement with India.
- **Control of this area would give China a strategic advantage over India, bringing it closer to the "chicken's neck", the narrow corridor at Siliguri which is the only road connection to the Northeast. Notably, Indian defences are considered to be the most vulnerable here.**
- **China has long sought a land swap by which it gets Doklam in exchange for concessions on disputed territory in the north, though it is unclear if this offer still stands.**
- China's renaming of places in Arunachal Pradesh, and its "freeze" on the visas of two Indian journalists, also came during the Bhutanese King's visit to India.

What is behind China's renaming spree?



Relevance: Prelims & Mains Paper II; Bilateral Relations

Why in news?

- On April 2, the **Chinese government announced it would “standardise” the names of 11 places in Arunachal Pradesh.**
- The Ministry of Civil Affairs in Beijing published a list of 11 places along with a map showing the Indian State of Arunachal Pradesh as a part of China's Tibet Autonomous Region.
- **India dismissed the renaming**, which is a largely symbolic move and unlikely to have any tangible on-the-ground impact on the border dispute.
- However, it has underlined a **hardening Chinese stance on the boundary**, the dim prospects of any meaningful progress in the long-running talks, as well as the current strained relations between the neighbours.

Places on the list

- The Chinese Ministry of Civil Affairs notification **announced 11 “place names for public use”, in Mandarin, Tibetan and English** (pinyin transliteration of the Chinese names).
- These include five mountain peaks, two more populated areas, two land areas and two rivers. All of the 11 sites are on Indian territory, and the southernmost is close to Itanagar.
- The Chinese government **referred to the location of the sites as “Zangnan”, or “south Tibet”, which is how it refers to Arunachal Pradesh.**
- **China claims as much as 90,000 sq km in the eastern sector of the India-China boundary, covering the entire State.**

Renaming attempts

- This is the **third time** China is issuing names for places in Arunachal Pradesh, a gesture seen as provocative by India and one that has coincided with periods of strains in relations.
- In **2017, the first list of “standardised” names** was issued for six places in Arunachal, which was then seen as a retaliatory move after the Tibetan spiritual leader, the Dalai Lama, visited the State.
- The **second such list was issued in December 2021**, more than a year into the crisis sparked by China’s multiple transgressions across the Line of Actual Control (LAC) starting in April 2020.
- The second list coincided with a new border law passed by the Chinese government that called for various Chinese civilian and military agencies to take steps to “safeguard” Chinese territory, including through such administrative measures.

Saudi Arabia aims for strategic autonomy in the Persian Gulf



Relevance: Prelims & Mains Paper II; International Relations

Why in news?

- Saudi Arabia, which had adopted an aggressive foreign policy in recent years, seeking to expand its influence in West Asia and reducing that of Iran, its bitter rival, has now taken a different path.
- It's reaching out to old rivals, holding talks with new enemies and seeking to balance between great powers, all while trying to transform its economy at home.
- If the Saudi effort to have a self-determining foreign policy and build regional stability through diplomacy holds, it can have serious implications for West Asia.

Shift in Saudi foreign policy

- For years, the primary factor in Saudi foreign policy was its hostility towards Iran. This has resulted in proxy conflicts across the region. For e.g., in Syria, Iran's only state ally in West Asia; Saudi Arabia joined hands with its Gulf allies as well as Turkey and the West to finance and arm the rebellion against President Bashar al Assad.
- In Yemen, whose capital Sana'a was captured by the Iran-backed Shia Houthi rebels in 2014, the Saudis started a bombing campaign in 2015, which hasn't formally come to an end yet.
- Last month, Saudi Arabia announced a deal, after China-mediated talks, to normalise diplomatic ties with Iran.
- Soon after, there were reports that Russia was mediating talks between Saudi Arabia and Syria, which could lead to the latter re-entering the Arab League.
- Recently, a Saudi-Omani delegation travelled to Yemen to hold talks with the Houthi rebels for a permanent ceasefire. All these moves mark a decisive shift from the policy adopted by Crown Prince Muhammad bin Salman after he became the Prime Minister of Saudi Arabia in 2017.

Reasons behind this policy shift

- Saudi Arabia's response to the Iran problem has shifted from strategic rivalry and proxy conflicts to tactical de-escalation and mutual coexistence.
- This is because **a majority of Saudi's recent strategic moves in the region were either unsuccessful or only partially successful**. In Syria, Mr. Assad who is backed by Russia and Iran, has won the civil war.
- In Yemen, while the Saudi intervention may have helped prevent the Houthis from expanding their reach beyond Sana'a and the north, the Saudi-led coalition failed to oust them from the capital. Notably, with their drones and short-range missiles, Houthis now pose a serious security threat to Saudi Arabia itself.
- Meanwhile, China, which has good ties with both Iran and Saudi Arabia, offered to mediate between the two. The Saudis found it as an opportunity and seized it.



The Saudi-U.S. equation

- For Saudi Arabia, **the U.S. remains its largest defence supplier**. It will keep its thousands of troops and military assets in the Gulf, including its Fifth Fleet.
- Saudi Arabia has placed orders for Boeing aircraft worth \$35 billion and entered into conditional talks with the U.S. on normalising ties with Israel.
- Meanwhile, Saudi Arabia is also trying to develop advanced missile and drone capabilities to counter Iran's edge in these areas with help from the U.S. and others.
- **However, the U.S. is shifting away from West Asia since it is no longer a priority for it.** Saudis realise that this move is changing the post-War order of the Arab region.
- As per analysts, Saudi Arabia is trying to use the vacuum created by this U.S. policy change to implement its own foreign policy.

Co-operation with Russia and China

- Unlike most other American allies, Saudi Arabia refused to join anti-Russia sanctions.
- Despite protests from the U.S., **Saudi Arabia joined hands with Russia to effect oil production cuts twice since the Ukraine war began.** This was aimed at **keeping the prices high which would help both Russia and Saudi Arabia.**
- Notably, Saudi Arabia has **also built stronger trade and defence ties with China.**

Fierce fighting breaks out between military and rival forces in Sudanese capital



Relevance: Prelims & Mains Paper II; International Events

Why in news?

- The Indian Embassy in Khartoum, the capital of Sudan has asked all nationals to stay indoors and take utmost precautions as gunshots and explosions rang out in various parts of the city.
- This is because of the fierce fighting that has erupted between the military and the country's powerful paramilitary force, Rapid Support Forces.
- Also, a Saudi Arabian airlines plane at Sudan's Khartoum airport came under fire during these clashes. Meanwhile, its rival carrier Saudia has suspended flights to and from Sudan as of now.

Who has been in charge?

- Sudan began its faltering transition towards democracy after military generals ousted long-ruling autocrat Omar al-Bashir amid a popular uprising in 2019.
- Bashir, an Islamist, long ignored by the West, had been in charge of the country for nearly three decades.
- Under a 2019 agreement, the military agreed to share power with civilians ahead of elections. That arrangement was abruptly halted by a 2021 coup, which triggered a new campaign of mass pro-democracy rallies across Sudan.

Lack of trust among stakeholders!

- The military has been a dominant force in Sudan since its independence in 1956. It has staged coups, fought internal wars, and amassed economic holdings.
- During the 2019-21 power-sharing arrangement, there was a deep distrust between the military and civilian parties.
- The civilian side gained legitimacy from a strong protest movement and support from parts of the international community.
- Though the coup put the army back in charge, it faced weekly demonstrations, renewed isolation and a deepening economic crisis.

Reasons behind latest tensions

- A major cause of tension since the uprising is a civilian demand to gain control of the military and to see the integration of the powerful RSF into the regular army.
- Civilians have also called for the handover of lucrative military holdings in agriculture, trade, and other industries, a crucial source of power for an army that has often outsourced military action to regional militias.
- Justice is also being sought over the killings of pro-democracy protesters in 2019 and at least 125 more by security forces since the 2021 coup.

The regional scenario

- Sudan is in a volatile region, bordering the Red Sea, the Sahel, and the Horn of Africa. Its strategic location and agricultural wealth have attracted regional power plays, complicating the chances of a successful transition.
- Several of Sudan's neighbours, including Ethiopia, Chad and South Sudan, have been affected by political changes and conflict.
- Regional heavyweights Saudi Arabia and the United Arab Emirates have seen Sudan's transition as a way of pushing back against Islamist influence in the region. They, along with the U.S and Britain, form the "Quad", which has sponsored mediation in Sudan along with the United Nations and African Union.



Germany shuts down its last nuclear power stations

Relevance: Prelims & Mains Paper II; International events

Why in news?

- Germany has shut down its last three nuclear reactors. The last nuclear power plants were to close at the end of 2022.
- But Russia's invasion of Ukraine changed the whole scenario because Russian gas supplies to Germany stopped and the government feared an energy shortage.
- Chancellor Olaf Scholz finally decided to extend the operating period of the power stations until April 15, 2023.

History of Nuclear Power in Germany

- The use of nuclear power has divided Germans for many decades. The first nuclear power plant in the country to supply electricity to the grid started operating in 1961.
- In all, 19 nuclear power plant units supplied up to a third of Germany's electricity. This scenario continued until around 20 years ago.
- In the 1970s and 1980s in West Germany, before German unification, opposition to nuclear power brought hundreds of thousands of mostly young people out onto the streets.
- In 1986, the Chernobyl disaster in the then-Soviet Union appeared to confirm warnings about the dangers of nuclear power.

Nuclear power in Europe

- Other European countries were quicker to phase out nuclear power after the Chernobyl disaster.
- Sweden was the first to do so. It was soon followed by Italy, which closed its last two nuclear power plants. While in Italy, the decision remained in force; in Sweden, the phase-out was reversed in 1996. Today, six nuclear power plants there produce around 30% of Sweden's electricity needs.
- Other European countries, such as the Netherlands and Poland plan to expand their nuclear power systems, while Belgium is postponing its planned phase-out.
- With 57 reactors, France has always been Europe's leading nuclear power country. It intends to stay that way. All in all, 13 of 27 EU countries intend using nuclear power in the coming years, with a number expanding their capacities.

Nuclear power around the world

- According to the International Atomic Energy Agency (IAEA), there are currently 422 nuclear reactors in operation worldwide. They have an average age of about 31 years.
- As per a recent IAEA report, there was no indication that nuclear power is making a comeback. Nuclear power generation peaked at 17.5% in 1996, and fell below 10% in 2021 — the lowest in four decades.
- The Asian countries particularly China and Russia are all planning to build new nuclear power plants. China, where there is virtually no civil society to fight new projects, wants to build another 47 plants. China already produces more nuclear power than France.
- It is often argued that expanding nuclear power production protects the climate because it emits hardly any carbon dioxide.

High oil imports raise India's trade deficit with Russia sevenfold in April-Jan. 2023



Relevance: Prelims & Mains Paper II; Bilateral Relations

Why in news?

- India's trade deficit with Russia has risen sevenfold due to its rising dependence on crude oil, according to govt data.
- India had the maximum trade deficit with China at \$71.58 billion, followed by Russia \$34.79 billion, from April through January 2022-23 (FY23).
- Of the \$37.27 billion imports from Russia, 2/3rds of the value of goods imported from the country was of crude oil.
- In FY22, Russia was India's 25th largest trading partner. However, it is now India's 2nd-largest trade partner.
- The situation changed dramatically after the US and the European Union slapped sanctions on it, after Russia invaded Ukraine in Feb. 2022.

Bird catcher Hakki Pikkis tribals from Karnataka get caught in the Sudan conflict



Relevance: Prelims; International Events

Why in news?

- More than 181 members of the Hakki Pikki tribal community from Karnataka are stuck in violence-hit Sudan.
- The Indian govt is making efforts to bring them back.

Who are the Hakki Pikki?

- The Hakki Pikki are a semi-nomadic tribe, traditionally of bird catchers and hunters. (Hakki in Kannada means 'bird' and Pikki means 'catchers'). They primarily live near forest areas which is their main natural resource.
- Hakki Pikkis who hail from the bordering districts of Gujarat and Rajasthan, now live in several states in west and south India. They regard Jalapally, a place called near Hyderabad as their ancestral home. They came to the South in search of the game (hunting for wild animals).
- Hakki Pikkis are known by different names across different regions, such as Mel-Shikari in northern Karnataka and Maharashtra. As per 2011 census, their population in Karnataka is 11,892. Their education levels are still low.
- In Karnataka, they follow Hindu traditions and celebrate all Hindu festivals. They are non-vegetarians. The eldest son in a family is not supposed to cut his hair so that he can be identified easily.
- The Hakki Pikki society is matriarchal, where the groom gives dowry to the bride's family.

Change of occupation and riches in Africa

- Hakki Pikkis moved to villages from the forests in the 1950s. After some of their community members got booked and jailed under wildlife laws, they shifted to selling herbal oils and other materials in villages and towns.
- As their herbal oil business took off, Hakki Pikkis started traveling across the globe to sell their products. The ones from Tamil Nadu discovered a huge demand for Ayurvedic products in Africa.
- Soon, Hakki Pikkis from Karnataka followed them. People from the state have been travelling to African countries for the past 20 years now.
- Their investment of Rs 5 lakh on raw materials (hibiscus powder, oil extraction, gooseberry, Ayurvedic plants, etc.), can grow double or even triple-fold in a matter of 3-6 months in these countries.
- However, in India, there is no market for such products. As a result, Hakki Pikkis sell their products online. They promote these products on social media, including Facebook and YouTube.



Conflicts and tensions lead to increased global military spending



Relevance: Prelims & Mains Paper II; International Relations

Why in news?

- The **Stockholm International Peace Research Institute (SIPRI)**, a leading **global security think tank** has released the latest data on **worldwide military spending**.
- It shows a year-on-year jump of **3.7% in worldwide military expenditure**. That marks an all-time high and follows several years of continuously higher spending.
- This massive increase in defence spending is not surprising **in view of Russia's all-out war against Ukraine** which has **particularly led European countries to review their military budgets**. They have announced new spending since the start of this conflict in Feb. 2022.

Safety - the topmost concern!

- **Defence outlays among NATO members** — the Euro-Atlantic military alliance consisting of most European countries — have been **going up since at least 2014**.
- That is **when Russia initially attacked Ukraine, illegally annexing the Crimean Peninsula and backing separatists in the eastern part of the country**.
- NATO members agreed to **meet a defence spending goal of 2% of national GDP by 2024**. Many of them have been slowly working towards that target.
- European countries have primarily raised their defence spending **as a sign of deterrence to Russia**.
- Though **Russia** may not have succeeded on the battlefield in its war against Ukraine, **it could still pose a serious threat in cyberspace**. Infiltration of and attacks on the West's digital infrastructure can be low-cost, but high-damage.
- Besides, Russia maintains **a considerable nuclear arsenal**.

Analysis of the figures

- The SIPRI data shows that the spending spree may not be as huge as it seems! The actual spending rose to a combined \$2.2 trillion in 2022, as a share of GDP, it is 0.1% lower than it was in 2013.
- That is despite double-digit increases over the past decade across many countries, including nuclear powers and those known for prioritizing armed forces, such as China (63%), India (47%), and Israel (26%).
- In each of these countries, however, defence spending has declined as a percentage of national economic output.
- Despite countries having increased spending by 15%, in nominal terms, once adjusted for inflation, they actually decrease.
- Notably, the year-on-year increase also accounts for military aid, which has seen an exceptional increase due to Russia's war in Ukraine. The U.S. alone has contributed more than \$47 billion to Ukraine's defence.

The biggest spenders

- The US is by far the leader in military output. In 2022, its official defence budget was \$877 billion. It accounts for 39% of global military expenditures.
- China, which the US says is a major reason for its increased defence budget, is a distant second, at \$292 billion. However, despite the major size difference between them, many US officials and security analysts are warning of China gaining a military edge.
- Whereas China is flexing its military muscle in its Pacific neighbourhood, the US seems intent on maintaining a security footprint around the world — a position it has held since the 2nd World War.

Wagner Group's increased presence in Sudan and the rest of Africa



Relevance: Prelims & Mains Paper II; International Relations

Why in news?

- Wagner Group, a Russian paramilitary organization is gradually increasing its presence in African countries. It provides mercenaries to different govts, often in return for access to gold and diamond mines.
- Days after a fierce battle broke out between Sudan's military and paramilitary forces, the leader of the mercenary Wagner Group, Yevgeny Prigozhin, issued a statement, offering to help mediate in the conflict.
- The Wagner Group, which has close ties with Russian President Vladimir Putin, is known to have stakes in Sudan's vast gold and uranium reserves, and diamond mines. It also supplies fighters for hire to the restless region of Darfur.

How Wagner group entered Sudan?

- The Wagner group first entered Sudan in 2017 during the reign of former authoritarian President Omar al-Bashir. It provided security and logistical support to al-Bashir who was ousted two years later.
- Wagner Group also steadily expanded its political, economic and military clout across Africa by providing mercenaries to different govts, running social media disinformation campaigns and deploying teams of fake election monitors.
- More significantly, this has benefitted Russia, too, which has been using the organisation to further its interests in the continent.

African countries where Wagner Group operates

- Central African Republic
- Mozambique
- Mali
- Burkina Faso
- Libya



ECONOMICS

No charges for bank-to-bank payments under new UPI rules



Relevance: Prelims & Mains Paper III; Economics

Why in news?

- National Payments Corporation of India (NPCI), the retail payments and settlement body has clarified that **there are no charges for bank account-to-bank account-based UPI payments.**
- This clarification has come after media reports suggested that NPCI has issued a circular saying that there will be an interchange fee of 1.1% on UPI transactions made through PPI instruments like wallets or cards.
- Notably, **for most people, bank account-to-bank account-based UPI payments are the “normal” UPI payments.**
- Generally, **the preferred method of UPI transactions is linking the bank account in any UPI-enabled app for making payments. This method makes up for over 99.9% of total UPI transactions.**
- These transactions **continue to remain free for customers and merchants.**

What has changed?

- **As per NPCI, an interchange charge has been introduced for PPI (prepaid payment instrument) merchant transactions — but customers will not be charged.**
- **Prepaid payment instruments (PPI) include online wallets (like Paytm Wallet, Amazon Pay Wallet, PhonePe Wallet, etc.) and preloaded gift cards.**
- **A PPI payment done via UPI refers to a transaction done via such a wallet through a UPI QR code.**

Ladakh's wood carving gets GI Tag

Relevance: Prelims; Economics



Why in news?

- In a major recognition for Ladakh, its wood carving has been granted the Geographical Indication (GI) Tag.
- Notably, in December last year, the **govt also granted GI Tag for Raktsey Karpo apricot of Ladakh.**
- The process for GI Tagging of these products was started by NABARD in consultation with and support of the Department of Handicrafts and Handloom in December 2020.
- Earlier this year, the products were registered with the GI Registry Chennai.
- Wood carving of Ladakh has been an aesthetically vibrant art form in the Ladakh region, including the capital Leh and Kargil.

Advantages of a GI Tag

- GI Tag grants legal protection to the original producers and prevents their unauthorised use by third parties.
- It also boosts exports, promotes the goods at the international level and brings economic prosperity to producers and stakeholders.
- **Only an authorised user has the exclusive right to use the GI tag** in relation to goods in respect of which it is registered.
- As a result, **no person can copy it from beyond the geographical area.**



Govt announces new foreign trade policy

Relevance: Prelims & Mains Paper III; Economics



Why in news?

- The govt has unveiled a new Foreign Trade Policy. It moves away from providing incentives to exporters, but lowers a few costs for smaller firms and promises swifter clearances.
- Replacing the existing policy that had been in place since 2015, the new policy will come into effect from 2023-24.
- It aims to almost triple India's goods and services exports to \$2 trillion by 2030, from an estimated \$760 billion in 2022-23.
- India's exports which were \$435 billion in 2015-16 grew nearly 75% to an estimated \$760 billion in 2022-23.

Continuing Policy

- The new policy will have no sunset date (expiry date on an agreement) and will be modified based on the emerging world trade scenario and industry feedback.
- While the policy will be open-ended, the schemes sanctioned under it will be time-bound.

Policy overhauled

Key highlights from India's updated Foreign Trade Policy:



- It focuses on lowering costs for smaller firms and offering swifter clearances
- It aims at tripling exports to \$2 trillion by 2030 from \$760 billion in 2022-23
- Policy allows for adjustments based on world trade and industry feedback
- Export promotion initiatives include encouraging international trade settlement in Indian currency

New growth areas

- The new policy includes “merchanting trade” within its scope. Merchanting trade is one where shipment of goods takes place from one foreign country to another foreign country without touching DTA i.e. Customs.
- Exporters in India can source goods from another country and send them to a third country without touching Indian shores. This will also enable exports of restricted goods.
- There is a focus on simplifying policies to facilitate the export of dual-use high-end goods and technology such as UAVs [unmanned aerial vehicles], drones, cryogenic tanks and certain chemicals.

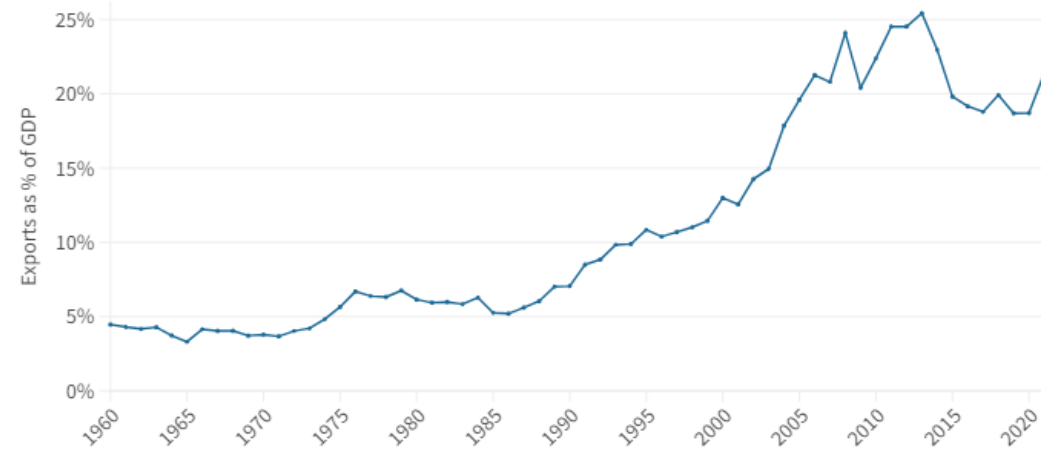
Measures

- The govt. is also coming up with an amnesty scheme for exporters that have not been able to fulfil their obligations under the Export Promotion Goods Scheme (EPCG) and advance authorisation schemes.
- This is the first amnesty scheme since 2011-12, and can help exporters close their unfulfilled obligations and raise exports going forward.
- These two schemes will continue with process modifications, including a reduction in export obligations for some items pertaining to green energy development.
- Among its export promotion initiatives, the Commerce Ministry has included the push to drive international trade settlement in the Indian Rupee (INR), granting benefits to those exports that are paid for via the rupee.

Measures

- A Special advance authorisation scheme is being launched for the clothing and apparel sector so that they can react to market demands and fashion trends faster.
- Other mechanisms like star ratings to recognise exporters will be reorganized to lower qualification criteria.
- Four towns in Uttar Pradesh — Faridabad, Moradabad, Mirzapur and Varanasi — were announced as centres of export excellence for their performance in the apparel, handicrafts, handmade carpets and handlooms, respectively.
- The new trade policy will make all the PM Mitra textile parks eligible to get benefits as common services providers.

India's exports as % of GDP



Source: World Bank • The Hindu Graphics

The open source seeds movement



Relevance: Prelims & Mains Paper III; Economics

Why in news?

- Open source software like Linux is well-known and widely used. The origin of this concept can be traced to **the 'Free Software Movement', which emphasised users' right to the source code, to share, to modify, and to distribute modifications.**
- A U.S. programmer - Richard Stallman pioneered this idea. He also developed the General Public License (GPL), the first of the 'Free and Open Source Software' licences.
- In similar fashion, farmers have innovated and shared seeds without any intellectual property rights (IPR) claims for centuries.
- They also haven't sought exclusive rights over seeds and germplasm to prevent others from innovating on the seeds. In this regard, software and seeds have a strong resemblance.

Plant-breeders' rights

- The introduction of hybrid seeds, the growth of the commercial seed industry, scientific plant breeding, and some other factors granted plant breeders and developers of new varieties plant breeders' rights (PBR).
- In this regime, **farmers' rights were limited while rights-holders could demand royalty on seeds and legally enforce PBRs.**
- In some countries, the PBR regulations **allow rights-holders to restrict the unauthorised use of seeds to develop new varieties.**
- In 1994, the **establishment of the World Trade Organisation** and then the **Trade-Related IPR Agreement (TRIPS)** led to **a global IPR regime over plant varieties.**

(more ahead)

cont'd

- TRIPS required countries to provide **at least one form of IP protection** while consolidation in the seeds sector raised concerns about the freedom to innovate.
- The Green Revolution was spearheaded by public-sector breeding institutions and seeds were available as 'open pollinated varieties'.
- They were reasonably priced hybrids with no restrictions on farmers to cultivate, reuse and share.
- But the genetic revolution in agriculture was led by the private sector, with seeds mostly made available as hybrids and/or protected by strong IPRs.

IP protection in agriculture

- In effect, **there are now two forms of IPR protection in agriculture: plant-breeders' rights and patents.**
- In this regime, **rights-holders could demand royalty on seeds and legally enforce IPR.** In some national IPR regimes, rights-holders **can also restrict the unauthorised use of seeds to develop new varieties.**
- Together, they restrict farmers' rights and the freedom to develop new varieties using germplasm from IP-protected varieties.
- They have thus further consolidated the seed sector and increased the number of plant varieties covered by IPRs.

What are 'open source seeds'?

- In 2012, Jack Kloppenburg, launched the 'Open Source Seeds Initiative' (OSSI) in USA.
- A few years later, a German NGO named Agrecol launched another initiative in Europe. Since then similar programmes have come up around the world.
- Open Source Seeds concept aims to maintain open access to global plant genetic resources ensuring its accessibility to all farmers, plant breeders and communities for this generation and all to come.
- It affirms that plant genetics and their physical traits can not, and should not, be owned by individuals or corporations.

Potential Benefits

- Open-source approach can be used in farmer-led seed conservation and distribution systems. There are many traditional-variety conservation and sharing initiatives in India, including those involving farmers.
- Many of them focus on traditional varieties that are unique to specific regions or sites and/or have specific features.
- The model can also be used to promote farmer-led participatory plant-breeding exercises. Traditional varieties often lack uniformity and aren't of excellent quality.

Govt. approves changes in domestic gas pricing



Relevance: Prelims & Mains Paper III; Economics

Why in news?

- The Union Cabinet has approved significant changes in the pricing regime for domestic natural gas under the scope of the administered price mechanism (APM). These changes have come into immediate effect.
- APM mainly applies to gas produced by legacy fields, or nomination fields, of national oil companies Oil and Natural Gas Corporation (ONGC) Ltd and Oil India Ltd (OIL).
- Nomination fields are acreages that the govt awarded to ONGC and OIL before 1999, after which auctions became the basis of awarding oil and gas blocks.

Rangarajan formula since Nov. 1, 2014

- The price of APM gas, which accounts for about 2/3rds of India's natural gas production, has been determined as per the 'modified' Rangarajan formula since Nov. 1, 2014.
- It is referred to as modified Rangarajan Formula because Soon after coming to power, the Narendra Modi government tweaked the formula devised by a committee appointed by the UPA government under C Rangarajan, chairman of the PM-EAC.
- The price of APM gas was \$8.57/ mBtu for the six months ending on March 31. It would've risen to over \$10.5/ mBtu for the six months starting April as per the modified Rangarajan formula.
- As per the 2014 gas pricing guidelines, the APM gas price was set for a six-month period based on the volume weighted prices prevailing at four international gas trading hubs — Henry Hub, Alberta, National Balancing Point in the UK, and Russia — for a period of 12 months and a with a lag of a quarter.
- According to the government, the earlier system based on these gas hubs had a significant time lag and high volatility.

Details of the new pricing regime

- The new changes include benchmarking the price of APM gas to the price of imported crude instead of gas prices in four international gas trading hubs, and monthly, rather than biannual revisions in prices.
- The price of APM gas will be now 10% of the average price of the Indian crude basket in the preceding month. This price will be revised every month.
- The average price of the Indian crude basket in March was \$78.54 per barrel. This basket consists of sour grades and sweet grades of crude oil in the ratio of 75.62 to 24.38. It represents the mix of crude grades processed by Indian refineries.
- The intention behind this move is to shield consumers from high prices while ensuring that the producers are not forced to book losses on gas sales.
- The revised pricing mechanism is based on the recommendations of a panel headed by Kirit Parikh. The panel was constituted last year to delve into the extant gas pricing guidelines and recommend changes to balance the interests of gas consumers and producers.
- Gas produced from ONGC and OIL's nomination fields will have a floor price of \$4/ mBtu and a ceiling of \$6.5/ mBtu. Thus, the two companies will get a minimum of \$4/ mBtu even if the gas price as per the formula falls to a lower level. Similarly, no matter how high the formula-based price goes, the maximum price they can realise for APM gas will be \$6.5/ mBtu.
- There shall be no revision in the ceiling price for two years, after which the cap will increase by 25 cents per year.

Zojila tunnel promises to revolutionise connectivity to Ladakh

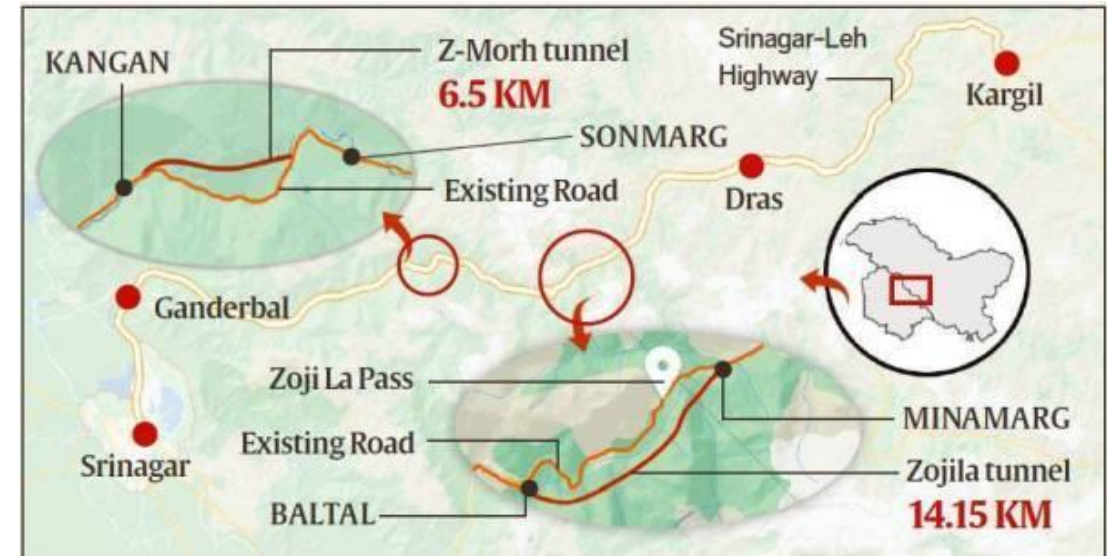
Relevance: Prelims & Mains Paper III; Economics

Why in news?

- Union Road Transport and Highways Minister Nitin Gadkari recently inspected the under-construction Zojila tunnel.
- 38% of the work on this tunnel has been completed.
- As part of an ongoing project to improve connectivity in the region, 19 tunnels are being constructed at a cost of Rs 25,000 crore.

Zojila tunnel

- The Zojila tunnel will be India's longest road tunnel. It is also expected to be Asia's longest bi-directional tunnel, with a length of 14.15 km.
- This tunnel will establish all-weather connectivity between the Union Territories of Ladakh and Jammu and Kashmir.
- Built at a cost of more than Rs 4,600 crore, the Zojila tunnel is expected to be completed by Dec 2023.



Why is it needed?

- Currently, the commute between Srinagar and Leh, the largest city in Ladakh, takes over 10 hours on a normal day. It passes through extremely inhospitable terrain. The Zojila Pass is a high mountain pass through which one has to travel in order to make the journey.
- During harsh winters, this route is closed due to fears of avalanches, landslides and slippery roads. Areas beyond the pass remain cut off from the rest of the country for at least five months.
- With the Zojila pass shut, air connectivity is the only option. Airfares can skyrocket to over Rs 40,000 during peak winter months (Notably, this much money can fetch a flight ticket between Delhi and London).
- The upcoming Zojila tunnel will thus provide continuous connectivity between Ladakh and the rest of the country.
- This will not just benefit civilians living and employed in the region, but also the military, by accelerating the movement of troops and supplies in this vitally important strategic region.
- Apart from providing continuous connectivity, the tunnel also promises to cut travel time between Kashmir and Ladakh. The distance from Baltal to Minamarg, currently 40 km, will come down to 13 km with travel time expected to be cut by an hour and a half.
- The journey is also expected to be less strenuous. Once the tunnel project is completed, chances of accidents on this route will also come down significantly.

'Dabba trading' and how it hurts the economy



Relevance: Prelims & Mains Paper III; Economy

Why in news?

- In the past week, the National Stock Exchange (NSE) issued a string of notices naming entities involved in 'dabba trading'.
- NSE has cautioned retail investors to not subscribe (or invest) using any of these products offering indicative/assured/guaranteed returns in the stock market as they are prohibited by law.
- It added that the entities are not recognised as authorised members by the exchange.

What is 'dabba trading'?

- Dabba (box) trading refers to informal trading that takes place outside the purview of the stock exchanges.
- Traders bet on stock price movements without incurring a real transaction to take physical ownership of a particular stock as is done in an exchange. In simple words, it is gambling centred around stock price movements.
- For e.g., an investor places a bet on a stock at a price point, say ₹1,000. If the price point rose to ₹1,500, he/she would make a gain of ₹500. However, if the price point falls to ₹900, the investor would have to pay the difference to the dabba broker.
- Thus, it could be concluded that the broker's profit equates the investor's loss and vice-versa.
- The primary purpose of such trades is to stay outside the purview of the regulatory mechanism, and thus, transactions are facilitated using cash and the mechanism is operated using unrecognised software terminals.

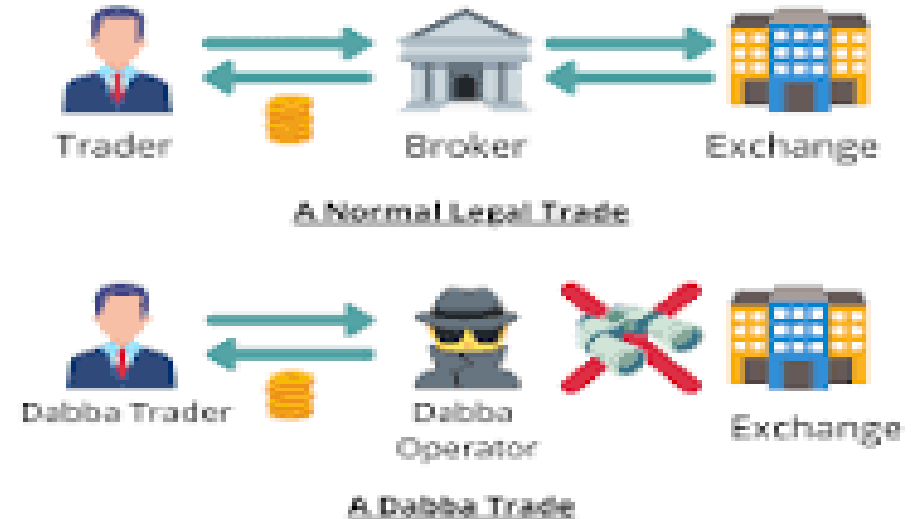
Negative effects

- Since there are no proper records of income or gain, it helps dabba traders escape taxation. They would not have to pay the Commodity Transaction Tax (CTT) or the Securities Transaction Tax (STT) on their transactions.
- The use of cash also means that they are outside the purview of the formal banking system. All of it combined results in a loss to the government exchequer.
- In 'dabba trading', the primary risk entails the possibility that the broker defaults in paying the investor or the entity becomes insolvent or bankrupt.
- Being outside the regulatory purview implies that investors are without formal provisions for investor protection, dispute resolution mechanisms and grievance redressal mechanisms that are available within an exchange.
- Since all activities are facilitated using cash, and without any auditable records, it could potentially encourage the growth of 'black money' alongside creating a parallel economy. This could potentially translate to risks such as money laundering and criminal activities.

Present Scenario



- Dabba traders lure potential investors through aggressive marketing, ease of trading (using apps with quality interface) and lack of identity verifications.
- 'Dabba trading' is recognised as an offence under Section 23(1) of the Securities Contracts (Regulation) Act (SCRA), 1956. Conviction under this Act can invite imprisonment for a term extending up to 10 years or a fine up to ₹25 crore, or both.



EU lawmakers give green light to world's first extensive crypto-legislation



Relevance: Prelims & Mains Paper III; Economics

Why in news?

- The European Parliament, the legislative body of the 27-country block European Union, has approved **the world's first set of comprehensive rules to bring largely unregulated cryptocurrency markets under the ambit of regulation by government authorities.**
- The **regulation, called the Markets in Crypto Assets (MiCA) will come into force after formal approval by member states.**

Why was it needed?

- **About 22% of the global crypto industry was concentrated in central, northern and western Europe. It received \$1.3 trillion worth of cryptoassets.**
- A comprehensive framework like MiCA for 27 countries in Europe will not only **harmonise the crypto industry** but also gives the EU **a competitive edge in its growth compared to the U.S. or the U.K. which lack regulatory clarity.**
- More importantly, 2022 saw **some of the biggest failures and wipeouts in the crypto industry involving bankruptcies and fraud scandals.**
- As investments and the size of the crypto industry grow, European and other regulators have felt the need to bring governance practices in crypto firms **to ensure stability and financial sector-like rout and its spread.**

Assets to be covered under MiCA



- The MiCA **legislation will apply to 'cryptoassets'**. They are a digital representation of a value or a right that uses cryptography for security and is in the form of a coin or a token or any other digital medium which may be transferred and stored electronically, using distributed ledger technology or similar technology.
- Notably, MiCA will apply not only to **traditional cryptocurrencies like Bitcoin and Ethereum** but also to **newer ones like stablecoins**.
- **Stablecoins are digital tokens that aim to stay pegged in value with a more stable asset — a fiat currency like the U.S. dollar or other stable cryptocurrencies.**
- MiCA will establish new rules for **three types of stablecoins — asset-referenced tokens, which are linked to multiple currencies, commodities or cryptocurrencies, e-money tokens, which are linked to a single currency and utility tokens, which are intended to provide access to a good or service that will be supplied by the issuer of that token.**
- **MiCA will not regulate digital assets that would qualify as transferable securities and function like shares or their equivalent and other crypto assets that already qualify as financial instruments under existing regulation.**
- MiCA will also primarily exclude nonfungible tokens (NFTs). MiCA will also not regulate central bank digital currencies issued by the European Central Bank and digital assets issued by national central banks of EU member countries.

Reactions

- Though leaders at some of the biggest cryptocurrency firms have been critical of some aspects of MiCA, the broad view is that **it is better to have a regulatory framework than having no rules at all and attracting regulatory action on a case-by-case basis without clarity.**
- Though MiCA has been in development for the past three years, some experts feel that the regulation is already laggard in covering newer vulnerabilities in the crypto industry. For instance, **it does not cover practices like crypto staking and lending, which led to some of the industry's biggest failures last year.**
- A Bloomberg analysis notes that **MiCA also does not cover NFTs or decentralised finance, which is prone to hacks and fraud because it's managed by code rather than humans.**

Crypto regulations in India



- **India is yet to have a comprehensive regulatory framework for cryptoassets. Work is underway on framing a draft legislation in this regard.**
- However, the Indian govt has taken certain steps to bring cryptocurrencies under the scope of specific authorities and taxation.
- In the Union Budget for 2022, **the Finance Ministry imposed a 30% tax on income from the “transfer of any virtual digital asset.”**
- In March this year, **the govt placed all transactions involving virtual digital assets under the purview of the Prevention of Money Laundering Act (PMLA).**
- However, statements by ministers and bureaucrats after the Budget seems to suggest that **the rules are still not clear about the legality of cryptocurrencies in the country.**

Crypto staking



- Staking is the way many cryptocurrencies verify their transactions, and it allows participants to earn rewards on their holdings.
- But what is crypto staking? Staking cryptocurrencies is a process that involves committing your crypto assets to support a blockchain network and confirm transactions.
- It's available with cryptocurrencies that use the proof-of-stake model to process payments. This is a more energy-efficient alternative to the original proof-of-work model. Proof of work requires mining devices that use computing power to solve mathematical equations.
- Staking can be a great way to use your crypto to generate passive income, especially because some cryptocurrencies offer high interest rates for staking.

India jumps 6 places to Rank 38 in World Bank's Logistics Performance Index 2023



Relevance: Prelims & Mains Paper III; Economics

Why in news?

- India has improved its position in the logistics ranking of the World Bank. It has **jumped 6 places to Rank 38** out of 139 countries in the 7th edition of the **Logistics Performance Index (LPI 2023)**.
- The LPI index is a perception-based survey conducted across select stakeholders dealing with respective countries.
- **India has seen an improvement on 4 out of 6 LPI indicators.** This comes on the back of various initiatives being implemented over the past few years.

PM GatiShakti National Master Plan

- In Oct. 2021, the Govt of India **launched the PM GatiShakti National Master Plan (PMGS-NMP)**. It was aimed at taking a synchronized approach, by using technology for infrastructure planning and development.
- PMGS, a GIS-based tool, aims to increase coordination among different Departments / Ministries in States / UTs by combining all relevant data on a National Master Plan and State Master Plans (portals) respectively.
- PMGS takes into account factors like rapid urbanization, changing energy choices, e-commerce, need to develop resilient supply chains etc.

National Logistics Policy (NLP)

- In Sept. 2022, the govt. **launched the National Logistics Policy (NLP)**. It centres around the **upgradation and digitisation of logistics infrastructure & services**.
- NLP lays emphasis on the **shift towards more energy-efficient modes of transportation and greener fuels to reduce the carbon footprint**. The policy also focuses on adopting the **usage of multimodal transportation and complementing it by building multimodal logistics parks**.
- It also stresses on the policy reforms to improve the time spent by cargo at port, airports, and multimodal facilities since most of the delays occur at these locations.
- The govt has also invested in trade-related soft and hard infrastructure connecting port gateways on both coasts to the economic zones in interior India.
- **NICDC's Logistics Data Bank project applies radio frequency identification (RFID) tags to containers and offers consignees end-to-end tracking of their supply chain.**
- Its implementation started in 2016 in the Western part of India and was expanded to pan India level in 2020.
- Further other initiatives **like Sagarmala which aims to improve connectivity to ports and reduce cargo dwell time** and **Bharatmala which focuses on improving road connectivity of major corridors** have played a key role in improving India's logistics efficiency.

ENVIRONMENT & BIODIVERSITY

India's solar PV waste problem

Relevance: Prelims & Mains Paper III; Environment

Why in news?

- Though in the last few years, there has been a major push from Indian policymakers to enable effective waste management, waste management in the solar photovoltaic (PV) sector still lacks clear directives.

What is PV waste?

- PV waste is the electronic waste (e-waste) generated by discarded solar panels and Photo-voltaic (PV) devices.
- Photovoltaic (PV) devices contain semiconducting materials that convert sunlight into electrical energy.
- A single PV device is known as a cell, and these cells are connected together in chains to form larger units known as modules or panels.
- Although up to 90% of the components are recyclable, many PV modules contain heavy metals such as cadmium, copper, lead, antimony or selenium. When taken out of service or broken, they may be classified as hazardous waste.

The Indian Scenario

- India has the world's 4th highest solar PV deployment. The installed solar capacity was nearly 62GW in Nov. 2022. This augurs a colossal amount of solar PV waste.
- According to a 2016 report by the International Renewable Energy Agency, India could generate 50,000-3,25,000 tonnes of PV waste by 2030 and more than four million tonnes by 2050. At that time, India is expected to become one of the world's top five leading photovoltaic waste producers.

Many challenges!

- India needs to overcome significant collection, storage, recycling, and repurposing challenges.
- The market to repurpose or reuse recycled PV waste is very small in India due to a lack of suitable incentives and schemes in which businesses can invest.

Remedies

- Simply clubbing PV waste with other e-waste could lead to confusion. Instead, India needs to formulate and implement provisions specific to PV waste treatment within the scope of the e-waste guidelines.
- A Central insurance or a regulatory body needs to be set up to protect against financial losses incurred in waste collection and treatment.
- Since the waste generated from PV modules and their components is classified as 'hazardous waste' in India, pan-India sensitisation drives and awareness programmes on PV waste management will be beneficial.
- Since India's local solar PV-panel manufacturing is limited, it needs to pay more attention to domestic R&D efforts.

Birth of four cheetah cubs

Relevance: Prelims; Environment



Why in news?

- The Prime Minister, Shri Narendra Modi released wild Cheetahs in Kuno National Park, Madhya Pradesh on 17th September 2022.
- Cheetahs - brought from Namibia - are being introduced in India under Project Cheetah, which is world's first inter-continental large wild carnivore translocation project.
- Out of the eight Cheetahs there are five female and three male Cheetahs.
- The cheetah was declared extinct from India in 1952. The Cheetahs that would be released are from Namibia and have been brought under an MoU signed earlier this year.
- Now, One of the female Cheetah has given birth to four cheetah cubs. The reproduction by species is a sign that Cheetah have adapted to Indian environment.

United Nations holds second ever water conference

Relevance: Prelims & Mains Paper III; Environment



Why in news?

- The United Nations 2023 Water Conference was recently held in New York. It was the first such meeting on water after 46 years.
- The conference coincided with the mid-term comprehensive review of the International Decade for Action.
- In a report entitled 'Water for Sustainable Development 2018–2028', the U.N. recognised the urgent need for action given that we are not on track to meet the 2030 Sustainable Development Goal (SDG) no. 6 for water: "Ensure availability and sustainable management of water and sanitation for all".
- Another aim of this conference was to place water at the centre of the climate agenda in activities building up to the High Level Political Forum (HLPF) in New York in July and the COP28 climate talks to be held in Dubai later this year.

Previous Conference

- The last U.N. Water Conference, held in 1977 resulted in the first global 'Action Plan'. It recognised that "all peoples, whatever their stage of development and social and economic conditions, have the right to have access to drinking water in quantities and of a quality equal to their basic needs."
- This declaration led to several decades of global funding and concerted effort to provide drinking water and sanitation for all.
- These actions substantially reduced the population without access to safe drinking water in much of the developing world.

Outcome of the latest conference

- The latest conference witnessed 713 diverse voluntary commitments by philanthropic donors, governments, corporations, and NGOs; 120 of these were relevant to India.
- They included a \$50-billion commitment from the Indian govt to improve rural drinking water services under its Jal Jeevan Mission.
- The aforesaid commitments related to technology, data and models, knowledge sharing, capacity building, civil society, and environmental, social, and corporate governance.
- A useful tool on display was the W12+ Blueprint. It is a UNESCO platform that hosts city profiles and case studies of programs, technologies, policies that addresses common water security challenges.
- Similarly, the 'Water for Women Fund' offered support mechanisms for more effective and sustainable water, sanitation, and hygiene outcomes for women.

Many challenges!

- Access to safe drinking water and sanitation (SGD 6.1 and 6.2) continues to be challenging because of the required funding.
- In India, there are govt programmes in this regard such as Swachh Bharat Mission and Jal Jeevan Mission.
- The global water problem is no longer about access to water and sanitation. These represent only two of the eight water-related SDGs.
- The remaining SDG 6 targets address the need to sustain agriculture, industry, and natural ecosystems.

Human composting grows as an alternative to burial or cremation



Relevance: Prelims; Environment

Why in news?

- Recently, New York became the 6th state in the US to legalise human composting as a burial option.
- Washington was the first to do so in 2019 and soon, states such as Colorado, Oregon, Vermont, and California did the same.
- Also known as natural organic reduction, human composting is essentially the process of transforming the human body into nutrient-rich soil.
- In the past few years, it has gained popularity, especially among the younger generation, for being an eco-friendly alternative to dispose of a corpse.
- With the global temperature soaring, methods like burials and cremations are increasingly being seen as contributors to carbon emissions.

Benefits

- Cremating one body emits an estimated 190 kg of carbon dioxide into the air, which is the equivalent of driving 756 km in a car.
- Burial has its hazards too — apart from an indefinite use of land, it involves embalming a corpse in toxic solutions, which could be harmful to the soil.
- Moreover, burials and cremations are quite expensive and not many can afford them. In the US, traditional funerals cost \$7,000 to \$10,000 on average.
- Therefore, human composting, that costs around \$5,500 including the laying-in ceremony and uses much less energy than cremation, has emerged as a viable option for funerals.
- The soil produced through this procedure can be used for gardening or can be spread in designated memorial grounds or forest conservation areas.

Process details

- The body is first washed and dressed in a biodegradable gown. It's then placed in a closed vessel, usually measuring 8 feet by 4 feet, along with selected materials such as alfalfa, straw and sawdust.
- Inside the container for the next 30 days, the body is left to decompose. To speed up the decay, oxygen is added to the vessel, which results in the unfolding of a process called aerobic digestion, in which microbes start to consume organic matter. Meanwhile, the temperature inside the container is kept around 55 degrees Celsius in order to kill off contagions.
- By the time aerobic digestion is over, the body has been transformed into a soil-like material, containing nutrients, bones and some medical devices — these are taken out from the compost pile and recycled.
- The contents of the vessel are then ground in a machine to help further break the bones into fragments. Then, the material is occasionally rotated for another 30 days.
- As the microbial activity comes to an end, the temperature inside the pile drops, marking the transformation from an active composite pile into the soil. After this, the family of the deceased is given the soil, which weighs around 181 kg.

Faces opposition!

- The Catholic Church has been a major opponent of human composting.
- When California legalised it last year, the state's Catholic Conference called it an "unfortunate spiritual, emotional, and psychological distancing from the deceased."

'Project Tiger' completes fifty years



Relevance: Prelims & Mains Paper III; Environment

Why in news?

- The number of tigers in India has increased by 6.74% from 2,967 in 2018 to 3,167 in 2022. This is as per the figures of the 5th cycle of India's Tiger Census. Tiger Census is held after every 4 years.
- It was released by PM Modi at an event in Karnataka's Mysuru to mark 50 years of 'Project Tiger'.
- The PM also released the govt's vision for tiger conservation during 'Amrit Kaal', and launched the International Big Cats Alliance (IBCA).
- IBCA will focus on the protection and conservation of seven major big cats of the world, including tiger, lion, leopard, snow leopard, puma, jaguar and cheetah, with membership of the range countries harbouring these species.

What is Project Tiger?

- Project Tiger was launched by the Central govt on April 1, 1973, in a bid to promote the conservation of the tiger.
- It came at a time when India's tiger population was rapidly decreasing. While there were 40,000 tigers in the country in 1947, they were soon reduced to below 2,000 by 1970 due to their widespread hunting and poaching.
- Concerns around the issue further intensified when the same year, the International Union for Conservation of Nature declared the tiger an endangered species.
- To tackle the problem of hunting and poaching of not just tigers but also other animals and birds, then PM Indira Gandhi announced the Wildlife Protection Act in 1972.
- Later, a task force urged the govt to create a chain of reserves dedicated to tiger preservation, thus resulting in Project Tiger.

Turned out to be a success

- Launched at the Jim Corbett National Park, Project Tiger was initially started in nine tiger reserves of different States such as Assam, Bihar, Karnataka, Madhya Pradesh, Maharashtra, Odisha, Rajasthan, Uttar Pradesh and West Bengal, covering over 14,000 sq km.
- Notably, Project Tiger didn't just focus on the conservation of the big cats. It also ensured the preservation of their natural habitat as tigers are at the top of the food chain.
- Soon after, the number of tigers in India began to rise.

Present Status

- Project Tiger suffered a major setback in Jan 2005 when it was reported that there were no tigers left in Rajasthan's Sariska Tiger Reserve.
- This led the Union govt led by PM Manmohan Singh to reconstitute Project Tiger and establish the National Tiger Conservation Authority (NTCA).
- The NTCA had more power to check poaching and preserve the tiger population. Its mandate included setting up the Tiger Protection Force and funding the relocation of villages from the protected areas.
- Today, there are 54 tiger reserves across India, spanning 75,000 sq km.
- As mentioned before, the current population of tigers in the country stands at 3,167 as opposed to 1,411 in 2006, 1,706 in 2010 and 2,226 in 2014.

Urea sales in India reach new high despite checks

Relevance: Prelims & Mains Paper III; Environment



Why in news?

- In a worrying development, sales of nitrogenous fertiliser in India have reached new highs despite measures to check its use.
- In April 2010, the nutrient-based subsidy (NBS) regime was introduced. Notably, in 2015, the Centre made it mandatory to coat all indigenously manufactured and imported urea with neem oil. This was aimed at making it difficult for the heavily subsidised fertiliser to be used by plywood, particle board, textile dye, cattle feed and synthetic milk makers.
- This was followed by replacing 50-kg bags with 45-kg ones in 2018, and the launch of liquid 'Nano Urea' by the Indian Farmers' Fertiliser Cooperative (IFFCO) in 2021.
- However, none of the above measures have succeeded in reducing urea consumption.
- All other fertilisers, barring single super phosphate (SSP), have registered much lower increases or even declines (see table on the next slide).

The failure of NBS!

- Under NBS, the govt fixed a per-kg subsidy for each fertiliser nutrient: Nitrogen (N), phosphorus (P), potash (K) and sulphur (S). This was as against the earlier product-specific subsidy regime.
- Linking subsidy to nutrient content was intended to promote balanced fertilisation by discouraging farmers from applying too much urea, di-ammonium phosphate (DAP) and muriate of potash (MOP). These are fertilisers with high content of a single nutrient: Urea (46% N), DAP (46% P plus 18% N) and MOP (60% K).
- NBS was expected to induce product innovation, besides more use of complex fertilisers (having lower concentrations of N, P, K and S in different proportions) and SSP (containing only 16% P but also 11% S).

ALL-INDIA USE OF FERTILISER PRODUCTS

	UREA	DAP	MOP*	NPKS	SSP
2009-10	266.73	104.92	46.34	80.25	26.51
2010-11	281.13	108.7	39.32	97.64	38.25
2011-12	295.65	101.91	30.29	103.95	47.46
2012-13	300.02	91.54	22.11	75.27	40.3
2013-14	306	73.57	22.8	72.64	38.79
2014-15	306.1	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
2017-18	298.94	92.94	31.58	85.96	34.39
2018-19	314.18	92.11	29.57	90.28	35.79
2019-20	336.95	101	27.87	98.57	44.03
2020-21	350.43	119.11	34.25	118.11	44.89
2021-22	341.8	92.72	24.57	114.79	56.81
2022-23	357.25	105.31	16.32	100.73	50.18

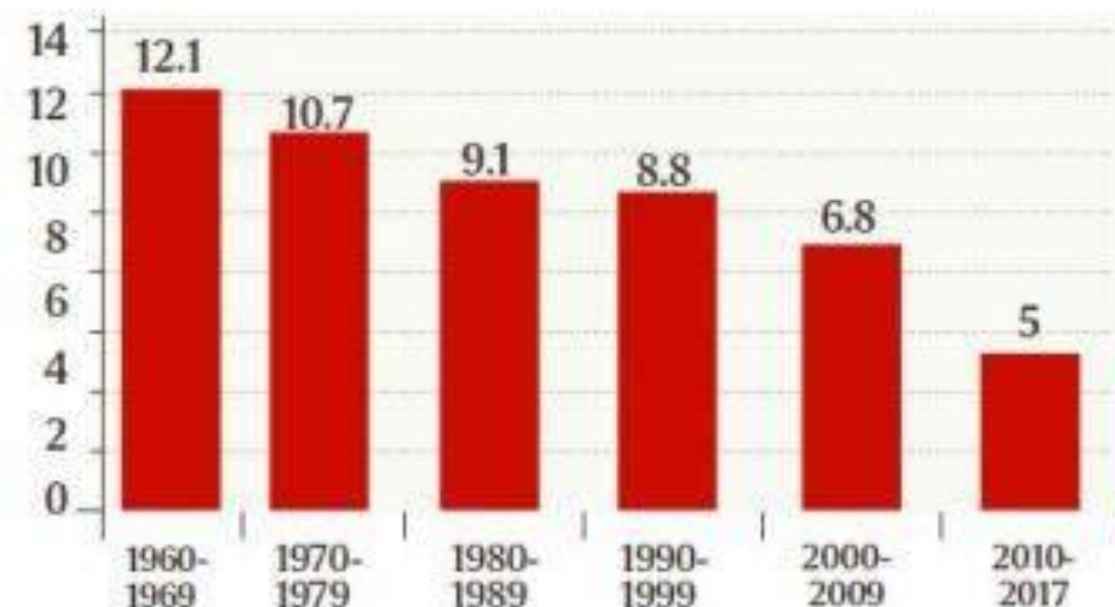
*For direct application, excluding supply to complex fertiliser units.

Source: Fertiliser Association of India. (in lakh tonnes)



Gettyimages

CROP YIELD RESPONSE TO FERTILISERS



Source: J.C. Katyal, Indian Journal of Fertilisers, Dec 2019.

Imbalanced fertilisation proves costly!



- Fertilisers are essentially food for crops. They, like humans, need nutrients – primary (N, P, K), secondary (S, calcium, magnesium) and micro (iron, zinc, copper, manganese, boron, molybdenum) – for plant growth and grain yield.
- During the Green Revolution, scientists bred semi-dwarf crop varieties that did not bend or fall over when their earheads (the grain-bearing tip part of a cereal plant's stem) were heavy with well-filled grains.
- These could, then, “tolerate” fertiliser application and produce more grain with higher doses. Over time, though, crop yield response to fertiliser use has more than halved: 1 kg of NPK nutrients yielded 12.1 kg of cereal grains in India during the 1960s, but only 5 kg during the 2010s. The primary reason has been the disproportionate application of Nitrogen (N) by farmers.
- More recent research has established a decline in nitrogen use efficiency (NUE) itself.
- NUE refers to the proportion of N applied mainly through urea that is actually utilised by crops to produce harvested yields. It is estimated that the NUE in India has fallen from 48.2% in 1962-63 to 34.7% in 2018. The 34.7% NUE was below the global average of 45.3% and 53.3% for North America in 2018.
- Simply put, when Indian farmers are applying 100 kg of N, hardly 35 kg is now being utilised, with the balance 65 kg unavailable to the plant. Some of the unutilised N may convert into organic form and become part of the soil nitrogen pool.
- This soil organic nitrogen may then undergo mineralisation (reconvert into inorganic ammonium form) and become available to the subsequent crops.
- The remaining unutilised N, however, escapes from the soil-plant system through hydrolysis (breakdown of urea into ammonia gas and its release into the atmosphere) and nitrification (below-the-ground leaching after conversion into nitrate).

- Since applying more urea is counterproductive, there is a need to **reduce its consumption and promote products containing other nutrients in desired (crop- and soil-specific) combinations.**
- There are two approaches to cut urea consumption. **The first is raising prices. The current per-tonne MRPs – Rs 5,628 for urea, Rs 27,000 for DAP and Rs 34,000 for MOP – are nowhere compatible with a 4:2:1 NPK use ratio generally considered ideal for Indian soils.**
- But since increasing urea prices isn't politically easy, a second approach is **to improve NUE – enabling farmers to harvest the same or more grain yields with fewer bags.**
- As per an expert, the govt should make **the incorporation of urease and nitrification inhibitors compulsory in urea. These are chemical compounds that inhibit the activity of urease (a soil enzyme that breaks down urea into ammonium and further to ammonia) and nitrifying bacteria (that convert ammonium to nitrate), making more N available to the crops.**
- Nano Urea is also primarily aimed at boosting NUE. Its ultra-small sized particles (20-50 nanometers, as against 1-4 mm for normal prilled/granular urea; 1 mm=1 million nm) **allow easier penetration.** IFFCO claims that **a single 500-ml Nano Urea bottle containing just 4% N can effectively replace “at least” one 45-kg bag of regular 46% N urea.**
- However, being a liquid fertilizer, Nano Urea **can only be sprayed after the crop has developed leaves. It cannot replace normal urea for basal application at sowing time or even for the early crop growth stages.**

India unveils figures of its first-ever water body census



Relevance: Prelims & Mains Paper III; Environment

Why in news?

- The Ministry of Jal Shakti has released the report of India's first water bodies census. It is **a comprehensive database of ponds, tanks, lakes, and reservoirs in the country.**
- **The census was conducted in 2018-19**, It has made **a catalogue of more than 2.4 million water bodies** across all states and UTs.
- According to the report, **"traditional methodology, i.e., paper-based schedules**, were used both for rural and urban areas.
- A "village schedule", "urban schedule" and "water body schedule" were used, **and a smart phone was used** to "capture latitude, longitude and photo of water bodies".
- Notably, the Centre **earlier maintained a database of water bodies** that were **getting central assistance under the scheme of Repair, Renovation and Restoration (RRR) of water bodies.**
- It carried out a separate census of water bodies in 2016, after a Standing Committee of Parliament pointed towards it.

Definition of a 'water body'

- This Census Report has considered "all natural or man-made units bounded on all sides with some or no masonry work used for storing water for irrigation or other purposes (e.g. industrial, pisciculture, domestic/ drinking, recreation, religious, ground water recharge etc.)" as water bodies.
- As per the report, **West Bengal's South 24 Pargana has been ranked as the district having the highest (3.55 lakh) number of water bodies across the country.**
- It is followed by **Andhra Pradesh's Ananthapur (50,537)** and **West Bengal's Howrah (37,301).**

Encroachment of water bodies

- The census found that **1.6% of enumerated water bodies — 38,496 out of 24,24,540 — had been encroached upon.**
- More than 95% of these were in rural areas. In almost 63% of encroached water bodies, less than 1/4ths of the area was under encroachment; in about 12% of water bodies, more than 3/4ths of the area was under encroachment.
- **Uttar Pradesh accounted for almost 40% (15,301) of water bodies under encroachment**, followed by **Tamil Nadu (8,366) and Andhra Pradesh (3,920)**. No encroachment was reported from West Bengal, Sikkim, Arunachal Pradesh, and Chandigarh.

MAIN FINDINGS

24,24,540
water bodies in India

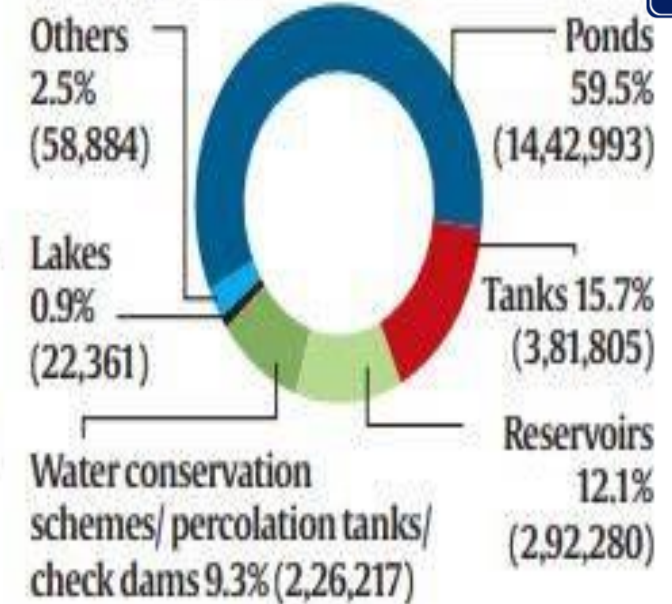
7.47 lakh
West Bengal has largest number

3.55 lakh
South 24-Parganas in West Bengal is the district with the most water bodies

MOST IN THE COUNTRY

Ponds, reservoirs	West Bengal
Tanks	Andhra Pradesh
Lakes	Tamil Nadu
Conservation Schemes	M'rashtia

TYPES OF WATER BODIES



1 LAKH+ (BESIDES BENGAL)

Uttar Pradesh	Assam
2.45 lakh	1.72 lakh
Andhra Pradesh	Jharkhand
1.90 lakh	1.07 lakh
Odisha	Tamil Nadu
1.81 lakh	1.06 lakh

SCIENCE & TECHNOLOGY

Australian firm creates woolly mammoth meatball from lab-grown cultured meat



Relevance: Prelims & Mains Paper III; Science & Technology

Why in news?	Cultivated meat	Project details
<ul style="list-style-type: none">- An Australian startup Vow has grown a meatball made of lab-grown cultured meat using the genetic sequence from the long-extinct woolly mammoth.- This huge meatball, sized slightly smaller than a volleyball, was unveiled at a museum in Amsterdam.- Notably, this meatball has not been tasted by anyone, even its creators. Nor does Vow plan to put it into commercial production.- Instead, the idea has been to use the meatball to start a much-needed debate around global meat consumption.	<ul style="list-style-type: none">- Cultivated meat — also called cultured or cell-based meat — is made from animal cells but livestock does not need to be killed in order to produce it.- Notably, it is different from plant-based meat substitutes in that it actually uses animal DNA to recreate in a lab the taste and texture of meat.- Plant-based substitutes, on the other hand, try and mimic the taste and texture of meat using other plant-based alternatives.	<ul style="list-style-type: none">- The aim behind woolly mammoth project was to create the mammoth muscle protein from available DNA.- The DNA sequence for mammoth myoglobin, a key muscle protein in giving the meat its flavour, was taken and filled in any gaps using the DNA of the African elephant, the closest living relative of the extinct woolly mammoth.- The prepared DNA sequence was then placed in myoblast (embryonic precursor to muscle cells) stem cells from a sheep, which soon replicated in the right lab conditions to grow to the nearly 20 billion cells subsequently used by the company to create the mammoth meatball.- This process was completed in just a couple of weeks.

Meat industry's & climate change

- Multiple studies have pointed out the massive impact that the global meat industry has on the environment.
- According to the Food and Agriculture Organization of the United Nations (FAO), global meat consumption has increased significantly in recent decades, with **per capita consumption almost doubling since the early 1960s**.
- This means that **roughly 14.5% of global emissions of greenhouse gases are attributable to livestock farming**.
- This includes not just carbon dioxide but also **methane and nitrous oxide, which scientists say have a climate warming potential of anywhere between 25 times and 300 times higher than that of carbon dioxide**.
- Most greenhouse gas emissions from plant-based foods are lower than those linked to animal-based foods.

Cultivated meat Need

- Experts say that if cultivated/cultured meat is widely adopted, it could vastly reduce the environmental impact of global meat production in the future.
- This is because **cultivated meat uses much less land and water than livestock, and produces no methane emissions**.
- While the woolly mammoth meatball is, as was planned, an unconventional idea, most of the industry has been focusing on commonly consumed meats like pork, chicken and beef.

A long road ahead...

- There is a long way to go before cultivated meat becomes mainstream across the world. **Currently, Singapore is the only country to have approved cell-based meat for consumption**.
- Vow hopes to enter the market later this year, with its quail-based meat product.
- More than getting regulatory approvals, for cultivated meat to really take off, **there has to be a massive, global-scale behavioural and cultural change**.

Japanese scientists create mice with two biological fathers



Relevance: Prelims & Mains Paper III; Science & Technology

Why in news?

- Japanese scientists have created mice with two biological fathers. This happened after they generated eggs from male cells for the first time.
- This advancement has the potential to radically alter the course of reproductive biology.
- The research was led by Katsuhiko Hayashi of Kyushu University (Japan) and his team.
- Notably, the breakthrough has opened new possibilities for gay-male couples — or even single men — to have their biological child without needing a female egg.

Experiment details

- For this experiment, scientists first took skin cells from the tail of a male mouse, which, just like male humans, contained both an X and Y chromosome.
- They then converted these cells into induced pluripotent stem cells which can be transformed into any kind of cell. During this process, a slight percentage of the cells lost their Y chromosome, generating “XO” cells.
- The scientists then cultured the XO cells in the lab and treated them with a drug called reversine. This helped them duplicate the existing X chromosome in these cells, creating an XX set.
- These XX cells were then embedded in an artificial ovary which was also created by the use of stem cells to generate eggs. These eggs were then fertilized with the sperm of another male mouse to obtain hundreds of embryos that were implanted into the uterus of surrogate female mice.
- Only 7 out of 630 implanted embryos produced living pups. The baby mice had a normal lifespan and they went on to have their own babies as adults.

Will it be used in humans?

- Since there has been a 1% success rate of the method used by scientists to create mice with two biological fathers, **it is theoretically possible to produce babies from male human couples.**
- However, it would take around a decade to do so.
- Besides the technical aspect, the technique being used in the case of humans also poses a wide range of ethical questions.
- Experts have raised concerns as to what will happen to all the embryos created but not used!
- They also question whether this technique **violates ethical norms** of respect to create so many potential human lives **knowing that the vast majority will be destroyed or indefinitely stored!**

Scientists find evidence of piezoelectric effect in liquids

Relevance: Prelims & Mains Paper III; Science & Technology



Why in news?

- For the first time, scientists have reported evidence of the piezoelectric effect in liquids. The effect has been known for 143 years but so far has only been observed only in solids.
- The new finding challenges the theory that describes this effect as well as opens the door to previously unanticipated applications in electronic and mechanical systems.
- The effect was found in two ionic liquids (liquids which are made of ions instead of molecules) at room temperature.

What is the piezoelectric effect?

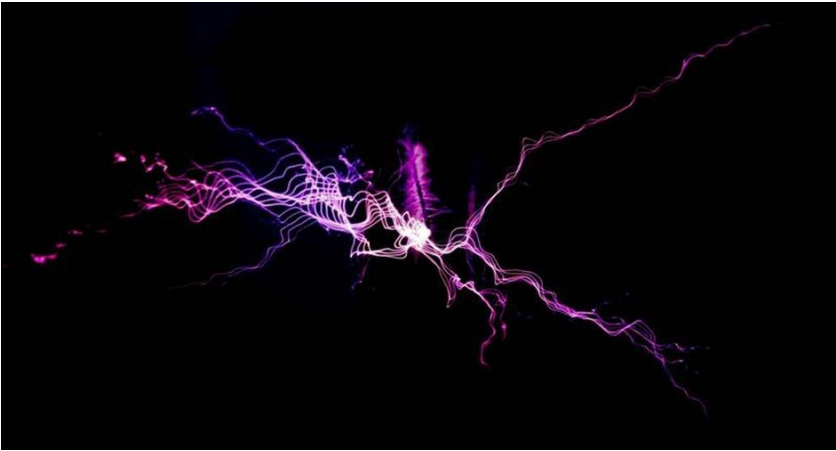
- In the piezoelectric effect, a body develops an electric current when it is squeezed.
- Quartz is the most famous piezoelectric crystal; it is used in analog wristwatches and clocks. Such crystals are also used in other instruments where converting mechanical stress to a current is useful.
- Quartz is silicon dioxide (SiO_2). The quartz crystal consists of silicon and oxygen atoms at the four vertices of a three-sided pyramid; each oxygen atom is shared by two pyramids.
- These pyramids repeat themselves to form the crystal. The effective charge of each pyramid is located slightly away from the centre.
- When a mechanical stress is applied, that is when the crystal is squeezed, the position of the charge is pushed further from the centre, giving rise to a small voltage. This is the source of the effect.

The surprise factor

- The reason the piezoelectric effect has only been expected in solids thus far is that the body being squeezed **needs to have an organized structure, like the pyramids of quartz.**
- **Liquids don't have such structure as they take the shape of the container.**
- Thus, the piezoelectric effect requires 'persistent' order within the material.

Potential new applications!

- This new discovery can lead to applications that have previously not been accessible with solid-state materials.
- Also, room-temperature ionic liquids are more readily recyclable and in many instances pose fewer environmental issues than many currently used piezoelectric materials.
- **The liquids also displayed the inverse piezoelectric effect: they became distorted when an electric charge was applied.** This fact could be used to control how the liquids bent light passing through them by passing different currents through them.



NASA launches device to monitor air pollution from space



Relevance: Prelims & Mains Paper III; Science & Technology

Why in news?

- A SpaceX Falcon 9 rocket recently successfully launched from Florida, U.S.A. It carried a new NASA device **that can track air pollution over North America.**
- The **Tropospheric Emissions Monitoring of Pollution (TEMPO)** instrument will allow **scientists to monitor air pollutants and their emission sources from space** more comprehensively than ever before.
- TEMPO will do this task on an hourly basis during the daytime.
- This data will be used by the US Environmental Protection Agency (EPA), the National Oceanic and Atmospheric Administration (NOAA) and other agencies involved in tackling atmospheric pollution.

Why's TEMPO so special?

- TEMPO which is about the size of a washing machine and has been described as 'a chemistry laboratory in space' will help in **monitoring the effects of everything from rush-hour traffic to pollution from forest fires and volcanoes.**
- A unique feature of TEMPO is that **it will be hosted on an Intelsat communications satellite in a geostationary orbit.**
- Existing pollution-monitoring satellites are in low Earth orbit, which means they can only provide observations once a day at a fixed time.
- TEMPO will be able to measure atmospheric pollution down to **a spatial resolution of 10 sq km, or neighbourhood level.**

What is geostationary orbit?

- Geostationary orbit is a common orbit for weather satellites and communications satellites. **So far, no air quality instrument measuring gas has reached there.**
- In a geostationary orbit 22,236 miles (35,786 km) above the equator, TEMPO will match the rotation of the Earth. It means that **it will stay over the same location — North America — at all times.**



Importance of this mission

- **TEMPO will have multiple applications from measuring levels of various pollutants to providing air quality forecasts and helping the development of emission-control strategies.**
- More than 40% of the US population, i.e. 137 million people, live in places with unhealthy levels of particle pollution or ozone, according to the American Lung Association.
- Among the pollutants tracked by TEMPO will be nitrogen dioxide, produced from the combustion of fossil fuels, formaldehyde and ozone.
- The data will be made available online for members of the public to monitor air quality information in their local area.
- TEMPO will get activated at the end of May or in early June and begin producing data in October. However, this data will not be made available to the public until April of next year.

Relevance: Prelims & Mains Paper III; S&T

Why in news?

- The government has given the final go-ahead to India's Laser Interferometer Gravitational-Wave Observatory, or LIGO, project, clearing the way for the construction of the country's biggest scientific facility that will join the ongoing global project to probe the universe by detecting and studying gravitational waves.
- LIGO-India will be located in Hingoli district of Maharashtra, about 450 km east of Mumbai, and is scheduled to begin scientific runs from 2030.

Gravitational waves

- An international consortium of scientists, including those from India, detected gravitational waves. The gravitational waves were produced from the merger of two black holes. These gravitational waves were detected for the first time in August 2016.
- Gravitational waves are distortions or 'ripples' caused due to the force of gravity exerted by an object. Albert Einstein predicted the existence of gravitational waves in 1916.
- Einstein theoretically proved that massive accelerating objects (such as neutron stars or black holes orbiting each other) would produce ripples in space. Furthermore, these ripples would travel at the speed of light through the universe.
- The strongest gravitational waves are produced by events such as colliding black holes (region of space with intense gravitational field that no matter or radiation can escape through) and other very high density objects.

Importance of Studying

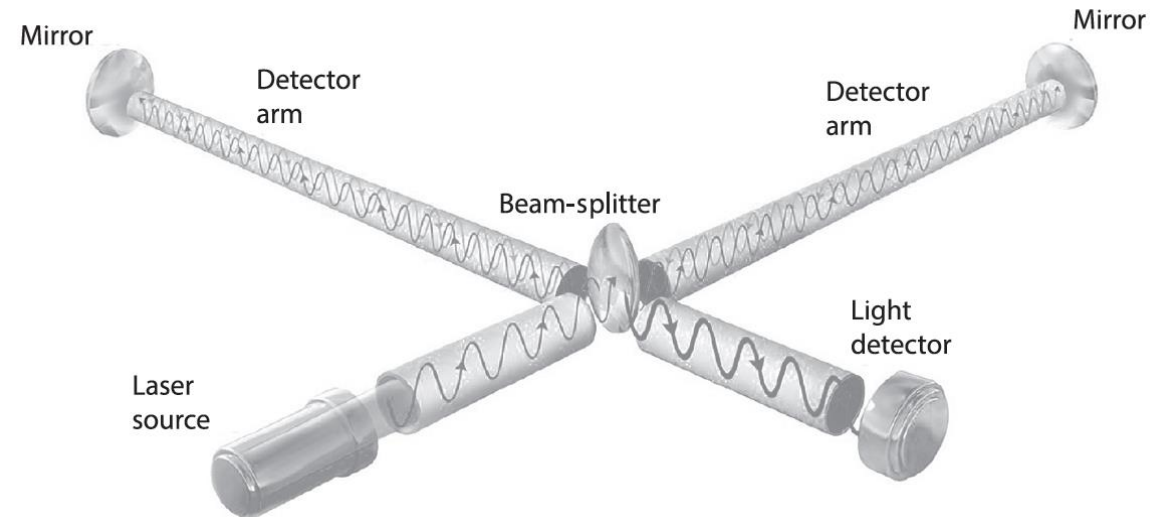
- The study of these waves will offer scientists greater insights into the origin of the universe and how planets were created.
- There are many objects in the universe, such as black holes and dark matter, that do not emit light but emit gravitational waves. Detecting gravitational waves will open avenues to study these objects.

Detection of Gravitational Waves

- The waves were first detected by Laser Interferometer Gravitational-wave Observatory (LIGO).
- LIGO is a system of two identical detectors, located in Louisiana and Washington, which were constructed to detect even minute vibrations due to gravitational waves.
- Even though the gravitational waves were generated due to the merger of two black holes, this merger was so far away from Earth that the gravitational waves are extremely difficult to detect.
- As a result, scientists have built huge instruments that are supremely sensitive. These instruments are part of LIGO. There are more than 1,000 scientists from 86 institutions around the world, including India, working with LIGO project.

How Does LIGO Work?

- LIGO consists of a **laser source**. When laser is emitted from the source, it is **divided into two parts** by **a beam splitter** and deflected towards both the arms which form an angle of 90° with each other. Both the arms have mirrors at their ends.
- When a gravitational wave is detected, it **stretches the space in one detector arm and shrinks the space in the other** that is at right angles. This causes the mirrors to swing by tiny amounts, so that the distance between the light detector and one mirror (or pair of mirrors) gets smaller, while the distance between the light detector and the other mirror (or pair of mirrors) gets larger.
- Thus, the **subtle changes in distance are registered by a detector** put in place to monitor the laser light returning from the two interferometer arms.
- To **ensure that the difference in distance is not due to local reasons**, two LIGOs are functioning at opposite ends of the United States, namely Louisiana and Washington.



What Is LIGO-India?

- LIGO-India is a proposed project to establish gravitational-wave detector in India, to be called Indigo.
- The Virgo detector, a third interferometer located near Pisa in Italy, is expected to become operational soon. Simultaneous operation of the three detectors and the 26 millisecond difference in the arrival time of the incoming gravitational wave signals between LIGO and VIRGO will improve the ability to locate the source of gravitational waves.
- The precision of source location will further improve when the arrival time difference increases to 39 milliseconds when LIGO-India, which will be the fourth detector, begins its operations.
- The arrival time difference of the gravitational waves depends upon the geographical distance among the observatories.

Johnson & Johnson offers \$8.9 billion to thousands in talc settlement



Relevance: Prelims & Mains Paper III; S&T

Why in news?	Why J&J made this offer?
<ul style="list-style-type: none">- Pharmaceutical giant Johnson & Johnson (J&J) has agreed to pay USD 8.9 billion in settlement to thousands of people. This offer, which is yet to be approved by the courts. Thus, the company might end paying more amount bas settlement- These people have filed lawsuits against the company, claiming that its talcum powder caused their cancers.	<ul style="list-style-type: none">- There are over 38,000 lawsuits pending against Johnson & Johnson for its products such as the baby powder that use talc.- The proposed USD 8.9 billion settlement will be paid over 25 years through a subsidiary of Johnson & Johnson LTL Management.- The company was created in 2021 and then filed for bankruptcy to shield the parent company from talc-related litigations.- Despite the settlement offers, J&J has maintained that its products were safe and did not cause cancer.- The company said that it would move to a corn-starch based product worldwide from 2023 onwards.

What is talc and does it cause cancers?

- Talc or talcum is a soft, naturally occurring mineral that in a powdered form is used in powders and various cosmetic products to absorb moisture as an antiperspirant, prevent caking, or improve the feel of the product.
- Although a link between talc and ovarian or lung cancer hasn't been proven definitely, many doctors and agencies advise against inhaling loose powder, avoiding use in the genital region, and using talc-free alternatives.
- A more concerning fact, however, is the contamination of the talc with the known carcinogen asbestos.
- Asbestos is another naturally occurring mineral that is usually found close to talc mines. As per the United States Food and Drug Administration, "there is the potential for contamination of talc with asbestos and therefore, it is important to select talc mining sites carefully and take steps to test the ore sufficiently."
- Asbestos exposure has been linked to cancers of the lung, lining of the lung, larynx (voice box), and ovaries. Currently, about 125 million people in the world are exposed to asbestos at the workplace and nearly half the occupational cancers have been linked to asbestos.

Baby powder's possible link to cancers!

- Despite J&J's claims, thousands of people who have used its baby powder or other talc-based products, in the genital area and on sanitary napkins have filed cases saying that they developed ovarian cancer or mesothelioma (a type of cancer of the lining of the lungs and other organs).
- Mesothelioma is an aggressive and deadly form of cancer, with no available cure. Cancer most commonly affects the tissues surrounding the lungs but is also sometimes found in the abdomen, heart, and testicles.
- Interestingly, mesothelioma is like a signature of exposure to asbestos – the cases are almost always linked to exposure to asbestos earlier in life, usually while working in mines or industries that used asbestos. The cancer develops nearly 20 years after the exposure.
- The industry, however, maintained that cosmetic-grade talc does not have asbestos contamination.

J&J accused of lying!

- Investigations revealed the company was aware of asbestos sometimes being detected in its talc and kept the information from regulators and the public.
- In 1976, J&J assured the US Food and Drug Administration that there was no asbestos detected in any sample of talc between Oct. 1972 and Dec. 1972.
- However, as per the Reuters investigation, the documents revealed that at least three tests by three different labs between 1972 and 1975 had asbestos in its talc.

Web 3 - Internet for the next generation



Relevance: Prelims & Mains Paper III; Science & Technology

Why in news?

- Internet is presently witnessing a **shift towards Web3**. It caters to the next generation of the Internet. Web3 uses blockchain technology to create a more open and transparent web.
- Web3 is built on top of existing Internet infrastructure and not in competition with previous versions of the web platform.
- Web3 allows for the creation and exchange of digital assets, decentralised applications (dApps), and smart contracts in the blockchain system.
- Blockchain is a decentralised digital technology that is designed to securely store data in a way where hacking and compromising is not easy like on current mediums and variants of the Internet.
- Blockchain is best known for its use in cryptocurrencies like Bitcoin and Ethereum, where it is used to store and transfer digital currencies in a secure and transparent way.

Key features

- A key feature of Web3 is that it provides users with greater control over their data and digital assets.
- Web3 allows for peer-to-peer transactions and interactions, which means that users are in control of their data. Web3 is more secure, as there is no single point of failure that can be exploited by hackers.
- Web3 also has the ability to create and use decentralised applications (dApps) and smart contracts. These dApps can be used for a variety of purposes, such as social media, finance, gaming, and more.

How Web3 differs from Web2?

- **Centralisation vs. Decentralisation:** Web2, also known as the centralised web, is the current version of the Internet. In it, **data is stored on centralised servers owned and controlled by large corporations such as Google, Facebook, and Amazon.** In contrast, Web3 is decentralised, meaning that **data is stored on a decentralised network of computers that are owned and controlled by the users themselves.**
- **Intermediaries vs peer-to-peer:** While Web2 relies heavily on intermediaries such as banks, social media platforms, and online marketplaces to facilitate transactions and interactions, Web3 allows users to **transact directly with one another without the need for any intermediaries.**
- **Data ownership and control:** In Web2, large corporations have significant control over user data and can monetise it in ways that users may not be comfortable with. In Web3, **users can choose to share data only with those they trust.** In Web2, **users must trust intermediaries** to keep their data and transactions secure. In Web3, **users can trust the network itself** to keep their data and transactions secure.



Challenges too!

- **Scalability:** This is one of the biggest challenges. The current infrastructure of blockchain networks **can only handle a limited number of transactions per second.**
- **User Adoption:** While blockchain technology has been around for over a decade, it is still relatively unknown.
- **Interoperability:** Web3 is being built by a wide range of developers and organisations, each with their own unique vision for how the technology should be implemented.
- **Complexity:** Technology requires a certain level of technical expertise to use and understand. This may be a barrier to adoption for some users who are not comfortable with technology or do not have the necessary technical knowledge.

Fields of usage

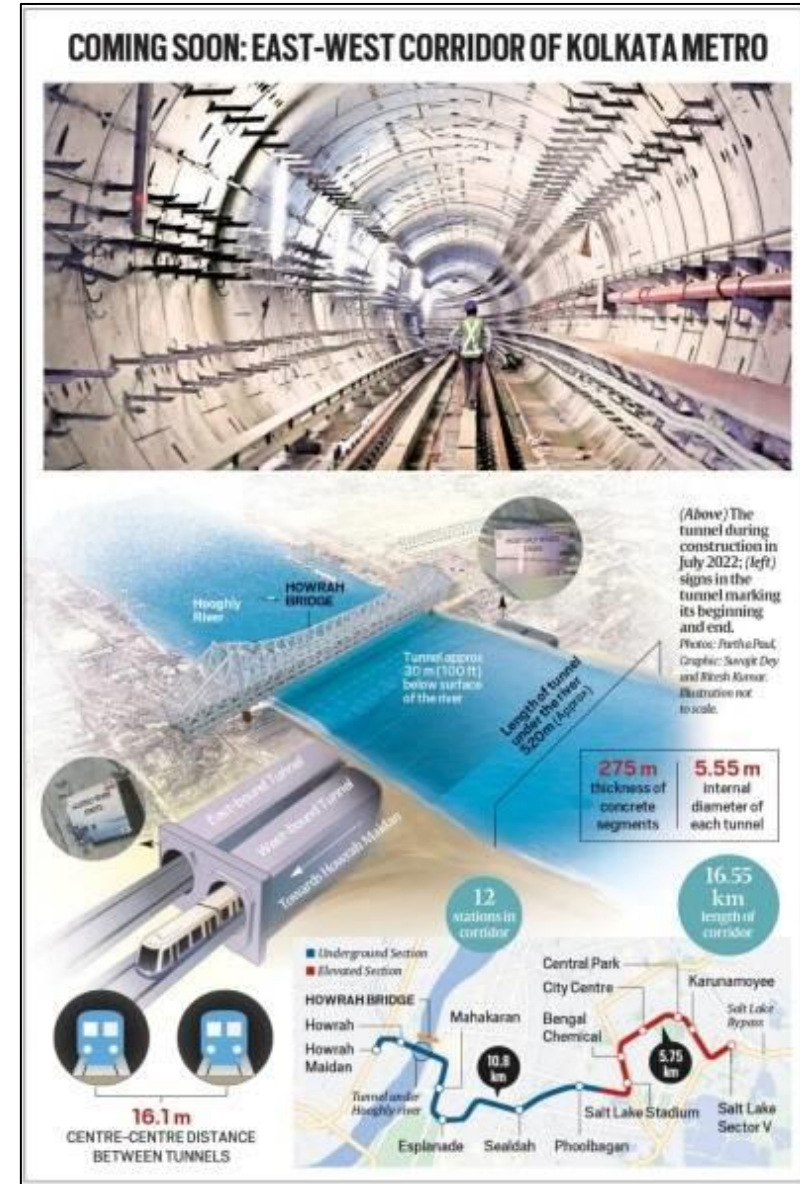
- **Cryptocurrencies:** These are built on **blockchain technology, which is a key component of Web3.** These digital currencies enable secure, decentralised transactions without the need for intermediaries.
- **Decentralised Finance (DeFi):** DeFi is a movement that aims to build a new financial system on top of **blockchain technology.** DeFi applications enable users to borrow, lend, and trade cryptocurrencies without the need for traditional financial intermediaries.
- **Decentralised storage:** Web3 is being used to create decentralised social networks like Mastodon, which are designed to be more user-centric. Web3 is also being used to develop decentralised identity verification systems.

Trials begin on Kolkata's upcoming metro corridor under Hooghly river

Relevance: Prelims & Mains Paper III; Science and Technology

Why in news?

- Trial runs are underway on the challenging western portion of the Kolkata Metro's East-West corridor. **It is a 520-m stretch which passes under the Hooghly river.** Regular commuter services are likely to begin after seven months.
- This corridor will **significantly improve commuting** on one of the city's most congested stretches.
- By the end of this year, commuters could be taking a Metro train **across the Hooghly, which separates Kolkata from Howrah, its smaller twin city on the opposite bank,** travelling under the mighty river.
- This passage is **more than 30 m (100 feet) below the river surface** at its deepest points. It is **India's first underwater transport tunnel.**
- The trains will have **an operational speed of 80 km/h, and will cover the half-km stretch under the Hooghly in about 45 seconds.**



Kolkata's bond with the Metro

- The Kolkata Metro is integral to the city's identity. The North-South line, the first section of which was opened in 1984, was India's first Metro railway.
- Stations of the North-South Metro are now old and have several problems associated with age and outdated technology.
- The East-West Metro's stations are state-of-the-art structures, and have a host of passenger amenities.

LockBit ransomware targets Mac devices



Relevance: Prelims & Mains Paper III; Science and Technology

Why in news?

- Ransomware is a **type of malicious software designed to block access to a computer system until a sum of money is paid.**
- In the first such case, LockBit ransomware recently targeted Mac devices.
- Historically, LockBit ransomware has **targeted Windows, Linux, and other operating systems.**
- Earlier in January, the LockBit gang was reportedly behind **a cyber-attack on U.K. postal services**, causing **international shipping to grind to a halt.**

What is LockBit ransomware?

- First reported in Sept. 2019 and dubbed **the “abcd” virus**, due to **the file extension used** when encrypting victim’s files, the LockBit ransomware is designed to **infiltrate victims’ systems and encrypt important files.**
- The virus is categorised as a **“crypto virus”** due to its **requests for payment in cryptocurrency to decrypt the files on the victim’s device.**
- The gang behind the LockBit ransomware maintains **a dark web portal to recruit members and release data of victims who refuse to meet their demands**, as part of their business model.
- In the past, this ransomware has been used to target enterprises and organisations in **the U.S., France, Germany, the U.K., China, India, Ukraine, and Indonesia.**

Preventive Steps

- While there are **no fool-proof ways of protecting against ransomware attacks**, organisations and individuals can take certain steps to increase resilience against such cyber threats.
- **The use of strong passwords, with strong variations of special characters which are not easy to guess along with multi-factor authentication should be implemented.** This ensures the use of brute force isn't enough to compromise systems.
- **Old and unused user accounts should be deactivated and closed as they can become weak links in the security apparatus.**
- Additionally, organisations and individuals need to have **an understanding of cybersecurity threats and vulnerable points that may be exploited by cybercriminals.**

India sets up Rs. 6,000 crore national quantum mission



Relevance: Prelims & Mains Paper III; Science & Technology

Why in news?

- India has taken up a major step in the field of quantum computing. It has set up a Rs 6,000 crore National Mission on Quantum Technologies and Applications.
- The development of homegrown quantum computers is one of the major objectives of the mission.

Way faster than conventional computers

- Quantum computers are fundamentally different than conventional computers in the way they handle and process information. The former are meant to be useful in some very specific situations where the traditional ways of computing are inadequate. This makes them much faster and more efficient computers.
- Quantum computers exploit the very special properties of matter in the sub-atomic world for calculations beyond the capabilities of ordinary computers.
- Small particles, the size of atoms or its constituents like protons or electrons, exhibit a number of strange properties that go entirely against our everyday experiences.
- For e.g., these particles can exist at multiple locations at the same time, a phenomenon called superposition, but only till no one is looking. The moment they are observed at one place, they cease to exist at all other places.
- There is also the property of entanglement. It is the ability of a particle to instantaneously influence the behaviour of another with whom it had an earlier 'interaction', even when they are separated by great distances.

What makes them faster?

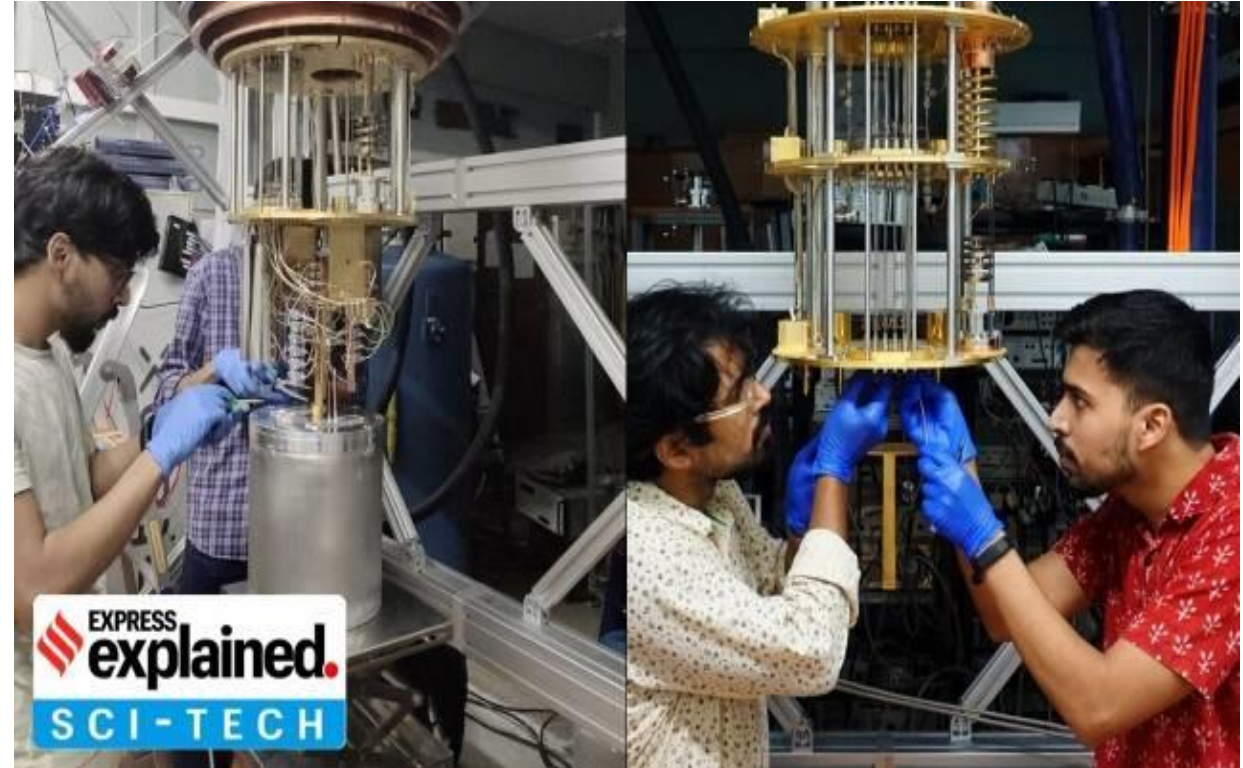
- Conventional computers store and process information in bits. A bit is the smallest unit of data that computers can handle. It can take just two values — 0 or 1 — but only one of these at a time.
- All data in computers, including text, pictures and videos, are broken down into a sequence of zeros and ones for purposes of storage and processing, and can be reconstructed from these.
- A two-bit system in a conventional computer can have four states but only one at a time. To go through each of these four states, the computer, (even the more powerful one) has to take four steps.
- Meanwhile, a quantum computer can go through these four states in just one step due to superposition.

Have limitations too!

- Building a quantum computer requires very cold temperatures and extreme isolation.
- The parallel processing happening in superposition states all lead to different results, only one of which is correct or desirable.

Quantum mission in India

- Several scientific groups in India have been working on quantum computers and related technologies for the past 10 years.
- A collaborative effort of Tata Institute of Fundamental Research (TIFR), Defence Research and Development Organisation (DRDO) and Tata Consultancy Services (TCS) is developing a 7-qubit quantum computer.
- Much more powerful quantum computers, having a few hundred qubits, have been developed in some other countries. However, none of these have yet performed calculations beyond the capabilities of regular computers.
- One objective of the mission is to build a 1,000-qubit computer in the next eight years.



India gets closer to completing Genome India Project



Relevance: Prelims & Mains Paper III; Science & Technology

Why in news?

- The Dept of Biotechnology (DBT) has announced that the exercise to sequence 10,000 Indian human genomes and create a database under the Centre-backed Genome India Project is about 2/3rd complete.
- About 7,000 Indian genomes have already been sequenced of which, 3,000 are available for public access by researchers.
- This exercise would enable researchers anywhere in the world to learn about genetic variants unique to the Indian population.
- Countries including the U.K, China, and the U.S. have launched similar programmes to sequence at least 1,00,000 of their population's genomes.

What is genome sequencing?

- The human genome is the entire set of deoxyribonucleic acid (DNA) residing in the nucleus of every cell of each human body. It carries the complete genetic information responsible for the development and functioning of the organism.
- The DNA consists of a double-stranded molecule built up by four bases – adenine (A), cytosine (C), guanine (G) and thymine (T). Every base on one strand pairs with a complementary base on the other strand. In all, the genome is made up of approximately 3.05 billion such base pairs.
- While the sequence or order of base pairs is identical in all humans, there are differences in the genome of every human being that makes them unique.
- The process of interpreting the order of base pairs, to decode the genetic fingerprint of a human is called genome sequencing.

Research timeline

- In 1990, scientists began work on determining the whole sequence of the human genome **under the Human Genome Project**.
- While the first results of the complete human genome sequence were released in 2003, the latest version of the complete human genome came out in 2023.
- The cost of generating a fairly accurate “draft” of any individual genome **has now fallen to a tenth, or to around \$1,000 or less**.
- Genomic sequencing has now evolved to a stage **where large sequencers can process thousands of samples simultaneously**.
- It now helps in **reading a person’s individual genome to identify differences from the average human genome**.

Applications



- Genome sequencing which can tell **about each human’s susceptibility or future vulnerability to disease**, has been used to evaluate rare disorders, preconditions for disorders, and even cancer.
- In the past decade, genome sequencing has also been used as a tool for prenatal screening, to investigate **whether the foetus has genetic disorders or differences**.
- The **Nobel Prize-winning technology Crispr**, which relies on sequencing, may potentially allow scientists to repair disease-causing mutations in human genomes.
- Liquid biopsies, where a small amount of blood is examined for DNA markers, could help diagnose cancer long before symptoms appear.
- Genome sequencing has also been used to **read the codes of viruses**. In fact, **virologists and pharma firms** used **genome sequencing to combat the coronavirus**. They tracked the **intensity and spread of its mutating variants** and **came up with a vaccine**.

Significance of the Genome India project

- India's 1.3 billion-strong population consists of over 4,600 population groups, many of which are endogamous (marry within one's own clan, tribe or group).
- But despite being a large population with diverse ethnic groups, India lacks a comprehensive catalogue of genetic variations.
- Notably, findings from population-based or disease-based human genetics research from other populations of the world **cannot be applied to Indians**.
- Thus, creating a database of Indian genomes allows researchers to learn about genetic variants unique to India's population groups and use that **to customise drugs and therapies**.
- About 20 institutions across India are involved in the project, with analysis and **coordination done by the Centre for Brain Research at IISc, Bangalore**.



SOCIAL ISSUES

India overtakes China to become the world's most populous nation



Relevance: Prelims & Mains Paper I; Social Issues

Why in news?

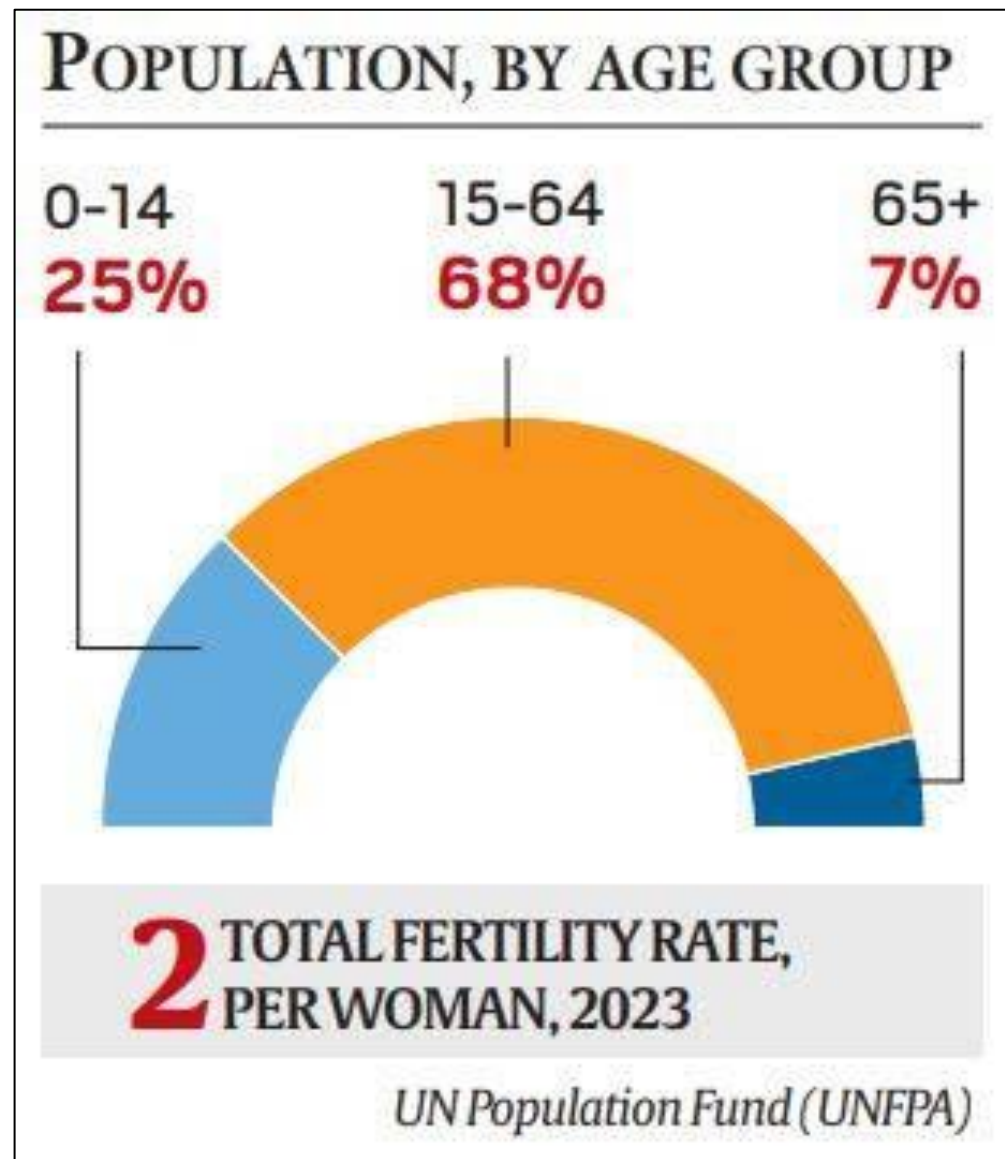
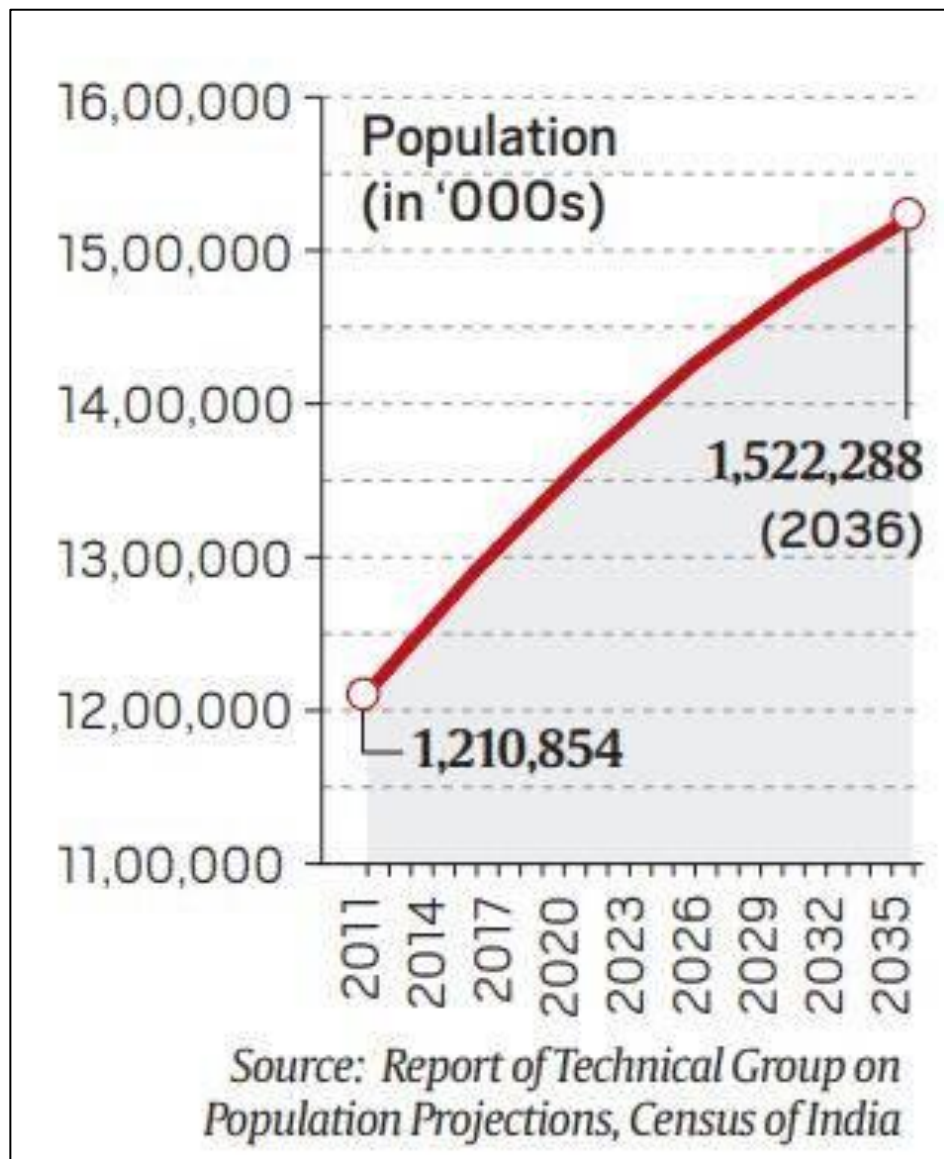
- A recent UN report has **officially confirmed** what had been anticipated for months now — **that India's population is expected to surpass that of China by the middle of this year at the latest.**
- **The annual State of World Population report by the UN Population Fund (UNFPA) has pegged India's mid-2023 population at 1,428 million, marginally ahead of China's 1,425 million.**
- Last year, this same report **had estimated China's mid-2022 population at 1,448 million, substantially more than that of India's 1,406 million.**
- The emergence of India as the world's most populous country this year, therefore, has **a lot to do with a relatively sharp drop in China's population — a reduction of 23 million (2.3 crore) in just one year.**
- Though these are only estimates, **arrived at using indirect methods and a variety of indicators like fertility and mortality rates.** But the UNFPA reports which have been coming out every year since 1978, **are considered a reliable indicator of global population trends.**
- Notably, population sizes are dynamic and it is difficult to capture an accurate number on any given day.

Earlier than India's own estimates!

- The most reliable figures for India's population comes from the Census that happens every 10 years. The last Census took place in 2011, and the 2021 exercise had to be postponed because of the coronavirus pandemic.
- The 2011 Census had put India's population at 1,210 million (121.08 crore, 1,210,854,977 to be exact).
- In 2020, the Census office had released population projections for years 2012-2036, which remain the official estimates of India's current population.
- As per these projections, India's population in 2023 was expected to be only 1,388 million (about 139 crore), significantly less than what the UNFPA's State of World Population report and several other estimates have been suggesting.
- In fact, as per these projections, India's population even in 2026 would be smaller than what UNFPA has estimated for the middle of this year. Improvements in life expectancy and a decline in mortality rates, both of them positive indicators, could be some of the major reasons for the faster-than-expected growth in population in the short term.
- As per the UNFPA report, if India's population continues to grow at the current pace — just under 1% every year — it would double from the present value in the next 75 years. That would be the case with global population as well, currently slightly above 8 billion. However, both India's and the world's populations are expected to stabilise much earlier than that.

Delaying of Census and its implications

- An authoritative assessment of India's current population has been hampered by an unexplained delay in carrying out the Census 2021 exercise.
- Though normalcy has been restored after the pandemic, there are no indications that the Census exercise will begin in the near future! When asked about it in Parliament, the govt has maintained that **it wanted to conduct the Census on time, but was forced by circumstances to postpone it.**
- The Census exercise, **being carried out every 10 years since the 1870s, has never been disrupted for this long.**
- **With General Elections scheduled for next year, this process is unlikely to proceed at a fast pace. It usually takes at least two years for the Census exercise to get completed. Many datasets take several years after the completion of the exercise to come out.**
- **The Census exercise produces basic input data for all sorts of indicators used for planning and policy implementation. These indicators are also used for investment and trade decisions by global partners. In the absence of reliable indicators, based on solid numbers from the Census, the quality of these decisions could suffer.**



UN population report: Key takeaways for India and the world



Relevance: Prelims & Mains Paper I; Social Issues

Why in news?

Highlights of the report

- India is now the most populous country in the world. It has overtaken China in population as per the United Nations Population Fund (UNFPA)'s State of World Population (SOWP) report - '8 Billion Lives, Infinite Possibilities'.
- In Nov. 2022, the UN had announced that the world's population had crossed the 8 billion mark.
- As per UNFPA, the population of the world is 8,045 million. The largest share (65%) is of people between the ages of 15 and 64 years, followed by those in the 0-14 years group (24%). 10% of the population is above 65 years of age.
- The world's two most populous regions are Eastern and South-Eastern Asia (its 2.3 billion people represent 29% of the global population) and Central and Southern Asia (its 2.1 billion population accounts for 26% of the global population). China and India accounted for the largest populations in these regions, with more than 1.4 billion each in 2022.
- Central and Southern Asia is expected to become the most populous region in the world by 2037. Earlier UN reports had said that the population growth in South Asia will begin to decline before 2100.
- The latest UN projections suggest that the global population could grow to around 8.5 billion in 2030, 9.7 billion in 2050 and 10.4 billion in 2100.
- More than half of the projected increase in global population up to 2050 will be concentrated in eight countries — the D.R. Congo, Egypt, Ethiopia, India, Nigeria, Pakistan, the Philippines and Tanzania.

Outlook for population growth

- The 2023 report has said that while numbers will continue to grow for several decades, **latest projections suggest that the rate of global population growth has fallen, and has been at less than 1% since 2020.**
- **This is largely due to declining fertility rate at or below 2.1 children per woman.** Notably, this figure is widely considered **the “replacement fertility” rate, also called “zero-growth fertility” rate).** In 1950, it stood at 5.
- Presently, 60% of the world’s population lives in a region where the fertility rate is below replacement level, up from 40% in 1990. **International migration is now the primary cause of population growth in many countries, with 281 million people living outside their country of birth in 2020.**
- South Asia clocks some of the highest emigration trends, with India seeing an estimated net outflow of 3.5 million between 2010 and 2021. Pakistan has the highest net flow of migrants of 16.5 million during the same period.
- **Despite the continuing decline in the average number of births per woman, the total annual number of births has remained stable at around 140 million since the late 1980s “due to the youthful age distribution of the global population”.**
- In 2021, 134 million babies were born worldwide. This figure is expected to reach 138 million annually between 2040 and 2045, despite the continuous decline in the average number of births per woman.
- **In 2021, most births worldwide occurred in the two most populous regions—Asia and sub-Saharan Africa.**

Life expectancy's contribution to the global population growth

- One of the reasons for population growth globally pointed out by the UNFPA has been that of **increasing life expectancy**.
- **Fertility rates have been dropping in various parts of the world, as have mortality rates all over the world, with better access to health care and improving standards of living.** This also means that parts of the world, such as Japan, have a rapidly ageing population.
- The 2023 report finds that **life expectancy among men now stands at 71 years while among women it stands at 76 years.**
- **Globally, life expectancy reached 72.8 years in 2019, an increase of almost 9 years since 1990, the UN said in its 2022 report.**
- Further reductions in mortality are projected to result in an average longevity of around 77.2 years globally in 2050. **The share of the global population aged 65 years or above is projected to rise from 10% in 2022 to 16% in 2050.**
- **By 2050, the number of persons aged 65 years and above is expected to be more than double that of 5 year olds and the same as 12 year olds.**
- **Once fertility rates drop in high-fertility regions such as sub-Saharan Africa, the global population will start to decline.**

The Indian scenario

- As per the UN report, as much as 68% of India's 1,428.6 million population belongs to the 15-64 years category, and 26% in the 10-24 years group. This fact makes India one of the youngest countries in the world.
- However, the fertility rate in India has been steadily dropping. The National Family Health 5 Survey (2019-21) found that India attained a Total Fertility Rate of 2.0 for the first time, less than the replacement level of 2.1, falling from 2.2 in NFHS 4 (2015-16).
- India's population is likely to start its decline closer to 2050. India's growth rate stood at 2.3% in 1972, which has dropped to less than 1% now. In this period, the number of children each Indian woman has during her lifetime has come down from about 5.4 to less than 2.1 now. This means India has attained the Replacement Fertility Rate, at which a population exactly replaces itself from one generation to the next. This shows that the usage of modern contraceptives is rising across the country.
- Life expectancy for men in India is the same as the global life expectancy of 71 years, while it is marginally lower for women at 74 years.
- As per experts, with 68% of its population as youth and working population, India could have one of the largest workforces in the world. This will give it a global advantage.
- It needs to capitalise on this situation by stimulating its economic growth by educating and skilling its youth. It can thus provide this skilled labour to countries where the population is declining. They will be in dire need of such a workforce in the near future.

INTERNAL SECURITY

Amit Shah launches 'Vibrant Villages Programme' in Arunachal

Relevance: Prelims & Mains Paper III; Internal Security

Why in news?

- Union Home Minister Amit Shah recently launched the 'Vibrant Villages Programme' (VVP) in Kibithoo, a border village in Arunachal Pradesh.
- Notably, the constant threat along the country's border amid the ongoing standoff with China has led to an intensive push to upgrade infrastructure in the border areas.
- For this purpose, the Union Cabinet approved the allocation of Rs 4,800 crore for VVP scheme.

What is the 'Vibrant Villages Programme'?

- 'Vibrant Villages Programme' was first announced in the 2022 Budget. It is targeted at providing comprehensive development of villages on the border with China and improvement in the quality of life of people living in identified border villages.
- The scheme aims to provide facilities of drinking water, 24×7 electricity, connectivity with all weather roads, cooking gas, mobile and internet connectivity in the border areas.
- The programme also intends to leverage tourism potential through promotion of local, cultural, traditional knowledge and heritage in the border areas,
- Such development will help prevent migration, and thus also boost security.

States under VVP

- 2,967 villages in 46 blocks of 19 districts have been identified where the centrally sponsored VVP scheme will be implemented.
- These villages are located on the border in the states of Arunachal Pradesh, Sikkim, Uttarakhand and Himachal Pradesh and the Union Territory of Ladakh. In the first phase, around 662 villages have been identified for priority coverage.
- Out of the total outlay, Rs 2,500 crore will be spent exclusively on the creation of road infrastructure.
- Notably, there is a conscious effort to not overlap VVP with the Border Area Development Programme.

Maoists kill 10 policemen in Chhattisgarh in a landmine attack



Relevance: Prelims & Mains Paper III; Internal Security

Why in news?

- Ten personnel of the Chhattisgarh Police's District Reserve Guard (DRG) and the civilian driver of their vehicle were reported killed in a recent IED attack by Maoists in the state's Dantewada district.
- The attack took place more than two years after the April 2021 ambush by Maoists in Chhattisgarh's Bijapur district, in which 22 security forces personnel were killed.

A Strategic attack

- The CPI(Maoist) carries out Tactical Counter Offensive Campaigns (TCOCs) between February and June every year, in which the focus of its military wing is to inflict casualties on security forces.
- This period is chosen because with the onset of the monsoon in July, it becomes difficult to conduct offensive operations in the jungles.
- While overflowing nullahs can't be crossed, tall grass and shrubs reduce visibility. As the monsoon begins, both the Maoists and the security forces return to their camps.
- Almost all major attacks by Maoists on security forces, including the 2010 Chintalnar massacre of 76 CRPF personnel, have taken place during the TCOC period.
- The TCOC period this year has been characterized by increasing IED attacks. Until April 15 this year, Maoists had carried out 34 IED attacks in Bastar. This figure was 28 for 2022 and 21 for 2021.

Current LWE (Left-Wing Extremism) situation in India

- The influence of Maoists and associated violence has been **falling consistently** in the country because of multiple factors.
- They include **a stronger push by security forces in Maoist strongholds, roads and civic amenities reaching the interiors to a greater extent than before.**
- Also, **there is a general disenchantment with the Maoist ideology among the youth,** which has deprived the insurgent movement of new leadership.
- As per the govt, **Maoist violence** in the country has **gone down by 77% since 2010.**
- **The number of resultant deaths (security forces + civilians) has come down by 90% from an all-time high of 1,005 in 2010 to 98 in 2022.**
- The govt has cut the number of districts declared to be Naxal-affected **from over 200 in the early 2000s to just 90 now.**
- It claims that the geographical spread of violence is **actually restricted to just 45 districts.** The presence of Naxals is said to be **minimal to zero in Andhra Pradesh, Telangana, Odisha, Jharkhand, and Bihar,** which were at one time their strongholds.



Chhattisgarh - the epicentre

- Chhattisgarh is the only state in the country where Maoists continue to have a significant presence and retain the capability to mount big attacks.
- Among the reasons behind continuing Maoist violence in Chhattisgarh is that the DRG - the special unit of the Chhattisgarh Police, raised from the local tribal population and trained to fight Maoists, became active relatively recently.
- The absence of roads in the interiors of Bastar has also hindered the operations of security forces. Minimal presence of the administration in the interiors of South Bastar has ensured that Maoists continue to have influence in the region and enjoy local support through a mix of fear and goodwill.

Centre's continuous efforts

- The Centre has been supporting LWE states through - Security Related Expenditure (SRE), which focuses on equipping security forces to fight Maoists; the Special Infrastructure Scheme (SIS), which aims to strengthen local police and intelligence setups; and Special Central Assistance for building infrastructure such as roads in LWE districts.
- In 2021, the CRPF raised a Bastariya Battalion the recruits for which were taken from the local population. They knew the language and terrain, and could generate intelligence. This unit now has 400 recruits and regularly conducts operations in Chhattisgarh.
- Since 2014, as many as 2,343 mobile towers have been erected in LWE zones.
- The Centre has also unleashed the National Investigation Agency (NIA) and the Enforcement Directorate on CPI(Maoist) cadres, leaders, and sympathisers with the aim to choke their funding.

GEOGRAPHY

Heat stroke kills 11 at a public event in Mumbai



Relevance: Prelims & Mains Paper I; Geography

Why in news?

- Eleven people died due to heatstroke at a recent large public gathering in the open in Kharghar, Navi Mumbai.
- Twenty people were admitted to hospital, three of whom are critically ill. Dozens of others suffered from dehydration while standing in the heat.
- An estimated 2 million people attended the govt programme in which the Maharashtra Bhushan award was conferred on social worker Appasaheb Dharmadhikari by Union Home Minister Amit Shah.
- Notably, the leaders and politicians had shade above their heads, but the large crowd of attendees did not.

How heat stroke affects the body?

- A heat stroke or sunstroke is the result of overheating of the body as a result of exposure to high temperatures and humidity, or due to prolonged physical exertion at high temperatures.
- A heat stroke is considered to be a medical emergency that requires prompt attention.
- When the body fails to sweat and is therefore unable to lose heat by evaporation, there is an increase in the core temperature of the body.
- If the body fails to cool down, its core temperature can shoot up to 106 degrees Fahrenheit within a few minutes. This can cause severe health implications including death.
- Persons suffering from heat exhaustion experience fatigue, dizziness, headache, nausea, vomiting, hypotension (low blood pressure) and tachycardia (increased heart rate).

No warning in advance!



- Unfortunately, no heat wave warnings were issued by the India Meteorological Department (IMD) for the day on which the aforesaid tragedy took place.
- As per IMD officials, it is not abnormal to record such temperatures during this time of the year.
- According to the IMD, “qualitatively, heat wave is a condition of air temperature which becomes fatal to the human body when exposed”.
- In quantitative terms, the IMD’s definition is “based on the temperature thresholds over a region in terms of actual temperature or its departure from normal”.
- For coastal stations (like Mumbai), this deviation is 4.5 degrees Celsius or more from normal, provided the actual maximum temperature is 37 degrees Celsius or more.

MISCELLANEOUS

Dalai Lama names U.S-born Mongolian boy the 3rd highest leader in Buddhism

Relevance: Prelims



Why in news?

- The Dalai Lama has named a US-born Mongolian boy as the 10th Khalkha Jetsun Dhampa. This boy will be the head of the Janang tradition of Tibetan Buddhism and the Buddhist spiritual head of Mongolia.
- This unveiling ceremony is believed to have taken place on March 8 in Dharamshala.
- The 9th Khalkha Jetsun Dhampa died in 2012 at Ulaanbaatar, Mongolia. Since then, there had been a tense wait for his reincarnation.

Basics of Tibetan Buddhism

- Buddhism became the predominant religion in Tibet by the 9th century AD. It evolved from the Mahayana and Vajrayana traditions of Buddhism.
- Tibetan Buddhism has four major schools: Nyingma (8th century), Kagyu (11th century), Sakya (1073), and Gelug (1409).
- The Janang school (12th century) is one of the smaller schools that grew as an offshoot of the Sakya school.
- Since 1640, the Gelug school has been the predominant school of Tibetan Buddhism. The Dalai Lama belongs to this school.

Hierarchy and Reincarnation

- The cycle of birth, death and rebirth is one of Buddhism's key beliefs. In Dalai Lama's own words - "As long as you are a Buddhist, it is necessary to accept past and future rebirth".
- However, early Buddhism did not organise itself based on this belief in reincarnation. Tibet's hierarchical system is believed to have emerged in the 13th century.
- It was also around this time that the first instances of "formally recognizing the reincarnations of lamas" can be found.
- The 5th grand lama of the Gelug school, Ngawang Lobsang Gyatso, was conferred the title of Dalai Lama ('Dalai' being the Mongol word for 'ocean').
- To consolidate his rule, he instituted the tradition of succession through reincarnation in the Gelug school, himself claiming to be the reincarnation of Avalokiteshvara, one of the most important Bodhisattvas in Mahayana traditions.

How reincarnate lamas are chosen?

- As per Tibetan Buddhist tradition, **the spirit of a deceased lama is reborn in a child. The predecessor himself leaves guidance regarding his reincarnation.**
- The **prospective child then has to undergo multiple 'tests' in which they 'recall' their past lives and recognise objects that their predecessor used, such as spectacles, prayer beads, etc.**
- Other oracles and lamas with the power of divination are also consulted before the final proclamation is made.
- There are also procedures to sort out disputes. When there happens to be more than one prospective candidate for recognition, the final decision is taken by using the dough-ball method (zen tak) before a sacred image while calling upon "the power of truth".
- This system of succession by reincarnation works at various levels of the Buddhist hierarchy.

The Chinese interference

- Initially, China used direct, oppressive tactics to establish its authority in Tibet. During Mao's Cultural Revolution, thousands of Tibetan monasteries and cultural sites were destroyed. Lately, China's policy has been to make peace with the highly devout Tibetan public.
- China has also 'invested' millions of dollars to rebuild and renovate many monasteries and recognized Buddhism as an "ancient Chinese religion".
- For years, China has attempted to discredit the Dalai Lama, calling him a "wolf in monk's robes". However, the Dalai Lama still enjoys massive respect in Tibet.
- The Panchen Lama – traditionally the 2nd most important figure in the Gelug tradition, responsible for naming and grooming the next Dalai Lama – chosen by the 14th Dalai Lama remains 'missing' since he was kidnapped by Chinese authorities in 1995. Gedhun Choekyi Nyima was only 6 at the time of his abduction and has never been seen since.
- Chinese authorities selected their own Panchen Lama, a six-year-old boy named Gyaincain Norbu, in 1995. Today, he is seen in monasteries across Tibet, spreading pro-China messages.

The Dalai Lama's position

- In 2011, Dalai Lama retired from worldly affairs and handed over his temporal authority to an elected Tibetan government-in-exile, the Central Tibetan Administration.
- The CTA runs like any modern govt with various ministries and a constitution.
- Dalai Lama, currently 87, claims he will live till the ripe age of 113 and have enough time to decide upon his reincarnation.
- However, his old age and poor health concerns many Tibetans.

Indian-American mathematician awarded Nobel Prize equivalent in Statistics

mate

Relevance: Prelims

Why in news?

- Calyampudi Radhakrishna Rao, a prominent Indian-American mathematician and statistician, will receive the 2023 International Prize in Statistics, the equivalent to the Nobel Prize in the field, for his monumental work 75 years ago that revolutionised statistical thinking.
- Rao, who is now 102, will receive the prize, which comes with a USD 80,000 award, this July at the biennial International Statistical Institute World Statistics Congress in Ottawa, Ontario, Canada.

About the work

- In his remarkable 1945 paper published in the Bulletin of the Calcutta Mathematical Society, Rao demonstrated three fundamental results that paved the way for the modern field of statistics and provided statistical tools heavily used in science today.
- The first, now known as the Cramer-Rao lower bound, provides a means for knowing when a method for estimating a quantity is as good as any method can be.
- The second result, named the Rao-Blackwell Theorem (because it was discovered independently by eminent statistician David Blackwell), provides a means for transforming an estimate into a better—in fact, an optimal—estimate.
- And the third result provided insights that pioneered a new interdisciplinary field that has flourished as “information geometry.”
- Combined, these results help scientists more efficiently extract information from data.
- information geometry has also found applications in recent research on radars and antennas and contributed significantly to advancements in artificial intelligence, data science, signal processing, shape classification, and image segregation.

Life and achievements

- Rao was born to a Telugu family in Hadagali, Karnataka. His schooling was completed in Gudur, Nuzvid, Nandigama, and Visakhapatnam, all in Andhra Pradesh.
- He received an MSc in mathematics from Andhra University and an MA in statistics from Calcutta University in 1943.
- He obtained a PhD degree at King's College at Cambridge University. He added a DSc degree, also from Cambridge, in 1965.
- He is currently a professor emeritus at Pennsylvania State University and Research Professor at the University at Buffalo.
- Rao has received many honours. He was awarded the title of Padma Bhushan by the Indian Government (1968) and Padma Vibhushan in 2001.

International Prize in Statistics

- The International Prize in Statistics is awarded every two years by a collaboration among five leading international statistics organisations.
- The prize recognises a major achievement by an individual or team in the statistics field, particularly an achievement of powerful and original ideas that have led to practical applications and breakthroughs in other disciplines.
- The prize is modelled after the Nobel prizes, Abel Prize (Mathematics), Fields Medal (Mathematics) and Turing Award (Computer Science).
- The first International Prize in Statistics was awarded in 2017.



Revolutionary leader Teja Singh Sutantar



Relevance: Prelims

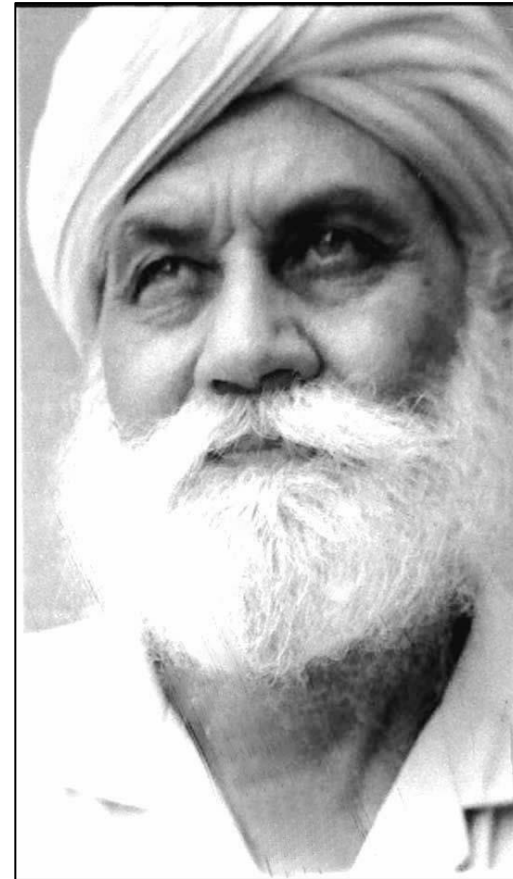
Why in news?

Movement for Liberating Gurudwaras

- The Punjab CM Bhagwant Mann recently unveiled a statue of Teja Singh Sutantar, former Sangrur MP and revolutionary leader at Nihalgarh village in Sangrur district.
- This date marks the 50th death anniversary of the **CPI leader, who not only fought against colonial rule, but waged a struggle to secure the rights of the Punjab peasantry from feudal lords.**
- Teja Singh Sutantar was born in 1901 as Samund Singh in Gurdaspur district.
- Stirred by the 1919 Jallianwala Bagh massacre, he **joined the Akali Dal to participate in the movement of liberating gurdwaras from corrupt mahants.**
- In 1921, **he formed his own squad called 'sutantar jatha' (also called swatantar, meaning free/independent).**
- **The jatha successfully liberated a gurdwara in a village called Teja, in the Gurdaspur district from the mahants. This success earned him the nickname - Teja Singh Sutantar from his supporters.**
- He later freed another gurdwara, in a similar fashion.

Became a revolutionary

- Teja Singh **went to Kabul in 1923** as a Sikh missionary. There he **came in contact with a few leaders of the Ghadar Party**, who, at the time, were preparing for their 2nd attempt to overthrow the British govt.
- The Ghadar Movement was an early 20th-century international political movement founded by expatriate Indians to overthrow British rule in India.
- The Ghadar leaders persuaded Teja Singh to undergo **military training**. In 1925, he joined the Turkish military academy under the pseudonym Azad Beg. He was granted Turkish citizenship and got commissioned into the Turkish army.
- Teja Singh later moved to Berlin and then to Canada and the U.S., where he addressed congregations of Indians, mainly Punjabi Sikh immigrants. Those who heard him described him as a fiery speaker.
- After visiting several countries including Russia, **Teja Singh returned to India and became a prominent leader of the communist party (CPI)**.
- He contributed revolutionary articles to the party journal, the Kirti, frequently writing about issues that plagued peasants. In 1936, he was arrested along with other communist leaders for his “seditious” activities.



Politics and peasant agitations

- Due to his popularity, Teja Singh was elected unopposed to the Punjab Legislative Assembly in 1937 as a nominee of INC, while he was still in prison. He retained this status till 1945. He was also secretary of Communist Party (Punjab) from 1944- 1947.
- Post-independence, Teja Singh became a prominent leader of the Kisan Sabha and led a number of peasant agitations against the govt and landlords.
- He was a key leader in the PEPSU Muzara movement, which started in the 1930s and went on till 1952.
- The movement was started by landless peasants (muzaras) in PEPSU (Patiala and East Punjab States Union, which included the districts of Mansa, Sangrur, Barnala, and parts of Bathinda, apart from Patiala) to obtain ownership rights of the land they had been tilling for generations.

Post-independence politics

- After independence, Teja Singh formed his Lal (Red) Party with the Kirti group of the Punjab Communist Party.
- The Lal Party was an active constituent of the Punjab Riyasat Praja Mandal which campaigned for the merger of the princely states into Punjab and against the tenancy law prevalent in those territories.
- Due to arrest warrants issued against him for his role in the Muzara movement, he went underground for a few years till these warrants were withdrawn.
- Teja Singh remained a member of the Punjab Legislative Council from 1964-1969. He edited Lal Jhanda, a monthly magazine in Urdu, Lal Savera, a Punjabi weekly and contributed to various newspapers.
- In 1971, he was elected as a Lok Sabha MP from Sangrur on a CPI ticket. However, on April 12, 1973 he died of a heart attack in the central hall of the Parliament.

U.S. witnesses conflicting rulings on much-used abortion pill



Relevance: Prelims

Why in news?

- There have been conflicting rulings in the U.S. on the commonly used abortion pill mifepristone.
- As a result, a heavily contested legal fight is likely to take place over this issue.

Details

- Mifepristone was approved for use by the U.S. Food and Drug Administration more than two decades ago. It is used in combination with a second drug, misoprostol.
- Since its approval, mifepristone has been used by more than 5 million women to safely end their pregnancies. Today, more than half of women who end a pregnancy rely on this drug. Besides abortions, Mifepristone is also used to manage miscarriages.
- Recently, in a far-reaching ruling, a federal judge in Texas blocked the FDA's approval of the drug following a lawsuit by the pill's opponents.
- This ruling, which the judge put on hold for a week to allow for an appeal, could affect access to the drug in every state. Meanwhile, the Biden administration has asked an appeals court to allow access to the drug while the case continues to play out.
- Interestingly, the Texas ruling came at virtually the same time a judge in Washington state, ruling in a different lawsuit brought by liberal states, ordered the FDA not to do anything that might affect the availability of mifepristone in the suing states.

New Delhi set to host first-ever global Buddhist Summit



Relevance: Prelims

Why in news?

- PM Narendra Modi will inaugurate the **first-ever Global Buddhist Summit on 20th April in New Delhi.**
- Prominent Buddhist monks from various countries will participate in this summit. Discussions will be held on how to deal with contemporary challenges, with the help of Buddhist Philosophy and thought. The teachings of the Shakyamuni Buddha related to the practice of Buddha Dhamma will also be discussed.
- This two-day Summit **whose theme is “Responses to Contemporary Challenges: Philosophy to Praxis” will mark the significance and importance of India in Buddhism. Notably, Buddhism was born in India.**
- Delegates from almost 30 countries will participate in this summit and around 171 delegates from foreign countries and 150 delegates from Indian Buddhist organizations.
- **The Ministry of Culture along with the International Buddhist Conference (IBC), a global Buddhist umbrella body, headquartered in New Delhi are even organisers.**

India's first Apple Store opens in Mumbai

Relevance: Prelims



Why in news?

- India's first Apple Store has opened in Mumbai. This flagship retail outlet is located at the Jio World Centre in BKC. A second Apple Store will very open in New Delhi's Saket.
- Opening of two Apple Stores in just a couple of days is unprecedented in several ways. It also underlines the importance of India as a market for Apple.
- Apple could not open a store in India earlier because of regulatory restrictions around single-brand retail.
- So far, it has had stores operated by Indian partners such as Imagine and Future World. With the launch of its two stores, Apple will become a full stack player in India, managing everything from manufacturing to retail.
- Apple has claimed it is supporting over 1 million jobs in India with its developer network.
- At the new company-owned stores, Indian customers will be able to walk in to buy India-made iPhones. Notably, 2023 marks Apple's 25th year in India.



A unique experience!

- At Apple Stores, **the actual sale of products takes the back seat, and the focus is on the experience.** Like a town square, people can walk in and spend as much time as they want with the products, ask questions, and learn how to use an iPhone or a MacBook.
- **Each store has many “Apple Geniuses” who handhold customers and provide any technical advice that they might need. They are available to help make the customer’s purchase decision as well.**
- Another aspect that makes the Apple Store different is that **there are no points of sale or billing counters with queues. The Geniuses just record the sale wherever the customer is.**

Timeline of Apple Stores

- The first Apple Store opened at Tysons Corner in McLean, Virginia, and the Glendale Galleria in California, U.S., in 2001.
- **Presently, Apple has more than 500 physical stores around the world.**

War prisoners exchange in Yemen raises hopes for a permanent ceasefire



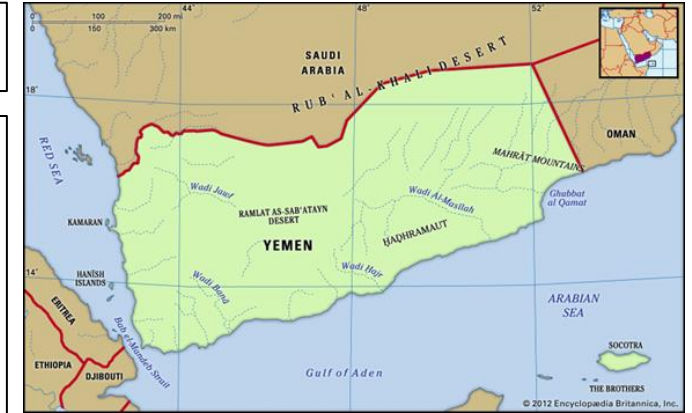
Relevance: Prelims

Why in news?

- Hundreds of prisoners captured during the war in Yemen were recently reunited with their families amid diplomatic efforts to end this conflict.
- The main warring sides in Yemen are the Iran-backed Houthis and the pro-Yemen government, Saudi-led coalition.
- The two opposing sides had in March agreed to release 887 detainees after a ten-day meeting in Switzerland. As per the International Committee of the Red Cross (ICRC), the parties also agreed to meet again in May to discuss more such releases.
- The large-scale prisoner swap has given the people hope for a permanent ceasefire in Yemen.

The Stockholm Agreement

- The warring parties in control of parts of Yemen had signed the Stockholm Agreement in Dec. 2018 whereby they had committed to freeing conflict-related detainees.
- The agreement brokered by the United Nations had three main components — the Hudayah agreement, the prisoner exchange agreement, and the Taiz agreement.
- The Hudayah agreement included a ceasefire in the city of Hodeidah.
- The Taiz agreement includes the formation of a joint committee with participation from civil society and the UN.



The Timeline of the Yemen War

- The conflict in Yemen began in 2011 as part of the Arab Spring protests. President Ali Abdullah Saleh was forced to hand over power to his deputy, Abdrabbuh Mansour Hadi.
- Mr. Hadi found himself faced with the overwhelming task of tackling Yemen's economic and security problems. The Houthis, backed by Iran, took advantage of Mr. Hadi's weak control and captured the Saada province in the north, and then Sana'a, the capital of Yemen, in 2014.
- The thought of Iran-backed Houthis in control of Yemen worried neighbouring Saudi Arabia which has its differences with Iran.
- Saudi Arabia then led a coalition that included other Arab countries and sent troops to Yemen in 2015. However, they were unable to oust Houthis from Sana'a as well as from the north of the country.
- The war has continued since then and had ceased once in April 2022, when the Houthis and the Saudi-led coalition announced a two-month ceasefire ahead of Ramzan, the holy month of Islam. This was Yemen's first nationwide ceasefire in six years.

Devastating Impact!

- According to the UN, Yemen is now the largest humanitarian crisis in the world with 80% of its population dependent on aid and protection.
- Over three million people have been displaced from their homes since 2015.
- Economically too, Yemen is in dire straits. It has lost \$90 billion in economic output and more than 6,00,000 people have lost their jobs. More than half of the country's population is living in extreme poverty.

Twitter's removal of protection against deadnaming worries users



Relevance: Prelims

Why in news?

- Twitter has removed a policy that prohibited misgendering or deadnaming of transgender people on its platform.
- The move has sparked a row as many believe that the safety standards that Twitter once provided to various marginalised groups are being compromised under Elon Musk's control.
- Twitter's "hateful conduct policy" used to read: "We prohibit targeting others with repeated slurs, tropes or other content that intends to dehumanise, degrade or reinforce negative or harmful stereotypes about a protected category. This includes targeted misgendering or deadnaming of transgender individuals."
- Around 10 days ago, the last line was removed. It had been first introduced in 2018.
- Notably, Twitter has also announced that it will only put warning labels on some tweets that might violate its rules against hateful conduct. Earlier, the tweets were removed from the platform.

Deadnaming and its harmful effects

- A deadname is essentially the name that a trans, non-binary, and/or gender-expansive person was called before they adopted a more self-affirming name.
- The act of, intentionally or not, calling a trans, non-binary, and/or gender-expansive person by the deadname is known as deadnaming, which can lead to adverse consequences.
- Moreover, deadnaming not only invalidates someone's true identity but also may reveal information about the sex assigned to them at birth that the person concerned may not want anyone to know. This might result in the person being harassed, discriminated against or assaulted.

Marginalised communities safety?

- This isn't the first time that concerns related to the safety of marginalised groups on Twitter have surfaced.
- In Dec. 2022, it suddenly announced to dissolve its Trust and Safety Council. This advisory group consisted of almost 100 civil, human rights and other organisations that sought to address child exploitation, suicide, self-harm and hate speech on the platform.
- A recent report published by the BBC quoted several Twitter insiders who said since Musk has taken over the company, it is no longer able to protect users from "trolling, state-co-ordinated disinformation and child sexual exploitation".

Operation Kaveri



Relevance: Prelims & Mains Paper II; Indian Diaspora

Why in news?

- The first batch of 360 Indians from crisis-hit Sudan arrived in New Delhi under "Operation Kaveri".

Details

- "Operation Kaveri" is a rescue mission launched by the government to evacuate stranded Indian citizens from Sudan where the Sudanese Army and paramilitary groups are fighting.
- The warring factions in Sudan agreed to a 72-hour ceasefire **after the US and Saudi Arabia mediated the truce** while countries are engaged in evacuating their citizens from the country.
- Under its evacuation mission, India has set up **a transit facility at Jeddah**. All Indians have been taken there after their evacuation from Sudan.
- Battles between **Sudan's army** and the **Rapid Support Forces (RSF)** paramilitary since mid-April has killed **at least 459 people** and **injured more than 4,000**, according to the WHO.
- Foreign govts have urgently organised road convoys, aircraft and ships to get thousands of their nationals out of Sudan. Meanwhile, **Sudanese citizens have fled overland to neighbouring countries**.