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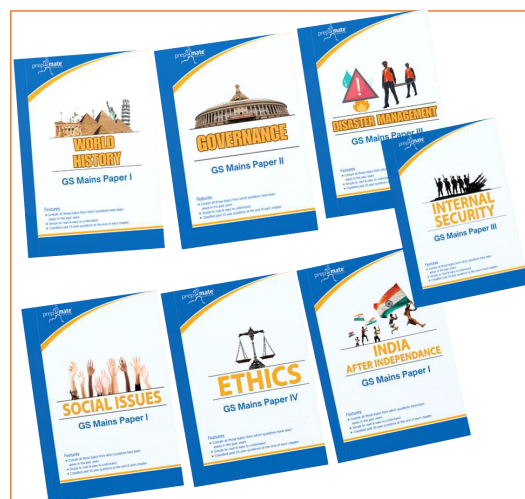


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POLITY & GOVERNANCE

PM Modi pushes for Uniform Civil Code

Relevance: Prelims & Mains Paper II; Governance

Why in news?

- PM Narendra Modi has made a pitch for the Uniform Civil Code (UCC).
- His statement comes a week after the 22nd Law Commission invited the views of the public and "recognised" religious organisations on the UCC within 30 days.

What is the UCC?

- UCC is the idea of having a common code of personal laws for people of all religions. Personal law includes aspects of inheritance, marriage, divorce, child custody, and alimony.
- However, currently, India's personal laws are fairly complex and varied, with each religion following its own specific regulations.
- While the form and shape of a common civil code are often debated, the idea also finds mention in the Constitution.
- Part IV of the Indian Constitution deals with the Directive Principles of State Policy, which, although not enforceable by courts, are supposed to act as guiding principles that play a fundamental role in governing the country.
- Article 44 mentions the State should "endeavour to secure for citizens a Uniform Civil Code throughout the territory of India." PM Modi in his speech also emphasised that the UCC was an idea mooted by the makers of the Constitution.

The debate in the Constituent Assembly

- The Constituent Assembly witnessed a lengthy discussion on a common civil code while adopting it as a directive principle.
- When the said Article was being discussed on Nov. 23, 1948, several Muslim members suggested adopting a common civil code with a caveat that it would apply to citizens with prior consent. However, BR Ambedkar was strongly opposed to the amendments.
- As per one member, a group or community's right to follow its personal law was a fundamental one and that any tampering with it would be "tantamount to interference with the way of life of those people who have been observing these laws for generations".
- Finally, Ambedkar, the then Chairman of the Drafting Committee, pointed out that barring the North-West Frontier Province, Muslims in different parts of India like Bombay and the United Provinces were governed by Hindu law in matters of succession until 1937. However, he assured that the UCC would not be enforced upon the people as Article 44 "merely proposes that the State shall endeavour to secure a civil code".
- Ambedkar also underlined the possibility that a future Parliament could make provisions for applying the UCC in a "purely voluntary" manner.

The Law Commissions' stance

- In 2016, a reference was sent by the Ministry of Law and Justice to the Law Commission for examining all matters relating to the UCC's implementation.
- First came the 21st Law Commission of India, which, after taking in the views of various stakeholders, issued a consultation paper instead of a final report on the issue. It argued for reforming family laws across religions through amendments and codification of personal laws to limit "ambiguity in interpretation" and application.
- Citing sati, devadasi, triple talaq, and child marriage as examples of 'social evils' under the garb of religious customs, the Commission observed that these "practices do not conform with basic tenets of human rights and nor are they essential to religion".
- Relying on the Constitution's Sixth Schedule, which provides certain protections to some states, the paper said that while framing laws, it must be remembered that "cultural diversity cannot be compromised to the extent that our urge for uniformity itself becomes a reason for threat to the territorial integrity of the nation."
- The 22nd Law Commission of India considered it "expedient to deliberate afresh over the subject", in light of its importance, relevance, and also "various court orders on the subject."
- However, even before the UCC was taken up by the Law Commissions, it was extensively deliberated by the judiciary, from as far back as 1952.

The Supreme Court's view

- In a number of rulings, the SC has supported the introduction of UCC. Notable among the rulings is the landmark 1985 Shah Bano ruling in which the SC upheld the right of a Muslim woman to seek alimony. The judgment set off a political battle as well as a controversy about the extent to which courts can interfere in Muslim personal law and the decision was undone by Parliament.
- In Sarla Mudgal v Union of India (1995), the SC while prohibiting conversion to Islam to benefit from laws that allow polygamy said that the need for a UCC "can hardly be doubted". However, it added that this can happen only when the social climate is "properly built up by elite of the society" and "statesmen amongst leaders who instead of gaining personal mileage rise above and awaken the masses to accept the change."
- In Oct. 2022, the Centre, while responding to a plea filed before the top court for uniformity in laws of divorce, succession, inheritance, adoption and guardianship, said that the Constitution obligated the State to have a UCC for its citizens and that the matter would be placed before the 22nd Law Commission.

Deadline for PAN to be linked with Aadhaar card passes

Relevance: Prelims & Mains Paper II; Governance

Why in news?

- The Central Board of Direct Taxes (CBDT) gave taxpayers time till June 30, 2023, to link their permanent account number (PAN) with their Aadhaar number.
- It was mandatory for all taxpayers to complete the linking process as any non-compliance resulted in PAN becoming inoperative from July 1, 2023.

The rationale behind it

- The income-tax department announced the linking of PAN with Aadhaar after it came across instances where multiple permanent account numbers were allotted to one person or one PAN was allotted to more than one person.
- To have a robust way of de-duplication of the PAN database, it was made mandatory for a taxpayer who is eligible to obtain Aadhaar, to quote his Aadhaar in the application form for PAN and return of income.

Who needed to link PAN with Aadhaar?

- The Income-tax Act makes it **mandatory for every person** who has been **allotted a PAN as on July 1, 2017**, to intimate his Aadhaar Number so that the **Aadhaar and PAN can be linked**.
- This was required **to be done on or before June 30, 2023**, failing which the PAN shall become inoperative.

Persons exempted from this requirement

- There are a few categories of individuals for whom this linkage is not compulsory. They include:
 - Any person of age eighty years and above.
 - Non-resident as per the Income-tax Act.
 - A person who is not a citizen of India.

Implications for non-compliance

- In case a person failed to link his or her PAN with Aadhaar, **the PAN was to become inoperative**. In such a case, **the person will not be able to furnish, intimate or quote his PAN and shall be liable to all the consequences under the Income-tax Act for such failure**. Some of the major implications of non-compliance are:
 - The person shall not be able to file the income tax return using the inoperative PAN.
 - Pending returns will not be processed.
 - Pending refunds cannot be issued to inoperative PANs.
 - Pending proceedings as in the case of defective returns cannot be completed once the PAN is inoperative.
 - Tax will be required to be deducted at a higher rate as PAN becomes inoperative.
- Besides these consequences, the person **may find difficulties in doing other financial transactions** such as **with banks**, as **PAN is an important KYC criterion** for these transactions.

Sebi asks for the same

- Since **PAN is the sole identification number and part of KYC requirements for all transactions in the securities market**, the **capital markets regulator Sebi** has also directed existing investors to **link their PAN with their Aadhaar number**,
- **All SEBI-registered entities and Market Infrastructure Institutions (MIIs)** are required to ensure valid KYC for all participants.

Gujarat HC dismisses Rahul Gandhi's appeal for a stay on his conviction



Relevance: Prelims & Mains Paper II; Polity & Governance

Why in news?

- The Gujarat High Court has dismissed Rahul Gandhi's plea seeking a stay on his conviction in a criminal defamation case in which he has been sentenced to two years in prison.
- In April, a sessions court in Surat had dismissed the Congress leader's appeal against the conviction order passed by a magistrate's court in the previous month.
- This means that Rahul, who had been elected to Lok Sabha from Wayanad in Kerala in 2019, remains disqualified from Parliament. He can now appeal against the High Court's decision in Supreme Court.

Background of this case

- The incident itself dates back to April 13, 2019. Rahul was campaigning for the Lok Sabha elections, and at an election rally in Kolar, Karnataka, he said in Hindi: "Why do all thieves, be it Nirav Modi, Lalit Modi, or Narendra Modi, have the surname 'Modi'?"
- He was making a rhetorical reference to the fugitive jeweller Nirav Modi and the former cricket administrator Lalit Modi, both of whom face allegations of financial fraud.
- The day after Rahul's speech, a local BJP leader and former Gujarat state minister, Purnesh Modi, filed a private complaint before the Chief Judicial Magistrate, Surat, accusing Rahul Gandhi of having defamed everyone with the name Modi.
- On March 23, 2023 Rahul was found guilty of criminal defamation under IPC Section 500, and was given the maximum sentence allowed under that section, which is two years in jail.

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- The court's decision triggered Section 8(3) of The Representation of the People Act, 1951. It disqualifies a person convicted of any offence and sentenced to imprisonment for not less than two years from the date of such conviction. That person continues to remain disqualified for a further period of six years since his/her release.
- In consequence, Rahul Gandhi got disqualified from the Lok Sabha with effect from March 23, 2023 the date of his conviction.
- Notably, Rahul's disqualification could have been reversed if the High Court had granted a stay on the conviction by the magistrate's court or decided the appeal against the sessions court's order in his favour.

Different viewpoints!

- Rahul Gandhi's fight for relief in this case in the Supreme Court will revolve around the question as to whether the term 'Modi' is an identifiable and definite group or collection of persons.
- The Gujarat High Court has held that the 'Modi' community or surname is a "well-defined identifiable and suable class". In fact, as per the judge in this case, Mr. Gandhi's offence is all the more serious because his "thief" remarks affected a large section of society and not just PM Narendra Modi.
- As per his lawyers, the complainant's claim that 13 crore people belong to the Modi community was a "mockery of law" as it would mean anyone could file for defamation. The surname 'Modi' is used even within the Muslims and Parsis besides a number of Hindu castes.
- Explanation 2 to Section 499 of the IPC provides that criminal defamation extends to a "collection of persons". But it should be clearly identifiable and definite.
- In a 1965 case, the SC held that "a collection of persons must be identifiable in the sense that one could, with certainty, say that this group of particular people has been defamed, as distinguished from the rest of the community".



Union Cabinet approves Data Protection Bill

Relevance: Prelims & Mains Paper II; Governance



Why in news?

- Nearly six years after the Supreme Court held privacy to be a fundamental right, the Centre has made a second attempt at framing legislation for the protection of data.
- The Digital Personal Data Protection Bill, 2022, a draft of which was floated last November, is expected to be tabled in the upcoming monsoon session of the Parliament. The Union Cabinet recently approved the draft Bill.
- The Bill, once it becomes law, will play a crucial role in India's trade negotiations with other nations, and especially regions like the European Union, whose General Data Protection Rules (GDPR) are among the world's most exhaustive privacy laws.
- Notably, an estimated 137 out of 194 countries have put in place legislation to secure the protection of data and privacy.



Significance of a privacy law

- The Digital Personal Data Protection Bill, 2022, is a crucial constituent of technology regulations which also includes the Digital India Bill — the proposed successor to the IT Act, 2000, the draft Indian Telecommunication Bill, 2022, and a policy for non-personal data governance.
- Last August, the govt withdrew from Parliament an earlier version of the data protection Bill after it had gone through multiple iterations and a review by a Joint Committee of Parliament, and faced pushback from tech companies and privacy activists among others.
- The proposed law will apply to processing of digital personal data within India; and to data processing outside the country if it is done for offering goods or services, or for profiling individuals in India.
- It requires entities that collect personal data — called data fiduciaries — to maintain the accuracy of data, keep data secure, and delete data once their purpose has been met.
- The Bill is expected to allow “voluntary undertaking”. It means that entities violating its provisions can bring it up with the data protection board, which can decide to bar proceedings against the entity by accepting settlement fees. Repeat offences of the same nature could attract higher financial penalties.
- The highest penalty — to be levied for failing to prevent a data breach — has been prescribed at Rs 250 crore per instance.

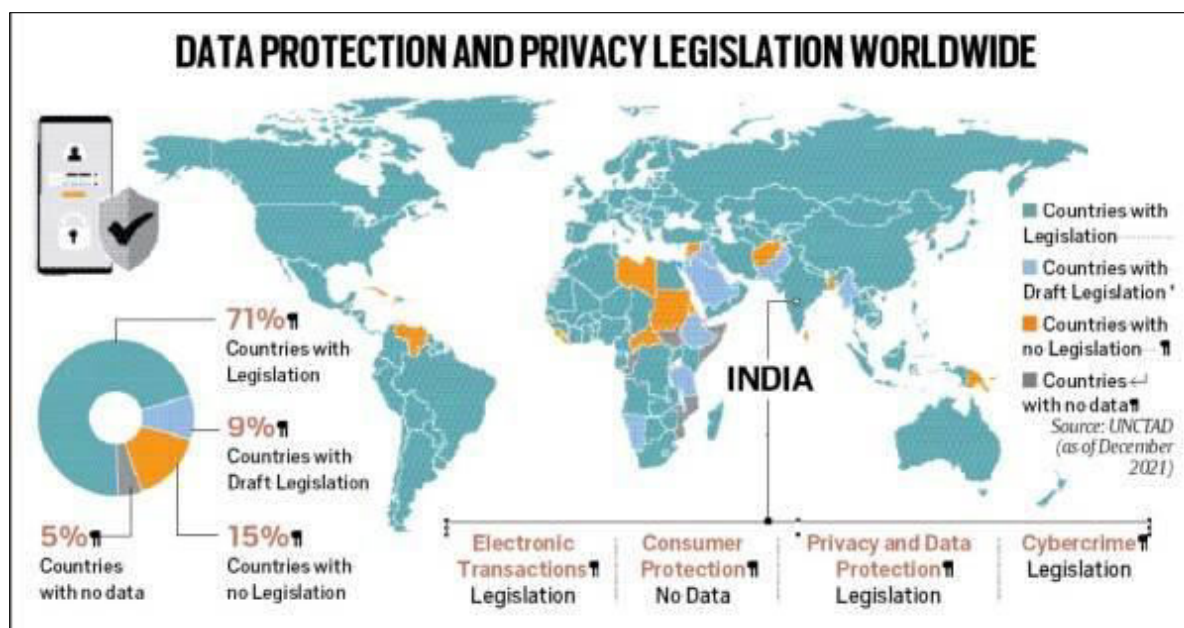


Concerns around the draft Bill

- The Bill approved by the Cabinet is understood to **have largely retained the contents of the original version** that was proposed in Nov. 2022.
- **Wide-ranging exemptions for the central govt and its agencies**, which were among the most criticised provisions of the previous draft, are understood to **have been retained unchanged**. The Bill is learnt to have prescribed that the **central govt can exempt "any instrumentality of the state"** from adhering to the provisions on account of **national security, relations with foreign govts, and maintenance of public order** among other things.
- The **control of the central govt in appointing members of the data protection board** — an adjudicatory body that will **deal with privacy-related grievances and disputes between two parties** — is learnt to have been **retained as well**. The **chief executive of the board** will be appointed by the **central govt**, which will **also determine the terms and conditions of their service**.
- There is also concern that the **law could dilute the Right to Information (RTI) Act**, as **personal data of govt functionaries** is likely to be **protected under it**, making it **difficult to be shared** with an RTI applicant.

Likely changes

- A **key change** in the final draft is learnt to have been made in the way **it deals with cross-border data flows to international jurisdictions** — moving from a **'whitelisting' approach** to a **'blacklisting' mechanism**.
- The proposed law **could allow global data flows by default to all jurisdictions other than a specified 'negative list' of countries** — essentially an official blacklist of countries where transfers would be prohibited.
- As per the earlier released draft, **the central govt will notify countries or territories where personal data of Indian citizens can be transferred**.
- A provision on **"deemed consent"** in the previous draft could also be reworded to make it **stricter for private entities, while allowing govt depts. to assume consent while processing personal data on grounds of national security and public interest**.



UGC reverses mandatory PhD qualification rule in hiring of entry-level professors



Relevance: Prelims & Mains Paper II; Governance

Why in news?

- It is **no longer mandatory** to have a PhD degree to apply for the post of assistant professor in colleges and universities.
- It is **enough to clear the National Eligibility Test (NET), State Eligibility Test (SET), or State Level Eligibility Test (SLET)** to be eligible for appointment.
- The **University Grants Commission (UGC)**, India's higher education regulator, recently **notified this change, reversing a decision** it made in 2018.
- The new minimum criteria for **direct recruitment of college and university teachers at the entry level** came into effect on **July 1**.

The earlier system

- In 2010, the UGC said that **candidates for assistant professor must qualify in the NET, SET, or SLET**.
- However, candidates **who had PhDs** were **exempted from this eligibility condition**. In other words, if a candidate **had a doctoral degree**, he/she **could apply for appointment** even if they had **not cleared NET, SET, or SLET**.
- This changed in 2018, when UGC made **PhD Degree to be a mandatory qualification** for direct recruitment to the post of Assistant Professor in Universities with effect from 1st July 2021.
- Thus, candidates had **a three-year window (2018-21)** to **complete their PhDs**. UGC also directed universities and colleges to **implement the new minimum criteria** for recruitment from 2021.
- In **Oct. 2021**, due to **Covid-19 pandemic**, the UGC pushed the **July 2021 deadline** to **July 2023**.

Reasons behind this rule change

- As per UGC Chairman, universities often **find it difficult to get candidates with a PhD** in certain disciplines such as policy-making, design, foreign languages, law, architecture and other similar subjects.
- He added that **since India already produces more than 25,000 PhDs each year**, there is intense competition to select the **best PhDs for faculty positions** in major disciplines. Therefore, **removing PhD as a mandatory condition at the entry-level assistant professor position** will **not affect the quality of education**.

Mixed reactions!

- Teachers acknowledge that removing the PhD requirement could **help candidates from marginalised sections**.
- But there are **apprehensions over how the selection process will work in practice** — and whether candidates with **research degrees** might be overlooked for those with just a **NET/SET/SLET**.



SC to hear petitions against changes to Article 370



Relevance: Prelims & Mains Paper II; Governance

Why in news?

- A five-judge Bench of the Supreme Court will begin hearing petitions in August that challenge the changes to Article 370 and downgrading of Jammu & Kashmir state into two Union Territories.

Background of this case

- Governor's Rule was imposed in J&K on June 19, 2018, after the BJP withdrew support to the coalition govt led by CM Mehbooba Mufti.
- Under Article 92 of the J&K Constitution, six months of Governor's Rule was mandatory before the state could be put under President's Rule.
- The Legislative Assembly was dissolved on Nov. 21 and, on Dec. 12, before the end of six months, President's rule was imposed on J&K. It was subsequently approved by both Houses of the Parliament.
- On June 12, 2019, President's Rule was extended for another six months with effect from July 3 of that year.

Constitutional changes

- On Aug. 5, 2019, the Centre issued an order amending The Constitution.
- The new order made "all the provisions of the Constitution" applicable to J&K state. The govt also amended Article 367 to add a new Clause (4), making the Constitution of India directly applicable to J&K.
- On Aug. 6, the President issued a declaration under Article 370(3) making all its clauses inoperative except the provision that all articles of the Constitution shall apply to J&K.

Change to Article 370

- Article 370 provided for application of only Article 1 and Article 370 to Jammu & Kashmir. Other provisions of the Constitution did not automatically extend to J&K, but clause (1)(d) of Article 370 empowered the President of India to extend them through an executive order with the concurrence of the govt of J&K.
- Clause 3 of Article 370 empowered the President to "declare that this article shall cease to be operative" completely or partially but only if the Constituent Assembly of J&K recommended such an action. Since the Constituent Assembly of J&K no longer existed, having dispersed in 1957, this power of the President had ceased, unless a new Constituent Assembly came into being.
- Article 370 explained that "for the purpose of this article", the state govt meant the Maharaja (later changed to Sadr-e-Riyasat) of J&K, acting on the advice of the council of ministers. But there was no state govt either in J&K, so the President had no way to acquire the concurrence of the state govt.
- This meant there was no constitutional and legal mechanism available for the Centre to abrogate or amend Article 370.

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- The Centre, however, **used the President's powers under Article 370(1)(d) to amend Article 367**, which provides **guidelines to interpret the Constitution**. A new clause was added to Article 367, **replacing "Constituent Assembly of the State"** referred to in Article 370(3) **by "Legislative Assembly of the State"**.
- Thus, the presidential order route **under Article 370(1)(d) was used to amend Article 370 itself**, whereas **Article 370** could have been amended **only upon the recommendation of the Constituent Assembly under Article 370(3)**, not through Article 370(1)(d).

Parliament takes over as the state govt!



- The President, while imposing his direct rule in J&K, had assumed **all functions of the J&K govt**, taken over **all the powers of the Governor under both the Indian Constitution and the J&K Constitution**, and extended the **powers of the state legislature to Parliament**.
- This meant that **the President of India was in effect the J&K state govt**, and **Parliament was in effect the state legislature**.
- It has been argued that **since President's Rule in a state is in the nature of an interim arrangement until an elected govt. is put in place**, the **administration under President's Rule cannot take decisions that change the very constitutional structure of the state**.

J&K Constitution

- The move to abolish the J&K Constitution has been challenged because the **Legislative Assembly of J&K had no power under the J&K Constitution to recommend any amendment to any provision of the Constitution of India**.
- **Article 147 of the J&K Constitution barred the J&K Legislative Assembly from making any such move**.
- It has been argued that **this means even the J&K Legislative Assembly wasn't legally competent to give consent to the President's order**.

Downgrading to UT



- The **Jammu and Kashmir (Reorganisation) Act, 2019 bifurcated J&K into two Union Territories — J&K was an UT with a Legislative Assembly; Ladakh was without an Assembly**.
- There is **no other instance in India's constitutional history of a state being demoted to a UT**, even though **Parliament can under Article 3 create a new state by carving out territory from any state, uniting two or more states, or portions of different states**. Parliament is also empowered to **add area to an existing state, or change the existing boundaries of a state**.
- The Centre's decision has been challenged on the ground **that it violates Article 3**. Also, the proviso to this article makes it incumbent on the President to **refer any Bill proposing the reorganisation of a state to its legislature if the Bill "affects the area, boundaries or name of any of the states"**.
- It is argued that the **view of Parliament on such a Bill cannot replace the view of the state legislature**. Under President's Rule, **only those powers of a state legislature can be exercised as are essential to run the day-to-day affairs of the state**. Parliament cannot provide the view of a particular state legislature which in essence is the opinion of the people of that state.

Colourable legislation

- The challenge is also based on the argument that the constitutional changes are “colourable legislation” and thus legally untenable. The doctrine of colourable legislation is the legal principle that says what cannot be done directly cannot be done indirectly.
- This doctrine has been reiterated by the Supreme Court, as well as constitutional courts in other countries.

TRAI aims to regulate WhatsApp and similar OTT services

Relevance: Prelims & Mains Paper II; Governance

Why in news?

- Almost three years after it first recommended against creating a specific regulatory framework for over-the-top (OTT) communication services like WhatsApp, Zoom, and Google Meet, the Telecom Regulatory Authority of India (TRAI) is revisiting its stance and starting consultations on how these services can be regulated.

A U-turn by TRAI!

- In 2020, TRAI recommended against regulatory intervention for OTT platforms, saying that it should be left to market forces. However, it also said that the sector should be monitored and intervention should be done at an “appropriate time”.
- In 2022, the DoT wrote back to the authority, requesting it to reconsider its recommendations and also suggest a suitable regulatory mechanism for “selective banning of OTT services”.

Why such regulations are needed?

- The TRAI has essentially argued that while telecom operators and OTT platforms such as WhatsApp offer similar services, they are not bound by the same requirements.
- It said that telecom operators need a service licence for offering voice and SMS services, and on the other hand “OTT communication service providers offer voice call, and messaging and video call services similar to the services provided by TSPs, without any such licence.
- Notably, telecom service providers in India are regulated by several laws and have to adhere to requirements such as lawful interception. Such requirements, however, are not applicable to OTT services currently.
- TRAI added that OTT services do not financially contribute towards increasing telecom services penetration in the country, unlike the operators who have to pay towards the Universal Service Obligation Fund (USOF).

TRAI wants selective banning of OTT apps



- As per TRAI, the shutdown of telecom services or the Internet disrupts critical services such as education and healthcare. Consequently, such a shutdown affects the life and livelihood of the citizens and eventually hurts the country's economy.
- This has been cited as a reason to explore selectively banning OTT apps, as opposed to the whole Internet.

Key fight between telcos and OTT apps

- There are also financial considerations for the tussle between telcos and Internet apps. Key among them is the revenue model that has shifted from voice and SMS to data.
- As per TRAI, the contribution of data usage in the revenue from mobile subscribers has grown more than ten times from 8.10% in the quarter ending (QE) June 2013 to 85.1% in the QE Dec. 2022.
- From 2014 to 2022, the volume of monthly wireless data usage in India grew by about 156 times from 92.4 million GB (Dec. 2014) to 14.4 trillion GB (Dec. 2022).
- In the same period, the average revenue from data usage per wireless subscriber per month in the country increased by about 5.6 times from Rs. 22.19 (for GSM service in the QE Dec. 2014) to Rs. 125.05 (QE Dec. 2022).

Draft telecom Bill's prescriptions for OTT services



- One of the key changes is the inclusion of new-age over-the-top communication services like WhatsApp, Signal and Telegram in the definition of telecom services.
- As per the draft law, telecom service providers will be covered under the licensing regime, and will be subjected to similar rules as other telecom operators.
- This issue has been under contention for several years now with telecom service providers seeking a level-playing field with OTT apps over communication services such as voice calls, messages, etc. where operators had to incur high costs of licences and spectrum, while OTT players use the former's infrastructure to offer free services.

Critics hit out at piecemeal extensions to ED, CBI heads



Relevance: Prelims & Mains Paper II; Governance

Why in news?

- In a recent verdict, the Supreme Court has upheld statutory amendments made in 2021 to allow multiple extensions of service to heads of investigative agencies.
- However, as per critics, it is a setback to the cause of protecting the institutional independence of these agencies. They argue that while the part of the judgment quashing the two one-year extensions given to the Director of Enforcement, S.K. Mishra, may be welcomed, the rest of it is a free pass to the govt to undermine the autonomy of these agencies.
- Notably, the Court has asked Mr. Mishra to step down on July 31. In 2021, it had directed the govt not to grant any extension to him beyond Nov. that year.
- It has now ruled that even though Parliament can remove the basis for any judgment through legislation, it cannot nullify a court direction.
- Mr. Mishra was appointed for a two-year term in 2018, but in 2020, the original appointment was retrospectively amended to make it a three-year tenure. He was given two annual extensions in 2021 and 2022, despite crossing the age of superannuation.
- The govt ignored the Court's earlier observation that such extension should be given to those who have attained superannuation only in "rare and exceptional cases".

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- However, the larger import of the latest judgment is that it endorses the changes enabling annual extensions to the CBI and ED Directors until they complete five years in that office.
- The heads of the CBI and ED have an assured term of two years regardless of superannuation, and the introduction of a power to extend it to five years means an officer may get up to three annual extensions.
- As the petitioners who challenged the extension given to Mr. Mishra, as well as the Court-appointed amicus curiae, argued, piecemeal extensions undermine the independence of the office, and encourage a carrot-and-stick policy to make Directors toe the govt's line.
- The Court has rejected, without much justification, their contention that the 2021 changes to the Central Vigilance Commission Act, the Delhi Special Police Establishment Act and the Fundamental Rules go against the spirit of earlier judgments that mandated fixed tenures to the CBI and ED heads only to insulate them from extraneous pressures.
- The finding that the amendments do not violate any fundamental rights is quite surprising, as allowing the govt to have Directors who can pick and choose what cases to investigate based on political instructions certainly offends the rights of citizens to equal treatment and impartial investigation.
- As per critics, at a time when there is a cloud of suspicion over the misuse of govt agencies against political opponents, the Court's endorsement of a tenure extension system designed to undermine their independence is not conducive to the rule of law.

Govt to introduce National Research Foundation (NRF) Bill in the Parliament

Relevance: Prelims & Mains Paper II; Governance

Why in news?

- The Union Cabinet has approved the introduction of the National Research Foundation (NRF) Bill in Parliament, placing once again the debate on science and technology funding in the spotlight.

What is the NRF?

- Setting up the NRF was one of the key recommendations of the National Education Policy 2020.
- The NRF which is largely modelled after the National Science Foundation of the U.S., intends to act as a coordinating agency between researchers, various govt bodies and industry, thus bringing industry into the mainstream of research.
- In addition to providing research grants to individuals, the NRF plans to seed, grow and facilitate research in India's universities, especially State universities, by funding research infrastructure and researchers.

How will it be funded?

- The NRF will operate with a budget of ₹50,000 crore for five years, of which 28% (₹14,000 crore) will be the govt's share, and the remaining 72% (₹36,000 crore) will come from the private sector.
- The NRF draft proposes the govt's share to increase eventually to ₹20,000 crore per year.
- However, this increase in the nation's gross domestic expenditure on research and development (GERD) seems too meagre, (less than 2% of GERD) especially if one compares the GDP and the comparative spending in other big economies, such as the U.S. and China.
- As per the last available statistics (2017-18), India's GERD was ₹1,13,825 crore. While India's GDP was 7.6 and 5.1 times smaller than that of the U.S and China respectively, India's GERD was nearly 24 times less than both these countries during the same period. And in the last five years, that gap has further widened.

Supreme Court issues new guidelines for designation of Senior Advocates



Relevance: Prelims & Mains Paper II; Governance

Why in news?

- The Supreme Court has published **new guidelines** for the **designation** of **senior advocates** practicing mainly in the Apex Court.
- These guidelines come **after the May 12 ruling** in a case **seeking modification** in the conferment of '**senior advocate**' **designation guidelines** rendered in a **2017 SC ruling**.
- In doing so, the Bench, **replaced the guidelines** issued by the top court in **2018**, in the aftermath of its **2017 ruling** in **Indira Jaisingh v. Union of India**.

Details

- The new guidelines **prescribe the minimum age as 45 years** to apply for the '**senior advocate**' designation. This age limit may, however, **be relaxed** by **the Committee, the Chief Justice of India, or a Supreme Court judge** if they have **recommended an advocate's name**.
- Although the 2017 guidelines say that **the CJI** along with **"any judge"** can recommend an advocate's name for designation, the 2023 guidelines **specify that the CJI** along with **"any Judge of the Supreme Court"** may recommend in writing **the name of an advocate** for **designation**.
- Previously, the guidelines stated that **15 marks were set aside for publications**. However, the new guidelines state that **only 5 marks** will be given for **"publication of academic articles, experience of teaching assignments in the field of law,"** and **"guest lectures delivered in law schools and professional institutions connected with law"** combined.
- Besides this, **the weightage** given to **reported and unreported judgements** has **increased** from **40 to 50 points** in the **new guidelines**.

The 2018 guidelines

- In **2018**, the Apex Court released **a list of guidelines** to **regulate the conferment of designation** of senior advocates. It did so while acting on a plea filed by India's first woman Senior Advocate, **Indira Jaisingh**, for greater transparency in the designation process.
- The guidelines **discouraged the system** of **"voting by secret ballot"**, except in cases where it was **"unavoidable."**
- A CJI-chaired committee was created and empowered with powers of conferment. The CJI or any other judge could recommend the **name of an advocate** for designation.
- Alternatively, **advocates** could **submit their applications** to the **"Permanent Secretariat"**, which would evaluate them on criteria like **10–20 years of legal practice**, be it as an advocate, district judge, or judicial member of an Indian tribunal.

Why are they being changed?

- In **2023**, the Central Govt sought to **change guidelines** for the **designation of senior lawyers**, issued by the SC after the 2017 ruling.
- It argued that the **"point based system"** which awarded **40% weightage** to publications, personality, and suitability gauged through the interview is subjective, ineffective, and dilutes the **"esteem and dignity of the honour being conferred traditionally."**
- The application pointed to **the rampant circulation of "bogus" and "sham" journals** where people could publish their articles without any academic evaluation of the contents and quality of the articles, by **"paying a nominal amount"**.
- Further, the Centre argued that **the current requirements for designation** are **"extraneous"** and have resulted in **"ousting otherwise eligible candidates"**.



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- Finally, the application sought to **reinstate the rule of a simple majority** by a **secret ballot**, where the judges can express their views about the **suitability** of any candidate "without any embarrassment," reasoning that the **secret ballot** will minimise campaigning for votes by lawyers.
- In its May 12 ruling, the **top court upheld the interview criteria** followed by **High Courts** and the **Supreme Court** for designating lawyers as senior advocates but reduced the 15 marks given for the number of publications to 5 marks. The court also clarified that voting by **secret ballot** was meant to be used in exceptional circumstances.
- The court also said that the criteria should not just be restricted to authorship of academic articles but instead "must also include teaching assignments or guest courses delivered by advocates at law schools".

Rajasthan govt. introduces minimum income Bill

Relevance: Prelims & Mains Paper II; Governance

Why in news?

- The **Ashok Gehlot govt** has tabled the **Rajasthan Minimum Guaranteed Income Bill, 2023**.
- It effectively **seeks to cover the entire adult population** of the state with guaranteed wages or pensions.
- The Bill has **three broad categories**: right to minimum guaranteed income, right to guaranteed employment, and right to guaranteed social security pension.
- The govt anticipates **an additional expenditure of Rs 2,500 crore per year** for this scheme, which may **increase with time**.

Details

- **Minimum guaranteed income:**
 - Each adult citizen of the state has been guaranteed **a minimum income for 125 days a year** through the Rajasthan govt's flagship **Indira Gandhi Shahri Rozgar Guarantee Yojana** for **urban areas**, and through **Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA)** in **rural areas**.
 - The state will **supplement the MGNREGA's 100 days** by providing jobs for **an additional 25 days** in **rural areas**. It will also provide eligible categories with a **minimum pension of Rs 1,000**.
- **Guaranteed employment:**
 - The state will designate **a program officer —to implement this Act**. In case **no employment is provided within 15 days** from the receipt of the application, the applicant shall be entitled to **an unemployment allowance** on a **weekly basis**.

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➤ Guaranteed social security pension:

- Every person falling in the category of old age/specially abled/widow/single woman with prescribed eligibility shall be entitled to a pension. will be increased at the rate of 15% each year.

Zero FIRs filed in Manipur over heinous crimes against women



Relevance: Prelims & Mains Paper II; Governance

Why in news?

- Just days before a Zero FIR was filed in connection to the May 4 incident, in which two Manipuri women were stripped and paraded in the state's Thoubal district, another Zero FIR was filed at the same police station.
- It pertains to the alleged abduction, rape and murder of two Kuki-Zomi women by some unknown persons".

What is a Zero FIR?

- When a police station receives a complaint regarding an alleged offence that has been committed in the jurisdiction of another police station, it registers an FIR and then transfers it to the relevant police station for further investigation.
- This is called a Zero FIR. No regular FIR number is given. After receiving the Zero FIR, the relevant police station registers a fresh FIR and starts the investigation.

Provision and purpose of the Zero FIR

- The provision of Zero FIR came up **after the recommendation** in the report of the **Justice Verma Committee**, which was constituted to **suggest amendments to the Criminal Law** in a bid to **provide for faster trial and enhanced punishment for criminals** accused of **committing sexual assault against women**. The committee was set up after the **2012 Nirbhaya gang rape case**.
- The provision says: "A Zero FIR can be filed in any Police Station by the victim, irrespective of their residence or the place of occurrence of crime."
- The objective of a Zero FIR is to ensure the victim **doesn't have to run from pillar to post** to get a **police complaint registered**. The provision is meant to **provide speedy redressal to the victim** so that **timely action can be taken after the filing of the FIR**.

What is an FIR?

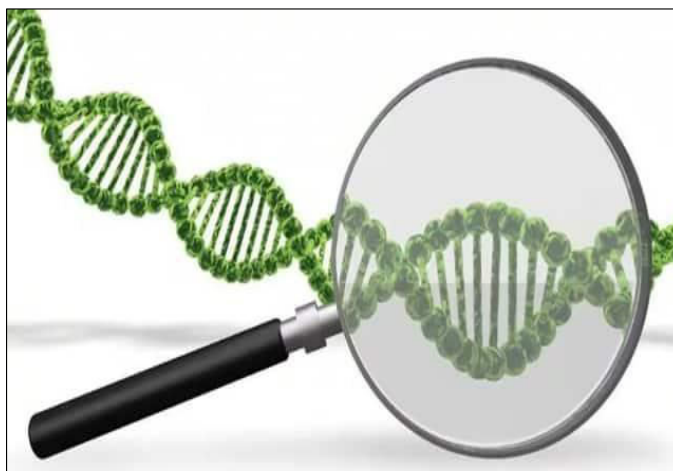
- The term **first information report (FIR)** is **not defined** in the **Indian Penal Code (IPC)**, **Code of Criminal Procedure (CrPC)**, 1973, or in **any other law**, but in **police regulations or rules**, information recorded **under Section 154 of CrPC** is known as **First Information Report (FIR)**.
- There are **three important elements** of an FIR:
 - the information must relate to the commission of a cognizable offence,
 - it should be given in writing or orally to the head of the police station and,
 - it must be written down and signed by the informant, and its key points should be recorded in a daily diary.

Centre withdraws DNA Bill

Relevance: Prelims & Mains Paper II; Governance

Why in news?

- The **Union govt** recently **withdrew the DNA Technology (Use and Application) Regulation Bill, 2019**, from the **Lok Sabha**.
- First proposed in **2003**, the Bill has gone through **numerous changes**, led by **both the Department of Biotechnology and the Law Ministry**, over the years.
- In **2019**, it was referred to the **Parliamentary Standing Committee** after being introduced in the Lok Sabha.
- Two years later, the panel's report was released, in which it **highlighted the fears of a number of MPs**, saying the Bill could be **misused to target segments of society** based on **religion, caste or political views**.



Details

- This Bill seeks to create a regulatory framework for obtaining, storing and testing DNA samples of human beings, mainly for the purposes of criminal investigations, and with the objective of establishing the identity of a person.
- DNA testing is already being used for a variety of purposes, such as criminal investigations, establishment of parentage, and search for missing people.
- The proposed law seeks to bring in a supervisory structure to oversee these practices, and frame guidelines and rules so that the DNA technology is not misused.
- To achieve these objectives, the Bill proposes to set up two institutional structures — a DNA regulatory board, and a DNA data bank — at the national level. Regional centres of the board as well as the data bank can be set up at the state level too.
- The board, which is proposed to be the main regulatory authority, would frame the rules and guidelines for DNA collection, testing and storage, while the data bank would be the repository of all DNA samples collected from various people under specified rules.
- The Bill proposes that testing of DNA samples can be carried out only at laboratories that are authorised to do so by the regulatory board. It also specifies the circumstances under which a person can be asked to submit DNA samples, the purposes for which such requests can be made, and the exact procedure for handling, storing and accessing these samples.

Objections against the Bill

- The main debate over the proposed law has been around three issues — whether DNA technology is foolproof, whether the provisions adequately address the possibility of abuse of DNA information, and whether the privacy of the individual is protected.
- DNA information can be extremely revelatory. It can not only establish a person's identity but also reveal a lot about physical and biological attributes of the person like eye, hair or skin colour, susceptibility to diseases, possible medical history, and possible clues to biological relatives.
- For years, critics of the Bill have been claiming that collecting and storing such intrusive information could lead to abuse, besides being violative of a person's privacy.

The govt's defence

- The govt has defended the Bill by arguing that nearly 60 countries have enacted similar legislation and that all important matters related to privacy, confidentiality and data protection have been taken into account.
- It has also claimed that very limited information is proposed to be stored in the indices — just 17 sets of numbers out of billions that DNA samples can reveal. These can tell nothing about the individual and only acts act as a unique identifier.

INTERNATIONAL ORGANISATIONS & BILATERAL RELATIONS

2023 witnesses the 'largest' Hajj pilgrimage in history

Relevance: Prelims & Mains Paper II; International Events

Why in news?

- Over two million Muslims took part in this week's Hajj pilgrimage to the holy city of Mecca in Saudi Arabia. This made it the largest Hajj pilgrimage in history.
- Notably, one of the world's largest religious gatherings, the Hajj returned to full capacity following years of pandemic-induced restrictions.
- Hajj is one of the "five pillars" of Islam, with every Muslim – physically and financially capable – required to undertake the pilgrimage at least once in their lifetime. It is meant to wipe away sins and bring pilgrims closer to God.



When does Hajj take place?

- The Hajj is performed every year between the 8th and 13th of Dhu al-Hijjah, the last month of the Muslim calendar. Since this is a lunar calendar with the year being about 11 days shorter than the Gregorian year, the Gregorian date for Hajj changes from year to year.
- Every year, Hajj comes about 10 or 11 days earlier than the previous year. In fact, once in about 33 years, the Hajj season falls twice in one Gregorian year. This happened last time in 2006.
- This year, the Hajj pilgrimage is taking place during June 26 to July 1.

The story behind Hajj




- Hajj means literally "to set out for a place". As per the Holy Quran, the pilgrimage can be traced back to Prophet Ibrahim (Abraham in the Judeo-Christian scriptures), roughly 4000 years ago.
- After Allah commanded Ibrahim to build the House of God in Mecca (believed to be at the present day location of the Kaaba), Ibrahim began the tradition of undertaking a pilgrimage to this House of God.
- This tradition was continued after Ibrahim by his son Ishmael and then by various tribes who settled in the area.
- However, over the centuries, the pure monotheism of Ibrahim was gradually "diluted and debased", with pagan beliefs and idolatry finding its way into the Kaaba as well as the pilgrimage associated with it.
- By the time of the birth of Prophet Muhammad (roughly 570 AD), the "old religion" was largely forgotten. Thus, in 630 AD, when Muhammad and his followers succeeded in the conquest of Mecca, he destroyed all pagan idols and reconsecrated the holy site.
- In 632, the year of his death, Muhammad completed his first and only pilgrimage to Kaaba. Known as Muhammad's "farewell pilgrimage", it set the rules and rites for Hajj, as it is known and followed today.

The Rituals



- Upon arriving close to Mecca, pilgrims enter into a state of spiritual purity known as ihram. This marks the beginning of their pilgrimage by shedding material symbols, giving up worldly pleasures, and focusing on the inner self. Every pilgrim shifts to a simple white garment and forgoes cosmetics and perfumes.
- The first day of the pilgrimage begins with the ritual of tawaf in which pilgrims circle the Kaaba in Mecca counter-clockwise seven times while reciting prayers. Then they perform sa'i – recreating Hagar's search for water for her son, Ismail, as per Islamic tradition. These two activities take place inside the Grand Mosque of Mecca – the world's largest – encompassing the Kaaba and the hills of Safa and Marwa.
- On the next day, pilgrims head to Mount Arafat, some 20 km east of Mecca, where the Prophet Muhammad delivered his final sermon.
- Thousands scale a hill called Jabal al-Rahma, or Mountain of Mercy, where the sermon was delivered, and ask God for forgiveness for their worldly sins. This is considered to be the spiritual high point of the pilgrimage.
- At around sunset, pilgrims head towards Muzdalifa where they spend the night and pick up pebbles for the next day's ceremony called Jamarah.
- This ritual sees pilgrims symbolically stoning the devil in the valley of Mina, where Muslims believe Ibrahim was tempted to ignore God's command to sacrifice his son.
- The pilgrimage ends with a final circling of the Kaaba and further casting of stones at Mina. Men often shave their heads and women clip a lock of hair, signalling renewal. The final days of Hajj also coincide with Eid al-Adha, which commemorates Prophet Ibrahim's test of faith.

Present-day scenario	Significance of Hajj for Saudi Arabia 
<ul style="list-style-type: none"> - The Hajj pilgrimage is presently the largest annual congregation of pilgrims anywhere in the world. This makes it a mammoth logistical operation. - Over the years, Saudi authorities have spent billions to improve infrastructure so as to accommodate an ever-increasing number of pilgrims. - However, the number of pilgrims is still regulated. Every year, Saudi Arabia sets country-wise quotas which determine the total number of pilgrims who can make a journey from any country. While this largely is based on the size of the Muslim population in a country, it is also a matter of diplomatic importance. - This year, India has received an allotment of a total of 175,025 pilgrims, the largest in its history. 	<ul style="list-style-type: none"> - For the Kingdom of Saudi Arabia, organising the pilgrimage is a source of both pride and legitimacy. - Its governance over the sacred mosques in Mecca and Medina, and thus the control of the Hajj, gives the Saudi monarchy a legitimacy, like no other country, especially among Sunni Arabs. - Furthermore, the Hajj is also one of Saudi Arabia's biggest money makers, after oil exports. It helps the country earn billions of dollars in revenue. In 2022, this figure was estimated to be more than \$150 billion.

India all set to receive 31 MQ-9B drones from the U.S.

Relevance: Prelims & Mains Paper II; International Relations

Why in news?

- The **U.S. President Joe Biden** and **PM Narendra Modi** welcomed India's plans to procure **General Atomics MQ-9B High Altitude Long Endurance (HALE) Unmanned Aerial vehicles (UAV)**.
- This sets the stage for the acquisition of 31 of these armed UAVs, 15 SeaGuardians for the Indian Navy and 16 SkyGuardians — eight each for the Indian Army and Air Force.

Details

- The MQ-9Bs, which will be assembled in India, will enhance the Intelligence, Surveillance, and Reconnaissance (ISR) capabilities of India's armed forces across domains.
- Their estimated cost is \$3,072 million which will be negotiated once policy approval of the US Govt is received.
- India is negotiating to increase the indigenous content under the deal from the proposed 8-9% to up to 15-20%.

MQ-9B's capabilities

- The MQ-9B has two variants — the SkyGuardian and the SeaGuardian, its maritime variant.
- The MQ-9B is designed to fly over the horizon via satellite for up to 40 hours, depending on configuration, in all types of weather.
- The MQ-9B can provide roughly 80% of the capability of a large human-flown maritime patrol aircraft at about 20% of its cost per hour. That makes it much more economical for navies to, for example, send out SeaGuardians to clear big volumes of air or sea.
- This factor will let the Indian Navy significantly reduce the wear and tear on its aircrafts, as well as reduce crew fatigue in keeping an eye over the wide expanse of the Indian Ocean Region and beyond.
- For the Army and Air Force, the MQ-9Bs can provide round-the-clock surveillance looking far beyond the borders, for instance on the movement of Chinese military buildup and troop movement along the Line of Actual Control (LAC) and deep inside.
- It also seamlessly integrates with other U.S.-origin platforms that India operates, the P-8Is, AH-64 Apache attack helicopters, MH-60R multi-role helicopters among others.



Wagner mutiny dents Putin's 'invincible' image

Relevance: Prelims & Mains Paper II; International Events

Why in news?

- Yevgeny Prigozhin, the chief of Russia's Wagner Private Military Company recently staged a short-lived mutiny against the country's defence establishment. It pushed Vladimir Putin's Russia into an unprecedented internal security crisis.
- Mr. Prigozhin said he was not staging a coup and stayed away from directly attacking the Kremlin. But he demanded the ouster of Russia's top defence brass.
- Mr. Putin opted to resolve the situation through talks but the fact that a feud between his Ministry of Defence (MoD) and a favourite, powerful warlord came to the brink of an open civil war speaks more of chaos rather than order in Russia.

A timeline of June 24 events

- The crisis erupted on Friday (June 23) night when Mr. Prigozhin accused the defence leadership of ordering strikes on Wagner and killing many of his forces.
- Hours later, his forces took over Russia's Southern Military District headquarters in Rostov-on-Don, the largest city in southern Russia, just 100 km from the Ukrainian border.
- Prigozhin specifically attacked Defence Minister Sergei Shoigu and Chief of General Staff Valery Gerasimov, who is also in charge of Mr. Putin's Ukraine campaign.
- He then launched a "march of justice", with a convoy of armed men and armoured vehicles, towards Moscow. During the "march", Wagner forces shot down six Russian helicopters and a command centre plane, killing 13 servicemen.
- By Saturday night, the Belarus govt announced that Mr. Prigozhin would turn back. Mr. Prigozhin then himself confirmed this by saying, "It's over".

Why did Prigozhin launch the mutiny?

- Mr. Prigozhin, a former Kremlin contractor and a close ally of Mr. Putin, accused the MoD leadership of corruption and incompetence. As per him, the latter had limited the supply of arms and ammunition for Wagner whose forces were on the frontlines in Bakhmut. Wagner took Bakhmut in late May, after one of the bloodiest battles of the 21st century.
- According to Prigozhin, Wagner lost some 20,000 men in the battle, "five times more guys than had been supposed to have died".
- The crisis came into the open on June 10 when Defence Minister Sergei Shoigu issued an order asking all armed volunteers to sign contracts with the MoD before July 1. It was an attempt to bring Wagner's remaining 25,000 forces under the Defence Ministry's command. Mr. Prigozhin protested this order.

Putin's response

- Initially, President Putin continued to remain silent allowing Mr. Shoigu to go ahead with his plan.
- While the crisis was unfolding, Mr. Putin in a TV address, called the mutiny a "betrayal" and a "stab in the back". He said he had ordered the security services to crush the rebellion.
- Notably, Mr. Prigozhin had built Wagner with Mr. Putin's blessings. Wagner has turned out to be an important security tool for the Kremlin in recent years.
- The company has established a deep presence in Africa's lawless regions providing security to govts, mines, corporations, etc. It allowed the Kremlin to expand its influence in the region without sending in regular Russian troops.

(more ahead)



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- Wagner also proved to be ruthlessly effective in the Ukraine war. Initially, Russia suffered humiliating retreats in this war. So far, it has taken only two major battlefield victories and both were led by Wagner.
- Wagner's battlefield victories as well as Mr. Prigozhin's repeated attack on corruption in the establishment has turned the mercenaries popular at least among the nationalist sections of Russia.
- This presented a dilemma for Mr. Putin as to whether he should crush them risking an all-out civil war or find a face saving exit. Putin chose the latter. He turned to Alexander Lukashenko, a long-time ally and the President of Belarus, who negotiated with Mr. Prigozhin. They struck a deal resulting in, Mr. Prigozhin turning back and thus averting an immediate security crisis.

The deal

- Russia's Federal Security Service (FSB) had slapped a criminal case against Mr. Prigozhin when he demanded the ouster of the MoD top brass.
- Now, as part of the deal, the case against Mr. Prigozhin would be dropped and he would relocate to Belarus. It's not clear how many of his men would follow him or what would be their role in the country. On the face of it, Mr. Prigozhin achieved little out of his mutiny.
- Meanwhile, those Wagner members who did not join the mutiny would be allowed to sign contracts with the MoD.



What's next?

- Mr. Prigozhin has set an example of **challenging Russia's state institutions** and **walking away freely**, something **that's unheard of** in **Mr. Putin's Russia** and **could have echoes in the future**.
- The whole incident exposed **Mr. Putin's weakening authority**. He may have averted an immediate crisis, but the reasons for the mutiny — **Russia's poor battlefield performance, internal feud, corruption allegations, etc.** — remain **unaddressed**.
- If the war drags on further **without any concrete result**, Mr. Putin could face **more challenges from within**.



- **2014:** Yevgeny Prigozhin (left), a staunch ally of President Vladimir Putin, founds Wagner Group, which takes part in Putin's annexation of Crimea
- **March 2022:** Wagner mercenaries group deployed to Ukraine
- **November:** Wagner spearheads Russia's battle for the town of Bakhmut in Ukraine's Donetsk region
- **February 2023:** Prigozhin accuses Russia's Defence Minister Sergei Shoigu (right) and top general Valery Gerasimov of withholding ammunition and supplies from his fighters
- **May:** Wagner forces capture Bakhmut
- **June:** Prigozhin claims Shoigu and Gerasimov misled Putin into invading Ukraine
- **June 10:** Shoigu gives Prigozhin 21 days to place his troops under the Defence Ministry command. Prigozhin refuses — demands Shoigu's dismissal



- **June 23:** Prigozhin accuses Shoigu of missile attack on a camp of Wagner personnel
- **June 24, 07:30:** Wagner forces take a regional military HQ in Rostov-on-Don. Wagner advances as far as Krasnoe, 330km south of Moscow
- **June 25:** In a deal negotiated with President Lukashenko of Belarus, Kremlin drops criminal charges against Wagner in exchange for their return to bases. Prigozhin to relocate to Belarus



Cash-starved Pak gets a \$3 billion lifeline from the IMF



Relevance: Prelims & Mains Paper II; Int. Events

Why in news?

- The International Monetary Fund (IMF) has reached a "staff-level pact" with Pakistan on a \$ 3 billion "stand-by arrangement".
- The deal, which is subject to approval by the IMF board by mid-July, offers some temporary respite to Pakistan, which is fighting an acute balance of payments crisis and falling foreign exchange reserves.
- The deal does not come under Pakistan's Extended Fund Facility (EFF) programme, which the country entered in 2019, and which was to expire on June 30.

Tough Conditions laid by the IMF

- The IMF has mentioned Pakistan's power sector. Electricity has historically been heavily subsidised for Pakistani consumers. It will end with this deal.
- Pakistan's central bank will also have to remove import restrictions put in place to control external payments in the face of fast-depleting foreign exchange reserves.
- Currently standing at just about \$3.5 million, Pakistan's forex reserves are barely enough to cover a month's controlled imports.
- Currently, there are multiple controls and exchange rate practices in different markets in Pakistan. The IMF has directed these to be eliminated, with a fully market-determined exchange rate even as the Pakistani Rupee has crashed to record lows in recent weeks.
- The deal is also likely to see further rate hikes by the central bank.
- Finally, the deal comes with assurances from the Pakistan govt that loss-making govt enterprises will be dealt with, either through privatisation or through "stronger governance".

Will this bailout be enough?

- Despite the larger-than-expected IMF bailout, the agreement stressed that Pakistan will have to continue to mobilise multilateral and bilateral financial support.
- Pakistan needs \$22 billion to fund its external payment obligations, including international debt servicing, in FY 2024.
- The UAE and Saudi Arabia have pledged \$3 billion in support to Pakistan, and the funds are expected to come in, now that the IMF deal has been reached. China, Pakistan's largest creditor, is also expected to come to its aid with debt rollovers.

A warning from the economists!

- Some Pakistani economists have slammed their govt for the impact the IMF's strict conditions will have.
- As per them, going to the IMF program was the only option to prevent Pakistan from defaulting, but the measures outlined in the agreement appear shallow and short-sighted, and will potentially add to future economic instability.
- They add that "instead of celebrating the deal", the country should prepare for an inevitable economic crisis not too far ahead.



A timeline of Pak's economic crisis

- Pakistan's economy has been on the verge of collapse for **quite some time**. The **floods of 2022**, together with **external economic shocks** caused by the **Russia-Ukraine War among other things**, brought it **to the brink**.
- In **2022**, the IMF decided to **stop the disbursement of funds** under the **2019 EFF**. A **pending payment of \$1.18 billion was due**, but stopped by the IMF due to the **govt's unwillingness to meet certain demands**, including **assurances on increasing energy rates, imposing more taxes, and stopping artificial control over the exchange rate**.
- This brought Pakistan **further to the edge of collapse**, ushering in a **forex crunch** and **record inflation** that **still continues**.
- After arguing for long that **the IMF's conditions would prove excessively harsh** and **politically challenging** for Pakistan, Shehbaz Sharif's govt has **finally agreed to the SBA**.

Roadblocks in India-U.S. digital trade

Relevance: Prelims & Mains Paper II; Int. Relations

Why in news?

- During PM Narendra Modi's U.S. state visit, **cooperation on technology** emerged as a prominent talking point and yielded some of the most substantive outcomes.
- However, **digital trade** is also the area where **some of the biggest U.S. tech companies** have recently **flagged multiple policy hurdles**, including "India's **patently protectionist posture**".
- Earlier this year, the **Computer & Communications Industry Association (CCIA)**, with members like **Amazon, Google, Meta, Intel, and Yahoo**, flagged **20 policy barriers** to trading with India.

The current status of India-U.S. technology trade

- In **FY2023**, the **U.S. emerged as India's biggest overall trading partner** with a **7.65% increase** in **bilateral trade** to **\$128.55 billion** in **2022-23**.
- However, **digital or technology services did not emerge** as one of the sectors at the forefront of bilateral trade.
- Notably, the U.S. ran a **\$27 billion deficit in trade** in **digital services** with **India** in **2020**.
- In the recent past, however, the two countries have been strengthening their tech partnership through moves like the **Initiative on Critical and Emerging Technology (iCET)**.
- Additionally, under the iCET, India and the U.S. also established a **Strategic Trade Dialogue** to address **regulatory barriers** and **aligning export controls**.

Issues raised by the U.S. tech firms

- As per the CCIA, the Indian govt is **tilting the playing field away** from **U.S. digital service providers** in favour of **domestic players**.
- It cites the example of **India's guidelines on the sharing of geospatial data**, which it accuses of providing preferential treatment to **Indian companies**.
- It has also expressed discontent **over Indian govt. seeking "greater censorship and control over political speech"**. CCIA argues that this has made it "extremely challenging for **U.S. companies** to operate in India".

Concerns over taxation measures

- One of the taxation tools that U.S. tech firms have long taken exception to is **the expanded version** of the "equalisation levy" that **India charges on digital services**.
- In 2016, India imposed **a unilateral measure to levy a 6% tax on specific services received or receivable by a non-resident not having a permanent establishment in India**, from a resident in India who carries out business.
- In 2020, the Centre came out with the '**Equalisation Levy 2.0**', which imposes **a 2% tax on gross revenues** received by **a non-resident "e-commerce operator"** from the provision of 'e-commerce supply or service' to **Indian residents or non-resident companies** having a permanent establishment in India.
- The equalisation levy, when it was first introduced in 2016, led to **double taxation** and **further complicated the taxation framework**. It also raised questions of **constitutional validity** and **compliance with international obligations**.

India's strict IT Rules 2021

- The **Information Technology Rules, 2021**, has also been flagged by foreign tech firms. These rules place **a compliance burden** on **social media intermediaries (SMIs)** and **platforms with five million registered users or more**.
- The IT Rules require **intermediaries to take down content within 24 hours** upon receiving **a govt or court order**.
- The platforms are also required to **appoint a local compliance officer**. SMIs are now **obligated to remove, within 72 hours, content falling under prohibited categories**, in case of **a complaint**.
- There is also major criticism against the govt's institution of the **Grievance Appellate Committees (GAC)**, which will hear user complaints about the decisions of SMIs **regarding their content-related issues** and **have the power to reverse those decisions**.

Lack of clarity on data protection laws

- The U.S. firms have doubts about **cross-border data flows, compliance timelines, and data localisation** regarding Indian govt's new draft of the **Digital Personal Data Protection Bill**.
- Data localisation requirements by govts tend to **significantly increase operating costs of companies** and can be seen as **discriminatory** by foreign companies.
- On what basis **will these countries be notified** and **what will the terms for such transfers** be is **not mentioned** in the draft.
- Notably, **India**, with more than **759 million active internet users** representing **more than 50% of its population** is a **gold mine for data**. The country is also planning to become **a hub for data processing**, wanting to **host data centres** and **cloud service providers**.
- The CCIA is also upset with the **draft Telecommunications Bill, 2022**. If passed in **its current form**, it would subject messaging platforms such as **WhatsApp, Telegram, Signal, Google Meet etc.** to oblige with **licensing requirements, govt access to data, encryption requirements, internet shutdowns, and seizure of infrastructure etc.**

India signs Artemis Accords



Relevance: Prelims & Mains Paper II; International Relations

Why in news?

- India recently became the 27th signatory to the Artemis Accords.
- It is a set of non-binding guidelines for the Artemis programme, a U.S.-led project to return humans to the moon permanently.

Artemis' Significance

- The Artemis programme includes plans for a base on the lunar surface, multiple spacecraft to ferry humans and cargo, an orbiting space station, and a constellation of satellites to help with navigation and communication.
- The first Artemis crewed mission to the moon's surface is likely in 2026. The programme resembles a Chinese-Russian plan for an 'International Lunar Research Station'.
- With Russia reeling under sanctions, China has taken the lead on the project, outlining similar plans for a permanent base and a lunar satellite constellation.
- Leaders are optimistic that the incredible challenges of lunar exploration will spur technological innovation. A sign of power in international politics is the ability to set norms and build multinational collaborations.
- The Accords support an America-friendly interpretation of space law. In return, member states get to participate in the Artemis programme, which can bring prestige and technological benefits.

How do the Accords align with the space law?



- Modern space law is erected on four international agreements that cover issues like the peaceful use of space, registration, and liability.
- They were struck between 1967 and 1976, at the time of the first Space Race and Cold War.
- The Accords' principles are in line with these agreements. A fifth treaty, the Moon Agreement, was introduced in 1979 but neither the U.S. nor the Soviet Union signed it. India signed it but didn't ratify it.
- One provision in the Artemis Accords allows actors to extract and utilise space resources. This could be at odds with the Moon Agreement, which asks for gains from commercial exploitation of lunar resources to be distributed.
- This has not stopped countries like Australia and France which previously signed the Moon Agreement, from becoming Artemis signatories.
- In reality, the provisions of the Accords and the Moon Agreement are quite vague.
- Also, even if the Artemis programme succeeds and private enterprises set up settlements on the Moon, resource extraction will likely be restricted to using the lunar soil to build habitats and lunar ice for sustaining life.

India's reluctance to sign the Accords in the past

- The Artemis Accords were drafted in 2020, just as India was opening up its own space sector to private players.
- India's attitude has now evolved, with its new space policy allowing private players to mine any "space resource".
- There is also a noticeable shift in India's diplomatic practice. Previously, the Indian govt had concerned that the Accords are an informal set of norms rather than a legally-binding instrument. India has historically preferred the latter because it believes laws foster better compliance.
- Notably, the present divisions between the U.S. and China are too deep for them to agree on a complex new international law on the Moon until their ties improve. Meanwhile, ties between India and the U.S. have been on an upswing, and the former is less hesitant about joining an America-inspired international effort.

Future Implications

- Signing the Artemis Accords alone has no financial implications for India but if the country wants to be a major player in the Artemis programme, ISRO will need a significant hike in its annual budget, which stands at about ₹12,500 crore this year.
- At present, ISRO's lunar exploration programme is modest. Its Chandrayaan-3 mission is scheduled to make India's first soft landing on the moon in the next few weeks.
- It may also take three years or more before India independently sends humans into space as part of its Gaganyaan project.



China adopts new law on foreign relations

Relevance: Prelims & Mains Paper II; International Relations



Why in news?

- China's National People's Congress (Central legislature), the Communist Party-controlled legislature, recently adopted a new Law on the country's foreign relations.
- This law came into effect on July 1.

Details

- As per the Chinese govt, this law was drafted to "safeguard China's sovereignty, national security and development interests".
- However, the broader aim of the law appears to be aimed at giving a legal stamp to many of the key objectives of Chinese foreign policy under President Xi Jinping. The law will make it a punishable offence if individuals or organisations were deemed to act against those objectives.
- In a similar vein, a border law was adopted in 2021 that warned against "any act that undermines territorial sovereignty and land boundaries".

Impact on China's foreign policy

- The new law specifically mentions several key initiatives championed by Mr. Xi, such as the **Belt and Road Initiative (BRI)**, the **Global Development Initiative (GDI)** and the **Global Security Initiative (GSI)**.
- The law also emphasises **sovereignty** and **security** as being at the heart of Chinese foreign policy.
- Notably, the new law coincides with **a broader political shift** in China that has **prioritised security** over **development** and **opening up** — a key change that will likely have **long-term political and economic ramifications**.
- Chinese officials have said one of the objectives was **a legal response** to **Western sanctions** aimed at **China**. It will **essentially make it illegal** for **Western companies** operating within China to **comply with sanctions** aimed at the country.
- Another section of the law appears to be **a response** to **criticisms of China's foreign lending** which has come under scrutiny amid **debt crises in several of its partners**.
- As per the law, in providing aid Beijing would **"respect the sovereignty of recipient countries"** and **"not interfere in their internal affairs or attach any political conditions to its aid"**.

Implications for India

- As with the Border Law adopted in 2021, the emphasis of **security, sovereignty** and **territorial integrity** as key principles of Chinese foreign policy **coincide** with the **border dispute** between **India** and **China**.
- As per Indian experts, the Border Law was meant to **formalise China's moves** along the **Line of Actual Control (LAC)**, such as the **transgressions** of **April 2020**.
- The two laws also coincide with **territorial disputes** being framed by Beijing as **matters of national sovereignty** rather than **issues to be negotiated by two sides**.

Iran joins Shanghai Cooperation Organisation (SCO)



Relevance: Prelims & Mains Paper II; International Organizations

Why in news?

- Iran recently became the **newest member of the Shanghai Cooperation Organisation (SCO)**.
- Prior to Iran's joining, the SCO consisted of **eight member countries: China, Russia, India, Pakistan, and the four Central Asian countries of Kazakhstan, Kyrgyzstan, Tajikistan, and Uzbekistan.**

Shanghai Cooperation Organisation (SCO)

- SCO came into existence in **Shanghai** in **2001** with **six members, minus India and Pakistan**. Its primary objective was to **enhance regional cooperation** for efforts to **curb terrorism, separatism, and extremism** in the **Central Asian region**.
- **Afghanistan, Belarus, Iran, and Mongolia** enjoy **Observer status** in the SCO, while **six other countries — Azerbaijan, Armenia, Cambodia, Nepal, Turkey and Sri Lanka — have Dialogue Partner status.**

Iran and the SCO

- The case for **Iran's full membership of the SCO** has been made for **several years**.
- In **2015**, Iran signed the **nuclear deal (called JCPOA)** with **Western powers** led by the **U.S.** It led to the **lifting of sanctions** imposed on it.
- However, the US under **President Donald Trump** pulled out of the deal in **2018**, and the agreement **became ineffective**. A year later, **the US ended all waivers, curbing Iran's oil exports.**

Changing geopolitical landscape



- There have been **major changes** in the **geopolitical landscape of late**.
- The **chaotic exit of the US from Afghanistan** has **opened up space for Chinese influence and investments** in the **Central Asian region**. **China-Pakistan strategic ties have strengthened**. China has also grown **ever more assertive** on the **global stage**.
- While the **Ukraine war** has brought **West's relations with Russia to their worst-ever levels**, China has declared a **"no-limits" friendship with Russia**.
- **Iran** has signed a **China-brokered deal** to re-establish diplomatic relations with its old regional rival, **Saudi Arabia**. A border market was opened at Iran's border with **Pakistan** in **2023**, despite the fact that **they have not shared close ties over the years**.
- **China, the world's largest importer of crude**, is now also buying **more Iranian oil** than ever before.
- **Belarus, Russia's close regional ally**, is likely to sign a memorandum of obligations, which will subsequently lead to **full membership**.

Tightrope walk for India

- India faces the task of **maintaining a delicate balance** as the dynamics of the SCO change.
- India and the US have **elevated their partnership to unprecedented levels of cooperation and trust**. PM Narendra Modi has recently returned from **an official state visit to the US** during which the two countries signed **important technology and defence agreements**.
- India has also had **historical ties** with Iran. Commercial ties between India and Iran have been traditionally dominated by **Indian imports of Iranian crude oil**.
- Iran was among **India's top energy suppliers** until **May 2019**. Following the **end of the US waiver on sanctions** at that time, **India suspended the import of crude from Iran**.

Sweden moves closer to NATO membership after a deal with Turkey

Relevance: Prelims & Mains Paper II; International Organizations

Why in news?

- Sweden's bid to **join NATO** took a **big step forward** after **Turkey** agreed to **remove one of the last major roadblocks** in this regard.
- In return of this favour, **Sweden** has **agreed to help unblock Turkey's progress** towards **joining the European Union**, which has been on hold since 2018.
- These developments took place at a **recent two-day NATO summit** in the **Lithuanian capital Vilnius**.
- Notably, the **Russian invasion of Ukraine** last year led to the **former's Nordic neighbours Sweden and Finland** apply to join NATO. This was a **change in their long-held policies of not participating in a formal military alliance**.
- Sweden's efforts for a NATO membership had been on for a while now, with **opposition** from NATO members **Turkey** and **Hungary**.



Turkey's President Recep Tayyip Erdogan (left) shakes hands with Sweden's PM Ulf Kristersson (right)

What is NATO?

- The **North Atlantic Treaty Organisation (NATO)** is a 31-member security alliance comprising countries on both sides of the Atlantic Ocean, led by the **U.S.** It was formed in **1949**, in the wake of the **second World War**.
- The **U.S.** and the **former U.S.S.R.** were in ideological opposition to one another, with the **US** favouring a capitalistic, liberal democratic model and the **USSR** moving towards socialism and **State control over the economy**. The War having led to **severe devastation**, and the **possession of the nuclear bomb on both sides**, meant such a rivalry could not escalate into a full-blown war. This led to the '**Cold**' War, where the battle for dominance manifested itself in the **Space race**, **arms race**, and having as many allies as possible.
- NATO centrepiece was **Article 5**, 'the principle of collective defence' – the idea that **an attack against one or several of its members** is considered as **an attack against all**. So far, **Article 5** has been invoked once – **in response to the 9/11 terrorist attacks** in the **U.S** in **2001**.
- NATO'S members include **UK, France, Germany, Italy, Greece** and **Turkey**. The latest member to join it was **Finland**, in April this year.

NATO'S joining process



- Countries interested in joining NATO **must adhere to certain basic political and military standards**, such as having "a functioning democratic political system based on a market economy" and the "ability and willingness to make a military contribution to NATO operations."
- Then, **all the govts of NATO member states ratify the 'accession protocols'**. This is where Sweden was facing a problem until now.

What were Turkey's objections to Sweden joining NATO?



- In **2022**, Turkish President **Recep Tayyip Erdogan** blocked an early attempt by NATO to fast-track Sweden's application.
- Turkey has accused Sweden of **being home to what it calls as terror organisations or existential threats**, from the banned **Kurdistan Workers Party (PKK)**. Turkey wanted both **Sweden** and **Finland** to take a **tougher line against the PKK** and another group it blames for a **2016 coup attempt** in Turkey. Sweden has **consistently denied Turkey's accusations**.
- The tensions between Sweden and Turkey heightened in January after **an effigy of Erdogan was hung upside down from a lamppost** in **Stockholm** during a **pro-Kurdish demonstration**. Furthermore, a few days later, **a far-right Swedish politician burned the Quran** in front of the **Turkish embassy** in **Sweden**.
- This led to Turkey's foreign minister **raising security concerns** and **questions** about **Sweden's credentials** for possible NATO membership.
- Meanwhile, **Hungarian Prime Minister Viktor Orban** has **spoken against Sweden and Finland** spreading "**outright lies**" about the **health of democracy** and the **rule of law** in Hungary.

Russia becomes world's top wheat exporter at Ukraine's expense



Relevance: Prelims & Mains Paper II; Int. Rel.

Why in news?

- Russia is consolidating its position as the world's top wheat exporter, even as Ukraine's shipments are projected to more than halve from their peak and production plunge to a 11-year-low.



Details

- The US Department of Agriculture (USDA) has estimated Russia's wheat exports at a record 45.5 million tonnes (mt) in 2022-23 (July-June), up from 34.5 mt in the preceding marketing year.
- In the process, it has left behind the European Union, which had exported 39.8 mt in 2019-20, before slipping to 34 mt in 2022-23.
- Russia's wheat exports are expected to touch a new high of 47.5 mt in 2023-24, way ahead of the EU (38.5 mt), Canada (26.5 mt), Australia (25 mt) and Argentina (11 mt). Russia has gained largely at the expense of Ukraine.
- Meanwhile, Ukraine's exports fell from 21 mt in 2019-20 to 16.8 mt in 2022-23 and are forecast to further decline to 10.5 mt in the new marketing year.

Main importers of Russian and Ukrainian wheat

- The primary destinations for Russian wheat are the Middle East, North Africa and Central Asia, led by Egypt, Iran and Algeria.
- While the Black Sea Grain Initiative helped Ukraine export 16.8 mt in 2022-23, about 39% of its wheat actually moved via the land route to Eastern Europe, instead of the specially-created corridors for shipping from the three designated ports.
- Ukraine's markets have shifted dramatically from Asia and North Africa before the war to mainly Europe, mostly due to ease of shipment.

Worldwide price impact

- Ample supplies from Russia have helped soften global wheat prices. Russian wheat is now being exported at around \$235 per tonne, as against \$375 a year ago.
- The relatively low international prices of wheat can be a comfort factor for countries like India; it might have to consider the option of wheat imports if the kharif rice crop does not turn out too good due to poor monsoon rain in major paddy-growing states.



PM Modi attends Bastille Day celebrations in France

Relevance: Prelims & Mains Paper II; International Relations



Why in news?

- During his recent visit to France, PM Narendra Modi attended the French National Day celebrations as the Guest of Honour.
- The national day of France is celebrated on July 14, also known as Bastille Day or Fête nationale française, and is marked by a long military parade, and other fun activities.
- While July 14 is more popularly associated with the storming of the Bastille in 1789, it is also the anniversary of Fête de la Fédération, an event held in 1790 to celebrate the unity of the French people.
- Also, while Bastille Day is often seen as the symbol of the end of monarchy, kings and queens continued in France till long after that.

What led to Bastille Day?

- Bastille Day can be said to have set in motion the decade-long French Revolution, which fundamentally altered French political and social life and influenced the foundational ideas of democracy across the world. It also popularised slogans such as "Liberté, Égalité, Fraternité" (Liberty, Equality, Fraternity).
- This was the day on which ordinary people stormed Bastille, a 14th-century fortress-prison in Paris that was used to incarcerate political prisoners.
- Before the storming of the Bastille, both economic and social tensions had been building up in Paris for long.
- In the 1780s, the French economy was in dire straits, and King Louis XVI and Queen Marie Antoinette were not helping matters with their image of irresponsible, wasteful spenders. Crop failure and famine dealt further blows, and by 1788, even bread became unaffordable for a vast majority of people.
- Moreover, King Louis XVI ignored commoners' demand for a greater say in a general governance body.
- On June 20, 1789, many commoners took an oath that they would stay together till they wrote a new Constitution for France.
- Then on July 14, a huge, armed mob began marching towards Bastille.



Storming of the Bastille

- The reason **the mob chose Bastille** was because **people imprisoned simply because the King said so, without trial and without publicly stated causes**, were often housed here.
- On seeing people marching into Bastille, **its governor allowed firing at them**. Though the protestors were initially halted, they were **joined by the armed and trained French Guards**. The Bastille fell leading to the **death of its governor and the Mayor of Paris**.
- Bastille Day thus displayed **what an angry and determined group of common people was capable of!**
- One year later, the **Fête de la Fédération** was **observed**, to **celebrate unity among the French people**.
- Notably, in **1793**, both **King Louis XVI** and **Queen Marie Antoinette** were **convicted on the charges of treason and were executed** within a gap of a few months.
- By the **1870s**, the need was felt for **a national day of celebration of France and the French**. Eventually, **July 14, 1790** was chosen for this purpose.

India and Bastille Day

- Before PM Modi, **PM Manmohan Singh had attended Bastille Day celebrations in 2009**.
- **Indian soldiers were invited to take part in the ceremonies**. The military parade was **opened by a contingent of 400 members of the Indian Army, Navy and Air Force**.



France confers its highest decoration mark - the Grand Cross of the Legion of Honour on PM Modi

Relevance: Prelims & Mains Paper II; International Relations

Why in news?

- **French President Emmanuel Macron recently conferred his country's highest honour, the Grand Cross of the Legion of Honour, upon PM Narendra Modi**.
- The honour normally **recognises the contribution of the French people in the "service of the nation"**. Foreigners are **honoured for their support to France**, and the award is sometimes conferred upon **high dignitaries on a state visit to France**.
- **PM Modi who recently went on a two-day state visit to France, was the Guest of Honour at the French National Day (Bastille Day) parade in Paris**.



What is the Legion of Honour?

- The **National Order of the Legion of Honour**, or simply **The Legion of Honour** is the **highest French decoration**, both **civil and military**, and is **one of the most famous national honours** in the world.
- The Order was established by **Napoleon Bonaparte** in **1802**, and has been presented for **more than the past two centuries** on behalf of the **French Head of State** to **its most deserving citizens** in **all fields of activity**. The motto of the Order is **Honneur et Patrie**, French for Honour and Fatherland.
- **2,200 French** and **300 foreigners** are decorated **every year**, and the Order **currently** has **79,000 members**.

What constitutes this award?

- There is **no material** or **financial benefit** attached to the award. The Legion of Honour **cannot be applied for**; the **govt identifies the potential honourees**.
- The award badge is a **five-armed Maltese asterisk** hung on an **oak** and **laurel wreath**. On the front is the **effigy of the Republic** and on the back **two tricolour flags** surrounded by the **motto Honneur et Patrie**. The colour of the ribbon is **red**.



When can a foreigner be honoured with it?

- Foreigners may be decorated with the Legion of Honour "if they have rendered services (e.g. cultural or economic) to France or supported causes defended by France, such as human rights, freedom of the press, or humanitarian action".
- **State visits** are an occasion for conferring the Legion of Honour **upon official figures**.

Topmost honour for PM Modi

- The Legion of Honour has **five degrees of increasing distinction**: three ranks — **Chevalier (Knight)**, **Officier (Officer)**, and **Commandeur (Commander)** — and two titles — **Grand Officier (Grand Officer)** and **Grand-croix (Grand Cross)**.
- PM Modi has been honoured with the **highest French honour**, akin to the **Bharat Ratna** in India.



India-UAE sign deal to use rupee-dirham for trade



Relevance: Prelims & Mains Paper II; Int. Rel.

Why in news?

- During PM Modi's recent visit to the UAE, the Reserve Bank of India (RBI) and its Abu Dhabi-headquartered counterpart the Central Bank of the UAE signed two memoranda of understanding (MoUs).
- While the first established a framework to promote the use of local currencies for cross-border transactions, the other was for interlinking payment systems.



How will local currencies be promoted?

- The first of the two MoUs aims to establish a Local Currency Settlement System (LCSS) to promote the use of rupee and the dirham bilaterally. It will cover all current and permitted capital account transactions.
- As per RBI, this would enable exporters and importers to send invoices and pay in their respective domestic currencies. This in turn would help the development of the INR-AED foreign exchange market and promote investments and remittances between the two countries.
- Broadly, the arrangement would help optimise transaction costs and settlement time for transactions, including for remittances from Indians residing in UAE.

Significance for exporters

- The focus on denominating export contracts and invoices in the local currency helps avert exchange-rate risks (such as when a third currency is being used as a standard), which further facilitates the scope to discover competitive pricing.
- Moreover, it could also lead to enhanced avenues for cooperation among the banking systems of the two countries, thereby contributing to the expansion of trade and economic activity for both.
- The UAE was India's 3rd largest trading partner and 2nd-largest export destination in FY2022-23. Conversely, India was the UAE's 2nd largest trading partner.

Interlinking of payment systems



- The second of the two MoUs links India's Unified Payments Interface (UPI) with its UAE-counterpart Instant Payment Platform (IPP). This is alongside the linking of card switches, that is, RuPay switch and UAESWITCH.
- Card switches entail facilitating communications and transactions between different payment service providers.
- The agreement would also explore linking of payment messaging systems of the two countries enabling users in either country to make fast, convenient, safe, and cost-effective cross-border fund transfers.
- Meanwhile, the card switches will facilitate mutual acceptance of domestic cards and processing of card transactions. This is relevant to 3.5 million resident Indians living in the UAE.

India and France outline a 25 year roadmap to strengthen bi-lateral ties

Relevance: Prelims & Mains Paper II; International Relations



Why in news?

- Following PM Modi's recent visit to France, the two countries have agreed to further cooperation in sectors such as defence and outlined a roadmap for the next 25 years of India-France ties.
- Notably, this visit marks the 25th year of India and France entering into a strategic partnership.
- Since 1998, both countries have worked closely in almost all multilateral forums, including in the UN Security Council.
- The convergence has emerged on issues related to reformed and effective multilateralism, international terrorism, Climate Change, sustainable development, and the Indo-Pacific.



Co-operation in Defence and Strategic matters

- France has emerged as the 2nd largest exporter of defence equipment to India in the last ten years. 36 Rafale fighter jets have already been delivered.
- A large number of deals including more Rafale jets, submarines, joint development of combat aircraft engines and helicopters are being negotiated and finalised.
- Some of them may involve joint production and significant technology transfer. This is crucial for India's defence modernization, diversification of supplies and Make in India project.
- There is a convergence in security and economic interests in the Indo-Pacific. Both countries may align their infrastructure, connectivity and development projects together linking through trilateral cooperation with Australia the UAE or through triangular development cooperation projects.
- France is a pioneer in civil nuclear energy and has offered to build six nuclear power reactors in Jaitapur.

Trade and Commerce ties

- For the last few years, India's trade with France is about \$10-12 billion a year.
- Most large French companies have a presence in India. For the last 25 years, they have invested about \$10 billion.
- India can have better trade and investment ties with a \$3 trillion European economy. Negotiations on India-EU trade and investment agreements have re-started.



Co-operation in education sector

- Both countries have **already signed migration and mobility agreements**.
- **Larger student and professional mobility and improved civil society linkages** may help bring India and France further closer.
- **Alliances Françaises's objective of reaching 50,000 students will help in achieving the new target of 30,000 Indian students in France by 2030.**

S Jaishankar attends BIMSTEC Foreign Ministers' meet

Relevance: Prelims & Mains Paper II; International Relations

Why in news?

- The **first-ever Foreign Ministers' meeting** of the **Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC)** was recently held in **Bangkok, Thailand**.
- **India's External Affairs Minister S Jaishankar** was also **present at this meeting** where issues including **health and energy security** were discussed.



What is BIMSTEC?

- BIMSTEC is a regional organisation that was established in 1997 with the signing of the Bangkok Declaration.
- Initially known as BIST-EC (Bangladesh-India-Sri Lanka-Thailand Economic Cooperation), the organisation is now known as BIMSTEC and comprises seven members, with Myanmar joining in late 1997, and Bhutan and Nepal in 2004.
- Around 22% of the world's population live in the seven countries around the Bay of Bengal, with a combined GDP close to \$3.7 trillion.
- All seven countries have sustained average annual rates of growth between 3.4% and 7.5% from 2012 to 2016.
- A fourth of the world's traded goods cross the Bay of Bengal every year.
- Cooperation within the BIMSTEC initially focused on six sectors (trade, technology, energy, transport, tourism, and fisheries) and later expanded to other areas.
- In 2021, a reorganisation led to each of the Member States leading certain sectors. India focuses on security, along with counter-terrorism and transnational crime, disaster management and energy.

Growth as a regional forum



- Despite having been in existence for many years, the grouping had been largely ignored until India gave it a renewed push in 2016, a month after the terrorist attack in Uri.
- Alongside the BRICS summit in Goa, India hosted an outreach summit with leaders of BIMSTEC countries.
- Weeks earlier, some of these countries had supported New Delhi's call for a boycott of the South Asian Association of Regional Cooperation (SAARC) summit scheduled in Islamabad that November.
- SAARC includes Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan, and Sri Lanka as its members. When that summit was postponed, India claimed victory in isolating Pakistan.

The China factor!

- The Bay of Bengal is crucial for an increasingly assertive China in maintaining its access route to the Indian Ocean.
- As China has undertaken a massive drive to finance and build infrastructure in South and Southeast Asia through the Belt and Road Initiative in almost all BIMSTEC countries, except Bhutan and India, BIMSTEC is a new battleground in the India-China battle for dominance.
- BIMSTEC could allow India to push a constructive agenda to counter Chinese investments, and instead follow best practices for connectivity projects based on recognised international norms. The Chinese projects are widely seen as violating these norms.



Russia pulls out of Black Sea grain deal



Relevance: Prelims & Mains Paper II; Int. Rel.

Why in news?

- Russia has announced its withdrawal from the Black Sea grain deal, which assured safe passage to ships carrying grain from Ukraine.
- This deal expired on 17th July. Negotiations had been on to get Russia to extend it.



What is the Black Sea grain deal?

- Ukraine is among the world's biggest exporter of foodgrains, such as wheat and corn, and a major contributor to the UN's food aid programmes.
- When Russia invaded the country and blockaded its ports, it sent food prices soaring and raised fears of food security in the poorer nations Pakistan, for instance, saw wheat prices skyrocket to crisis levels.
- In July, 2022, the UN and Turkey got Russia to agree to the Black Sea Grain Initiative, under which cargo ships would be allowed to travel from and to three Ukrainian ports after inspection that they weren't carrying arms.
- The deal had been extended twice.
- Under the deal, nearly 32 million tonnes of mostly corn and wheat have been exported by Ukraine until June.

Why Russia didn't renew the deal?

- Russia claims that the promises made to it under the deal have not been met, and it is still facing trouble exporting its own agricultural products and fertilisers because of the many sanctions the West has slapped on it.
- While there is no direct restriction on Russia's agricultural products, the country says barriers on payment platforms, insurance, shipping and other logistics are hampering its exports.
- Russia has also said that it had agreed to the grain deal in order to help ensure global food security, but Ukraine has since exported mainly to high-and middle-income countries.
- The UN says while this is true, poorer countries have been helped by food prices cooling down.

Major disparity in export figures!



- Russia is consolidating its position as the world's top wheat exporter, even as Ukraine's shipments are projected to more than halve from their peak and production plunge to a 11-year-low.
- Ukraine's markets have shifted dramatically from Asia and North Africa before the war to mainly Europe, mostly due to ease of shipment.
- In fact, glut of Ukrainian grain has led to protests from farmers in some Eastern European countries, who said the price of their produce had crashed.

ECONOMICS

India moves closer towards differential time-of-day power tariffs

Relevance: Prelims & Mains Paper III; Economics

Why in news?

- The Centre has signaled a move towards rolling out differential time-based electricity tariffs (ToD)s. This would result in discounted prices during an eight-hour period during daytime and premium or surge pricing during the peak power consumption hours.
- Broadly, time-based power tariff structures can be static — predetermined tariffs based on time blocks — or dynamic — determined on a real-time basis in accordance with the actual demand conditions.
- ToD tariffs in India will be static, which means they will be decided in advance for different blocks of the day.

Details

- Under the ToD tariff system, the power tariff during “solar hours” — the duration of eight hours a day as specified by the respective State Electricity Regulatory Commission (SERC) — of the day shall be at least 20% lower than the normal tariff.
- On the other hand, tariffs during peak hours will be at least 20% higher than the normal tariff for commercial and industrial consumers, and at least 10% higher for other consumers.
- ToD tariff would be applicable for Commercial and Industrial consumers having maximum demand of 10 KW and above, from 1st April, 2024 and for all other consumers except agricultural consumers, latest from 1st April, 2025.
- Most SERCs have already implemented ToD tariffs for large commercial and industrial categories of consumers. With installation of smart meters, ToD metering at the domestic consumer level will also be introduced.
- Power distribution companies will be required to display on their websites the tariffs for each category of consumers, and in case of a change in rates, consumers will have to be notified at least a month in advance.

Potential benefits

- During the non-solar hours, **mostly thermal, hydel, and gas-based power** is consumed, which is **relatively costlier than solar power**. Hence, tariffs during non-solar hours will be **relatively higher**, reflecting **the higher cost of electricity**.
- As for peak power consumption hours, the govt hopes to **discourage consumers** from **placing excessive load** on the grid with **higher-than-normal tariffs**. This will **reduce additional investments in grid infrastructure** for maintenance and upgradation over the medium to long term.
- The move will let consumers to **plan** and **optimise** their electricity consumption so that **the major share of their power use** falls in the **discount window**.
- Notably, **around 20 countries**, including **at least 17 European nations** and the **U.S.**, have **time-based power tariff structures** in one form or another.

India's quest for Renewable Energy

- In India, which is the **world's third largest producer of renewable energy**, nearly **40% of installed electricity capacity** comes from **non-fossil fuel sources**. This green push has resulted in a **sharp 24% reduction in the emission intensity of GDP** between 2005 and 2016.
- India's vast fleet of **coal-based power plants of 200 MW series** is **more than 25 years old**, runs on **old technology** and **does not promise robust reliability**.
- The country's **current installed generation capacity** is **around 410 GW** (1 gigawatt is 1,000 megawatts) while the **maximum demand** is **around 229 GW**.
- Of the installed capacity, the total electric power installed capacity from **non-fossil fuel-based energy resources** was **179 GW**, which is **over 40% of the total electric power installed capacity**, primarily solar and wind.

Supply shortage results in tomato prices hitting Rs. 100 mark


Relevance: Prelims & Mains Paper III, Economics


Why in news?

- Over the last fortnight, **the retail price of tomato** has **crossed Rs 60 per kg in towns and cities** around the country. This figure is **even more than Rs 100/kg** at some places.

India's tomato production

- India grows **two major crops of tomato**. The **rabi crop**, which is grown mainly in the **Junnar taluka of Maharashtra** and **in parts of Karnataka and Andhra Pradesh**, comes to the market **between March and August**.
- After August, the market is supplied by the **kharif crop** in **Uttar Pradesh, Nashik in Maharashtra**, and **elsewhere in the country**.
- **About 5 lakh hectares of farmland** come under **rabi tomato**, and **around 8-9 lakh hectares** under the **kharif crop** on average.

Reasons that have pushed up the prices	No respite in coming days!	
<ul style="list-style-type: none"> - The first batch of tomatoes ensure supplies until April while the second feeds the market until August. - For farmers, the rabi crop fetches better returns. The cost of production of rabi tomato is around Rs 12/kg, while that of kharif is Rs 10/kg. - However, farmers suffered a shock in March-April this year. At the wholesale market in Junnar taluka, the average price in March was Rs 5-10/kg, and in April it was around Rs 5-15/kg. In May, farmers were forced to sell for between Rs 2.50-5/kg. - The crash in prices led to many farmers abandoning their crops. - In March-April and the beginning of May, prices collapsed because most of the crop coming to the market was of inferior quality, and farmers resorted to panic selling. In South India and Maharashtra, excessive heat and pests devastated the crop. - Faced with uncertainty with regard to both prices and supplies, farmers sold whatever crop they had, causing a glut. 	<ul style="list-style-type: none"> - Farmers rule out chances of tomato prices decreasing anytime soon. - 24,000-25,000 crates (each containing 20 kg) of tomato are currently arriving at the Junnar taluka wholesale market every day on an average. This is almost half the 40,000-45,000 crates that are expected at this time of the year. - The next crop will be the kharif tomato — the transplanting of which has just started after the monsoon was reactivated. It will be only post August that arrivals will improve and retail prices can see any correction. 	

Centre bars states from buying wheat and rice through the Open Market Sale Scheme		
Relevance: Prelims & Mains Paper III; Economics		
Why in news?	What is the Open Market Sale Scheme?	
<ul style="list-style-type: none"> - States have been looking at alternative ways of procuring wheat and rice after the Food Corporation of India's (FCI) imposed quantity restrictions followed by the Centre's refusal to allow States to procure these two food grains through its Open Market Sale Scheme (OMSS). - The Centre has made it clear that the reason for restricting supplies per bidder and eventually excluding states from procuring through auctions was to curb inflation and regulate supply. 	<ul style="list-style-type: none"> - Under the Open Market Sale Scheme, the FCI from time to time sells surplus food grains from the central pool especially wheat and rice in the open market to traders, bulk consumers, retail chains etc. at pre-determined prices. - The FCI does this through e-auctions where open market bidders can buy specified quantities. - States are also allowed to procure food grains through the OMSS without participating in the auctions, for their needs beyond what they get from the central pool to distribute to NFSA (National Food Security Act) beneficiaries. - This year's OMSS was operationalised by the FCI in January. - Six weekly e-auctions of wheat had been conducted by FCI till March 15, 2023. The total quantity of 33.7 LMT wheat was offloaded and the prices of wheat came down by 19% due to this massive intervention in a span of 45 days. - The next e-auction for wheat under OMSS started on June 28 and the bidding for rice commenced on July 5. 	

Centre's revision of the OMSS

- The Centre decided to **restrict the quantity** that **a single bidder can purchase in a single bid** under the **OMSS**. While the **maximum quantity allowed earlier was 3,000 metric tonnes (MT) per bid** for a buyer, it will now range from **10-100 metric tonnes**.
- The FCI claims that the quantities have been reduced this time **"to accommodate more small and marginal buyers and to ensure wider reach of the scheme"**.
- The objective behind the move is also to **curb retail prices** as allowing smaller bids **should ideally break monopolies of bulk buyers**, allowing **more competitive bids** by **small buyers**.
- First, the Centre had decided earlier this month **to reduce the quantity a particular bidder can purchase under the OMSS**, but on June 13 in a notification sent to the States, **it stopped the sale of rice and wheat from the Central pool** under the OMSS to **State govts**, also **disallowing private bidders to sell their OMSS supplies to state govts**.
- As per FCI, the Centre was **already meeting its obligations** to distribute grains to **80 crore marginalised beneficiaries** under the NFSA, and also has an obligation to the **60 crore common consumers** who are affected by **retail prices**.

Criticism from the States

- In **Karnataka**, the **Anna Bhagya scheme** to give **rice to marginalised families** was a part of the **Congress govt's poll promise**.
- Congress leaders accused Centre of conspiring to **"fail" the State govt's poll guarantee** by ensuring the **State did not receive the required amount of rice** to implement the scheme.
- **Tamil Nadu** is trying to purchase **50,000 tonnes of rice** from govt agencies **other than FCI**. In order to give rice to **all ration card holders**, the state govt is buying it from OMSS at **a rate of about ₹35/kg** and then **subsidising it**.



Contaminated drug supplies hurt the reputation of Indian drugmakers

Relevance: Prelims & Mains Paper III; Economics



Why in news?

- Since **October last year**, **Indian pharma companies** have been **under constant international scrutiny** for **exporting allegedly contaminated drugs**, which have led to **deaths of children**.
- Such incidents have occurred in **Nigeria, Cameroon, Gambia** and **Uzbekistan**.
- Also, **Sri Lanka** called out **two drugs** manufactured in **India** linking them to **adverse reactions** in **several patients**.



No official response from authorities!

- Soon after the deaths of children in **Gambia** and **Uzbekistan** caused by Indian-made cough syrups, the pharma company, **Marion Biotech's** licence was **cancelled** by the national watchdog — the **Central Drugs Standard Control Organisation (CDSCO)**.
- However, the **Ministry of Health and Family Welfare** has **not answered any questions** on the **probe** that was launched.

Countries resort to independent quality checks

- **Gambia** has recently appointed a **Mumbai-based lab** to **independently assess the manufacturing plants** and **drug samples** of Indian exporters.
- Notably, **Mozambique** has already adopted this practice.
- The **Nigerian govt** has been even more careful. Not just all pharmaceutical samples, it gets all batches of **chemicals, food, medical devices** and **cosmetics** checked by an **independent assessor**.
- A quality check by an Indian lab itself revealed that in the case of a **sample of paracetamol drug — Azithromycin 500 mg**, there was **only 20 mg of azithromycin** instead of **500 mg**.
- It also picked up **nearly 40 to 45 non-conformities** in the batch samples of **more than 500 exporters**.



Regulators' failure to take necessary action

- The issue of **contaminated cough syrup batches** is not only limited to exports.
- India has recorded **at least five such poisoning events** since **1972**, killing **at least 84 children**.
- Ideally, when a manufacturer is found to be **violating laws** especially in cases where there is a **threat to life** or **alleged deaths**, a **criminal prosecution** of the **persons who are responsible for manufacturing and marketing the drug** should be launched.
- However, instead of doing that, the **Ministry of CDSCO** and **state regulators keep passing the buck**.

Why do pharma companies get away?

- As per experts, **merely suspending or cancelling the manufacturing licence of a pharma company** is **not enough**.
- Under the **Drugs and Cosmetics Act, 1940**, manufacturers **who don't follow good manufacturing practices** can be subjected to a **maximum punishment of imprisonment for life**.
- Even when prosecutions are filed, the cases move at a **snail's pace** in courts. For e.g., in **Andhra Pradesh**, of the **54 judgments** in cases filed against pharma companies between **1999 and 2017**, the state was able to **secure convictions in only eight cases**.
- **Glaring errors** committed by **drug inspectors** are also a primary reason behind poor conviction rates.
- There is also a **shortage of drug inspectors**. As per a **2019 report**, while there ought to be **one drug inspector for every 50 manufacturing units** and **200 pharmacists**, there were vacancies in **most States waiting to be filled**.



Singapore Exchange (SGX) NIFTY starts trading from Gujarat



Relevance: Prelims & Mains Paper III; Economics

Why in news?

- The popular **Singapore Exchange (SGX) NIFTY** recently started trading from **GIFT City** in **Gujarat** renamed **GIFT NIFTY**. It executed **over 30,000 trades** in a **single session**.
- This is the **first cross-border initiative** in **connecting India** and **Singapore's capital markets**.
- Though the **SGX** is expected to corner **the bulk of the business** initially, **NSE International Exchange (NSE IX)** expects to make inroads gradually.

The deal between SGX and NSE

- According to a **five-year contract** between **the two**, business will **largely be shared on a 50:50 basis**. Initially, for the business generated by **Singapore**, **SGX** will get **75% of the revenue**, while **NSE** will get the **remaining 25%**.
- For any business generated by the **International Financial Service Centre (IFSC)** — which is currently **very little in volume** — **NSE** will keep **75%** of the business.
- Once a **"threshold volume"** is touched, sharing will be on a **50:50 basis** for both the entities.
- In the **first trading session** for **GIFT NIFTY** held on **3rd of July**, **90%** of the **30,000-odd trade volumes** executed were through the **SGX**.
- **NSE IX** expects that **international investors** will gradually come **directly to IFSC** instead of **routing through SGX**.
- Secondly, as per this deal, **NSE IX** will not be able to enter into similar arrangements with any other exchange. This contract can be extended for an additional two years after the **five-year period** concludes.

What is GIFT NIFTY?

- On **June 30**, trading on **SGX NIFTY** ceased in **Singapore** and the entire trading volume and liquidity **fully switched** to **GIFT IFSC**. Therefore, it was renamed **GIFT Nifty**.
- Currently, **four products** are being offered under the umbrella brand of **GIFT Nifty** — **GIFT Nifty 50**, **GIFT Nifty Bank**, **GIFT Nifty Financial Services** and **GIFT Nifty IT derivatives contract**.

Importance of this switch for India

- This migration was **first initiated** by **PM Narendra Modi** in **July 2022**. However it was **only in April** this year that **Singapore** agreed to a **full-scale switch of Nifty** by **July 3**.
- This is the **first of its kind trading link**, with **trading** and **matching** in **India** and **clearing** and **settlement** in **Singapore**.
- The **GIFT NIFTY** starts at **6:30 am** in **Asia time zone** and continues till **3:40 pm**. The 2nd session from **4:35 pm** to **2:45 am (next day)** targets investors from the **U.S.** and **Europe**.



RBI pushes for the internationalisation of the rupee

Relevance: Prelims & Mains Paper III; Economics



Why in news?

- India is aiming to make the rupee a global currency.
- Pushing for a roadmap in this regard, an RBI's working group recently said that with India remaining one of the fastest-growing countries and showing remarkable resilience in the face of major challenges, the rupee has the potential to become an internationalised currency.

What is the Internationalization of a currency?

- Internationalisation is a process that involves increasing the use of the rupee in cross-border transactions.
- It involves promoting the rupee for import and export trade and then other current account transactions, followed by its use in capital account transactions. These are all transactions between residents in India and non-residents.
- The internationalisation of the currency, which is closely interlinked with the nation's economic progress, requires further opening up of the currency settlement and a strong swap and forex market.
- This requires full convertibility of the currency on capital account and cross-border transfer of funds without any restrictions. India has allowed only full convertibility on the current account as of now.
- Currently, the US dollar, the Euro, the Japanese yen and the pound sterling are the leading reserve currencies in the world. China's efforts to do the same with its currency renminbi have met with only limited success so far.

Relevance



- Currently, the US dollar is said to enjoy an 'Exorbitant Privilege', which refers to the innumerable benefits enjoyed by the US on account of all other countries using the US dollar as their currency in most of their international transactions.
- The dollar's position is supported by a range of factors, including the size of the US economy, the reach of its trade and financial networks, the depth and liquidity of US financial markets, and a history of macroeconomic stability and currency convertibility. Dollar dominance has also benefited from the lack of viable alternatives.
- In the wake of the sanctions imposed on Russia, many countries have become cautious of the price they may have to pay if they are subjected to similar sanctions by the Western govts. China, Russia and a few other countries have become more vocal in questioning the US dollar-dominated global currency system.
- They would like to reduce their reliance on the US dollar and its financial markets as well as their dependence on dominant international payment mechanisms.
- The Asian crisis of 1997-1998 showed the necessity of emerging market economies having strong foreign exchange reserves to manage external shocks. However, in an increasingly polarised world, even that doesn't seem a sufficient defence against the threat of economic sanctions.
- The RBI-appointed group feels that it is crucial for India to continue exploring alternatives to both the USD and the Euro.

Advantages	Recommendations
<ul style="list-style-type: none"> - The use of the rupee in cross-border transactions diminishes currency risk for Indian businesses. Protection from currency volatility not only reduces the cost of doing business, it also enables better growth of business, improving the chances for Indian businesses to grow globally. - Internationalisation of the rupee reduces the need for holding foreign exchange reserves. Reducing dependence on foreign currency will make India less vulnerable to external shocks. - As the use of the rupee becomes significant, the bargaining power of Indian businesses would improve, adding weight to the Indian economy and enhancing India's global stature and respect. 	<ul style="list-style-type: none"> - The RBI's working group has recommended several short to long-term measures to accelerate the pace of internationalisation of the rupee. - For the long term, the group has recommended that efforts should be made for the inclusion of the rupee in IMF's (International Monetary Fund) SDR (special drawing rights). - The SDR is an international reserve asset created by the IMF to supplement the official reserves of its member countries. The value of the SDR is based on a basket of five currencies — the U.S. dollar, the euro, the Chinese renminbi, the Japanese yen, and the British pound sterling.



Delhi HC rejects PepsiCo's appeal over potato patent	
Relevance: Prelims & Mains Paper III; Economics	
Why in news?	Background of this case
<ul style="list-style-type: none"> - The Delhi High Court recently upheld an order by the Protection of Plant Varieties and Farmers' Rights Authority (PPVFRA), revoking the intellectual property protection granted to PepsiCo India with respect to a potato variety developed by it. - PPVFRA, the authority that had earlier granted registration for FL 2027, revoked the same through an order passed on Dec. 3, 2021. PPVFRA also issued a letter on Feb. 11, 2022, rejecting PepsiCo India's application for renewal of its registration. 	<ul style="list-style-type: none"> - It pertains to FL 2027, a potato variety with high dry matter and low sugar content better suited for making chips. - Normal table potatoes have more moisture, which adds to dehydration and energy costs during processing, and higher sugar, which causes blackening on frying. - FL 2027 was developed in 1996 by Robert W Hoopes, a US breeder employed with Frito-Lay Agricultural Research, a division of PepsiCo Inc. The latter has been manufacturing potato chips sold under its Lay's brand using this processing-grade variety. It is grown by some 14,000 farmers in India via contract cultivation and buy-back at pre-fixed rates. - PepsiCo India was granted a certificate of registration for FL 2027 as an "extant variety" on Feb. 1, 2016. - The validity period – during which nobody else could commercially produce, sell, market, distribute, import or export it without the breeder's authorisation – was six years from the date of registration and extendable up to 15 years.



Reasons behind revoking of this registration

- PepsiCo had, in its 2012 application sought the registration of FL 2027 as a "new variety". It had given the date of its commercialisation in India as Dec. 17, 2009.
- A "new variety" had to conform to the criterion of novelty. That required the propagated or harvested material from it not to have been sold in India earlier than one year before the date of filing the application for registration. Having failed the test of novelty, FL 2027 could only have been granted registration as an "extant variety". Such a variety could satisfy only the criteria of distinctiveness, uniformity and stability, but not novelty.
- PepsiCo was also found to have given the first date of sale of the variety in its application as Dec. 17, 2009, when it had already been commercialised in 2002 in Chile. The certificate of registration had, thus, been obtained based on incorrect information furnished by the applicant.
- Notably, any protection granted for a plant variety is subject to the applicant making a complete disclosure of his claimed invention/development. This is similar to the requirements of the Patents Act, "which also grants a monopoly in exchange of a complete disclosure," the court held.

Foxconn pulls out of chip-making joint venture in India with Vedanta

Relevance: Prelims & Mains Paper III; Economics

Why in news?

- Foxconn, the world's largest contract electronics maker, has announced its exit from the joint-venture deal with Vedanta to set up a semiconductor manufacturing unit in India.
- This comes less than a year after the two companies signed a partnership to set up a \$19.5 billion plant in the country.

Reason behind Foxconn's exit

- Though Foxconn has given no reason, it is understood that the ability of Vedanta, which is reeling under a heavy debt load, to pay for acquiring the necessary technology for chipmaking played a key role.
- As per Vedanta, it has lined up other partners for this project but without Foxconn, the application is unlikely to move forward.

The other proposals

- Two other proposals for India's \$10 billion chip incentive scheme too, remain uncertain.
- ISMC, backed by Abu Dhabi-based Next Orbit and Israel's Tower Semiconductor, has asked the Centre not to consider its proposal owing to a pending merger between Intel and Tower Semiconductor. The merger was announced more than a year ago, but has not moved ahead.
- The consortium had initially said it would set up a \$3 billion semiconductor fab in Karnataka. But the proposal is not expected to move until Intel's merger with Tower is complete. A semiconductor fab is a manufacturing plant in which raw silicon wafers are turned into integrated circuits.
- The other proposal, by Singapore-based IGSS Venture, was not found up to the mark by the advisory committee of the govt and is reportedly on the back burner.

Why is chipmaking crucial for India?

- India has identified electronics manufacturing as a key sector in the coming years — both to produce goods for the domestic market, and for export. While some manufacturing schemes, for smartphones for e.g., have taken off (with Apple in the lead) the process is largely centred around assembling various components imported from elsewhere.
- Notably, PM Narendra Modi has made chip manufacturing a top priority for India's economic strategy.
- Building semiconductors in India is crucial for the govt's vision to develop a domestic electronics supply chain and eventually reduce imports — especially from China which, despite some challenges, remains the number one destination for such manufacturing.
- All electronics items have semiconductor chips in them — and as more companies try to diversify their bases from China, India has an opportunity to emerge as a reliable destination.
- The US passed the CHIPS Act last August, providing a \$280 billion subsidy for manufacturing chips in the country. It has also imposed additional restrictions and sanctions that impact China's semiconductor industry.

How Uniform Civil Code will impact Hindu Undivided Family's tax benefits?

Relevance: Prelims; Economics

Why in news?

- The Law Commission of India has recently initiated a fresh deliberation on the Uniform Civil Code (UCC) and solicited public views on the same.
- This has resulted in a debate over the institution of Hindu Undivided Family (HUF) and its separate treatment under the tax laws of the country.

Origin and structure

- The existence of the Hindu Undivided Family as a legal entity is based on an acknowledgment of local customs by the British during the Raj.
- The HUF was seen as an institution which operated on a strong sense of blood ties and kinship, with a view to jointly exercise control over familial property among Hindu families.
- It gave way for family business arrangements to be based on Hindu personal laws rather than contractual arrangements.
- In that sense, HUF as a legal entity has always portrayed a dual identity — one of a family-backed institution and the other of an income-generating entity, solely for the purposes of maintenance of the family. Such an arrangement was complex and unique for the British, thus resulting in its unique treatment under Indian tax laws.
- As per the Income Tax laws, the HUF is a family which consists of all persons lineally descended from a common ancestor and includes their wives and unmarried daughters. A HUF has its own Permanent Account Number (PAN) and files tax returns independent of members.

Cont'd

- The HUF consists of the 'karta' – typically the eldest male member of the family – with others in the family being coparceners. The 'karta' manages the day-to-day affairs of the HUF. Children are coparceners of their father's HUF.

Under the scanner for long!

- The Income Tax Act, 1961, which is currently in force, recognises the HUF as a person under Section 2(31)(ii).
- Over the decades, reports from the Income Tax dept. and several other committees have flagged the issue of substantial revenue loss owing to special exemptions for the HUF.
- They have also explicitly stated that the institution of HUF is being used for the purposes of tax avoidance.

Beneficial tax treatments enjoyed by HUFs

- From 1922 to 1961, there was a practice of granting an additional exemption limit to the HUF when compared with other forms of taxpayers (including individuals). This resulted in the HUF paying lesser tax than other similarly placed taxpayers, despite earning the income in the same manner as others. This preferential exemption regime was done away with under the Income Tax Act, 1961.
- However, this does not mean that the HUF is not beneficial to families and individuals. In effect, the institution of the HUF as a separate tax entity provides an avenue for Hindu families to reduce their tax burden in a number of ways.
- Additionally, the HUF is entitled to claim expenses, exemptions and several deductions from its taxable income. This further reduces the tax burden of a Hindu family.

HUF: Not universally available

- The concept of HUF is closely tied to the concepts of joint family and coparcenary. This is unique to Hindu personal law (deemed to include Jains, Buddhists & Sikhs).
- Interestingly, Kerala had abolished the joint family system in 1975 by enacting the Kerala Hindu Joint Family (Abolition) Act, 1975.
- The above benefit of a statutory tax planning is not available to a taxpayer belonging to any religions other than Hinduism – Muslims, Christians, Parsis, etc. This raises a genuine concern regarding the lack of uniform application of the tax laws on taxpayers on the basis of the religion they belong to.
- It can be argued that granting an additional tax treatment which lowers the tax burden only on the basis of religion is arbitrary and may fall foul of Article 14 of the Constitution.

UK signs 'biggest trade deal' since Brexit

Relevance: Prelims & Mains Paper III; Economics



Why in news?

- The United Kingdom has signed a treaty to join a major Indo-Pacific bloc — what it said was the biggest trade deal since the country left the European Union at the beginning of 2020.
- A British govt analysis that says the pact would boost UK exports by 1.7 billion pounds (\$2.23 billion), imports to the UK by 1.6 billion pounds and gross domestic product (GDP) by 1.8 billion pounds in the long term.
- The pact is expected to take effect in the second half of 2024.

What is CPTPP?

- The CPTPP is a landmark pact agreed upon in 2018 that cuts trade barriers among 11 countries, including Australia, Brunei, Canada, Chile, Japan, Malaysia, Mexico, New Zealand, Peru, Singapore and Vietnam.
- The pact requires countries to eliminate or significantly reduce tariffs and make strong commitments to opening services and investment markets.
- It also has rules addressing competition, intellectual property rights and protections for foreign companies. CPTPP is seen as a bulwark against China's dominance in the region, although the latter has applied to join, along with Taiwan, Ukraine, Costa Rica, Uruguay and Ecuador.
- Politicians in several countries, including the UK and Australia, are lobbying to keep China out, while China is trying to prevent Taiwan from joining.

Significance for U.K.



- CPTTP will cut tariffs for UK exports to Asia Pacific countries. With UK membership, the trading bloc will have a combined GDP of 12 trillion pounds and account for 15% of global trade.
- Britain is keen to deepen trade ties in the Pacific after Brexit in 2020. Since Brexit, it has sought other trade deals with countries and trading blocs around the world that the govt says have faster-growing economies than the EU.
- However, U.K. will likely struggle to achieve free trade deals with large powers like China in the near term and even its closest ally, the U.S. has said further trade liberalization with Britain is currently off the table.
- Critics say CPTTP and other deals will struggle to compensate for the economic damage sustained by leaving the now-27-member EU — the world's largest trading bloc and collective economy. As per estimates, UK's long-term productivity is forecast to be reduced by 4% as a result of Brexit.
- The UK already has trade deals with 10 of the 11 other CPTPP members and the eventual economic boost is likely to increase GDP by just 0.08% annually.
- In 2022, Britain exported 340 billion pounds of goods and services to the EU, 42% of total UK exports.
- Half of global growth is forecast to come from the Indo-Pacific by mid 2030 and growth will continue into the middle of the century.

Surat Diamond Bourse set to become the world's biggest office space

Relevance: Prelims & Mains Paper III; Economics



Why in news?

- PM Narendra Modi is expected to inaugurate the Surat Diamond Bourse (SDB), claimed to be the world's biggest office space in a single project, on Nov. 21.
- The SDB has been built on an area of 66 lakh square feet at DREAM (Diamond Research and Mercantile) city.
- According to the project designers of this bourse, it is bigger than the biggest office space in the world, The Pentagon in the United States.



Why was it needed?

- Surat's diamond trading market is located at present in Mahidharpra Hira bazaar and Varachha Hira Bazaar, where traders make transactions standing on the streets with almost no security measures.
- A major part of the diamond trading, however, happens in Mumbai at Bandra Kurla Complex (BKC), which has the amenities for international buyers.
- Sources in the diamond industry say Mumbai has a space crunch and office real estate is pricey.
- Besides, a major chunk of the diamond traded in Mumbai is manufactured in Surat, from where local couriers carry them to Mumbai on trains, taking over 4.5 hours.

Ample space and infrastructure

- The Surat Diamond Bourse will have over 4,200 offices ranging from 300 sq. feet to 7,5000 sq. feet each.
- The bourse has nine towers, each with ground plus 15 floors.
- All diamond-related activities and infrastructure, such as sale of rough diamonds and polished diamonds, diamond manufacturing machineries, software used in diamond planning, diamond certificate firms, lab-grown diamonds, etc. will be available in the bourse.
- Over 4,000 CCTV cameras have been installed at different locations inside and outside the SDB.
- The land for this project was purchased for Rs. 627 crore. The construction began in 2017 and got finished in just five years. The total project cost is Rs 3,200 crore.
- The thematic landscaping is based on the 'panch tatva' theme, comprising the five elements of nature (air, water, fire, earth, and sky),



Govt hikes EPFO interest rate



Relevance: Prelims & Mains Paper III; Economics

Why in news?

- The govt has approved interest rate of 8.15%, recommended by the Central Board of Trustees of the Employees' Provident Fund Organisation (EPFO), for its over 6 crore subscribers for the financial year 2022-23.
- After this payout, the retirement fund body will be left with a surplus of Rs 663.91 crore.

EPFO's deficit

- The interest rate had been hiked despite the EPFO registering a deficit of around Rs 197 crore in 2021-22 against an estimated surplus of Rs 350-400 crore for 2021-22 when an 8.1 % interest rate was recommended for the year.
- The 8.1% rate for 2021-22 was the lowest in four decades.
- The decline in the Fund's amount to a deficit in the previous financial year 2021-22 happened primarily as several exempted establishments approached the EPFO for surrendering their exempt status.
- Over the years, the finance ministry has questioned the high rate retained by EPFO and has been nudging it to reduce it to a sub-8 % level. EPFO rate continues to be among the highest when compared with other savings instruments, with small savings rates ranging from 4.0% to 8.2%.

New data panel formed to improve India's statistics



Relevance: Prelims & Mains Paper III; Economics

Why in news?

- The Ministry of Statistics and Programme Implementation has formed a new Standing Committee on Statistics (SCoS) to advise on official data generated by the National Statistical Office (NSO).
- This panel will replace another committee that was formed in 2019 to advise on economic data.

What is different about the new committee?

- The Standing Committee on Economic Statistics was mandated to review the framework for economic indicators such as those pertaining to the industrial and services sectors, along with labour force statistics.
- Its focus was limited to reviewing high-frequency data like the Index of Industrial Production (IIP) and the Consumer Price Index (CPI), apart from surveys and enumerations like the Economic Census, Annual Survey of Industries and the Periodic Labour Force Survey.

Significance

- In recent years, the credibility of some of NSO's data, especially the results of various household surveys traditionally carried out by the National Sample Survey Office (NSSO) have come under a cloud, with even top govt officials questioning their approach and outcomes.
- In 2019, the govt had decided to junk the results of two major NSSO household surveys carried out in 2017-18 — to assess the employment and consumption expenditure levels in Indian households — by claiming they suffered from "data quality issues".
- The actual rationale for withholding the outcome of the last surveys, carried out soon after demonetisation and the implementation of the Goods and Services Tax (GST), is believed to be that they revealed distress in households.
- After the 2017-18 Surveys were junked, a fresh Household Consumption Expenditure Survey (HCES) was started only last July and its results may take at least another year to be finalised.
- In the absence of this data, India's key economic indicators such as retail inflation, GDP or even the extent of poverty, usually revised based on evolving consumption trends, continue to be based on the 2011-12 numbers, and are detached from contemporary ground realities.
- It compels the govt to rely on proxy data such as Employees' Provident Fund (EPF) account numbers to gauge employment trends and the National Family Health Survey to assess poverty levels.

Need to bridge the trust deficit on official data

- While SCoS can advise the Statistics Ministry on individual surveys and data sets, the new panel is also expected to help address issues regarding the results and methodology of surveys.
- With survey design and features evolving, the panel can seek to sensitise data users about the nuances involved to ensure better interpretation of the numbers.
- Most importantly, the SCoS, which will help the NSO finalise survey results and, the independent National Statistical Commission that is empowered to assess whether any official data is fit for release, must seek to rebuild the credibility of India's statistics.

Johnson and Johnson unwilling to let go of its monopoly on TB drug Bedaquiline



Relevance: Prelims; Economics

Why in news?

- Bedaquiline has now become the **cornerstone** to cure **drug-resistant tuberculosis (DR-TB)**. Recently, a major barrier for drug resistant TB care ended, when **Johnson & Johnson's patent on bedaquiline expired** on July 18.
- This **long-awaited expiry** will allow **generic manufacturers** to supply the drug, but **J&J appears intent on maintaining its monopoly** over the **bedaquiline market**.



What has J&J done?

- J&J has filed **secondary patents** over bedaquiline till **2027**, which were granted in **66 low-and middle-income countries**.
- It includes **34 countries** with **high burden of TB**, **multidrug-resistant TB (MDR-TB)**, and **TB/HIV**.
- Over the past week, J&J has **faced public outrage** for seeking to extend its patent on bedaquiline. A first of its kind deal **between J&J and the Global Drug Facility (GDF)**, a non-profit distribution agency housed in the **WHO**, could **expand access to the drug**.
- Researchers estimate that, with the **introduction of competition from India**, the price of bedaquiline will **reduce** in the range of **\$48-\$102** for a **six-month treatment course** — which is **three to six times lower** than the **current globally negotiated price** paid by countries (**\$272**) when it is **procured through the GDF**.

The threat from tuberculosis

- **Tuberculosis** was the **world's deadliest infectious disease**, as declared by the **WHO**, before **COVID-19 swept the world**.
- Each year, **nearly half a million people** develop **drug-resistant TB** and **nearly 10.4 million people** develop **drug-sensitive TB**.
- **One-third** of the **world's population** has **latent TB**, a version of the disease that can **turn active** as **immunity falls**.
- **Nearly 2.8 million patients**, the most in the **world**, live in **India** making it a **national public health emergency**.
- Globally, **DR-TB** is a **major contributor** to **antimicrobial resistance** and continues to be a **public health threat**.

Who made bedaquiline?

- **Janssen Pharmaceutical** (a subsidiary of J&J) made bedaquiline **around 2002**.
- Following its **2012 approval**, **several research institutes, national TB programmes and medical humanitarian organisations**, have put in resources in **additional trials**, and **operational research**, to further document the **safety**, and **optimal use of bedaquiline** in **DR-TB regimens**.
- The recent **WHO recommendation** of bedaquiline being a **core drug for the treatment of DR-TB** is largely based on the evidence produced through these collective efforts.
- However, **J&J** has claimed **sole ownership of bedaquiline**, protected by its **aggressive patenting strategies**.



Availability in India



- Other DR-TB drugs like linezolid have decreased in prices by over 90% with generic competition once Pfizer's patent expired in 2015.
- Therefore, national TB programmes are waiting for the generic supply of bedaquiline from Indian manufacturers to reduce prices.
- In a landmark decision before World TB Day, the Indian Patent Office rejected the U.S. corporation J&J's secondary patent which would have extended its monopoly for four more years.
- Indian manufacturers will now be able to supply affordable, quality assured generic versions of bedaquiline in India as the primary patent expired on July 18.

ENVIRONMENT
&
BIODIVERSITY



Indian Ocean Dipole (IOD) likely to limit El Nino effects



Relevance: Prelims & Mains Paper III; Environment

Why in news?

- The El Nino phenomenon is almost certain to affect the Indian monsoon this year. Now hopes rest on the development of a positive Indian Ocean Dipole (IOD) and its ability to counterbalance the El Nino effect.
- The IOD is an ocean-atmosphere interaction in the Indian Ocean very similar to the El Nino fluctuations in the Pacific Ocean.
- It is also a much weaker system than El Nino, and thus has relatively limited impacts.
- But a positive IOD does have the potential to offset the impacts of El Nino to a small measure in neighbouring areas. It has done so at least once in the past in 1997.
- The India Meteorological Department (IMD), in its bulletin earlier this month, said there was an 80% chance of a positive IOD in the coming months.

The Indian Nino

- In a normal year, the eastern side of the Pacific Ocean, near the northwestern coast of South America, is cooler than the western side near the islands of Philippines and Indonesia.
- This happens because the prevailing wind systems that move from east to west sweep the warmer surface waters towards the Indonesian coast.
- The relatively cooler waters from below come up to replace the displaced water. An El Nino event is the result of a weakening of wind systems that leads to lesser displacement of warmer waters.
- This results in the eastern side of the Pacific becoming warmer than usual. During La Nina, the opposite happens.

(more ahead)

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- Both these conditions, together called El Nino Southern Oscillation or ENSO, affect weather events across the world. Over India, the El Nino has the impact of suppressing monsoon rainfall.
- IOD, sometimes referred to as the Indian Nino, is a similar phenomenon, playing out in the relatively smaller area of the Indian Ocean between the Indonesian and Malaysian coastline in the east and the African coastline near Somalia in the west.
- One side of the ocean, along the equator, gets warmer than the other. IOD is said to be positive when the western side of the Indian Ocean, near the Somalia coast, becomes warmer than the eastern Indian Ocean. It is negative when the western Indian Ocean is cooler.
- The IOD was identified as an independent system only in 1999.

IOD impacts

- A positive IOD helps rainfall along the African coastline and also over the Indian sub-continent while suppressing rainfall over Indonesia, southeast Asia and Australia. The impacts are opposite during a negative IOD event.
- Notably, compared to ENSO events, the impacts of IODs are much weaker. IOD events usually originate in the months of April and May. However, there is an example of a strong IOD event developing late as well as was witnessed in 2019.



American bald eagle 'returns' from the brink of extinction

Relevance: Prelims & Mains Paper III; Environment



Why in news?

- The American bald eagle was removed from the United States' list of endangered species in 2007.
- Since then, the population of this bird has steadily risen.
- However, just a few decades back, the bird was on the verge of extinction, facing multiple threats to its existence. In fact, many conservationists felt that the national symbol of the United States was on the path to become the dodo of the 20th century.



Population decline since the 1800s

- Bald eagles used to be abundant across the U.S. When they were adopted as the country's national symbol in 1782, there were as many as 100,000 nesting birds in the continental U.S. (including Alaska).
- However, their populations began to decline in the early 1800s. They were seen as a threat to livestock, especially domestic chicken, and started to be hunted.
- Hunting intensified in the latter half of the century, when feather hats became a fashion staple. Their population steadily declined till about the 1940s.
- This compelled the US Congress to pass the Bald and Golden Eagle Protection Act in 1940 expanding protections and prohibiting even the possession of eagle feathers.

DDT's lethal impact

- DDT or dichloro-diphenyl-trichloroethane which was first promoted as an insecticide in 1939 began to be used to kill malaria-carrying mosquitos and agricultural pests.
- While extremely effective for this purpose, DDT had a catastrophic impact on the bald eagle population.
- Water bodies were soon contaminated with DDT, which in turn contaminated the fish in them. The chemical would enter the bald eagles' bloodstream when they would eat these fish. Notably, DDT resulted in female eagles laying extremely thin-shelled eggs, leading to nesting failures.



Ban on DDT and the Endangered Species Act

- In 1962, Rachel Carson's book - Silent Spring was published. This book, for the first time, documented the harmful effects of chemical pesticides on the environment and precisely described how DDT was the prime cause behind the decline in bald eagle populations.
- This book became the rallying point for the expanding environmental movement of the 1960s.
- Notably, a nationwide ban on the use of DDT for agricultural use was introduced in 1972 and in 1973, the Endangered Species Act was enacted.
- The bald eagle was one of the original species listed for protection under this act.

Captive breeding programme and strict habitat protections



- Captive breeding programmes were launched in the 1970s and proved to be crucial in helping the resurgence of bald eagles.
- Eagle colonies were bred in captivity before being released into the wild. This allowed conservationists to closely monitor fragile eggs and nestlings, increasing their survival rates significantly.
- Hacking, a controlled way to raise and release bald eagles into a wild viable environment from artificial nesting towers was commonly used by conservationists. This method simulates a wild eagle nesting site and aids in recovery in an area where re-population is desirable.
- Moreover, strict restrictions were brought in with regard to human activity around eagle nests or known nesting areas.
- All the aforesaid measures led to a steady growth in bald eagle populations. In 1995, the bald eagle was moved from "endangered" to "threatened" status and in 2007, it was delisted completely. At that time, there were roughly 9,789 known breeding pairs in the US.
- The 2021 figures put the number of nesting pairs at about 71,4000 with the overall population standing at roughly 316,700.

U.N. regulatory body may soon allow deep sea mining permits



Relevance: Prelims & Mains Paper III; Environment

Why in news?

- The International Seabed Authority (ISA) — the United Nations body that regulates the world's ocean floor — is preparing to resume negotiations that could open the international seabed for mining, including for materials critical for the green energy transition.
- Years-long negotiations are reaching a critical point where the authority will soon need to begin accepting mining permit applications, adding to worries over the potential impacts on sparsely researched marine ecosystems and habitats of the deep sea.

What is deep sea mining?

- Deep sea mining involves removing mineral deposits and metals from the ocean's seabed. There are three types of such mining: taking deposit-rich polymetallic nodules off the ocean floor, mining massive seafloor sulphide deposits and stripping cobalt crusts from rock.
- These nodules, deposits and crusts contain materials, such as nickel, rare earths, cobalt and more, that are needed for batteries and other materials used in tapping renewable energy and also for everyday technology like cellphones and computers.
- Engineering and technology used for deep sea mining are still evolving. Some companies are looking to vacuum materials from seafloor using massive pumps. Others are developing AI-based technology that would teach deep sea robots how to pluck nodules from the floor. Some are looking to use advanced machines that could mine materials off side of huge underwater mountains and volcanoes.
- Companies and govts view these as strategically important resources that will be needed as onshore reserves are depleted and demand continues to rise.

How is deep sea mining regulated now?

- Countries manage their own maritime territory and exclusive economic zones, while the high seas and the international ocean floor are governed by the United Nations Convention on the Law of the Seas. It is considered to apply to states regardless of whether or not they have signed or ratified it.
- Under the treaty, the seabed and its mineral resources are considered the "common heritage of mankind" that must be managed in a way that protects the interests of humanity through the sharing of economic benefits, support for marine scientific research, and protecting marine environments.
- Mining companies interested in deep sea exploitation are partnering with countries to help them get exploration licenses. More than 30 exploration licenses have been issued so far, with activity mostly focused in an area called the Clarion-Clipperton Fracture Zone, which spans 4.5 million sq. km between Hawaii and Mexico.

Growing Calls to frame regulations



- In 2021 the Pacific island nation of Nauru — in partnership with a Canada-based company applied to the ISA to exploit minerals in a specified deep sea area.
- That triggered a clause of the UN treaty that requires the ISA to complete regulations governing deep sea exploitation by July 2023.
- If no regulations are finalized, Nauru can submit an application to conduct the mining without any governing regulations. Other countries and private companies can start applying for provisional licenses if the UN body fails to approve a set of rules and regulations by July 9.
- Experts say it is unlikely since the process will likely take several years.

Environmental concerns!

- Only a small part of the deep seabed has been explored and conservationists worry that ecosystems will be damaged by mining, especially without any environmental protocols.
- Damage from mining can include noise, vibration and light pollution, as well as possible leaks and spills of fuels and other chemicals used in the mining process.
- Slurry sediment plumes which get left once valuable materials are taken extracted are sometimes pumped back into the sea. That can harm filter feeding species like corals and sponges, and could smother or otherwise interfere with some creatures.
- Scientists have warned that biodiversity loss is inevitable and potentially irreversible.

What's next?



- The ISA will meet in early July to discuss the yet-to-be mining code draft. The earliest that mining under ISA regulations could begin is 2026.
- In the meantime, some companies — such as Google, Samsung, BMW and others — have backed the World Wildlife Fund's call to pledge to avoid using minerals that have been mined from the planet's oceans.
- More than a dozen countries—including France, Germany and several Pacific Island nations— have officially called for a ban, pause or moratorium on deep sea mining at least until environmental safeguards are in place, although it's unclear how many other countries support such mining. Other countries, such as Norway, are proposing opening their waters to mining.

Earth records hottest day ever



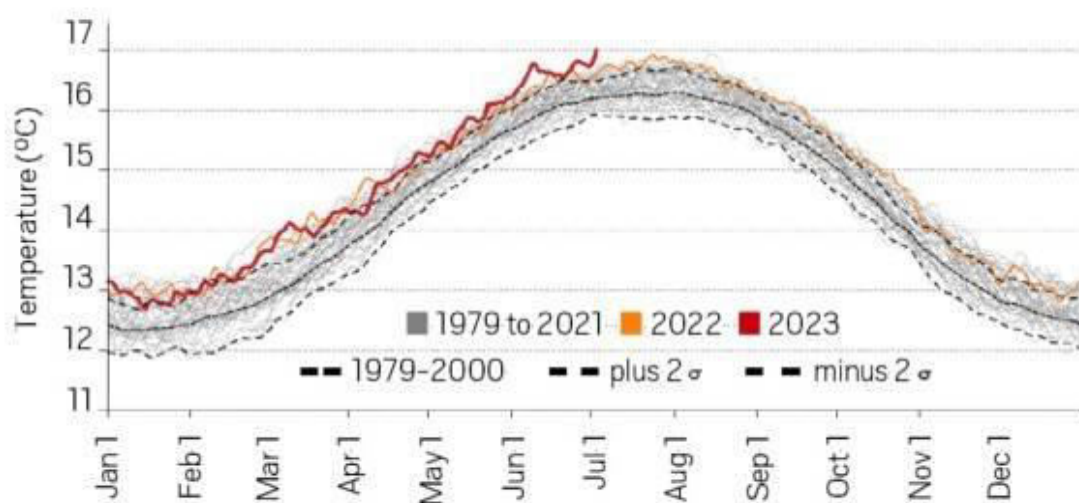
Relevance: Prelims & Mains Paper III; Environment

Why in news?

- Continuing an astonishing series of record-breaking warming events this year, July 3 and July 4, have been measured to be the hottest two days for the earth ever.
- July 3 was the first time that the global average daily temperature crossed the 17 degree Celsius mark. That record was broken within a day, with July 4 turning out to be even hotter.
- The average temperature on July 3 was measured to be 17.01 degree Celsius. The next day recorded 17.18 degree Celsius.
- Scientists expect more such record-breaking events in the near future.



PREDICTIONS OF A VERY WARM YEAR COMING TRUE



NCEP CFSV2/CFSR, Climatereanalyzer.org, Climate change institute, University of Maine

Why 17 degree Celsius is alarmingly 'hot'?



- A 17 degree Celsius temperature may not appear to be particularly warm. But this temperature was not over any one place or region.
- Instead, this is a measure of the global average temperature for the day, the average over both land and ocean, including the ice sheets in the polar region and the snow of the high mountains where surface temperatures are well below zero degree Celsius.
- Average temperatures over oceans are around 21 degree Celsius. Oceans occupy nearly 70% of the earth's surface.
- The Antarctic Ice Sheet, where temperatures can easily drop to -50 degree Celsius, covers about 8.3% of Earth's surface while the Greenland Ice Sheet, which includes the Arctic region and north pole, constitutes about 1.2%. The glaciers and ice caps in the mountains are estimated to account for about another 0.5% of the surface.
- So, while there are places that routinely experience temperatures in the high 40-plus degree Celsius range, the global average is relatively cool.
- Before the 17 degree Celsius mark was breached on June 3, the hottest daily temperature happened to be 16.92 degree Celsius, recorded in Aug. 2016.

Ambergris worth Rs 4 crore found in dead whale



Relevance: Prelims & Mains Paper III; Environment

Why in news?

- Days after the carcass of a sperm whale washed up on a shore of the Canary Island of La Palma, a pathologist, who carried out the animal's postmortem, found ambergris, also known as 'floating gold', stuck in its colon.
- This retrieved lump, a stone, was about 50-60cm in diameter and weighed 9.5kg. It is estimated to be worth about €500,000 (nearly Rs 4.5 crores).

What is ambergris?

- Ambergris, which means grey amber in French, is a waxy substance that originates from the digestive system of protected sperm whales.
- While it is incorrectly referred to as 'whale vomit,' one of the theories about its formation suggests that it is produced in the gastrointestinal tract of some sperm whales for the passage of hard, sharp objects that are ingested when the whale eats large quantities of marine animals.
- The ambergris is said to be passed like faeces and has a very strong faecal odour combined with a strong marine odour.

Uses

- Ambergris is a rare substance, which contributes to its high demand and high price in the international market.
- Traditionally, it is used to produce perfumes which have notes of musk. It was also used to flavour food, alcoholic beverages and tobacco in the past.



Legalities in India

- While there is a ban on the possession and trade of ambergris in countries like the USA, Australia and India, in several other countries it is a tradable commodity, though with limitations in some of them.
- In India, sperm whales are a protected species under Schedule 2 of the Wildlife Protection Act and possession or trade of any of its by-products, including Ambergris and its byproducts, is illegal under provisions of the Wildlife Protection Act, 1972.
- It has been observed that the gangs smuggling the ambergris procure it from coastal areas and ship it to destination countries via some other countries with whom India has comparatively less stringent sea trade.

UN adopts High Seas Treaty with an aim to protect marine life

Relevance: Prelims & Mains Paper III; Environment

Why in news?

- The UN recently adopted the Marine Biodiversity of Areas Beyond National Jurisdiction (BBNJ) or the High Seas Treaty.
- It became the third agreement to be approved under UNCLOS, after the 1994 and 1995 treaties, which established the International Seabed Authority and the Fish Stocks agreement.
- The treaty's objective is to implement international regulations to protect life in oceans beyond national jurisdiction through international cooperation.

Objective

- The treaty aims to address critical issues such as the increasing sea surface temperatures, overexploitation of marine biodiversity, overfishing, coastal pollution, and unsustainable practices beyond national jurisdiction.
- The first step is establishing marine protected areas to protect oceans from human activities through a "three-quarterly majority vote," which prevents the decision from getting blocked by one or two parties.
- On the fair sharing of benefits from marine genetic resources, the treaty mandates sharing of scientific information and monetary benefits through installing a "clear house mechanism."
- Through it, information on marine protected areas, marine genetic resources, and "area-based management tools" will be open to access for all parties.

(more ahead)

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- This is to **bring transparency** and **boost cooperation**. The last pillar of the treaty is **capacity building** and **marine technology**.
- The **Scientific and Technical Body** will also play a **significant role** in **environmental impact assessment**. It will create **standards and guidelines** for **assessment procedures**, and **helping countries** with **less capacity** in carrying out assessments.

Opposition to this treaty

- Many developed countries opposed this treaty as they stand by private entities which are at the forefront of advanced research and development in marine technology (patents relating to marine genetic resources are held by a small group of private companies).
- Russia and China also are not in favour of the treaty. Russia withdrew from the last stage of reaching a consensus, arguing that the treaty does not balance conservation and sustainability.



Monsoon's unique pattern brings both destruction and deficient rainfall

Relevance: Prelims & Mains Paper III; Environment



Why in news?

- Each year **India's monsoon** tends to be **different**. This year has managed to **produce a rather unique onset** and **evolution** thus far.
- The onset this season was **delayed** by **unforeseen cyclones**.
- **Cyclone Biparjoy** was born after the onset and **remained for longer than normal** to **delay the arrival of monsoon** over **Mumbai** by **nearly two weeks**.
- For the first time in over half a century, **Mumbai** saw monsoon arrive together with **Delhi**. The monsoon trough thus ended up with **an exaggerated curvature** over **northwest India**.

Uneven rainfall distribution!

- The **deficit** due to the **delayed onset** has been **all but wiped out** but the **distribution of rainfall** remains as **patchy** as ever.
- There has been **an excess rainfall** over the northern **Western Ghats** into **northwest India** and **deficits** extending in a **horseshoe pattern** from **Uttar Pradesh** into **Odisha** and **back to the east** into **Chhattisgarh**, **Madhya Pradesh**, and **Maharashtra**.
- **Extreme heat** has also been reported in **parts of Himachal Pradesh**, even as **some areas of the State** received **heavy rainfall**.

Did climate change influence this monsoon?

- The **impact of climate change** has always been of great interest, but it is worth remembering that **everything today happens in a warmer world** that is **also more humid**.
- With global warming, a warm and humid atmosphere acts like a steroid for the weather. Every weather event now has some contribution from global warming.
- At the same time, there are **weather patterns** that emerge due to other factors. While the El Niño has been grabbing many headlines this year, it is **not yet clear** how much the current monsoon mayhem has had to do with it.
- Additionally, **wildfires** thus far this year have burned over three-times the normal area and have also emitted about three times as much carbon dioxide. This has **also had a contribution** to the warming.

The other factors

- **Excess rainfall** over **northwest India** is consistent with the **Arabian Sea** having **warmed by about 1.5 degrees Celsius** since **January**. This was **expected**, according to a study last year.
- The **instabilities in the atmosphere** that **drive convection** are **not strong enough** to **drive large-scale rainfall** during the pre-monsoon season.
- Rainfall this pre-monsoon was **above normal** due to a **combination** of the **warm Arabian Sea** and **an unusually high number** of **western disturbances**. As a result, **soils were left moister than normal**, which in turn **affected the evolution** of the monsoon.
- The **entire Atlantic Ocean** has been **warmer than normal** since March. While the so-called **Atlantic Niño**, with a warm tropical Atlantic, generally tends to **suppress monsoon rainfall**, it is not clear what the impacts are when the **entire Atlantic is as warm** as it has been **this year**.

(more ahead)



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- Also, the **warming over the Himalayas** has **not been uniform either**. Some parts of the mountain chain are **amplifying global warming**, leading to **rapid local warming**.
- Irregular weather patterns during the monsoon can also lead to **cloudbursts**, **heavy rains** or **even heatwaves** — depending on the **local flow patterns**.
- Such disparate weather patterns can occur **side by side** as well.



Rising pollution from Electric Vehicles' tyres poses a challenge for tyre makers



Relevance: Prelims & Mains Paper III; Environment

Why in news?

- As EV sales have soared, the task of the tyre industry has been further complicated. They need to keep innovating to make tyres for such vehicles.
- Tyres are the car's only point of contact with the road. Not only do they need to grip the road firmly enough for cars to accelerate, turn and brake without skidding, they also need to reduce rolling resistance enough to maintain fuel efficiency.

EVs vs Traditional vehicles

- Due to their bigger batteries, EVs tend to be significantly heavier than their internal combustion engine counterparts. Volkswagen's e-Golf, for e.g., is about 400 kg heavier than the gas-powered Golf VII. That added weight rests on the car's tyres, so EVs need tyres that are sturdier.
- EVs also tend to have more torque than combustion engines, which their tyres need to be able to transfer to the road within seconds.
- Leading tyre manufacturers are working on improving tyre designs and innovating new chemical formulas to meet the needs of EVs.
- Some brands have introduced products specifically for use on battery-run vehicles, whereas others say they have adapted all of their tyres to perform better for both EVs and combustion engine vehicles.

How tyres cause pollution?

- Considering the environmental impacts of cars, the focus tends to be on air pollution in the form of exhaust coming out of tailpipes. But tyres too contribute significantly.
- Tyres wear down over time — with every revolution, they shed tiny particles.
- The smallest of these pieces go into the air where they can be inhaled or drift off the road to settle on the soil nearby.
- As per an independent agency that performs tests on cars including real-world tailpipe and tyre emissions, tyre particulate pollution has significantly surpassed tailpipe emissions.
- The data shows that a single car sheds 4 kg of tire particles weight per year, on average. Multiplied across the global fleet that equates to 6 million tons of tire particles annually.
- A case study compared the tire emissions from a Tesla Model Y to a Kia Niro and found that Tesla's tire wear emissions were 26% greater.

Environmental hazards

- Tyre particulate pollution has two primary negative impacts on environmental health:
 - Tyres contain volatile organic compounds (VOCs), which are hazardous to human health, and react in the atmosphere to create smog.
 - A particularly concerning chemical in tyres is 6PPD. Being water-soluble, it is carried off of roads by rain and washed into rivers and oceans where it has been linked to mass salmon and trout die-offs. 6PPD is also absorbed by edible plants like lettuce and it can be found in human urine.



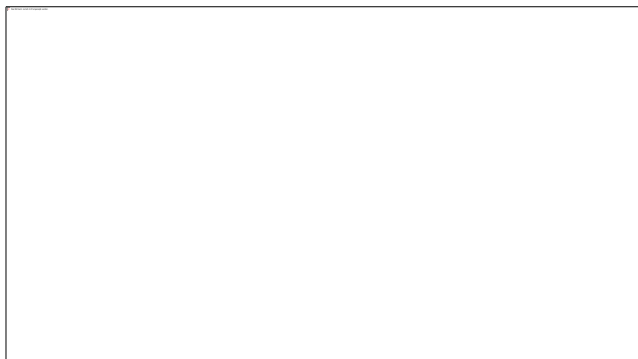
In the wake of continuing deaths, all cheetahs at Kuno to undergo medical checks



Relevance: Prelims & Mains Paper III; Environment

Why in news?

- As more deaths of cheetahs have been reported last week from the Kuno National Park (KNP), Madhya Pradesh, an expert committee charged with managing the Project Cheetah programme has recommended that all animals undergo a thorough medical review.



What is Project Cheetah?

- Project Cheetah is India's cheetah relocation programme and is perhaps among the most ambitious of its kind in the world. The attempt is to, over the next decade, bring in 5-10 animals every year until a self-sustaining population of about 35 cheetahs is established.
- Unlike cheetahs in South Africa and Namibia that are living in fenced reserves, India's plan is to have them grow in natural, unfenced, wild conditions.
- As of today, 11 of the translocated cheetahs are in the true wild with four in specially designed one-square-kilometre enclosures called 'bomas,' to help the animals acclimatise to Indian conditions.
- Five of the translocated animals and three of four cubs born in India have died.

Why the need for a medical review?

- Veterinarians examining the body of a dead cheetah saw a wound on its neck, infected with maggots. There was a chance that chafing from the radio-collar fitted on its neck may have indirectly sickened it. Notably, these collars are equipped with a radio-frequency tracking chip that helps monitor the animals.
- As per forest officers, radio-collaring is an extremely common practice in India among lions, tiger, leopards, elephants and never have they been linked to any such infections.
- There is also a theory that via the wound the African animal may have been exposed to parasites that Indian big-cats are usually resistant too.
- However, the Environment Ministry has dismissed these suggestions. An expert committee has recommended that all surviving animals be subject to a thorough physical examination.

Are the cheetah deaths unusual?

- The main reasons behind cheetahs' death in Kuno have been injuries sustained from fights among themselves, infections and cardiovascular problems.
- Meanwhile, most of their cubs have died from heat and malnourishment.
- As per experts cheetah cubs, in the wild, have a survival rate of only 10% and roughly the same fraction make it to adulthood.



How has Project Cheetah fared so far?

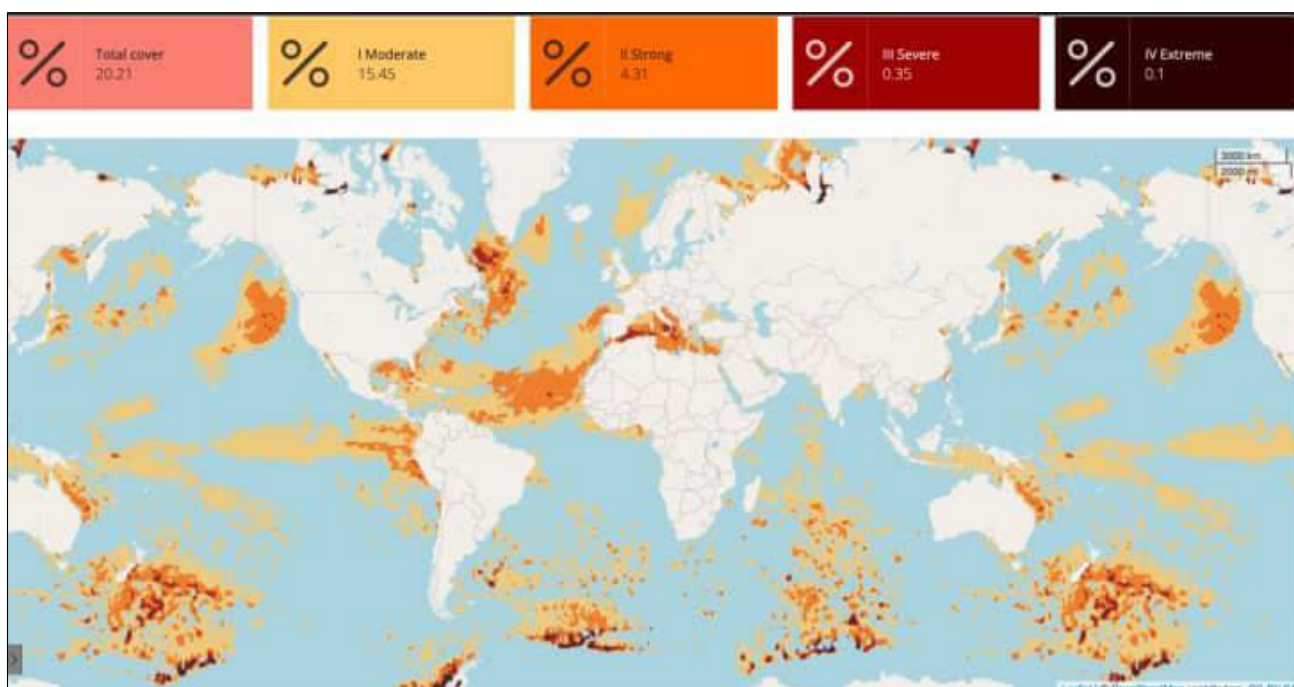
- Independent critics have argued that **there are some basic flaws** in **Project Cheetah**.
- For one, it is a mistake to have had **all 20 cheetahs** in **KNP** as **it's too little in terms of both space and prey**.
- Moreover, having cheetahs for **extended periods** in **quarantine** have **affected their adaptive capabilities** and caused them to have **psychological adjustment problems**, making them **more vulnerable**.
- **Unlike tigers and leopards**, cheetahs are **relatively delicate animals** and are **more likely to be fatally injured** in the **wild**.
- Notably, there are plans to develop **a second reserve** in **Gandhisagar, Madhya Pradesh** and also establish **a cheetah rehabilitation centre**.

Marine heat waves grip parts of the world's oceans

Relevance: Prelims & Mains Paper III; Environment

Why in news?

- The world is **currently baking** under the **blazing sun**. While **the previous month** was the **planet's hottest June ever on record**, **July** is likely to become the **warmest month in hundreds, if not thousands of years**.
- Sweltering temperatures have induced **extreme heat warnings, wildfires** and **poor air quality** in different regions. But it isn't just on the land that the mercury has soared – **the average daily global sea surface temperature** is **off the charts** too.
- In **April**, it reached **21.1 degrees Celsius**, breaking the previous record of **21 degrees Celsius** in 2016. And since then, **ocean temperatures** have remained **at record-high levels**, giving rise to **marine heat waves (MHWs)** around the **globe**.
- At present, MHWs have gripped the **north-east Pacific**, the **southern hemisphere** in the **southern Indian Ocean** and the **Pacific**, the **north-east Atlantic**, **tropical North Atlantic**, and **the Mediterranean**.



Present marine heat waves across the world

What are marine heat waves?

- A marine heat wave is an extreme weather event. It occurs when the surface temperature of a particular region of the sea rises to 3 or 4 degree Celsius above the average temperature for at least five days.
- MHWs can last for weeks, months or even years, according to the US gov't's agency National Oceanic and Atmospheric Administration (NOAA).

Impact of marine heat waves on ocean life

- Although an increase of 3 or 4 degrees Celsius in average temperatures may not be much for humans, it can be catastrophic for marine life. For instance, MHWs along the Western Australian coast during 2010 and 2011 caused some "devastating" fish kills — the sudden and unexpected death of many fish or other aquatic animals over a short period and mainly within a particular area.
- The same MHWs destroyed kelp forests and fundamentally altered the ecosystem of the coast. Kelps usually grow in cooler waters, providing habitat and food for many marine animals.
- Another example is when high ocean temperatures in the tropical Atlantic and Caribbean in 2005 led to a massive coral bleaching event. A 2010 study showed that more than 80% of surveyed corals had bleached and over 40% of the total surveyed had died.
- Corals are very sensitive to the temperature of the water in which they live. When water gets too warm, they expel the algae living in their tissues, causing them to turn entirely white. This is called coral bleaching.
- MHWs also fuel the growth of invasive alien species, which can be destructive to marine food webs.

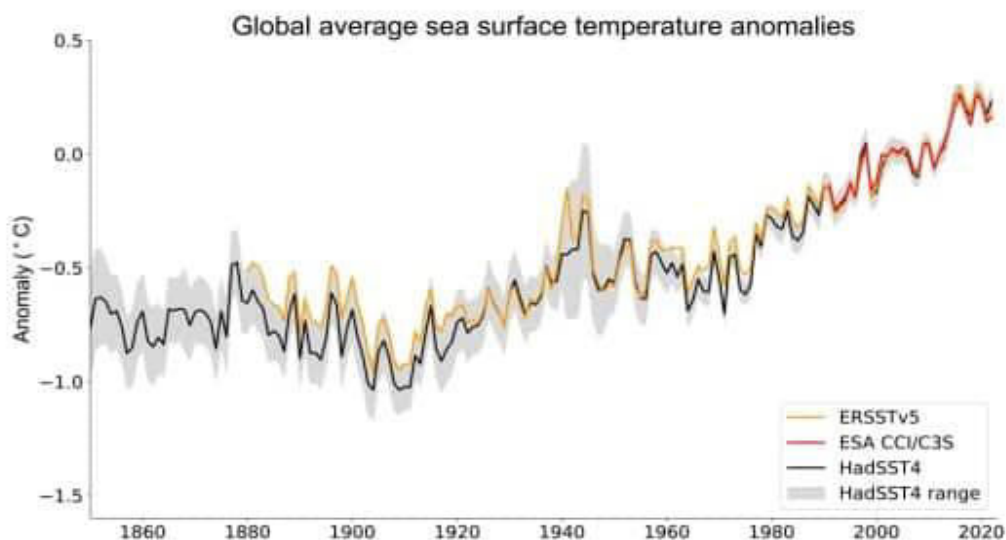
How do marine heat waves affect humans?

- Higher ocean temperatures, which are associated with MHWs, can make storms like hurricanes and tropical cyclones stronger.
- With warmer temperatures, the rate of evaporation escalates and so does the transfer of heat from the oceans to the air. When storms travel across hot oceans, they gather more water vapour and heat. This results in more powerful winds, heavier rainfall and more flooding when storms reach the land — meaning heightened devastation for humans.
- Half a billion people depend on reefs for food, income, and protection. So when MHWs destroy these reefs, humans relying on them also bear the brunt.
- All of these disastrous consequences are set to become even worse as the world continues to get warmer, making MHWs more intense and longer.

Global warming's effect on marine heat waves and oceans



- A 2018 study, showed that with the soaring global temperatures, MHWs have become longer-lasting, more frequent and intense in the past few decades.
- It detected a doubling in the number of MHW days between 1982 and 2016. More significantly, it stated that 87% of MHWs are attributable to human-induced warming.
- Research suggests that the oceans have absorbed 90% of the additional heat caused by the release of greenhouse gases into the atmosphere from burning fossil fuels and deforestation in recent decades. This has increased the global mean sea surface temperature by close to 0.9 degree Celsius since 1850.
- Therefore, as global air temperatures increase, so will ocean temperatures, leading to more MHWs.
- To make matters worse, El Nino — a weather pattern that refers to an abnormal warming of surface waters in the equatorial Pacific Ocean has set in for the first time in seven years. Scientists suggest that El Nino will trigger extreme heat and increase the likelihood of breaking more temperature records in different regions of the world.



SCIENCE & TECHNOLOGY

Centre identifies 30 critical minerals

Relevance: Prelims & Mains Paper III; Science & Technology

Why in news?

- In a strategic move, the Centre has identified 30 critical minerals, including lithium, cobalt, nickel, graphite, tin and copper, which are essential for the country's economic development and national security.
- These minerals form part of multiple strategic value chains, including clean technologies initiatives such as zero-emission vehicles, wind turbines, solar panels; information and communication technologies, including semiconductors; and advanced manufacturing inputs and materials such as defence applications, permanent magnets, and ceramics.



The exercise

- While elements such as cobalt, nickel and lithium are required for batteries used in electric vehicles or cellphones, rare earth minerals are critical, in trace amounts, in semiconductors and high-end electronics manufacturing.
- Most countries of the world including India have identified critical minerals as per their national priorities and future requirements.
- The specific trigger for the latest exercise is India's international commitments towards reducing carbon emissions, which require the country to urgently relook at its mineral requirements for energy transition and net-zero commitments.

What are critical minerals?

- A mineral is characterized as a critical mineral when the risk of its supply shortage and associated impact on the economy is relatively higher than other raw materials.
- This definition of a critical mineral was first adopted in the US. It was followed by the European Union and Australia.
- Based on a 3 stage assessment process, a total of 30 minerals were found to be most critical for India, out of which two are critical as fertiliser minerals.

Domestic and global outreach

- The Geological Survey of India, carried out a fairly advanced mineral exploration during 2020-21 and 2021-22 in Salal-Haimna areas of Reasi district, Jammu & Kashmir.
- It estimated an inferred resource of 5.9 million tonnes of lithium ore.
- Based on the mapping outcome, more exploration programmes on various mineral commodities including lithium will be taken up in future in different parts of the country, including J&K.
- India is seen as a late mover in attempts to enter the lithium value chain, coming at a time when EVs are predicted to be a sector ripe for disruption.
- The year 2023 could be an inflection point for battery technology – with several potential improvements to the Li-ion technology, and alternatives to this combination in various stages of commercialization.

WHO set to declare diet cola additive – Aspartame as ‘possibly carcinogenic’



Relevance: Prelims & Mains Paper III; Science & Technology

Why in news?

- The cancer research arm of the World Health Organisation (WHO) will list the popular sugar substitute aspartame as “possibly carcinogenic to humans”,
- The listing by the International Agency for Research on Cancer (IARC) is likely next month.
- Aspartame is one of the world's most common artificial sweeteners and is used in a wide range of diet soft drinks, sugar-free chewing gum, sugar-free ice cream, sugar-free breakfast cereals, etc.

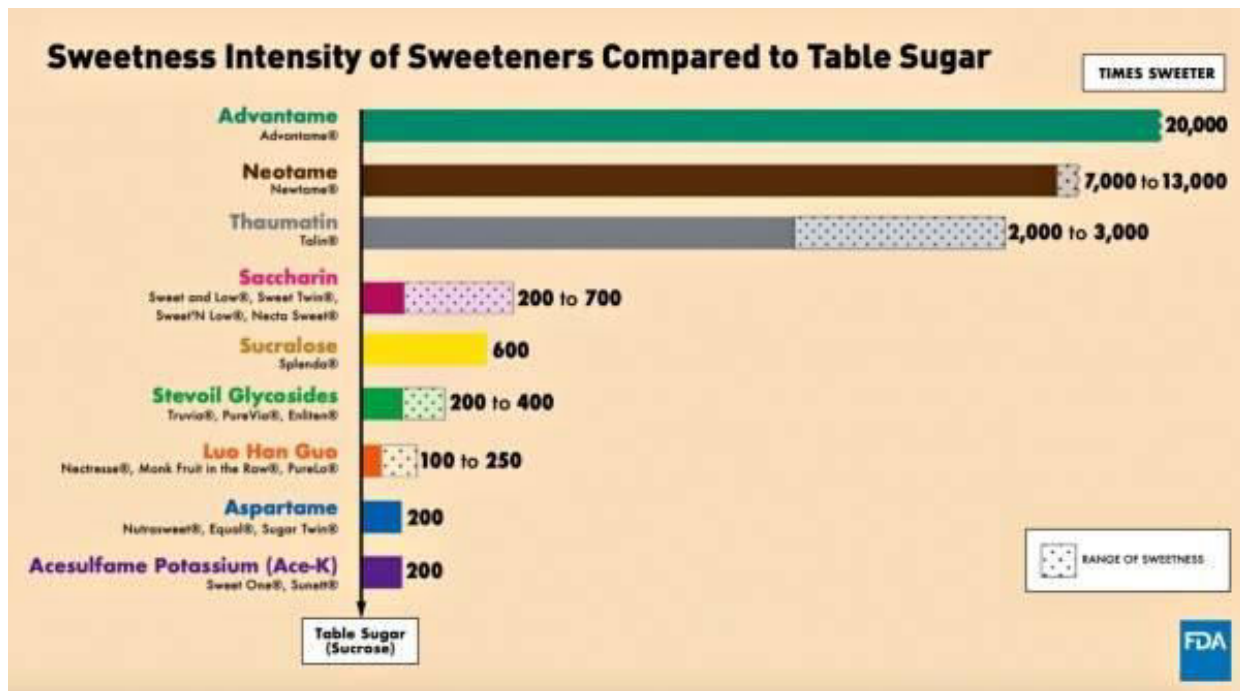
WHO's assessment

- Two different WHO groups — IARC and the Joint Organization Expert Committee on Food Additives, or JECFA — are currently reviewing the safety of aspartame.
- The result of both evaluations would be announced on July 14.
- It is being reported that the IARC ruling has already been finalized. It is based on a review of all published evidence. Notably, determinations from national regulators have also been taken into account.

What exactly is aspartame?



- Chemically, aspartame is a methyl ester of the dipeptide of two natural amino acids, L-aspartic acid and L-phenylalanine.
- It was discovered by James M Schlatter, an American chemist in 1965, apparently by accident, when, while researching an anti-ulcer drug, he happened to lick his finger and detected a sweet taste.
- According to the US Food and Drug Administration (FDA), aspartame is about 200 times sweeter than table sugar. 1 gram of aspartame has the sweetness intensity of roughly 2 teaspoons (about 8 g) of sugar.
- Aspartame is preferred by people trying to cut calories or lose weight, or by diabetics, because while 2 teaspoons (8 g) of sugar provides about 32 kcals of energy, 1 g of aspartame is only 4 kcals.
- It is often argued that a 12 fl oz (about 350 ml) can of regular cola contains about 10 teaspoonfuls of sugar, while the same quantity of diet cola containing aspartame has only 7 kcals. Indeed, cans/ bottles of diet fizzy drinks often say “zero sugar” or “zero calories” on the packaging.
- Aspartame is present in several brands of artificial sweeteners, the most common of which in India are Equal and Sugar-Free Gold.



Is aspartame dangerous?

- Over more than 40 years, aspartame has been **one of the most widely studied and rigorously tested chemical additives** in food, including for its possible links with cancer. **More than 100 studies** have found **no evidence of harm** caused by **aspartame**.
- There is a broad scientific consensus on the safety of aspartame for all groups of people except one — those suffering from **phenylketonuria (PKU)**, a **rare inherited disorder** in which the **patient does not have the enzyme** that is **needed to break down phenylalanine**, one of the two amino acids in **aspartame**. Foods containing aspartame carry the warning “**Not for phenylketonurics**”.
- The **USFDA permitted** the use of **aspartame** in food in **1981**, and has reviewed the science of its safety **five times since then**.
- Aspartame is also certified as **safe for human consumption** by the **European Food Safety Authority (EFSA)**, national regulators in **Japan, Australia, New Zealand, and Australia**, and **even the WHO's JECFA**. **Around 100 countries** around the world, **including India**, permit the use of **aspartame**.
- The past IARC rulings have raised concerns among consumers about their use, **led to lawsuits**, and **pressured manufacturers to recreate recipes and swap to alternatives**. This has led to **criticism** that the **IARC's assessments** can be **confusing to the public**.

Carbon molecules detected in space for the very first time

Relevance: Prelims & Mains Paper III; Science & Technology



Why in news?

- One of the most important **unsolved problems** of **modern science** is: **How did life arise from non-living matter?**
- We still don't know but we have a good idea of what the required steps are, for instance, **the formation of complex organic molecules**, like **amino acids**, from simpler ones, like **CH₃⁺**, or **methylium**.

Carbon, the basis of all life

- The **CH₃⁺ molecule**, which is also known as **methyl cation**, has been **detected in space** for the **first time** by the **James Webb Space Telescope (JWST)**.
- **Organic molecules** are **carbon-based**. They contain **carbon atoms** bonded to **hydrogen atoms** but can also bond to **other elements**, such as **oxygen, nitrogen** or **phosphorus**.
- **Everything that makes us and all life on Earth** is **carbon based**.
- **CH₃⁺** is a very simple organic molecule, just one **carbon atom** and **3 hydrogen atoms**. But it reacts with other molecules to form **more complex ones**. Its presence in space tells us that **basic building blocks for life** are **out there**.

Search for molecular fingerprints in space

- Scientists found the fingerprints of the **CH₃⁺ molecule** in **light** coming from **a swirling disk of dust and gas** around **a young star**. The disk is in the **Orion Nebula**, **1,350 light years** from **Earth**.
- **Visible light** is **just a fraction of the whole picture**. But every atom and molecule absorbs or emits light **uniquely**, with **its own specific color palette**.
- For example, **hydrogen, the simplest of atoms**, when excited, **emits a red glow**. When viewed through a prism, one can see **four characteristic lines** that make up **its spectrum**.
- Scientists call this technique **spectroscopy** and in space they use the **James Webb Space Telescope** to do it.



Chandrayaan-3 'mated' with its launch vehicle LVM3 for moon mission



Relevance: Prelims & Mains Paper III; Science & Technology

Why in news?

- The Indian Space Research Organisation (Isro) has successfully integrated the Chandrayaan-3 spacecraft with the launch vehicle, Launch Vehicle Mark-III (LVM3), at the Satish Dhawan Space Centre in Andhra Pradesh's Sriharikota.
- The Chandrayaan-3 mission, slated to be launched between July 12 and 19, will be India's second attempt to make a spacecraft land on the Moon. The Chandrayaan-2 mission, launched on July 22, 2019, had partially failed after its lander and rover crashed on the Moon on Sept. 6.



Reasons behind this integration

- The Chandrayaan-3, which consists of a lander, rover and propulsion module, can't travel to space on its own.
- It needs to be attached — like any satellite — to launch vehicles or rockets, like the LVM3 in this case.
- Rockets have powerful propulsion systems that generate the huge amount of energy required to lift heavy objects like satellites into space, overcoming the gravitational pull of the Earth.

What is LVM3?



- LVM3 is India's heaviest rocket, with a gross lift-off weight of 640 tonnes, an overall length of 43.5m and 5m-diameter payload fairing (nose-shaped equipment to protect the rocket from aerodynamic forces).
- The launch vehicle can carry up to 8 tonnes of payload to the lower earth orbits (LEO), which is about 200 km from the Earth's surface. But when it comes to the geostationary transfer orbits (GTO), which lie up to about 35,000 km from the Earth, it can carry much less, only about four tonnes.
- This, however, does not mean that LVM3 is weak compared to rockets used by other countries or space companies for similar jobs. For instance, the European Space Agency's (ESA) Ariane5 rocket has a lift-off mass of 780 tonnes and can carry 20 tonnes of payloads to LEO and 10 tonnes to GTO.
- LVM3 made its first journey into space in 2014 and also carried the Chandrayaan-2 in 2019. Most recently, in March this year, it placed 36 OneWeb satellites, weighing about 6,000kg, in LEO.
- This was the 2nd time that LVM3 made a commercial launch — the first one came in Oct. 2022 when it delivered the OneWeb India-1 mission.

LVM3's components

- Rockets have **several detachable energy-providing parts**. They burn **different kinds of fuels** to power the rocket. Once their fuel is **exhausted**, they **detach from the rocket and fall off**, often **burning off in the atmosphere** due to **air friction**, and **getting destroyed**.
- **Only a small part** of the **original rocket** goes to the **intended destination of the satellite**, like **Chandrayaan-3**. Once the satellite is **finally ejected**, this last part of the rocket **either becomes part of space debris** or **once again burns off** after falling into the atmosphere.
- LVM3 is essentially **a three-stage launch vehicle**, including **two solid boosters (S200)**, the **core liquid fuel-based stage (L110)**, and the **cryogenic upper stage (C25)**.

The strange particle that holds the key to 'quantum supercomputers'

Relevance: Prelims & Mains Paper III; Science & Technology

Why in news?

- In a recently published paper, **researchers at Microsoft** announced that they had figured out **a way to create a strange kind of particle** that could **potentially revolutionise quantum computing**.
- These particles are called **Majorana zero modes**, whose **unique properties** could help **build quantum computers that are less fragile**, and more **computationally robust**, than they are today.

What does 'Majorana' mean?

- **All subatomic particles** that **make up matter** are called **fermions**.
- In **1928**, the **British physicist Paul Dirac** created the **Dirac equation** which described the **behaviour of subatomic particles** that moved at **near the speed of light**.
- Dirac noticed that the equation **predicted the existence of an antiparticle for each particle**, such that **if the two meet, they annihilate each other**.
- Based on his prediction, scientists found the **first antiparticle, the positron (the anti-electron)**, in **1932**.
- In **1937**, the **Italian physicist Ettore Majorana** found that the Dirac equation **also allowed particles that satisfied certain conditions** to be **their own antiparticles**. Named after his honour, fermions that are their own antiparticles are called **Majorana fermions**.

What is a Majorana zero mode?

- All particles have **four quantum numbers associated with them**. **No two particles** in the same system **can have the same four quantum numbers**. The numbers are together like **each particle's ID**.
- One of these numbers, called the **quantum spin**, has **only half-integer values**, like **$1/2$, $3/2$, $5/2$, etc.** This is why **any particle** can be **a fermion**: the total quantum spin needs to have **a half-integer value**.
- Most of the rules that apply to **single fermions** also apply to **these pairs**, or **bound states**. When these bound states are **their own antiparticles**, they are **Majorana fermions**, or **Majorana zero modes**.

Benefit to quantum-computing

- Majorana zero modes can be used to **realise a powerful form of computing called topological quantum-computing**.
- The **quirky rules of quantum mechanics** make quantum computers **better than classical computers**. They allow the computers **to access computational techniques and pathways not available to systems** that are **limited to the possibilities** of classical physics.

What has Microsoft found?

- In the latest study, researchers from Microsoft reported engineering **a topological superconductor**. There is a high probability that **it hosted Majorana zero modes**.
- Microsoft believes that it will take **fewer than 10 years** to build **a quantum supercomputer** that will be able to perform **a reliable one million quantum operations per second**.

Chandrayaan-3 mission; ISRO aims to explore the Moon's south pole



Relevance: Prelims & Mains Paper III; Science & Technology

Why in news?

- Chandrayaan-3, India's third lunar mission was recently launched from Andhra Pradesh's Sriharikota.
- It is a follow-up to the 2019 Chandrayaan-2 mission, which partially failed after its lander and rover couldn't execute a soft-landing on the Moon.
- As per ISRO, the Chandrayaan-3 will reach the lunar orbit almost a month after its launch, and its lander, Vikram, and rover, Pragyaan, are likely to land on the Moon on August 23.

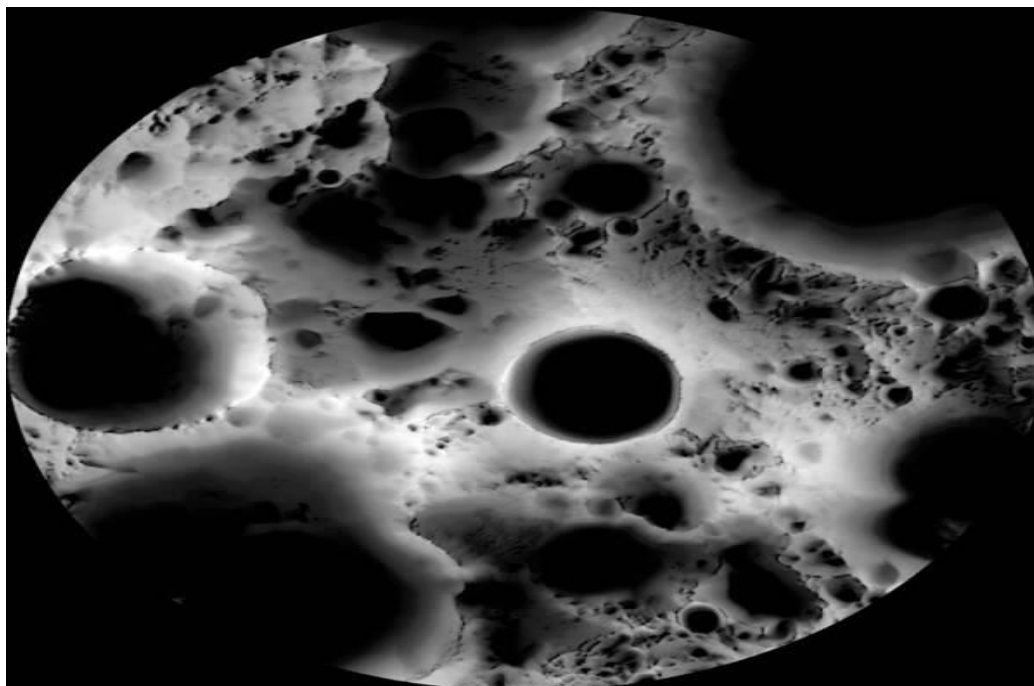
Significance of its proposed landing site

- Chandrayaan-3's landing site is more or less the same as the Chandrayaan-2: near the south pole of the moon at 70 degrees latitude.
- If everything goes well, the Chandrayaan-3 will become the world's first mission to soft-land near the lunar south pole.
- All the previous spacecraft to have landed on the Moon have landed in the equatorial region, a few degrees latitude north or south of the lunar equator.
- The furthest that any spacecraft has gone from the equator was Surveyor 7, launched by NASA, which made a moon landing way back on Jan. 10, 1968. This spacecraft landed near 40 degrees south latitude.

Why no spacecraft has ever landed near the lunar south pole?



- There is a very good reason why all the landings on the Moon so far have happened in the equatorial region.
- Even China's Chang'e 4, which became the first spacecraft to land on the far side of the moon — the side that does not face the earth — landed near the 45-degree latitude.
- It is easier and safer to land near the equator. The terrain and temperature are more hospitable and conducive for a long and sustained operation of instruments.
- The surface here is even and smooth, very steep slopes are almost absent, and there are fewer hills or craters. Sunlight is present in abundance, at least on the side facing the earth, thus offering a regular supply of energy to solar-powered instruments.
- The polar regions of the Moon, however, are a very different, and difficult, terrain. Many parts lie in a completely dark region where sunlight never reaches, and temperatures can go below Minus 230 degrees Celsius. There are also large craters all over the place, ranging from a few cm in size to those extending to several thousands of km.



An illumination map of the lunar south pole

Why do scientists want to explore the lunar south pole?

- Due to their rugged environment, the polar regions of the Moon have remained unexplored.
- But several Orbiter missions have provided evidence that these regions could be very interesting to explore. There are indications of the presence of ice molecules in substantial amounts in the deep craters in this region — India's 2008 Chandrayaan-1 mission indicated the presence of water on the lunar surface with the help of its two instruments onboard.
- In addition, the extremely cold temperatures here mean that anything trapped in the region would remain frozen in time, without undergoing much change.
- The rocks and soil in Moon's north and south poles could therefore provide clues to the early Solar System.

Why sunlight fails to reach parts of lunar poles ?

- Unlike the Earth, whose spin axis is tilted with respect to the plane of the Earth's solar orbit by 23.5 degrees, the Moon's axis tilts only 1.5 degrees.
- Because of this unique geometry, sunlight never shines on the floors of a number of craters near the lunar north and south poles. These areas are known as Permanently Shadowed Regions, or PSRs.
- As per NASA, water that happens to find its way into PSRs may remain there for long periods of time.

India to buy three more Scorpene class submarines from France



Relevance: Prelims & Mains Paper III; Science & Technology

Why in news?

- The Defence Acquisition Council, the apex decision-making body for the acquisition of military equipment for India's armed forces has cleared proposals worth thousands of crores to buy three additional Scorpene submarines and 26 Rafale Marine fighter jets for the Navy from France.
- This decision coincided with PM Modi's trip to France.
- The three additional Scorpene submarines will be procured under Buy (Indian) category and will be built by the Mazagon Dock Shipbuilders Limited (MDL) in Mumbai.



Details

- The MDL is building six Scorpene class submarines under the Project-75, as part of a \$ 3.75 billion deal signed in 2005, which allowed for the transfer of technology from the French defence firm, Naval Group.
- Of these, five have already been commissioned and the last one will likely be commissioned early next year. This project saw significant delays, with the first submarine originally slated for delivery in 2012.
- The fifth submarine under this project, INS Vagir, was commissioned in January this year. The others — INS Kalvari, INS Khanderi, INS Karanj and INS Vela were commissioned between 2017 and 2021. In May this year, the sixth submarine Vagsheer began her sea trials.

Why more submarines are needed?



- Currently, the Indian Navy has 16 conventional submarines in service. However, to carry out its full spectrum of operations, the Navy needs at least 18 such submarines.
- Moreover, at any given time, around 30% of the submarines are under refit, thus further bringing down the strength of operational submarines. Even the latest Kalvari-class submarines are scheduled to go for upcoming refits very soon.
- The procurement of additional submarines, will also help the MDL in further enhancing its capability and expertise in submarine construction

Capabilities of the Scorpene submarines

- The Scorpene submarines are **conventional attack subs**, meaning that **they are designed to target and sink adversary naval vessels**. Capable of launching a large array of torpedoes and missiles, they are also equipped with a range of surveillance and intelligence-gathering mechanisms.
- They are **around 220 feet long** and have a height of approx. **40 feet**. They can reach the **top speeds of 11 knots (20 km/h)** when surfaced and **20 knots (37 km/h)** when submerged.
- Scorpene class submarines **use diesel electric propulsion systems**. They can operate **independently without refuelling – for about 50 days**. This sort of propulsion system **alternates between using diesel (for functioning on the surface) and electric (for functioning underwater)**.
- However, these electric batteries **need to be recharged** by the **diesel engine after prolonged submersion**, meaning that the submarine has to **periodically surface to continue operating**.

Comparison with nuclear subs



- **Nuclear submarines are coveted** due to their **theoretically unlimited endurance – a nuclear reactor on a submarine has an operational life of up to 30 years**.
- As they are **not propelled by batteries**, these submarines **only need to come to the surface for replenishing supplies for the crew**. They are also able to **move much faster than conventional submarines**.
- However, **nuclear submarines are expensive** and require **a significant amount of specialised experience to operate**.
- **Currently, India has 2 nuclear-powered submarines (SSBMs) of the Arihant class in service**.

India to buy 26 Rafale Marine jets from France

Relevance: Prelims & Mains Paper III; Science & Technology



Why in news?

- The **Defence Acquisition Council (DAC)** recently **cleared proposals to buy 26 Rafale Marine fighter jets** for the **Navy**, along with **three Scorpene submarines** for the force.
- This is the **first step** of the **long defence procurement process — the price and other terms of purchase will be negotiated subsequently with the French govt**, since they will be bought on an **Inter-Governmental Agreement (IGA)** basis.



Difference between Rafale jets and their Marine version

- The Rafale Marine fighters are the **naval variant** of the **Rafale fighter jets**, 36 of which are operated by the **Indian Air Force**.
- Manufactured by **France's Dassault Aviation**, the Rafales are **advanced twin engine, multirole fighter jets** are equipped with **latest weapon systems**. They include - **Meteor-beyond visual range air-to-air missiles**, **Hammer air to surface smart weapon system**, **Scalp cruise missiles** — and are fitted with **modern sensors**, and **radar** to **detect** and **track** and **attack targets**.
- The jets can carry **exceptionally high payloads**.
- Additionally, the jets have also been equipped with **certain India-specific enhancements** and can **carry out a range of missions**.
- The **Marine version** of the jets will be **slightly different**, given that they will operate from aircraft carriers on sea.
- The differences include **foldable wings**, a **longer airframe** for landing on carriers, and a **tail hook** for **arrested landing on a carrier**.
- The Rafale M nose gear also incorporates the “**jump strut technology**” in the **shock absorber** to give the aircraft **an angle of attack during catapulting**.
- This naval version of the aircraft can **also carry a wider range of weapons**, including **anti-ship missiles** and **air to surface missiles** and **radar** meant for **maritime operations**.

OneWeb to set up India's first 'satellite network portal site' in Gujarat

Relevance: Prelims & Mains Paper III; Science & Technology

Why in news?

- The Gujarat govt has signed a **memorandum of understanding** with **OneWeb India** for setting up a '**satellite network portal site**' — a first for India — at **Mehsana** in **Gujarat**.
- OneWeb plans to **invest up to Rs 100 crore** in this project.



What is Satellite network portal site?

- **Satellite broadband technology** or **satellite telephony** is **not a new concept**. With **satellite constellations** in the **low Earth orbit (LEO)** gaining traction with **StarLink**, **Kuiper** and **OneWeb** among many others, the world is increasingly moving towards **relying on LEO satellite communications**.
- LEO satellites operate at an altitude of **500 to 1,200 km**, making it perfect for **high-speed** and **low latency** — a lower time lag between a user seeking data, and the server sending that data, compared to **geostationary Earth orbit positioned satellites**.
- OneWeb has **648 satellites** orbiting at **1,000-1,200 km** making **13 orbits per day**, covering the **entire globe**.
- The **satellite network portal (SNP) site** will be serving as a **signal and data downlink** and **uplink terminal** or **base station on the ground**, an intermediary for data transmission through **satellite tracking antenna systems**.
- As per OneWeb, while **40 SNPs** are needed to cover the **entire Earth**, it needs **at least two** for **India** considering the country's **huge geographical size**. The company is planning to set up the **second SNP** in **Tamil Nadu**.

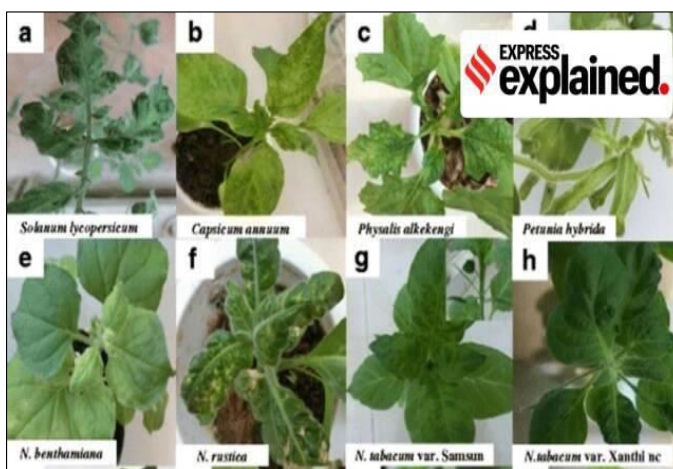
DISASTER MANAGEMENT

CMV and ToMV 'mosaic' viruses hit tomato crop in Maharashtra and Karnataka

Relevance: Prelims & Mains Paper III; Disaster Management

Why in news?

- Tomato growers in Maharashtra and Karnataka have blamed two different viruses for the loss of yields earlier this year.
- While farmers in Maharashtra have said their tomato crop was impacted by attacks of the cucumber mosaic virus (CMV), growers in Karnataka and other South Indian states have blamed the tomato mosaic virus (ToMV) for crop losses.
- Over the last three years, tomato growers have complained of increased infestation with these two viruses, leading to partial to complete crop losses.



What are CMV and ToMV?

- These two plant pathogens have **similar names** and cause **similar damage to crops**, but they belong to **different viral families**, and **spread differently**.
- **ToMV** belongs to the **Virgaviridae** family and is closely related to the **tobacco mosaic virus (TMV)**. ToMV hosts include **tomato, tobacco, peppers**, and **certain ornamental plants**.
- **CMV** has a **much larger host pool** that includes **cucumber, melon, eggplant, tomato, carrot, etc.**, and **some ornamentals**.
- **CMV** was identified in **cucumber** in **1934**, which gave the virus **its name**.

How do they spread and affect the crop?

- **ToMV** spreads mainly through **infected seeds, saplings, agricultural tools** and often, through **the hands of nursery workers** who have **failed to sanitise themselves properly** before **entering the fields**. In fact, farmers in **Maharashtra** have blamed **seed manufacturers** and **nurseries** for its spread.
- The foliage of plants infected with ToMV shows alternating **yellowish** and **dark green areas**, which often appear as **blisters on the leaves**.
- Meanwhile, **CMV** mainly spreads through **aphids**, which are **sap-sucking insects**. **High temperature** followed by **intermittent rain** allows aphids to **multiply**. These conditions were seen in **Maharashtra** early this year.
- **CMV** too causes distortion of leaves, but the **pattern is different**.
- Both viruses can cause **almost 100% crop loss** unless **properly treated on time**.



Lightning not a natural disaster, says Centre

Relevance: Prelims & Mains Paper III; Disaster Management



Why in news?

- The **Union govt** is **not in favour** of **declaring lightning a natural disaster** as **deaths caused by it can be prevented** by **making people aware of safety steps**.
- **India** is **among only five countries** in the world that has **an early warning system for lightning** — the **forecast is available from five days to up to three hours**.
- The States such as **Bihar** and **West Bengal** have been **demanding that lightning deaths be covered as a natural disaster**. Once this is **notified**, the victims will be **entitled to compensation from the State Disaster Response Fund (SDRF)**. The Centre makes **75% of the contribution to the SDRF**.
- **Cyclone, drought, earthquake, fire, flood, tsunami, hailstorm, landslip, avalanche, cloudburst, pest attack, frost and cold wave** are **now considered disasters under the SDRF**.



Massive toll!



- Bihar is one of the most vulnerable States and as many as 107 had died after being struck by lightning till July 6.
- In the past five years, more than 1,500 people have lost their lives in Bihar. On June 25, 2020, more than 100 people died in a single day after they were struck by lightning.
- As per Bihar govt., there are times when people acknowledge the warning messages and take adequate precautions, but during peak farming season, they tend to ignore them.
- National Crime Records Bureau (NCRB) data show that 2,880 people died in lightning strikes in 2021. These deaths made up 40% of all accidental deaths caused by "forces of nature".
- While 2,862 people died in 2020, the number stood at 2,876 in 2019. There has been an increase in the proportion of such deaths compared with the total accident deaths caused by events related to nature.
- For instance, in 2003, deaths from lightning made up just 0.2% of the total deaths caused by "forces of nature".
- As per India Meteorological Department (IMD), the frequency of lightning was the highest in northeastern States and in West Bengal, Sikkim, Jharkhand, Odisha, and Bihar.
- However, the number of deaths is higher in the central Indian States of Madhya Pradesh, Maharashtra, Chhattisgarh and Odisha.



GEOGRAPHY

Strange and terrifying 'Shelf cloud' witnessed in Haridwar



Relevance: Prelims & Mains Paper I; Geography

Why in news?

- Rains have battered northern India over the last few days. Videos of rivers in spate, flooded roads, landslides, and bridges being swept away have been doing the rounds online.
- One video, which recently went viral, is of a spectacular cloud formation over Haridwar in Uttarakhand.
- In it, one can see massive grey clouds that resemble a towering wall. This meteorological occurrence is known as an Arcus cloud.



What are Arcus clouds?

- These are low-level, long and thin cloud formations that are often associated with powerful storm systems such as thunderstorms.
- At times, they can be seen below thunderclouds. Every once in a while, they also occur with thunderclouds.
- Arcus clouds come in a range of shapes and sizes, and can be quite spectacular to see. They usually form when cold air from a thunderstorm pushes warm, moist air upwards. As the warm air rises, it cools and condenses into clouds. Wind direction influences the new cloud formation.
- You could get a "shelf cloud", such as the one seen in Haridwar, which is attached to the existing storm cloud. Or, a "roll cloud", which is basically a horizontal column that is separated from it. Either way, an Arcus cloud lasts for a short period of time.

Are they dangerous?

- Since these clouds usually form with thunderclouds and downdrafts, they are associated with strong wind gusts, heavy rain or hail. Thunder and lightning are common too.
- In extreme cases, a tornado can occur and destroy everything in its path.
- Yet, they aren't a threat to human life. More often than not, an Arcus cloud acts as a warning of an approaching powerful thunderstorm or an extreme weather event.
- They do not occur if a storm is relatively weak, and are often seen at the location where the strongest lightning and thunder can occur.



Not a rare phenomenon!



- While it may have **looked grey, menacing** and **unusual** in the viral video from Haridwar, Arcus clouds are **actually not-uncommon in India**.
- Such clouds have been seen in **Kolkata, Madurai, Mumbai, Chennai**, and **several other Indian cities** in the monsoon months.
- They are also seen **around the world routinely** in places such as **Australia, Alaska, California, etc.**, during **powerful thunderstorms**.

A dark red rectangular box with the words 'SOCIAL' and 'ISSUES' in white, serif, all-caps font, stacked vertically. The background of the slide features faint, large, light blue and grey circles.

**SOCIAL
ISSUES**



Meira Paibis, Manipur's 'torch-bearing' women activists confront Indian Army



Relevance: Prelims & Mains Paper I; Social Issues

Why in news?

- In a recent video, Indian Army accused women activists in Manipur of "deliberately blocking routes and interfering in Operations of Security Forces". This comes as the state struggles to contain the weeklong waves of rioting and unrest.
- Since the beginning of May, violence has erupted mainly between the valley-dwelling majority Meiteis and hills-dwelling Kuki-Zomi groups after the old Meitei demand for inclusion in the list of Scheduled Tribes (STs) escalated dramatically.
- As per the Army video, women protesters were "helping rioters flee", including "accompanying armed rioters" in their vehicles, and using even ambulances. It showed day- and night-time clips of groups of women protesters on the streets, confronting the security forces, and interfering in the "movement of logistics".

Who are the Meira Paibis of Manipur?

- The civil society action in Manipur has long had a significant presence of activist women. The most visible organised face of such actions have been the Meira Paibis or "women torch bearers". They're so-called because of the flaming torches that they hold aloft while marching in the streets, often at night.
- The Meira Paibis, also known as Imas or Mothers of Manipur, are Meitei women who come from all sections of society in the Imphal valley, are widely respected, and represent a powerful moral force. The Meira Paibis are loosely organised, usually led by groups of senior women, but have no rigid hierarchy or structure, or any open political leanings.
- They may become more visible during certain times, but their presence and importance in Manipuri civil society are permanent and substantial, and their role as society's conscience keepers is widely acknowledged.

Their social role

- The Meira Paibi was formed in 1977. One of the largest grassroots movements in the world, its initial focus of fighting alcoholism and drug abuse has now expanded to countering human rights violations and the development of society at large.
- Over the decades, the Meira Paibis have led numerous social and political movements in the state, including some powerful protests against alleged atrocities by Indian security forces, leveraging their strong position in society in the interest of the causes taken up by them.



Major actions undertaken by Meira Paibis

- The Meira Paibi women were the active support base of Irom Sharmila, the activist who remained on a hunger strike in the state from 2000 to 2016 to protest against the Armed Forces Special Powers Act (AFSPA), which gives the armed forces immunity against action in “disturbed” areas. Protesters such as Sharmila have long criticised the Act as a vehicle for overreach by the state.
- In 2015, the state saw tensions over demands for the Inner Line Permit (ILP) system to be introduced there, requiring outsiders to obtain a permit to enter. Protesters contended that this was necessary in order to protect local interests, culture, and commercial opportunities available to them. The Meira Paibis played an active role to ensure bandhs and shutdown calls in the markets.
- The Meira Paibis have been reported to play a role in the current crisis as well. The armed forces recently apprehended 12 KYKL cadres with arms, ammunition and war-like stores during an operation in a village in Imphal East, but were forced to release the men, reportedly after pressure from women activists who confronted the security personnel.

13.5 crore Indians escape Multidimensional Poverty in the past five years

Relevance: Prelims & Mains Paper I; Social Issues

Why in news?

- A record 13.5 crore people moved out of multidimensional poverty between 2015-16 and 2019-21 as per NITI Aayog's Report 'National Multidimensional Poverty Index (MPI) 2023.
- This 2nd edition of MPI is based on the latest National Family Health Survey [NFHS-5 (2019-21)].

Details

- The National MPI measures simultaneous deprivations across the three equally weighted dimensions of health, education, and standard of living that are represented by 12 SDG-aligned indicators.
- These include nutrition, child and adolescent mortality, maternal health, years of schooling, school attendance, cooking fuel, sanitation, drinking water, electricity, housing, assets, and bank accounts. Marked improvement is witnessed across all the 12 indicators.
- India has registered a significant decline of 9.89 percentage points in number of multidimensionally poor from 24.85% in 2015-16 to 14.96% in 2019-2021.
- The rural areas witnessed the fastest decline in poverty from 32.59% to 19.28%. During the same period, the urban areas saw a reduction in poverty from 8.65% to 5.27%. Uttar Pradesh registered the largest decline in number of poor with 3.43 crore people escaping multidimensional poverty.

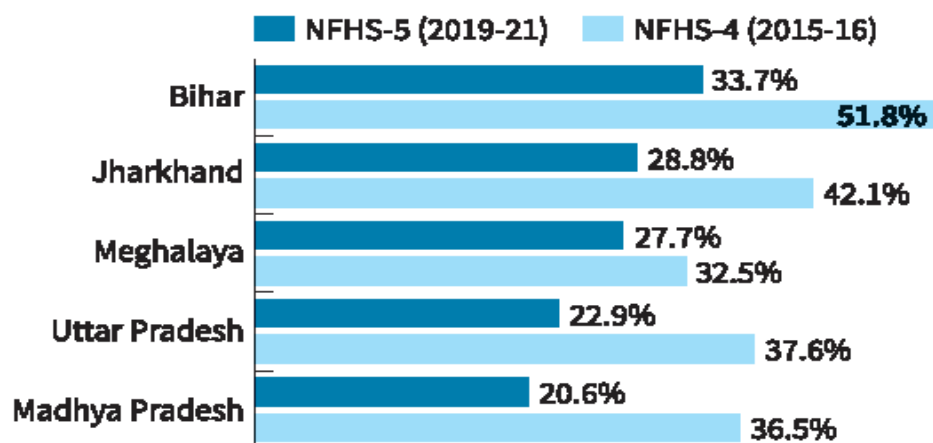
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- The fastest reduction in the proportion of multidimensional poor was observed in the States of Uttar Pradesh, Bihar, Madhya Pradesh, Odisha, and Rajasthan.
- Between 2015-16 and 2019-21, the MPI value has nearly halved from 0.117 to 0.066 and the intensity of poverty has reduced from 47% to 44%.
- It will help India in achieving the SDG Target 1.2 (of reducing multidimensional poverty by at least half) much ahead of the stipulated timeline of 2030.

Poverty score

The chart shows the top-five States with the highest share of population with multidimensional poverty, according to the latest NITI Aayog report



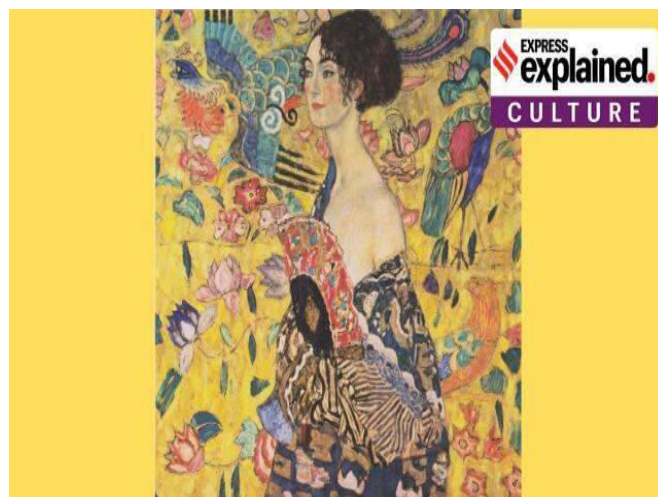
MISCELLANEOUS

Gustav Klimt's portrait – 'Lady with a Fan' sold for \$108 million, sets European auction record

Relevance: Prelims; Miscellaneous

Why in news?

- The last portrait completed by **Austrian artist Gustav Klimt** recently became **the most expensive artwork ever** to sell at a **European auction**.
- Called **Dame mit Fächer (Lady with a Fan)**, this portrait was sold to a **Hong Kong-based collector** for a **whopping \$108.4 million (885 crores)** at a **Sotheby's sale** in **London**.
- This portrait which was found after **Klimt's death** in **1918**, depicts **an unidentified woman** in a **kimono** and is painted in Klimt's well-recognised **rich expressive style**.
- **Klimt** was a **pioneer** of the **Art Nouveau movement** – an **ornamental and decorative style** that flourished in the **West** in the **late 1800s**.



Laos cave provide clues as to when humans first came to Southeast Asia



Relevance: Prelims; Miscellaneous

Why in news?

- In a new study, researchers have reported **more human remains** found in **Tam Pà Ling** in **Laos**.
- It shows **humans reached the region at least 68,000 years ago, and possibly as long as 86,000 years ago.**



Plenty of evidence

- A team of researchers has been excavating at Tam Pà Ling for **many years**. They've continued to find **more and more evidence** of **Homo sapiens** at this site.
- First there was **a finger bone**, then, **a chin bone**, then **part of a rib**.

Limitations in using dating methods

- There are a few difficulties in using dating methods at Tam Pà Ling.
- One of them is that the human fossils at this site **cannot be directly dated** as the **site is a world heritage area** and the fossils are protected by **Laotian laws**.
- As a result, the sediment itself needs to be dated using techniques such as **luminescence dating**.
- Luminescence dating relies on **a light-sensitive signal** that builds up **in buried sediment, resetting to zero** when it is **exposed to light**.
- A fragment of **a leg bone** that was found 7m deep is the **lowest fossil** found at Tam Pà Ling.
- Notably, Tam Pà Ling is just a stone's throw from **Cobra Cave**, where a **150,000 years old tooth** belonging to **a Denisovan** was found. This **now-extinct human relative** is otherwise known **only from remains found in Siberia and Tibet**.



Uttarakhand's Lansdowne to be renamed Jaswantgarh



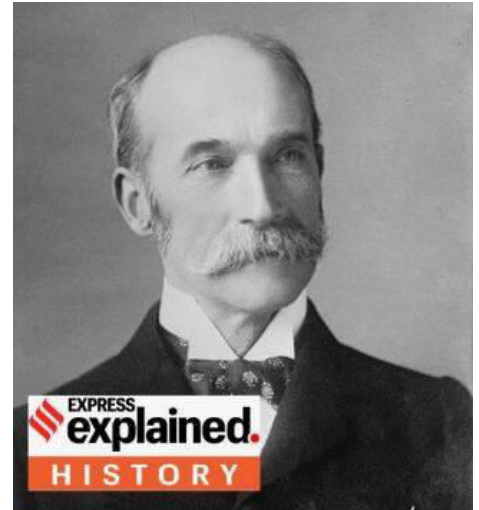
Relevance: Prelims; Miscellaneous

Why in news?

- The Lansdowne Cantonment Board has decided to rename this beautiful hill station in Uttarakhand as Jaswantgarh after the 1962 war hero Rifleman Jaswant Singh, Maha Vir Chakra.

Who was Lord Lansdowne?

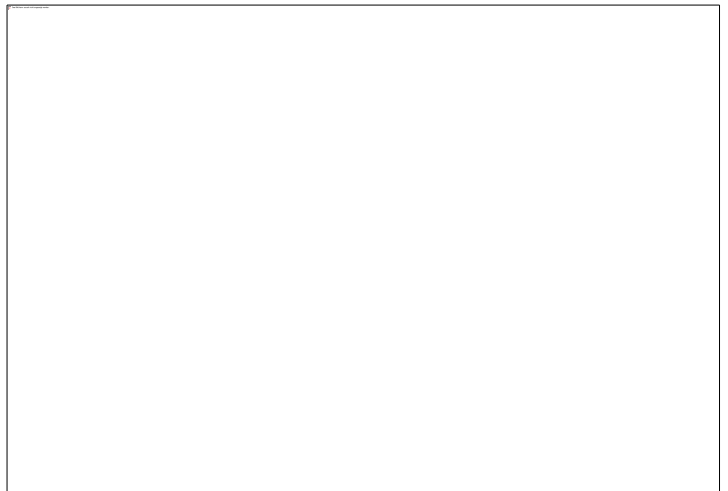
- Lord Lansdowne, was a British politician who served as Viceroy of India from 1888 to 1894.
- He also served as Governor General of Canada and Secretary of State for War and Secretary of State for Foreign Affairs in the U.K. He was also the Leader of the House of Lords.
- Lord Lansdowne is better known in India for having put down the Manipur Rebellion of 1891 and for encouraging Hindu-Muslim divide through the divide-and-rule policy.



History of Lansdowne Cantonment



- Lansdowne Cantonment is located in the heart of Uttarakhand's Pauri Garhwal district. It was in 1886 that the British govt. decided to raise a separate Regiment of the Garhwalis.
- The spot for this regiment - Garhwal Rifles was a forest area popularly known as Kalundanda.
- In 1890, it was renamed as Lansdowne after the then Viceroy of India, Lord Henry Lansdowne.



Rifleman Jaswant Singh's act of bravery in the 1962 India-China war



- Rifleman Jaswant Singh was awarded the 2nd highest gallantry award, Maha Vir Chakra, for his role in the Battle of Nuranang against the People's Liberation Army (PLA) of China in the North-East Frontier Agency (now Arunachal Pradesh) on Nov. 17, 1962.
- Jaswant Singh was then serving in the 4th Battalion of the Garhwal Rifles. On that particular day, Jaswant's battalion had beaten back two Chinese charges on their position.
- During a third attack, Jaswant volunteered to silence a PLA machine gun. He neutralised the Chinese detachment of five sentries, seizing the medium machine gun in the process.
- However, while returning, Jaswant was seriously injured. He managed to hold back successive Chinese attacks till he succumbed to his injuries.
- Jaswant Singh was awarded the Maha Vir Chakra posthumously, while his battalion received the Battle Honour Nuranang.
- Today, the post at which Jaswant Singh fought is named Jaswantgarh and a memorial for his bravery has been erected at the spot.



Peru declares emergency over the Guillain-Barré Syndrome



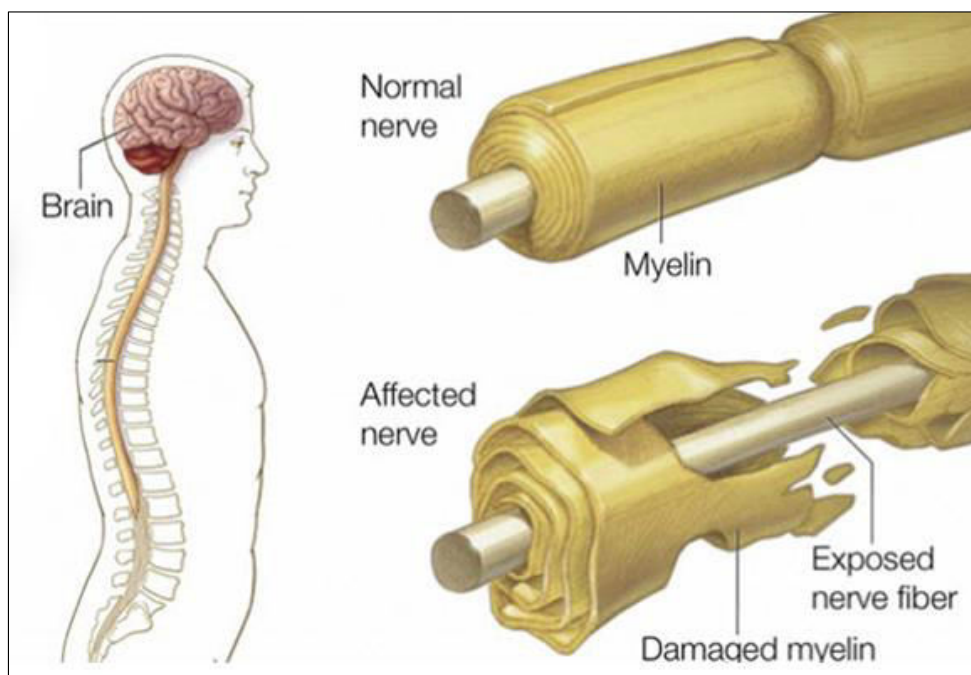
Relevance: Prelims; Miscellaneous

Why in news?

- The Peruvian govt has recently declared a state of national emergency for up to three months, due to a spike in the number of cases of a rare neurological disorder called Guillain-Barré Syndrome (GBS).
- The disorder, which affects the body's nervous system, is characterized by muscle weakness and breathing difficulties, and can even lead to total paralysis in extreme situations.
- Back in 2019, Peru faced a similar problem following an outbreak of a bacterial infection called Campylobacter.

What is Guillain-Barré Syndrome?

- In Guillain-Barré Syndrome, the body's immune system — which normally protects it from infections and other foreign bodies — mistakenly attacks its own peripheral nerve cells.
- More specifically, the myelin sheath — an insulating layer of fat and protein that surrounds the nerve cells — becomes inflamed.
- Simply put, a person with this syndrome will have difficulty speaking, walking, swallowing, excreting or performing other normal body functions. The condition can get progressively worse.



What causes Guillain-Barré Syndrome?

- The **exact reasons** for Guillain-Barré Syndrome are **not yet understood**. However, it **often develops** shortly after a person gets **an infectious disease**.
- **Rarely, vaccinations can cause it**. Guillain-Barré Syndrome, or GBS, also was **linked to the cytomegalovirus, Epstein Barr virus, Zika virus and even the COVID-19 pandemic**.
- Over the years, **some celebrities** have also **contracted GBS**. Some neurologists and historians believe that **Franklin D. Roosevelt, the 32nd U.S. President** contracted it in **1921**.

Is GBS curable?

- The condition of the patient **tends to worsen for up to two weeks** after the onset of the disease. The **recovery begins after four weeks**. It can extend from **anywhere between 6 to 12 months** and **occasionally up to three years**.
- Currently, there is **no certain cure** for GBS. There are **two treatments** that can help recovery and reduce the severity of the disease.
- The first is **plasma exchange** or **plasmapheresis** under which the **plasma** or the **liquid part of the blood** is removed and separated from the blood cells, **inducing new plasma production to make up for the loss**.
- The second available therapy is called **immunoglobulin therapy**, where **injected healthy antibodies** from **blood donors** **block the patient's damaged antibodies** that eventually **contribute to GBS**.

Hollywood writers and actors go on strike

Relevance: Prelims; Miscellaneous



Why in news?

- Hollywood actors recently joined the ongoing strike of the Writers Guild of America (WGA), after their contract negotiations with studios broke down.
- This is Hollywood's biggest labour fight in six decades and marks the first dual strike of both writers and actors since 1960.



Why did writers go on strike?

- The WGA is the union of almost all screenwriters behind Hollywood shows, films, and other TV dramas.
- The board of the union, on behalf of its 11,500 writers negotiates a contract every three years with the Alliance of Motion Picture and Television Producers (AMPTP).
- It comprises all big Hollywood studios including Warner Bros. Discovery, NBC Universal, Paramount Pictures and all streaming services from Netflix to Peacock.
- The contract negotiations cover issues like deciding base pay for writers, pension benefits, residual payments, and so on.
- This time around, the WGA's contract with the AMPTP expired on May 1, and six weeks of negotiations leading up to the deadline did not see a consensus over the writers' demands and what studios were willing to offer.
- Therefore, the WGA announced on May 2 that its members would go on strike.

Writers' demands

- The current strike is largely about the era of streaming and its ripple effects on the screenwriting profession.
- According to the WGA, while the profits of the entertainment industry has ballooned from \$5 billion (combined entertainment operating profits of Disney, Fox, Paramount, NBC, Universal) in 2000 to a whopping \$30 billion in 2019 with the addition of Netflix, what writers earn has actually shrunk.
- The Guild notes that the average pay of the writer-producer position has gone down by 4% over the past decade. Adjusted for inflation, it says, this is a 23% decline. This is also because streaming has meant fewer guaranteed weeks of paid work for writers.
- A traditional network television season calendar would give writers about 42 weeks of work in 2000, but as seasons of shows get shorter, an average writer has just about 20 weeks of work for streaming shows.

(more ahead)

Cont'd

- Another major issue highlighted by the WGA is **the concept of downsizing** known as "mini rooms", that has come about in recent years, **increasingly replacing traditional writers' rooms**.
- Traditionally, **multiple writers** with different levels of experience would form **a writer's room** that would be involved **throughout the process of a show or film's production**.
- However **now, studios and streaming platforms are creating mini rooms where writers first work on writing the whole show and once it is approved and production begins, only a few of them are retained through production**.
- **Residual payments** are another concern. Residuals are **additional payments** writers get **each time a show or film is aired again or licensed**.
- However, platforms like **Netflix** offer **smaller residuals** and do **not disclose internal data about the viewership of a show with writers, but give fixed residuals**.

Why have actors joined the strike?



- Talks between the **Screen Actors Guild – American Federation of Television and Radio Artists (SAG-AFTRA)** and the **AMPTP** also broke down.
- The issues **remain more or less the same — shorter seasons, lesser work and lower base pay, as well as residuals**.
- Notably, **AI has emerged as a crucial area where actors and writers want production houses to put guardrails so their professions are not endangered in the near future**.
- Writers are demanding that **AI not be used to create new and unpaid content from their original work and their scripts not be used to train AI like language learning models**.
- As for the **actors**, they **do not want studios to use their AI-created likeness or performances without their consent or without compensation**.

The economic impact

- This dual strike does not **just affect its participants but a large number of those employed in production related jobs and tertiary industries such as costume, catering, lighting, for hire location providers, and so on**.
- The **last writers' strike in 2007 which lasted 100 days cost \$2.1 billion to California's economy alone**.



Strategically important Kerch Bridge in Crimea comes under attack



Relevance: Prelims; Miscellaneous

Why in news?

- The Kerch Bridge, which links the Russian mainland to the Crimean Peninsula in the Black Sea, recently came under attack.
- One section of the bridge was damaged in what the Russians called an attack by two Ukrainian sea drones.
- Ukraine hasn't taken direct responsibility for the attack, but its security services SBU said details of what happened to the bridge would be revealed after "Ukraine has won the war".
- In retaliation, Russia carried out a massive airstrike at the southern Ukrainian port city of Odesa.
- Russia also announced, hours after the attack, that it was withdrawing from an UN-brokered deal that allowed Ukraine to export its grain via the Black Sea, where Russia has enforced a naval blockade.



Details of the Kerch bridge attack

- According to Russian authorities, one of the sections of the Kerch bridge was blown up killing two people and injuring a child.
- Video footage showed a portion of the bridge tilted and hanging down.
- The Kerch bridge, across the Kerch Strait, is 19 km long and has two parallel rail and roadways. It was opened in 2018 by Russian President Vladimir Putin with great fanfare, four years after Russia annexed Crimea from Ukraine through a contested referendum.
- Notably, this is not the first time the bridge has been targeted. Last October too, a massive truck bomb damaged this bridge.

Importance of this bridge



- The Kerch bridge is important for Russia for symbolic, administrative and operational reasons.
- Mr. Putin immediately ordered the construction of the bridge when Russia moved to annex Crimea in 2014 since there was no direct connectivity between the Russian mainland and Crimea then.
- The Kerch Bridge now remains a critical logistical supply link for the Russian troops in the south.
- One of the key goals of Ukraine's counteroffensive, which began in early June, was to destroy this bridge.

Latest on Ukraine's counteroffensive



- Ukraine launched the counteroffensive with **advanced weapons** supplied by **the U.S. and its European allies**. They include **armoured vehicles, long-range rockets, cruise missiles, main battle tanks** and **missile defence systems**, besides **artillery shells** and **ammunition**.
- Ukrainian troops have also been **provided training** at different facilities in **Europe** and in the **U.S.**
- In the latest package, **the U.S.** announced its decision to send **cluster munitions** to **Ukraine**. Notably, they have been **banned** by **over 100 countries** for the **indiscriminate harm** they cause to **civilians**.
- But after **six weeks of fighting**, **Ukraine** hasn't taken any **breakthrough victory**. Though its troops have **recaptured some 210 sq. km of territories** mostly in the southeast, these were **ghost villages** along the frontline.
- Ukraine has made **these limited gains** at a **high cost**. It lost **20% of the weaponry** it sent to the battlefield in **just the first two weeks** of the counter-offensive.

Quiz



1. Mount Arafat, a place of pilgrimage, having utmost significance in Islam is located in which country?
 - a. Palestine
 - b. Iran
 - c. Saudi Arabia
 - d. Turkey
2. Which of the following statements is correct regarding Power sector in India?
 - a. India is the world's third largest producer of renewable energy.
 - b. Nearly 50% of installed electricity capacity comes from non-fossil fuel sources in India.
 - c. The country's current installed power generation capacity is around 610 GW.
 - d. The maximum power demand is around 775 GW.
3. Who are Meira Paibis?
 - a. A religious group who believe in monotheism.
 - b. A women social activist group in Manipur.
 - c. An elderly group in West Asia for propagation of peace.
 - d. A Political group for greater integration among Arab States.

4. The Permanent Account Number (PAN) is issued under the provisions of
- Income Tax Act
 - National Security Act
 - Aadhar Act
 - Welfare of Citizens act
5. Tam Pà Ling cave which has recently provided great insights into human presence in the region is located in
- Chile
 - Mongolia
 - Laos
 - Thailand
6. The Artemis Accords, which India has signed recently, pertain to:
- Base on lunar surface
 - Solar exploration
 - Missile development
 - Renewable energy

7. Recently, carbon molecules have been detected in space for the first time. This discovery has been made possible on account of
- Presence of dark matter in Space
 - Unique emission of light by different molecules
 - Different infrared emissions by different molecules
 - Meteorite fall on the earth
8. The highest average temperature of the earth on any day so far has been approximately
- 16 degree celsius
 - 16.5 degree celsius
 - 17 degree celsius
 - 17.5 degree Celsius
9. Ambergris, also known as floating gold, is obtained from
- Decomposition of sea grass
 - Digestive system of sperm whales
 - Trunk of rare mangrove species
 - Transformation of ice sheets

10. Consider the statements about Indian rupee:

1. It is fully convertible for capital account transactions.
2. It is included in SDRs as reserve currency.
3. It is considered as int. currency by many nations.

How many of the above statements are correct?

- a. Only one
- b. Only two
- c. All three
- d. None

11. Which of the following countries is a NATO member?

- a. Sweden
- b. Finland
- c. Ukraine
- d. Switzerland

12. Which of the following statements about the Universal Service Obligation Fund (USOF) is correct?

- a. The fund is used for increasing telecom services penetration in the country.
- b. The fund is used for enhancing the quality of higher education in India.
- c. The fund is used for enhancing safety of roads and reducing accidents.
- d. The fund is used for improving the financial capacity of local governments.

13. What are Majorana fermions?

- a. A type of drug which can possibly revive the dead
- b. A sub-atomic particle which can facilitate production of quantum computers
- c. A genetic code found in rats, which can be incorporated in humans
- d. None of the above

14. Which country is the top exporter of Wheat?

- a. Russia
- b. Canada
- c. Australia
- d. Argentina

15. What is the recent judgement given by Supreme court regarding tenure of ED, CBI and CVC heads?

- a. The tenure of the heads would be maximum of 2 years.
- b. The tenure of the heads would be 2 years, extendable by 1 more year.
- c. The tenure of the heads is fixed at 5 years.
- d. The tenure is assured of two years, which can be extended upto 5 years.

16. Which one of the following is the broadest category of geological time?

- a. Eon
- b. Era
- c. Epoch
- d. Age

17. Guillain-Barré Syndrome (GBS) is a

- a. Hormonal disorder
- b. Reproductive disorder
- c. Neurological disorder
- d. Intestinal disorder

18. Cheetahs in India have been brought from which of the following countries?

- a. Kenya and Nigeria
- b. Argentina and South Africa
- c. Namibia and Kenya
- d. Namibia and South Africa

19. Which of the following is not considered natural disaster by Union government?

- a. Pest attack
- b. Hailstorm
- c. Cold wave
- d. Lightning

20. National Multidimensional Poverty Index (MPI) is based on which of the following indicators:

- a. Health, Education, and Standard of living
- b. Height, Body Weight and Age
- c. Health, Education and Body Weight
- d. Standard of Living, Education and Average Height as per age

21. Which of the following countries are members of BIMSTEC?

- 1. Thailand
- 2. Sri Lanka
- 3. Myanmar

How many of the above statements are correct?

- a. Only one
- b. Only two
- c. All three
- d. None

22. Kerch bridge connects

- a. UK and France
- b. Denmark and Norway
- c. Canada and USA
- d. Russia and Crimea

23. Which of the following statements correctly convey the meaning of Zero FIR?

- a. Complaint for alleged offence which is required to be solved at priority
- b. Complaint for an alleged offence where imprisonment is 7 years or more
- c. Complaint for alleged offence committed under jurisdiction of another police station
- d. Complaint for alleged offence for which regular FIR cannot be filed

24. Bedaquiline, cornerstone drug to cure drug-resistant tuberculosis (DR-TB) is manufactured by

- a. Sun Pharma
- b. Serum Institute of technology
- c. Cipla
- d. J & J

25. Which is the first state in India to legally provide the Social Security to Gig workers?

- a. Rajasthan
- b. Uttar Pradesh
- c. Andhra Pradesh
- d. Maharashtra

Answer Key

1. c	2. a	3. b	4. a	5. c
6. b	7. b	8. c	9. b	10. d
11. b	12. a	13. b	14. a	15. d
16. a	17. c	18. d	19. d	20. a
21. c	22. d	23. c	24. d	25. a