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WEEK: 4 JULY 2023

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— Disclaimer —

The current affairs articles are segregated from prelims and mains perspective, such separation is maintained in terms of structure of articles. Mains articles have more focus on analysis and prelims articles have more focus on facts.

However, this doesn't mean that Mains articles don't cover facts and PT articles can't have analysis. You are suggested to read all of them for all stages of examination.

CURRENT AFFAIRS WEEKLY

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WEEK - 4 (JULY, 2023)

Section A [MAINS]

THE CHALLENGES OF ETHNIC CONFLICT IN INDIA

Context: In the past few months, Manipur, a north-eastern Indian state, has experienced repeated inter-ethnic clashes between two local communities, the Meitei and Kuki. However, such conflicts are not uncommon in India's Northeast, where powerful individuals have exploited the identities of different ethnic groups to serve their own interests.

The Land of Jewels:

✳ Manipur, which means "Land of Jewels," consists of a valley surrounded by mountain ranges.

✳ The state is home to 39 ethnic communities following different faiths, including Hinduism, Christianity and Islam, as well as Indigenous religious traditions such as Sanamahi.

✳ **Root of dispute:** Opposition to the manner of **Manipur's merger with India in 1949** laid the groundwork for the nascent stages of **resistance and separatist movements** and remains at the **heart of the dispute** between New Delhi and many restive portions of the Northeast.

✳ **AFSPA:** To quell this resistance, the Indian government imposed the **controversial Armed Forces Special Powers Act** in 1958.

✳ The act provides broad-based powers for the military and paramilitary groups to "[maintain] public order," in "disturbed areas".

✳ Today, the region features multiple conflicting claims to ethnic and communal homelands — and armed insurgent groups to defend those claims.

✳ In Manipur, there are
  ➤ at least **four valley-based armed groups**
  ➤ several Naga groups

  ➤ nearly 30 Kuki armed insurgent organizations

✳ The proliferation of armed groups — at one point estimated to stand at around 60 — contributed to the sense of a "war within a war" in the state.

What Sparked the Latest Violence in Manipur (the immediate trigger)?

✳ **ST Status to Meitei:** The recent violence in Manipur was sparked by the **Manipur High Court's suggestion** to consider granting **Scheduled Tribe status** to the Meitei community, which is the majority population in the state.

Scheduled Tribes

● Constitutionally recognised, this official designation gives certain protections to tribes and communities.

● This status would offer constitutional protection and benefits, including reserved government seats.

➤ The Meitei community had been requesting this status for a long time, but there were concerns that it could **deepen ethnic divisions**, particularly with the **Kuki and Naga Indigenous communities.**

MANIPUR

THE RIVAL PARTIES	
Meitei Community	**The Naga and Kuki tribes**
• The dominant largely Hindu community, which is based in the state's capital city of Imphal, forms more than 50 percent of the state's population of 3.5 million, as per India's last census in 2011. • While the Meiteis are mostly based in the plains, they have a presence in the hills as well.	• The two mostly Christian tribes form around 40 percent of the state's population, and enjoy "Scheduled Tribe" status, which gives them land-owning rights in the hills and forests. They are the most significant tribes residing in the hills. • Other tribal groups, including the Mizo, also constitute the diverse ethnic makeup of the state, which borders Myanmar

❋ **Protests & Violence:** Protests ensued after the court's announcement, led by the All-Tribal Students Union of Manipur. The violence led to retaliatory attacks, with Kuki communities burning Meitei-inhabited villages, and Meitei communities torching Kuki localities, resulting in several casualties.

Decades of Unresolved Ethnic Tensions:

❋ While the protests served as an immediate trigger, tensions between Indigenous communities had been rising in Manipur for years.

❋ **Land imbalance:** Land imbalances between Indigenous communities, where Meiteis cannot buy land in hill regions but others can buy land in the valley, also contributed to the conflict.

❋ **Refugee influx:** Moreover, the influx of refugees from Myanmar following the **2021 military coup**, particularly those with ties to the Kuki community, added to the sense of insecurity for the Meitei Indigenous community.

Common Features of Ethnic Conflicts:

❋ **Conflicting economic and political interests:** Ethnic conflicts indicate that whatever be the manifest cause - language, region or religion - the latent cause is not rooted in cultural disparity. Conflicting economic and political interests form the basis of the latent cause.

❋ **Deprivation of rights:** The tensions generally arise when a minority group feels deprived of an equal position in either the economic or political sphere as compared to the majority group, using the primary ties to motivate and activate their ethnic group against the dominant group.

❋ The allegiance or the basis of group loyalty depends on the principle of mutual interest.

  ➤ **For instance**, during the **1972 Assam riots**, the Bengali Muslims, who share cultural similarities with Bengali Hindus did not side with them, instead, they supported the Assamese in exchange for not being ousted from their land, by the politically active Assamese.

❋ **Security Forces' Actions:** Heavy-handed responses by security forces to address conflicts can lead to human rights abuses, further aggravating the situation.

❋ **Displacement and Refugees:** Conflicts can result in the displacement of communities and create refugee populations, adding to humanitarian challenges.

❋ **Interplay of Nationalism and Regionalism:** The struggle between national identity and regional aspirations can lead to clashes between different ethnic groups and the central government.

❋ **Other reasons:**

  ➤ Identity and Cultural Differences

  ➤ Competition for Resources and Territory

  ➤ Inadequate political representation of certain ethnic groups

  ➤ Socio-economic Disparities

  ➤ Historical Grievances

  ➤ Communalism and Identity Politics

Implications of Ethnic Conflicts for human rights:

Some ways in which ethnic conflicts and human rights are interconnected include:

❋ **Grave violation of the right to life (Article 21):** Ethnic conflicts are characterized by violence, including killings, torture, and other forms of harm to civilians.

❋ **Violation of the right to freedom of movement and the right to a home and property (Article 19):** Ethnic conflicts frequently lead to the forced displacement of communities, causing them to flee their homes in search of safety.

❋ **Violates the principles of equality and non-discrimination (Article 15):** Ethnic conflicts are often rooted in discrimination and marginalization of certain ethnic groups.

❋ **Violation of the right to liberty and security of person (Article 21):** During ethnic conflicts, security forces may carry out arbitrary arrests and detentions without due process. This constitutes a violation of the right to liberty and security of person.

❋ **Freedom of Expression and Information (Article 19-22):** In times of conflict, freedom of expression and access to information may be restricted to control the narrative and suppress dissent.

❋ **Sexual Violence and Gender-Based Abuse:** Women and girls are particularly vulnerable during ethnic conflicts and may experience sexual violence, exploitation, and abuse, violating their rights to dignity, safety, and security.

National shame:

The viral video from Manipur, showing a mob of men parading naked, and sexually assaulting two Kuki women has shaken the whole country.

❋ **Child Rights Violations:** Children are disproportionately affected by ethnic conflicts, facing issues such as forced recruitment, sexual violence, and limited access to education and healthcare.

❋ **Humanitarian Access and Assistance:** Ongoing conflicts can impede the delivery of humanitarian aid to affected populations, depriving them of essential resources and services.

❋ **Destroying Cultural Heritage:** Ethnic conflicts may result in the deliberate destruction of cultural sites and heritage, depriving communities of their cultural identity and history.

❋ **Impunity and Lack of Accountability:** In many cases, perpetrators of human rights violations during ethnic conflicts may escape accountability, contributing to a culture of impunity.

Concluding thoughts:

In the current conflict, the identities of different ethnic communities were exploited to serve the interests of a few, while women and children bore the brunt of the violence.

Putting an end to the present violence and promoting lasting reconciliation are two distinct yet interconnected goals. Achieving reconciliation requires addressing the enduring impacts of violence resulting from various insurgencies and the government's sometimes harsh responses, which have left deep scars of trauma within the state.

MAJOR ETHNIC CONFLICTS IN INDIA

● **Kashmir conflict:** A long-standing dispute between India, Pakistan, and China over the region of Jammu and Kashmir. It involves multiple ethnic and religious groups, including Kashmiri Muslims, Kashmiri Hindus (Pandits), and Buddhists in Ladakh.

● **Naxalite-Maoist insurgency:** An ongoing armed conflict in several states, particularly in Central and Eastern India, involving radical leftist groups known as Naxalites or Maoists. The conflict is based on socio-economic and political grievances and affects tribal communities significantly.

● **Northeast Insurgency:** Various insurgent groups in the north-eastern states have been seeking autonomy or independence. States like Assam, Manipur, Nagaland, Mizoram, and Tripura have witnessed prolonged conflicts involving different ethnic groups.

● **Punjab conflict:** Also known as the Khalistan movement, it was a violent separatist movement in the state of Punjab, primarily involving the Sikh community in the 1980s and early 1990s.

● **Assam conflict:** A complex conflict involving different ethnic groups and illegal immigration issues in the state of Assam. The conflict has led to violence and unrest over the years.

● **Mizoram Insurgency:** A past insurgency in the state of Mizoram, which has seen violence and separatist movements involving the Mizo community.

● **Tripura Insurgency**: An insurgency in Tripura, involving tribal groups and the indigenous population seeking autonomy.

● **Involvements of different ethnic communities**

➤ **Bodo Conflict:** The Bodo community in Assam has been involved in clashes with other ethnic groups over issues of identity and territorial rights.

➤ **Garo-Khasi Conflict:** In the state of Meghalaya, there have been conflicts between the Garo and Khasi communities over land and political representation.

➤ **Karbi-Anglong Conflict:** The Karbi and Dimasa communities in Assam have been engaged in conflicts over territorial autonomy and resource control.

➤ **Mizo-Hmar Conflict:** In Mizoram, there have been clashes between the Mizo and Hmar communities over land and political representation.

➤ Gorkhaland Movement: The Gorkha community in Darjeeling, West Bengal, has been demanding a separate state called Gorkhaland, leading to periodic conflicts.

➤ **Chakma-Hajong Conflict**: In Arunachal Pradesh, clashes have occurred between the Chakma and Hajong communities over land and citizenship issues.

➤ **Naga-Kuki Conflict:** In Manipur, there have been historical conflicts between the Naga and Kuki communities over land and political representation.

➤ **Kokborok-Bengali Conflict:** In Tripura, tensions have arisen between the Kokborok-speaking tribal community and Bengali-speaking settlers.

➤ **Others:**
  ● Tripuri-Riang Conflict
  ● Maratha-Dalit Conflict
  ● Rajput-Gujjar Conflict
  ● Kodava-Tulu Conflict
  ● Garo-Assamese Conflict
  ● Mishing-Rabha Conflict
  ● Meghwal-Mali Conflict
  ● Vanniyar-Dalit Conflict

THE DNA TECHNOLOGY (USE AND APPLICATION) REGULATION BILL, 2019

Context: Recently, the Union government has withdrawn the DNA Technology (Use and Application) Regulation Bill, 2019, from the Lok Sabha.

Background:

* First proposed in 2003, the Bill has gone through numerous changes, led by both the **Department of Biotechnology and the Law Ministry.**

* 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 that **the Bill could be misused** to target segments of society based on **religion, caste or political views**.

Key points of the Bill:

* The 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.

* The Bill proposes to set up **two institutional structures**:
  * A DNA regulatory board and
  * A DNA data bank
  * Regional centres of the board as well as the data bank can be set up at the **state level too.**

* **Laboratories:** 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.

Need of such a legislations:

* **Increasing demands:** A growing number of complainants are asking for DNA tests. Such demands are growing by **around 20% annually**.

> Although the **3,000-odd DNA tests** performed yearly by **Indian laboratories** are insignificant in comparison to the **70 other nations** that rely on DNA Technology, the spike in demand contradicts worries about privacy and probable data abuse.

* **Gray area**: DNA tests fall into a gray area in the pursuit of justice, bridging the gap between the **'eminent need'** to uncover the truth, whether it be in the form of evidence in a criminal case, a claim of marital infidelity, or proving paternity and the risks of slipping into **self-incrimination and encroachment** on individual privacy.

  > **Concerned privacy rights:** This brings attention to the **expanding use of technology** for improving the process of justice but it also violates people's privacy

* As part of the right to life under **Article 21**, the Supreme Court acknowledged that bodily autonomy and privacy are part of fundamental right.

What are the objections against the Bill?

* The main debate over the proposed law has been around **three issues**;
  * Whether **DNA technology** is fool proof
  * Whether the provisions adequately address the possibility of **abuse of DNA information**
  * Whether the **privacy of the individual** is protected

* **DNA contains much personal information**: 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**.

* **Against Individual Privacy:** 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.

What is DNA Profiling?

* The DNA profiling method was first developed in 1985, specifically for **forensic use.**

* Every individual has a **unique DNA blueprint**, making it a reliable means of identification and establishment of biological relationships between individuals.

* This can be done by analysing hair, blood or semen samples.

* DNA fingerprinting is a laboratory technique used to determine the probable identity of a person based on the nucleotide sequences of certain regions of human DNA that are unique to individuals.

Deoxyribonucleic acid (DNA)

- DNA refers to deoxyribonucleic acid, a blueprint of all living forms that encodes information allowing the cells of an organism to grow and function.

- **Deoxyribonucleic acid (DNA)** is an organic molecule with a complex molecular structure.

- DNA molecule's strands are made up of a **long chain of monomer nucleotides**. It is arranged in a double helix structure.

- It is essential for the transfer of the genetic characteristic of the living being from one generation to the other generation.

- The majority of DNA is found in the cell nucleus so it is called **nuclear DNA.**
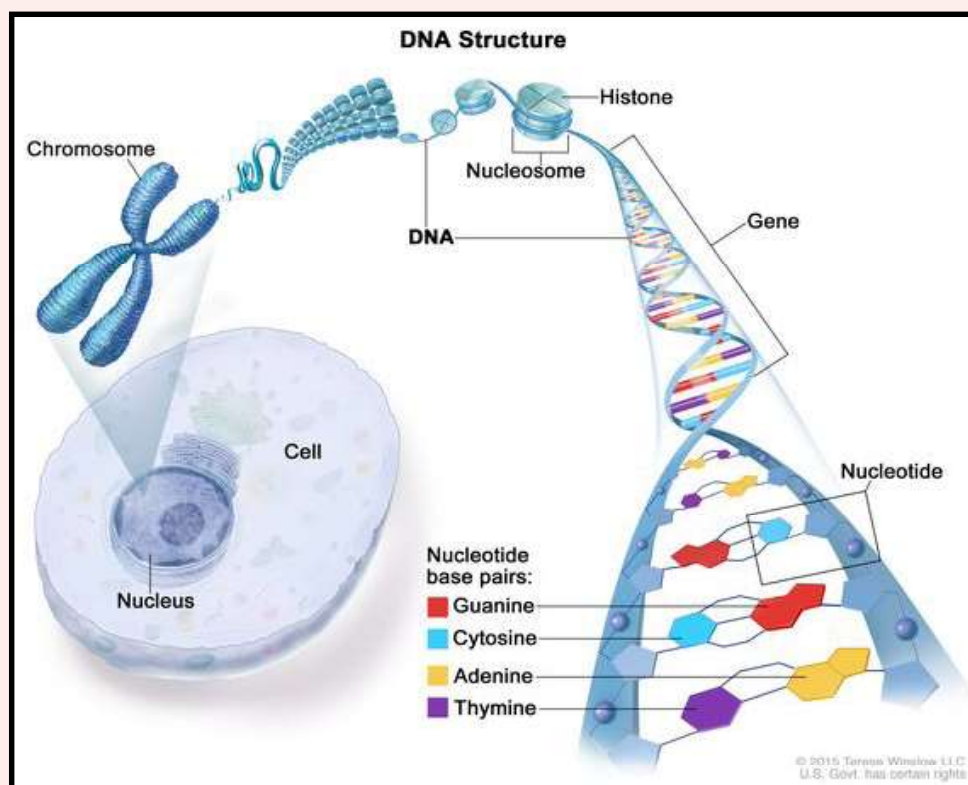
DNA testing and related Judgments:

※ ***Banarsi Dass case, 2005:*** In the ***Banarsi Dass case, 2005,*** SC held that **DNA test** must balance the **interests of the parties**. **DNA tests** should also not be ordered if there was **other material evidence** at hand to prove the case.

※ ***Bhabani Prasad Jena, 2010:*** Precedents set by the **Supreme Court** through the years show that judges cannot order **genetic tests** as a **"roving enquiry"** *(Bhabani Prasad Jena, 2010)*.

※ ***K.S. The Puttaswamy case, 2017:*** The ruling of the **Constitution Bench** in the ***K.S. The Puttaswamy case (2017)*** affirming that the **right to privacy** is part of the **rights to life (Article 21)** has only strengthened the privacy argument.

　➤ In a case involving a woman, the Supreme Court recently ruled that forcing someone to submit to a **DNA test** against their will would **violate their right to personal liberty and privacy**.

※ **Ashok Kumar judgment 2021:** Before ordering a **genetic test**, courts should consider the **"proportionality of the legitimate aims,"** the court stated in its **Ashok Kumar judgment 2021**.

ED'S POWERS TO ARREST AND SEEK CUSTODY

Context: **The Madras High Court upheld the legality of arrest of a Minster of Tamil Nadu by the Enforcement Directorate (ED) and his subsequent remand in 'judicial custody' in a money-laundering case linked to a cash-for-jobs scam.**

Key-highlights of the verdict:

※ According to the verdict, **'ED Officers'** do not have **Powers of Police Officer** and they cannot hold custody beyond first **24 hours of Arrest**.

❋ ED can subject any person accused in a case booked under the **Prevention of Money Laundering Act (PMLA), 2002,** to custodial interrogation and that the person can be taken into custody even after the **expiry of 15 days** from his arrest.

❋ However, in **Central Bureau of Investigation v. Anupam J. Kulkarni (1992),** the Supreme Court laid down the law that **no police custody** can be allowed beyond the **first 15 days** from the date of arrest; any further remand during investigation **can only be in judicial custody.**

Key Questions

❋ The investigation by the **Enforcement Directorate** is an inquiry for the purposes of the Prevention of **Money Laundering Act.**

❋ In other words, the ED officers conduct inquiries, gather evidence, and make arrests once a conclusion of guilt is reached before filing a complaint.

❋ All statements recorded during this inquiry are admissible.

❋ Now, in this context, the question arises**: "If ED officers are neither police officers, nor officers in charge of a police station, and the 'investigation' is in the nature of an inquiry, then under what power will they seek police remand?"**

Power of ED for 'interrogation' and 'Custody':

❋ **Under Prevention of Money Laundering Act, 2002 (PMLA):** Following the recommendations of the Financial Action Task Force (FATF) India enacted PMLA.

  ➤ The ED has been entrusted with the responsibility of executing the provisions of PMLA by conducting investigation to **trace the assets derived from proceeds of crime**, to provisionally attach the property and to ensure prosecution of the offenders and confiscation of the property by **the Special court**.

  ➤ The ED carries out **search (property) and seizure (money/documents)** after it has decided that the money has been laundered, under Section 16 (power of survey) and Section 17 (search and seizure) of the PMLA.

  ➤ On the basis of that, the authorities decide if arrest is needed as per Section 19 (power of arrest).

  ➤ Under Section 50 of the PMLA, the ED can also directly carry out search and seizure without calling the person for questioning.

  ➤ It is not necessary to summon the person first and then start with the search and seizure.

  ➤ If the person is arrested, the ED gets 60 days to file the prosecution complaint (chargesheet) as the punishment under PMLA doesn't go beyond seven years.

  ➤ If no one is arrested and only the property is attached, then the prosecution complaint along with attachment order is to be submitted before the adjudicating authority within 60 days.

Important Judgments:

● **Supreme Court's view**: In its "*Vijay Madanlal Choudhary v. Union of India*", the Supreme Court upheld various provisions of the PMLA which relate to the **powers of arrest, attachment, search, and seizure conferred upon the ED.**

  ➤ The court was of the opinion that all the provisions under PMLA have a reasonable nexus with the objects sought to be achieved by the **Act to prevent money-laundering** effectively.

● In **P. Chidambaram v. Directorate of Enforcement (2019),** the Supreme Court rejected a prayer for anticipatory bail with respect to an offence of money laundering and proceeded to grant custody to the ED.

  ➤ The court reasoned that in a case of money laundering which involves many stages of placement and layering of funds, a '**systematic and analysed'** investigation is required which would be frustrated if pre-arrest bail is granted.

INDIA'S DATA PROTECTION LAW NEEDS REFINEMENT

Context: **Parliament is going to table the Digital Personal Data Protection (DPDP) Bill, 2022 in the monsoon session with some significant changes, including lowering the age of consent for data processing and providing exemptions for certain companies.**

What is in the Bill?

❋ **Aim:** to enhance data protection and accountability for internet companies, mobile apps, and businesses handling citizens' data.

❋ It prioritizes the **"Right to Privacy"** and includes provisions for explicit consent, data fiduciaries' responsibilities, cross-border data transfers, and individual rights.

❋ **Formation of Data Protection Board of India (DPB):** The latest draft proposes a **new regulatory framework** that was present in previous versions, which now significantly limits the scope of the envisioned **Data Protection Board of India (DPB)** vested with significant regulatory-making, enforcement, and adjudication powers.

❋ **Government's procession of personal data and exemptions allocated**: The present Bill also includes significant exemptions to the state's handling of personal data.

➢ First, as previously indicated, the Union government has the authority to establish "**fair and reasonable"** reasons for which personal data can be used without the consent of a data principal.

➢ Second, most data protection standards are waived off if the processing is done "**in the interests of preventing, detecting, or investigating any offence or other violation of any law."**

❋ **Lowering Age of Consent:** The Bill had fixed the age of **consent at 18 years**, requiring parental consent for processing data of individuals below 18.

❋ **Provisions for Data Fiduciaries' (SDFs):** DFs have to fulfil certain additional obligations for greater scrutiny by the government**.**

❋ **Definition of a Child and Exemptions**: In the 2022 draft, the definition of a child was an "**individual who has not completed eighteen years of age".**

❋ **Relaxations on Cross-Border Data Flows:** The bill allows global data to flow by default to all jurisdictions other than a **specified negative list** of countries where such transfers would be restricted.

❋ **Scope:** The scope of the Bill encompasses digital personal data within India but also extends its jurisdiction to cover data processing activities outside the country.

Justice B. N. Srikrishna Committee

● The **Puttaswamy judgement** is a landmark ruling delivered by India's Supreme Court, which granted constitutional recognition to the right to privacy.

● Following this ruling, the Indian government took steps to enhance data protection in the country.

● In 2017, they constituted a committee of experts, led by **Justice B N Srikrishna**, to address privacy concerns and propose measures to bolster privacy laws.

● **Objective:** To investigate and analyse matters pertaining to data protection within the country. The report was submitted by the Committee in July 2018.

● The **Personal Data Protection Bill, 2019** was in accordance with the recommendations put forth by the Committee.

What is the need to strengthen data protection laws?

❋ **Ever-expanding data universe:** India's smartphone users are expected to touch a billion by 2026.

❋ **Market for social media giants:** India continues to be the key growth market for social media giants, who derive their value from the data they collect.

❋ **Data, the innocuously basic (the new oil):** If one download an app, data is required, if one plays a game, data is required. Data can then be used for profiling an individual, targeting ads, predicting behaviour and trends, and so on.

❋ **Lack of legislation:** At present, India lacks a comprehensive legislation specifically addressing the issue of data protection. The regulation of personal data usage falls under the purview of the **Information Technology (IT) Act of 2000.**

❋ **To arrest social harm:** A digital economy has emerged as a social need where certain practices that may promote digitisation, are also harming society at large. It is these social harms that need to be arrested, while allowing safe practices to flourish.

Concerns associated:

❋ **Limited in its scope and effect:** The DPDP Bill only protects **personal data** that is any data that has the potential to directly or indirectly identify an individual.

❋ **Limited reach of data protection board**: The board can only institute a **proceeding for adjudication** if someone affected makes a complaint to it, or the government or a court directs it to do so.

❋ **Limited knowledge of data transfers and exchanges**: Due to the ever-evolving and complex nature of data processing, users will always be a step behind entities which make use of their data.

❋ Critics of the Bill raise concerns that it might weaken the **Right to Information (RTI) Act.**

Global data protection models

● **European Union (EU) model:** The EU's GDPR imposes stringent requirements on organizations to ensure the careful safeguarding of personal data and demands evidence of such protection.

● **United States (US) model:** The US model emphasizes safeguarding an individual's personal privacy from government intrusion.

● **China model:** The Personal Information Protection Law (PIPL) introduces enhanced rights for data principals in China, aiming to curb the improper usage of personal data.

INDIA'S AIM TO COVER ENTIRE NATION WITH E20 FUEL BY 2025

Context: Addressing the G20 Energy Ministerial meeting in Goa, Prime Minister Modi announced that India is going to commence the rollout of 20% ethanol-blended petrol this year and aims to cover the entire nation by 2025.

A quick recap

✳ The **Ethanol Blended Petrol Programme** was launched in 2003 with an aim to promote the use of renewable and environmentally friendly fuels and reduce **India's import dependence for energy security**.

➤ The programme is implemented in accordance with the **National Policy on Biofuels**.

➤ Under this programme, **oil marketing companies (OMCs)** will procure ethanol from domestic sources at prices fixed by the government.

✳ Starting with **5% blending**, the government has set a target of **10% ethanol blending** by 2022 and **20% blending (E20) by 2030.**

✳ Till 2018, only sugarcane was used to derive ethanol. Now, the government has extended the ambit of the scheme to include food grains like **maize, bajra, fruit and vegetable waste**, etc. to produce ethanol.

✳ This move helps farmers gain additional income by selling the extra produce and also broadens the base for ethanol production in the country.

National Policy on Biofuels:

✳ India's **Ministry of Petroleum and Natural Gas** published its "**National Policy on Biofuels**" in 2018 and further amended it in June 2022.

✳ The policy's objective is to reduce the **import of petroleum products** by fostering domestic biofuel production.

✳ The recent amendment has changed the following, selected elements in the **2018 National Policy on Biofuels:**

➤ Advance the deadline to reach the **blending target of 20% bioethanol in petrol**, from 2030 to 2025-26.

➤ Make additional feedstock eligible for the production of biofuels.

✳ The policy supersedes **India's 2009 National Biofuel Policy**. Building on the amended National Policy on Biofuels, India published a "**Roadmap for Ethanol Blending in India 2020-25**".

What is ethanol blending?

✳ An ethanol blend is defined as a blended motor fuel containing **ethyl alcohol** that is at least 99% pure, derived from agricultural products, and blended exclusively with petrol.

What is Ethanol?

● Ethanol is an **organic chemical** compound.

● It is a simple alcohol with the **chemical formula C_2H6O**.

● It is a **psychoactive drug, recreational drug,** and the **active ingredient in alcoholic drinks**.

● Ethanol is naturally produced by the fermentation of **sugars by yeasts** or via petrochemical processes such as **ethylene hydration**.

● It has medical applications as an **antiseptic and disinfectant**.

● It is used as a **chemical solvent** and in the synthesis of organic compounds.

● Ethanol is **a fuel source.** Ethanol also can be dehydrated and to make **ethylene**, an important chemical feedstock.

Impacts of Ethanol blending:

✳ **Impact on Environment:**

➤ The use of E20 as fuel **reduces carbon monoxide emissions** by 50% in two-wheelers and 30% in four-wheeler vehicles.

➤ Hydrocarbon emissions are also reduce compared to unblended petrol.

✳ **Impact on Consumers:**

➤ The fuel efficiency of vehicles will reduce by:

● 6-7% for 4 wheelers designed for E0 and calibrated for E10

● 3-4% for 2 wheelers designed for E0 and calibrated for E10

● 1-2% for 4 wheelers designed for E10 and calibrated for E20

● However, with improvements in engines, the loss in fuel efficiency can be minimized.

✳ **Impact on Vehicle Manufacturer:**

➤ Engines and components will need to be tested and calibrated with E20 as fuel.

➤ No major change in the assembly line is required.

➤ Vendors need to be developed for the procurement of additional components compatible with E20.

Challenges associated:

✳ **Production Facilities**: Ethanol production facilities have to be augmented if the goals of 20% blending by 2030 are to be achieved. Currently, ethanol production is largely confined to the sugar producing states. Sugar mills, which are the key domestic suppliers of bio-ethanol to OMCs, were able to supply only 57.6% of the total demand.

✳ **Availability of sufficient feedstock on a sustainable basis**: Current regulations in the country allow production of ethanol from sugarcane, sugar, molasses, maize and damaged foodgrains unfit for human consumption. Further, surplus rice with FCI is also allowed.

* **Availability of Ethanol**: Ethanol is not equally available all over the country. This leads to an increase in transportation and logistics costs. Moreover, handling and storage of ethanol are also risky as it is a highly flammable liquid.

* **Challenge for vehicle manufacturers:** Vehicle manufacturers must work with vendors to develop automobile parts compatible with ethanol. They should work on engine optimization for higher ethanol blends.

* **Environmental clearances**: Currently, ethanol production plants/distilleries fall under the "Red category" and require environmental clearance under the Air and Water Acts for new and expansion projects. This often takes a long time leading to delays.

Required measures

* **Enhance Infrastructure:** A majority of the ethanol units are concentrated in **4 to 5 states** where sugar production is high but food grain-based distilleries are now being set up across India.

  ➤ There have been efforts to make ethanol from agricultural waste.

* **Fund allocation in Automobile sector:** All automobile materials produced after 2009 are compatible with 10% ethanol. However they are not compatible with E20.

  ➤ The industry body the **Society of Indian Automobile Manufacturers (SIAM)** has guaranteed that "once a road-map for making E10 and E20 available in the country is notified, they would gear up to supply compatible vehicles in line with the roadmap".

* **Make the process sustainable**: For the production of one litre of ethanol from sugar, 2,860 litres of water is used. Hence, there is a need to move to more environmentally sustainable crops.

INDIAN LANGUAGES AS AN 'OPTIONAL MEDIUM OF INSTRUCTION' IN SCHOOLS: CBSE
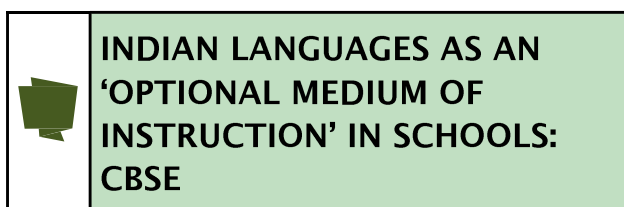
Context: **The Central Board of Secondary Education (CBSE) has directed to all its affiliated schools stating that they may consider using Indian languages as an optional medium of instruction in addition to other existing options from pre-primary classes till Class 12.**

About the initiative:

* The **National Council for Educational Research and**

Training (NCERT), under directions of the **Ministry of Education**, has started gearing up to produce textbooks in **22 scheduled Indian languages** to initiate **teaching-learning** through Indian language medium in **addition to English medium** in CBSE schools.

* These steps are in line with the provisions under **National Education Policy 2020**.

  ➤ **The National Education Policy** (NEP) says that wherever possible the medium of instruction in schools until **Grade V** and preferably until **Grade VIII** -- should be the mother tongue or the local or regional language.

> **Article 350** of the Indian Constitution states that "**It shall be the endeavour of every State and of every local authority within the State to provide adequate facilities for instruction in the mother-tongue at the primary stage of education to children belonging to linguistic minority groups**".

Official Languages of India:

* The **Eighth Schedule** to the Constitution lists the official languages of the republic of India.

  ➤ It consists of **22 languages**: Assamese, Bengali, Gujarati, Hindi, Kannada, Kashmiri, Konkani, Malayalam, Manipuri, Marathi, Nepali, Oriya, Punjabi, Sanskrit, Sindhi, Tamil, Telugu, Urdu, Bodo, Santhali, Maithili and Dogri.

* Of these languages, **14 were initially included in the Constitution**.

* **Sindhi language** was added by the **21st Amendment Act of 1967**.

* Konkani, Manipuri, and Nepali were included by the **71st Amendment Act of 1992.**

* **Bodo, Dogri, Maithili, and Santhali** were added by the **92nd Amendment Act of 2003** which came into force in 2004.

> **Important Constitutional Articles**
>
> * **Part XVII of the Indian constitution** deals with the official languages in **Articles 343 to 351.**
>
> * **The Constitutional provisions related to the Eighth Schedule are:**
>
>   ➤ **Article 344**: Article 344(1) provides for the constitution of a Commission by **the President** on expiration of five years from the commencement of the Constitution.
>
>   ➤ **Article 351:** It provides for the spread of the **Hindi language** to develop it so that it may serve as a medium of expression for all the elements of the composite culture of India.

Benefits of providing primary education in Indian Language:

* **Faster learning:** As a child is well versed with his mother tongue, studying in the same language will ensure **faster learning and retention.**

* **Higher mental agility:** Teaching in mother tongue and also providing education of another language/s will lead to **higher synaptic activity in the brain of a child** and this multi-language processing may cause higher mental agility. This mental flexibility will transfer to all areas of brain functioning.

* **Higher rate of parental participation:** It will also result in a higher rate of parental participation in a child's learning. In India due to a lack of knowledge of English, many parents are unable to participate in their child's schooling effectively.

* **Boosts self-confidence:** Learning in the local language **boosts the self-confidence of children** and they can express themselves better without any hesitation.

* **Conservation of culture:** It helps to preserve cultural roots and deepen understanding of our heritage.

* **Reduction in dropouts:** With the use of local languages for learning, **dropout rates can be dramatically reduced in rural India.**

Challenges associated:

* **Teacher Training in local languages:** One of the major problem for introduction of Indian language in schools is teacher training and syllabus listing.

* **Language Infrastructure**: For implementation of Indian languages in schools require huge capital investment like printing of books, teacher hiring and other changes in official management of records.

RISING TEMPERATURES IN EUROPE

Context: **Europe is experiencing scorching temperature that rose to an unprecedented level in the couple of days recently, accompanied by extreme heat waves.**

Heat waves and standards:

* A heat wave is a period of unusually hot weather that typically lasts two or more days.

* Several countries have adopted their own standards on heat waves:

➤ **United States:** The US National Weather Service defines a heat wave as a spell of "**abnormally and uncomfortably hot and unusually humid weather**" over two days or more.

A heat wave is aperiod of excessively hot weather, which may be accompanied by high humidity, especially in oceanic climate countries.

Heat wave is usually measured relative to the usual weather in the area and relative to normal temperatures for the season.
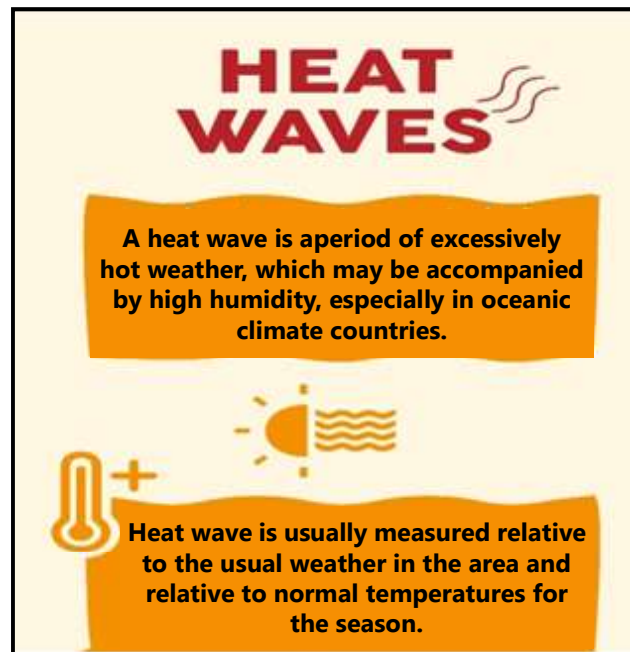
➤ **Denmark:** A heat wave occurs when the mean of the highest recorded temperature measured over three consecutive **days exceeds 28°C (82.4°F).**

➤ **Australia:** In Adelaide, Australia, a heat wave is defined as five straight days with temperatures at or **above 35°C (95°F),** or three consecutive days at or **over 40°C (104°F).**

➤ **India:** A heatwave is declared when an area logs a maximum temperature of **45 degrees Celsius.**

What is contributing to Europe's heat waves?

* **AMOC:** A slowdown in a major ocean current — the **Atlantic Meridional Overturning Circulation (AMOC)** — could be contributing to European heat waves.

What is AMOC?

* AMOC is a **large system of ocean currents** that carry warm water from the tropics northwards into the North Atlantic.

* It moves around 15 million cubic meters of water per second

* **Disturbed jet stream:** Europe's climate is moderated by the **jet stream**, a current of fast-moving air that loops around the northern hemisphere from west to east. Sometimes the jet stream splits in two, called double jet. Double jets are normal, but climate change seems to be making them happen more often and last longer.

What are Jet Streams?

- Jet streams are **narrow bands of strong wind** that generally blow from west to east all across the globe.

- **Earth has four primary jet streams:**
  - ➤ two polar jet streams, near the north and south poles
  - ➤ two subtropical jet streams closer to the equator

- **Formation:** Jet streams form when warm air masses meet cold air masses in the atmosphere.
  - ➤ The Sun doesn't heat the whole Earth evenly. That's why areas near the equator are hot and areas near the poles are cold.

- So when Earth's warmer air masses meet cooler air masses, the warmer air rises up higher in the atmosphere while cooler air sinks down to replace the warm air. This movement creates an **air current, or wind.**

- A jet stream is a type of air current that forms high in the atmosphere.

- Jet streams are located about five to nine miles above Earth's surface in the mid to upper **troposphere.**

Impact of Heat waves:

- ✳ **Health effects**: Hyperthermia (**heat stroke)**, constant sickness, overweight and other heat-related illness.

- ✳ **Psychological and sociological effects:** In addition to physical stress, excessive heat causes psychological stress, to a degree which affects performance, and is also associated with an increase in violent crime.

- ✳ **Increase in surface ozone: Ozone pollution** in urban areas is especially concerning with increasing temperatures, raising heat-related mortality during heat waves. During heat waves in urban areas, ground level ozone pollution can be 20% higher than usual.

- ✳ **Lead to wild fires:** If a heat wave occurs during a drought, which dries out vegetation, it can contribute to bushfires and wildfires.

- ✳ **Power outages:** Heat waves often lead to electricity spikes due to increased air conditioning use, which can create power outages, exacerbating the problem.

MARINE HEAT WAVES (MHWS) & IMPACTS ON WORLD'S OCEANS

Context: **According to a recent forecast of** *Mercator Ocean International*, **Marine Heat Waves have gripped the oceans of north-east Pacific, the southern hemisphere in the southern Indian Ocean and the Pacific, the north-east Atlantic, tropical North Atlantic, and the Mediterranean sea.**

About the forecast:

Researchers are making predictions that the occurrence of Marine Heat Waves will increase as much a**s 50-fold by 2100** as compared to the pre-industrial times.

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.**

What are the impacts of marine heat waves on ocean life?

- ✳ **Catastrophic for marine life:** Marine Heat waves may cause the deaths of several marine species, alter their **migration patterns, and lead to coral bleaching and even impact weather patterns.** 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.

- ✳ **Destroying kelp forest**: MHWs destroy **kelp forests** and fundamentally altered the **ecosystem of the coast.**

- ✳ **Enhances Coral Bleaching**: A 2010 study showed that more than **80 per cent of surveyed corals** had bleached and over 40 per cent of the total surveyed had died.
  - ➤ Corals are very sensitive to the temperature of the water in which they live.

* **Disturbs food web**: MHWs also fuel the growth of **invasive alien species**, which can be destructive to marine food webs.

Factors contributing to Marine Heat Waves:

* **Global Warming:** Rise in temperatures due to Anthropogenic events, has led to an increase in global temperatures which ultimately contributes to ocean warming.

* **El Nino:** Winds can enhance or suppress the warming in a marine heatwaves, and climate models like El Niño can change the likelihood of events occurring in certain regions.

* **Ocean currents:** The most common drivers of marine heatwaves include ocean currents which can build up areas of warm water and **air-sea heat flux,** or warming through the ocean surface from the atmosphere.

How do marine heat waves affect humans?

* **Increasing the intensity of storms:** Higher ocean temperatures, which are associated with MHWs, can make storms like **hurricanes and tropical cyclones stronger.**

* **Increased evaporation and heat:** With warmer temperatures, the **rate of evaporation escalates** and so does the transfer of heat from the oceans to the air.

* **More devastating effects:** 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.

RE-BIDDING UNDER PLI FOR ADVANCED CHEMISTRY CELL MANUFACTURING

Context: According to a latest update, the Central Government has announced the re-bidding of Production linked incentives (PLI) for 20 GWh Advanced Chemistry Cell manufacturing in consultation with the industrial representatives.

What are Advanced Chemistry Cells (ACCs)?

* This is a new generation of advanced storage technologies.

* It can store electric energy either as electrochemical or as chemical energy and converts back to electric energy when required.

About the update:

* The **Ministry of Heavy Industries (MHI)** will facilitate a stakeholder consultation with industry representatives for their inputs and suggestions before the start of the re-bidding process of remaining 20 GWh capacity of Advanced Chemistry Cell manufacturing.

* The auctioning will allow, the prospective applicants to submit their bids to set up domestic manufacturing facility for advanced chemistry cell, eventually qualifying for incentives under **ACC PLI scheme.**

What is the PLI Scheme?

* **Aim:** To scale up domestic manufacturing capability, accompanied by higher import substitution and employment generation.

* **Objectives:**

  ➤ Reduce India's dependence on China and other foreign countries.

  ➤ Supports the labour-intensive sectors to increase the employment ratio in India.

  ➤ To reduce down the import bills and boost up domestic production.

* **Targeted Sector:** Initially the scheme targeted:

  ➤ Mobile and allied Component Manufacturing

  ➤ Electrical Component Manufacturing and

  ➤ Medical Devices

* At present, government has announced PLI schemes for 14 sectors including **automobile and auto components, electronics and IT hardware, telecom, pharmaceuticals, solar modules, metals and mining, textiles and apparel, white goods, drones, and advanced chemistry cell batteries.**

Incentives under the Scheme:

* **Budgetary Allocation:** The Union Budget 2023-24 has put aside US$ 988 million (Rs. 8,083 crores) for the production-linked incentive schemes (PLI), where the bulk of the money is going for large-scale electronics manufacturing, which includes mobile devices, pharma, auto and auto components, and food processing.

* The incentives on the basis of incremental sales range from as **1% for the electronics and technology** products to **20% for the manufacturing of drugs and certain drug intermediaries.**

* For advanced chemistry cell batteries, textile products and the drone industry, the incentive to be given will be calculated on the basis of sales, performance and local value addition done over the period of five years.

National Programme on Advanced Chemistry Cell Battery Storage:

AIM: To set up 50 gigawatt hour (GWh) manufacturing capacity for ACC batteries by attracting investments totaling Rs. 45,000 crore.

- Each selected ACC battery Storage manufacturer needs to set-up an ACC manufacturing facility of minimum 5 GWh capacity.
- Achieve a domestic value addition of at least 25% and incur the mandatory investment Rs.225 crore / GWh within 2 Years.
- Ensure a minimum 60% domestic value addition at the Project level within five years.

FULL–RESERVE BANKING

Context Owing to the failures of three United States banks and one major European investment bank in March this year, it is important to understand the working type of the banks. (Full-Reserve Banking and Fractional reserve banking).

What is Full-Reserve Banking?

- Full-reserve banking is also known as **100% reserve banking.**

- Full-reserve banking is a system where **banks are prohibited from lending out the money** they receive as demand deposits from customers.

  > **Demand deposits** are deposits that customers can withdraw from the bank at any point in time without any prior notice.

- Instead, they are required to keep all customer funds in their vaults at all times.

- In this model, banks only act as custodians for depositors' money and may charge a fee for this service.

- This stands in contrast to the current banking system, where banks pay interest to customers on their demand deposits.

- Under full-reserve banking, banks must maintain reserves equal to 100% of their demand deposits to ensure they can meet withdrawal requests and prevent a bank run, even if all depositors decide to withdraw their funds simultaneously.

- **India does not have a full-reserve banking system in place**. The banking system in India follows the fractional-reserve banking model.

How full-reserve banking system lend money?

- Under a full-reserve banking system, banks can only lend money that they receive as **time deposits** from their customers.

  > **Time deposits** are deposits that customers can withdraw from the bank only after a certain period of time that is agreed upon between the bank and its customers.

- This arrangement gives banks the time to lend these deposits to borrowers at a certain interest rate, collect repayments from the borrowers, and finally repay depositors their money along with a certain amount of interest.

What is Fractional reserve banking?

- The current banking system operates on **fractional-reserve banking**, where banks primarily hold cash deposits from customers in their vaults.

- However, they can lend out more money than the **physical cash** they possess, as most lending occurs in the form of electronic money.

- This practice creates **electronic loans** that can exceed the actual **cash reserves.**

- If borrowers demand cash withdrawals exceeding the bank's physical cash, it can lead to a bank run due to insufficient cash to meet the demand.

Why Bank runs are rare?

- Bank runs are rare due to several reasons.

  ➤ **Non-cash instruments:** Firstly, most transactions in modern economies occur through checks and non-cash instruments, reducing the demand for physical cash. This lessens the likelihood of a large number of customers seeking immediate cash withdrawals simultaneously.

  ➤ **Bail out:** Secondly, central banks intervene by providing emergency cash to banks, ensuring they can meet sudden increases in customer cash demands.

NEW PANEL TO REVIEW 'SURVEY METHODOLOGY'

Context: The Government of India has appointed a panel under the chairmanship of Pronab Sen, former Chief Statistician of India, to review the methodology of the National Statistical Organisation (NSO).

About:

※ **Need for review:** The usage of outdated survey methodology by national surveys such as the National Sample Survey (NSS), National Family Health Survey (NFHS) and Periodic Labour Force Survey (PLFS), have systematically underestimated India's development.

※ **Significance of survey/data collection: National level data** is a key resource for research, policymaking and development planning, so it is of utmost importance to understand and analyse both claims in the light of existing evidence.

※ **Agencies involved**: For this purpose, we will be taking a closer look at NFHS data, which is being conducted by the **Ministry of Health and Family Welfare** for the last **30 years** with the International Institute of Population Sciences (IIPS) as the **nodal agency.**

Urban composition across surveys

A closer look at the urban population estimates (in per cent) in the NFHS data. The NFHS survey is conducted by the Ministry of Health and Welfare.

Year	Unweighted sample	NFHS weighted estimate	NFHS weighted estimate	Census projection	World Bank estimates	Difference
(1)	(2)	(3)	(4)	(5)	(3)-(4)	(3)-(5)
NFGS 5 (2019-21)	24.2	31.7	34.3	34.5	-2.6	-2.8
NFGS 4 (2015-16)	28.0	33.0	32.7	32.8	0.3	0.2
NFGS 3 (2005-06)	44.2	30.8	28.9	29.2	1.9	1.6
NFGS 2 (1998-99)	31.3	26.4	28.0	27.2	-1.6	-0.8
NFGS 1 (1992-93)	31.0	26.3	NA	26.0	NA	0.3

What is Data collection survey method?

※ Data collection surveys collect information from a **targeted group of people** about their opinions, behaviour, or knowledge.

> **Common types of example surveys** are **written questionnaires, face-to-face or telephone interviews, focus groups, and electronic (e-mail or website) surveys.**

What are claims against the present methodology?

※ **Rural bias:** There is evidence of rural population underestimation by **NFHS-3**. Overestimation of rural population seems to have taken place by **NFHS-2 and NFHS-5.**

> ➤ Only **NFHS-1 and NFHS-4** estimates seem to be really close to **World Bank** estimates and projections based on **Census data**. However, these errors seem random rather than systematic.

※ **Less scope to overcome errors:** Generally, there are higher percentages of no-response in urban areas compared to rural areas. However, this also does not seem to have any systematic relation with either rural or urban bias in estimation.

> ➤ No response or not, there seems to be room for **improvement in minimising the errors** and the way sample weights are assigned.

Way forward:

※ The **Pronab Sen Committee** needs to address these concerns to make the sample adequately representative rather than go for a complete overhaul of the survey methodology.

※ In the name of removing systematic rural bias in survey methodology, which does not seem to exist in the first place, let us not import systematic urban bias rampant in policymaking, planning and financing to national level surveys.

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Section B
[CONTEMPORARY ISSUES BASED ESSAY]

Topic
☞ India, Sri Lanka & the revamped approach

INDIA, SRI LANKA & THE REVAMPED APPROACH

Context: **As the Sri Lankan President was on a two-day visit to India, several agreements were signed between both the countries.**

❊ The visit is significant as it was the first time a senior Sri Lankan leader visited India since Sri Lanka experienced a **severe economic crisis last year**.

Major-Points of Discussion:

❊ The leaders underlined the cardinal importance of promoting and strengthening connectivity in all its dimensions as the key enabler.

❊ Accordingly, both leaders adopted 'vision document', based on five pillars:

➤ **Maritime connectivity:** Cooperation in development of ports and logistics at **Colombo, Trincomalee and Kankesanthurai**, with an aim to consolidate regional logistics and shipping.

➤ **Air connectivity:** Expansion of flights between Chennai and Colombo, besides exploring connectivity between **Chennai and Trincomalee, Batticaloa** and other destinations in Sri Lanka.

➤ **Energy and power connectivity:** Plan to establish a **high capacity power grid interconnection** to enable **bidirectional electricity trade** between

Sri Lanka and other regional countries, including those of the **BBIN (Bangladesh, Bhutan, India, Nepal) initiative.**

➤ **Trade, economic and financial connectivity:** The two South Asian neighbours agreed to start a discussion on the **Economic and Technology Cooperation Agreement (ETCA).**

➤ The Agreement signed **to launch UPI** in Sri Lanka to increase Fintech connectivity.

➤ **People-to-people connectivity:** To promote awareness and popularize India's Buddhist circuit, and Ramayana trail as well as ancient places of Buddhist, Hindu and other religious worship in Sri Lanka for enhancing tourism.

❊ **Others**

➤ **Expanding scope of land accessibility**: India and Sri Lanka agreed to conduct feasibility studies on a petroleum pipeline and a **land bridge** connectivity project between the two countries.

➤ **On Fishermen Issue**: Sri Lanka has promised to make amendments in their law regarding the fishing rights and territory.

India-Sri Lanka Fisherman Issue

● The India-Sri Lanka fisherman is a long-standing dispute between the two over fishing rights in the **Palk Strait** and the **Gulf of Mannar.**

● The Palk Strait is a **narrow strip of water** that separates the state of **Tamil Nadu** in India from the northern regions of **Sri Lanka.**

● Both Indian and Sri Lankan fishermen have been fishing in the Palk Bay Straits for several years but the maritime agreements signed between the two sides in 1974 and 1976 led to the demarcation of the **International Maritime Boundary Line (IMBL).**

● The two treaties between the two countries led to the **Palk Bay Strait** connecting India and Sri Lanka being declared a "**two-nation pond**" under the **United Nations Convention on the Law of the Sea rules.**

● This led to the **ban on fishing in international waters of the two countries.**

India's view on deal with Sri Lanka:

❊ Sri Lanka has an important place in both India's '**Neighbourhood First' policy** and '**SAGAR' vision**.

❊ India wants to expand the scope of digital payments between both the countries, bringing the use of UPI and similar tools to the forefront.

'Neighbourhood First' policy:
● Neighbourhood First Policy of India is a core component of **India's foreign policy**.
● It focuses on peaceful relations and collaborative synergetic co-development with its South Asian neighbors of the Indian subcontinent.

● This policy creates new avenues as well as leverages existing regional cooperation initiatives, such as **SAARC, SASEC, BBIN, and BIMSTEC.**

● It compliments India's Look East policy focused on **Southeast Asia and Look West Policy** focused on Middle East.

'SAGAR' vision:
● SAGAR stands for "**Security and Growth for All in the Region**" is India's policy or doctrine of maritime cooperation in the **Indian Ocean region**.
● The policy was first announced by Prime Minister Narendra Modi in 2015.

Sri Lanka and its Strategic significance:

* **Strategic Location**: Sri Lanka occupies a geo-strategically important position as about two-thirds of the world's oil and half of the world's container transportation passes through the **south of Sri Lanka**.

  ➤ Therefore, Sri Lanka, which is strategically located, stands out in terms of the security of maritime communication and trade lines in the Indian Ocean.

* **Positioned as an Island Nation**: On the other hand, Sri Lanka is home to ports that have the potential to become important maritime hubs in the Indian Ocean.

* **Air hub:** In terms of air connectivity, India and Sri Lanka have been following an 'open skies' policy since 2003. Colombo is a significant air hub in the region.

* **Economic Crisis:** The crisis that is hampering Sri Lanka's economic and political stability could have serious repercussions on India.

  ➤ Because Sri Lanka's economic and therefore political dependence on China has led to an increase in Chinese influence in the country.

How India has revamped its approach to engage with Sri Lanka amid China's presence?

* As India has integrated its **Neigbourhood First Policy** with the **Indo-Pacific Policy**, Sri Lanka has emerged as a hotspot for competition between India and China.

* China's **debt-trap diplomacy** through the **Belt and Road Initiative** caused Sri Lanka to lease its Hambantota Port to China for 99 years in 2017. Chinese base in close proximity is a constant strategic challenge to India.

* To counter Chinese influence, India has initiated **strategic cooperation with Sri Lanka.**

➤ **Important exchanges:** India's strategic engagements with Sri Lanka gained traction in 2021 when there was a series of exchanges between the military establishments of the two countries.

➤ **Trilateral cooperation:** Besides, India is a part of the **India-Sri Lanka-Maldives trilateral cooperation**.

  ➤ The three countries have come together to cooperate in the area of maritime security.

  ➤ The first trilateral exercise of this grouping was held in 2021 under the Colombo Security Conclave (CSC) Focused Operation.

➤ **Crisis management:** India has been the first responder to Sri Lanka in crisis.

India's approach towards Indo-Pacific Region

* India's approach towards the Indo-Pacific Region where India is building ties through such mechanisms.

* Some examples include the

  ➤ Quad (India, United States, Japan, Australia)

  ➤ I2U2 (India, Israel, United States, the UAE)

  ➤ India-France-Australia

  ➤ India-France-UAE

  ➤ recent India, Saudi Arabia, United States and the UAE cooperation

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Conclusion:

On the radar of major powers such as Japan, the US, and the UK, as well as China and India, Sri Lanka has become a hub in the Indian Ocean. For this reason, the any support that Sri Lanka will receive from India and other countries is considered by many experts as a balance against China. On the other hand, it is also claimed that Sri Lanka could use its relations with China and its strategic position and importance to extract economic support and concessions from India. The adoption of such a strategy for the protection of a small and economically crisis country is considered quite rational.

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Section C [PRELIMS]

——— To Attempt ———
Weekly Current Affairs Test, Visit

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- Bal Gangadhar Tilak (1856-1920)
- Chandrashekhar Azad (1906-1931)
- US re-entry into UNESCO
- Jammu and Kashmir Reorganisation (Amendment) Bill, 2023
- Cantonment Towns and Administration
- Over 5 cr MGNREGS workers' names deleted in 2022-23
- Adjournment Motion moved by MPs in Parliament
- No-Confidence Motion
- Centre bans export of non-basmati white rice
- Increase in interest rate for PF deposits
- Ludwigia peruviana
- Death of Cheetahs
- Importance of Wetland Conservation
- Cure for drug-resistant tuberculosis (DR-TB)
- Desiccant-based water harvesting from Air

BAL GANGADHAR TILAK (1856–1920)

Context: Lokmanya Bal Gangadhar Tilak, one of the freedom fighters and the strongest proponent of 'Poorna Swaraj' or 'total self-rule', Lokmanya Bal Gangadhar Tilak's 150th birth anniversary was recently observed on 23rd July, 2023.

About Bal Gangadhar Tilak:

❈ He was born on **July 23, 1856 in Maharashtra.**

❈ **Tilak's Ideology**: "*Swaraj is my birth right and I shall have it*".

❈ Bal Gangadhar Tilak was called **'father of the Indian unrest"** by British colonial rulers.

❈ **Education:** Lokmanya Tilak received his education at the **Deccan College in Pune** and he earned his Bachelor's degree in 1876, in mathematics and Sanskrit. Later he also studied law at the **University of Bombay**.

❈ **Major Contributions**

➤ **Educating Commons:** He founded the **Deccan Education Society in 1884** with an aim to educate common people in English.

➤ **Publications:** He founded and edited two newspapers - **Kesari in Marathi** and The **Mahratta in English**. He used his pen as a weapon to **criticise the colonial rulers**.

➤ **Popularization of mass movement:** He popularised **mass mobilisation programmes** like the celebration of **Ganesh chaturthi and Shivaji Jayanti** to aid to **national awakening against the British.**

➤ **Swadeshi movement:** It was under the leadership of Lal-Bal- Pal, **Swadeshi movement** gained momentum across the country.

➤ **Strong voice against Bengal partition**: The trio also mobilised Indians against the **Bengal partition.**

➤ **Gita Rahasya:** He was imprisoned a number of times including a long stint at **Mandalay in Myanmar**. During his years in prison, he spent his time reading and writing. He wrote the famous **'Gita Rahasya'** - an analysis of the Karma Yoga which finds its source in **The Bhagavad Gita.**

➤ **Home Rule Movement:** Tilak was involved in the **Home Rule Movement** and joined **Anne Besant's Home Rule League**. In 1918, he visited England to popularise the Home Rule Movement.

❈ While Jawaharlal Nehru called him the **'father of Indian revolution'**, Mahatma Gandhi described him as **'the maker of modern India'**.

Lal-Bal-Pal

● Tilak who along with Bipin Chandra Pal and Lala Lajpat Rai constituted the 'Lal-Bal-Pal' trio of **extremist leaders.**

Lala Lajpat Roy | Bal Gangadhar Tilak | Bipin Chandra Pal

His ask for 'Poorna Swaraj':

❈ **Channelizing of patriotism:** Bal GangadharTilak was one of the first revolutionists who not only raised their voice against the **British Raj** in India but also channelized the patriotism and anguish of the general public towards the unsettling oppression, tyranny and injustice inflicted on Indians under the colonial rule, to the attainment of *poornaswaraj* (complete independence).

❈ The Indian National Congress, on 19 December 1929, passed the historic **'Purna Swaraj'** – (total independence) resolution – at its **Lahore session**.

❈ A public declaration was made on **26 January 1930** – a day which the Congress Party urged Indians to celebrate as 'Independence Day'.

CHANDRASHEKHAR AZAD (1906–1931)

Context Prime Minister Modi paid tributes to freedom fighter, Chandra Shekhar Azad on his Jayanti.

About Chandrashekhar Azad

❈ Chandrashekhar Azad (1906-1931) was a fearless revolutionary who played a pivotal role in the Indian freedom struggle.

❈ **Major Contributions:**

➤ He reorganised the **Hindustan Republican Association (HRA)**. It was a revolutionary organisation formed by **Ramprasad Bismil.**

GS SCORE

➤ **1921:** When Mahatma Gandhi launched the Non-Cooperation Movement in December 1921, Azad, then a teenager, took part in it. He was arrested by the British during a demonstration.

➤ **1925:** He participated in the **Kakori train robbery** and assassination of British police officer **John Saunders.** While most of the participants were arrested, Azad escaped to Jhansi.

➤ **1928:** Helped by Bhagat Singh and Sukhdev, they formed the **Hindustan Socialist Republican Association (renamed from HRA).**

● The first task of the HSRA was to shoot JP Saunders at Lahore in 1928 to avenge the death of Lala Lajpat Rai.

● The second task was to bomb the Central Assembly to protest against the Public Safety Bill and the Trade Disputes Bill.

➤ Following the arrest of Bhagat Singh after the bombing of the Central Assembly, Azad tried to get him out of prison.

➤ On February 27, 1931, Azad was surrounded by the police when he went to **Alfred Park** to meet one of his contacts.

➤ He refused to surrender and bravely fought the police battalion for hours before shooting himself in the head, staying true to his resolve to **remain 'azad' (free).** His **Colt pistol** is displayed at the **Allahabad Museum.**

US RE-ENTRY INTO UNESCO

Context **US first lady Jill Biden attended a flag-raising ceremony at UNESCO in Paris, marking Washington's official re-entry into the UN agency after a controversial five-year hiatus.**

Background

❋ The US had announced its intention to rejoin UNESCO in June, and the organisation's 193-member states earlier this month voted to approve the US reentry.

❋ The US announced it exit from UNESCO in 2017 cited an alleged anti-Israel bias within the organisation.

➤ The decision followed a 2011 move by UNESCO to include Palestine as a member state, which led the US and Israel to cease financing the agency.

➤ The US withdrawal became official a year later in 2018.

❋ Now, the United States becomes the **194th Member State** of UNESCO.

About UNESCO

❋ UNESCO is the **United Nations Educational, Scientific and Cultural Organization**.

❋ It is a part of the **United Nations**.

❋ Created in 1946, UNESCO originally rebuilt schools, libraries, and museums destroyed in Europe during World War II.

Currently, India has 40 Sites in the **UNESCO World Heritage List** and 52 sites in the **UNESCO Tentative List** of which 6 were added in the year 2022.

JAMMU AND KASHMIR REORGANISATION (AMENDMENT) BILL, 2023

Context: **The Home Ministry has tabled Jammu and Kashmir Reorganisation (Amendment) Bill, 2023 in the Lok Sabha to nominate two members from the "Kashmiri Migrants" community.**

Highlights of the Bill:

❋ The **Jammu and Kashmir Reorganisation (Amendment) Bill, 2023** provides for the following, namely:

➤ to insert new **sections 15A and 15B** in the Act so as to nominate not more than two members, one of whom shall be a woman, from the community of **Kashmiri Migrants**, and one member from **Displaced Persons from Pakistan occupied Jammu and Kashmir**, to the Legislative Assembly of the Union territory of Jammu and Kashmir

➤ amendments to **sub-sections (3) and (10) of section 14 of the Act** which are of consequential in view of completion of delimitation process in the Union territory of Jammu and Kashmir," according to the statement of objects and reasons.

❋ **Objective:** The Bill aims "**to preserve their political rights**" and "**overall social and economic development**."

Significance of the Bill:

❋ In the wake of the **1947 Pakistani aggression**, 31,779 families migrated from **Pakistan-occupied Kashmir.**

❋ Further, during the **wars of 1965 and 1971**, 10,065 more families were displaced from the **Chhamb Niabat area**.

❋ As such, a total of 41,844 families were displaced **during 1947-48, 1965 and 1971 wars with Pakistan.**

❋ The Families who migrated were forced to leave their ancestral places of residence in the Kashmir province, particularly for community of the **Kashmiri Hindus and Pandits**.

✳ The Delimitation Commission has received many representations from these communities regarding **reservation of seats** in the **Legislative Assembly** to preserve their political rights and identity.

✳ So, to address the stance of these people, the bill is of importance.

Jammu and Kashmir Reorganisation Bill 2019:

● The **Jammu and Kashmir Reorganisation Bill, 2019** provides for reorganisation of the state of Jammu and Kashmir into the **Union Territory of Jammu and Kashmir and Union Territory of Ladakh.**

● The Bill provides for a Legislative Assembly for the Union Territory of Jammu and Kashmir. The total number of seats in the Assembly will be 107.

● Of these, **24 seats will remain vacant on account** of certain areas of Jammu and Kashmir **being under the occupation of Pakistan.**

● Further, seats will be reserved in the Assembly for **Scheduled Castes and Scheduled Tribes** in proportion to their population in the Union Territory of Jammu and Kashmir.

● In addition, the Lieutenant Governor may nominate two members to the Legislative Assembly to give representation to women, if they are not adequately represented.

● The Assembly will have a term of five years, and the Lieutenant Governor must summon the Assembly at least once in six months.

● The Legislative Assembly may make laws for any part of the Union Territory of Jammu and Kashmir related to:

  ➤ Any matters specified in the State List of the Constitution, except "**Police" and "Public Order**", and

  ➤ Any matter in the **Concurrent List** applicable to Union Territories.

● Further, Parliament will have the power to make laws in relation to any matter for the Union Territory of Jammu and Kashmir.

CANTONMENT TOWNS AND ADMINISTRATION

Context: The Ministry of Defense has decided to demerge civil areas from Military Stations and integrate them with municipalities in their respective states, aiming to move away from the British-era concept of cantonment towns.

What are cantonments?

✳ Cantonments —**or cantts**, as they are often referred to— **are civic bodies** that trace their roots to the British Raj.

✳ A cantonment is governed by a **Cantonment Board**. Instead of the state government, these civic bodies come under **the Ministry of Defence (MoD).**

● There are more than **60 Cantonments in the country** which have been notified under the **Cantonments Act, 1924 (succeeded by the Cantonments Act, 2006).**

● The first cantonment was established in 1765 at **Barrackpore, near Calcutta (now Kolkata).**

✳ These are the places where the **British Indian Army** stationed its troops. Unlike the Air Force or the Navy that had exclusive 'bases', the Army had cantonments where civilians too stayed in places away from military installations — but close by, leading to a **fusion of lifestyles and cultures.**

✳ Over the course of time, these cantonments developed into **towns and cities**, with military and civilian parts.

✳ While the military parts are managed by the **military authorities**, the civilian parts are managed by the **cantonment boards**.

Need for Cantonments:

✳ These cantonments were often at **strategic locations** across the country.

✳ They served as **military and logistical hubs** and were key to consolidating British rule in India, such as the Meerut Cantonment, which served as the key to the British consolidation and expansion in **North-West India.**

Cantonments and their structure:

✳ Cantonments are classified into four categories — **class I to class IV** —depending on the **size of the area and population.**

✳ While a class I cantonment has eight **elected civilians and eight government/military members** on the board, a class IV cantonment has **two elected civilians and two government/military members.**

✳ This board is responsible for various aspects of the cantonment's administration.

✳ The **station commander** of the cantonment is the **ex-officio president of the board**, and an officer of the **Defence Estates Organisation** is the chief executive and the member-secretary.

✳ The board has **equal representation of elected and nominated/ex-officio members** to balance the official representation.

✳ **Administrative Control:**

  ➤ An inter-services organisation of the Ministry of Defence directly controls cantonment administration.

➤ In terms of **Entry 3 of Union List (Schedule VII) of the Constitution of India**, Urban Self Governance of the Accommodation therein is the subject matter of the Union of India. Cantonments and the Housing

The issues with cantonments:

The cantonments that served the British interests well raised a range of issues in Independent India.

✱ **Civil –Military tussle**: Along with a unique culture of civil-military fusion that emerged in these places, tussles between the two were also not uncommon.

➤ The civilian residents were concerned with **poor civic services, restrictions on construction and housing, and lack of development,** while the military complained of a **shrinking space of their way of life and security concerns.**

✱ **Limited implementation of work**: With most of these issues being highly local were resolved soon, some persisted over the decades and led to extreme demands for the disbandment of cantonment boards altogether.

➤ For example, **cellular coverage in Meerut Cantonment** remains limited as cellular towers are limited and residents complain construction requires unnecessary paperwork.

✱ **Issues with taxation**: In several places, the **house tax or water tax** in cantonments —paid to the cantonment board— is higher than the rate in adjacent **civilian civic bodies**, which is a cause of disgruntlement.

What is the Significance of Demerging of Cantonment Areas?

✱ **Strengthening Civil-Military Relations**: The demerger of military stations and civilian areas is likely to foster better understanding and cooperation between the armed forces and the civilian population. It can also enhance mutual trust and respect, leading to smoother interactions in times of peace and crisis.

✱ **Local Governance and Civic Amenities**: The integration of civilian areas into municipal governance can lead to improved civic amenities and infrastructural development. Residents may have a more significant say in local governance matters, resulting in better urban planning and public services.

✱ **Historical Heritage and Urban Planning:** Many cantonment towns have a rich historical heritage dating back to the colonial era. The decision may raise questions about preserving the historical significance of these regions while facilitating modern urban planning.

✱ **Legal and Administrative Challenges**: The transition from a cantonment town to a merged municipality may bring about various legal and administrative

challenges. The government will need to address these issues to ensure a smooth and efficient transition.

OVER 5 CR MGNREGS WORKERS' NAMES DELETED IN 2022–23

Context The Union Rural Development Ministry informed the Lok Sabha that 5.18 crore names of workers were deleted from the Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS) list in 2022-23, against 1.49 crore in 2021-22.

What is MGNREGS?

✱ The **Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA)** was passed in 2005 and aimed at enhancing the livelihood security of households in rural areas.

✱ Under it, the MGNREGS is a **demand-driven scheme** that guarantees 100 days of unskilled work per year for every rural household that wants it, covering all districts in the country except those with a 100% urban population.

✱ **Type of projects:** related to water conservation, land development, construction, agriculture and allied works.

✱ **Payment:** Under the scheme, if work is not provided within 15 days from when it is demanded, the worker has to be given a daily unemployment allowance.

✱ Additionally, the wages of unskilled workers also have to be paid within 15 days and in case of a delay, the Centre has to compensate them.

Other important schemes

• Deen Dayal Antyodaya Yojana – National Rural Livelihoods Mission (DAY-NRLM)

• Pradhan Mantri Gram Sadak Yojana (PMGSY)

• Pradhan Mantri Awas Yojana – Gramin (PMAY-G)

• PM-KISAN Scheme

What does this 'deletion' mean?

✱ West Bengal (83.36 lakh) saw the highest number of name deletions under MGNREGS in 2022-23, followed by Andhra (78.05 lakh), Odisha (77.78 lakh), Bihar (76.68 lakh) and UP (62.98 lakh).

✱ **Ineligibility:** The deletion of an MGNREGS worker from the rolls basically means that the **person is ineligible** to work as he is no longer registered under the **rural job programme.**

* **Linkage issue:** In many cases, villagers' names could have been deleted because his/her job card was not linked to the **ABPS.**

Recent changes

* In January, the government had made online attendance through the **National Mobile Monitoring System** mandatory for **MGNREGS workers.**

* It is also pushing for an **Aadhaar-Based Payment System (ABPS)** for settling of MGNREGS wages — in a bid to ensure "timely payment of wages" — in spite of widespread protests by workers and activists.

What is AePS?

* Aadhaar-based payment systems (AePS) is a type of **digital payment system** that uses the **Aadhaar biometric authentication system** for making payments.

* Aadhaar is a unique identification number.

* The ABPS leverages the Aadhaar authentication infrastructure to enable transactions and is based on the Unified Payment Interface (UPI) platform.

* AePS is a **bank-led model** developed by NPCI, which allows online transactions at **Micro ATM/Kiosk/mobile devices** through the authorised Business Correspondent (BC) of any bank using Aadhaar authentication.

ADJOURNMENT MOTION MOVED BY MPS IN PARLIAMENT

Context: As Opposition parties demanded a discussion on the alleged sexual assault of two women in Manipur, amid the ongoing ethnic violence in the state during the Monsoon Session of Parliament, the proceedings saw the Lok Sabha being adjourned.

* So, let us look at the **adjournment motions** and how do they differ from **regular adjournments** and the other **motions raised in Parliament.**

What is an 'Adjournment Motion'?

* An adjournment suspends the work in a **sitting for a specified time,** which may be **hours, days or weeks.** In this case, **the time of reassembly is specified.**

* An adjournment only terminates **a sitting** and not **a session** of the House.

* The **power of adjournment** lies with the **presiding officer of the House** ie. In case of Lok Sabha-'**Speaker' is responsible.**

Adjournment Motion vs. Adjournment Sine Die:

* Adjournment sine die means terminating a **sitting of Parliament for an indefinite period.**

* In other words, when the House is adjourned without naming a day for reassembly, it is called adjournment sine die.

* The power of adjournment sine die lies with the presiding officer of the House.

Sessions of the Parliament:

Part-V (Article 79 – 122) of the Constitution deals with the organization, composition, duration, officers, procedures, privileges and powers of the Parliament.

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* A session of Indian Parliament is the time period during which a House meets almost every day continuously to transact business.

* **There are usually three sessions in a year:**
  ➤ The Budget Session (February to May)
  ➤ The Monsoon Session (July to September)and
  ➤ The Winter Session (November to December).

* A sitting of Parliament can be terminated by adjournment, adjournment sine die, prorogation or dissolution.

* The period between the prorogation of a House and its reassembly in a new session is **called 'recess'.**

Other tools of Parliamentary procedures:

* **Calling Attention** – A procedure whereby a Member calls the attention of a Minister to a matter of urgent public importance, the Minister makes a brief statement thereon and thereafter the Members seek clarifications.

* **Crossing the floor**--Passing between the member addressing the House and the Chair which is considered breach of Parliamentary etiquette.

* **Motion of Thanks**-A formal motion moved in the House, expressing its gratitude to the President for the Address delivered by him/her under **Article 87(1) of the Constitution** to both Houses of Parliament assembled together.

* **Point of Order**- A point relating to the interpretation or enforcement of the Rules of Procedure or such articles of the Constitution as regulate the business of the House raised in the House and submitted for the decision of the Chair.

* **Un-starred Question**--A question which is not called for oral answer in the House and the written answer to such a question is deemed to have been laid on the Table.

NO–CONFIDENCE MOTION

Context In an effort to compel PM Modi to speak on the ongoing strife in Manipur in Parliament, which has brought the monsoon session to a standstill, opposition parties decided to move a no-confidence motion against the government, with a particular focus on the situation in the north-eastern issue.

What is a no-confidence motion?

✶ **About:** A no-confidence motion is a parliamentary process that allows the opposition to challenge the government's majority and ability to govern.

➤ If the motion is passed, the government must resign.

✶ **Who can move?** Any member of the Lok Sabha can move a no-confidence motion. However, the motion must be supported by at least 50 members of the House.

✶ **How is it moved?** A no-confidence motion **must be in writing** and must be signed by the member moving it. The motion must be submitted to the Speaker of the Lok Sabha on any day on which the House is sitting.

✶ **Aftermath:** The Speaker of the Lok Sabha will decide whether to admit the motion for discussion and debate. If the motion is admitted, the Speaker will then decide on the date and time for the discussion. The Speaker may grant time for the discussion of the motion (**under sub-rule (2) and (3) of rule 198 of Lok Sabha Rules.**

✶ **Debate:** The no-confidence motion will be debated in the Lok Sabha. The motion will be moved by the member who submitted it, and the government will then respond to the motion. The opposition parties will then have the opportunity to speak on the motion.

✶ **Vote:** After the debate, the Lok Sabha will vote on the no-confidence motion. The motion will be passed if it is supported by a majority of the members of the House.

✶ **Outcome:**

➤ If a no-confidence motion is passed, the government must resign.

➤ If the government wins the vote on the no-confidence motion, the motion is defeated and the government remains in power.

CENTRE BANS EXPORT OF NON–BASMATI WHITE RICE

Context: India's recent ban on non-basmati white rice exports has sent shockwaves through the global market, leading to a scramble for supplies and heightening concerns over food security.

India's Rice exports:

✶ India is the **world's second-largest producer** after **China** and the **largest exporter of rice**.
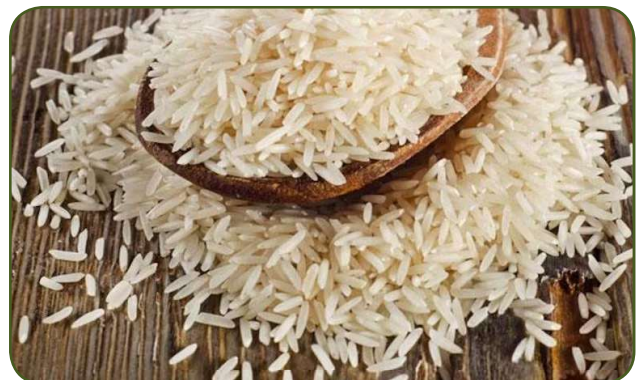
✶ The country commands **40% share in the global rice trade**.

➤ In 2022, it shipped 22m tonnes to more than 140 countries. Around half of those shipments were of non-basmati rice.

> The Indian rice varieties cultivated widely are Basmati, Joha, Jyothi, Navara, Ponni, Pusa, Sona Masuri, Jaya, Kalajiri (aromatic), Boli, Palakkad Matta, etc.

✶ **Key buyers:** Benin, Bangladesh, Angola, Cameroon, Djibouti, Guinea, Ivory Coast, Kenya and Nepal, Iran, Iraq, Saudi Arabia.

✶ **Polished Rice** and **Basmati Rice** constitute around **55% of total rice export** from India.

✶ Due to the **current geo-political situation**, the international price of rice was lucrative, leading to high export of rice as compared to previous year.

Rice as a Crop:

- Rice (*Oryza sativa*) has a major role in diet, economy, employment, culture and history, and this staple food (of eastern and southern India) plays a pivotal role in the food and livelihood security of people.

- Rice is a **nutritional staple food** which provides instant energy as its most important component is carbohydrate (starch).

- On the other hand, it is poor in nitrogenous substances and **fat content or lipids.**

- It is fundamentally a **kharif crop in India** and demands a temperature of around **25 degrees Celsius and above, and rainfall of more than 100 cm.**

- **Major producing states:** West Bengal, Uttar Pradesh, Andhra Pradesh, Punjab, Odisha and Chattisgarh.

Need of such a step:

- ❋ **Increasing price due to increasing exports:** The domestic prices of rice are on an increasing trend due to sharp increase in exports ascribed to high international prices due to geo-political scenario. The retail prices have increased by 11.5% over a year and 3% over the past month.

- ❋ **Supply shortage:** A supply shortage was recently created in the domestic market due to extreme weather conditions.

Impact of the ban

- ❋ India accounts for more than 40 percent of all global rice shipments, so the decision could "risk exacerbating food insecurity in countries highly dependent on rice imports".

Major Agri-exports

- ❋ The major agriexports of India are **cereals, spices, cashew, oilcake/meals, tobacco, tea, coffee and marine products.**

- ❋ **Drivers of export:** The two big contributors to India's agri-export growth have been rice and sugar.

- ❋ **APEDA**: The initiatives taken by the **Agricultural and Processed Food Products Export Development Authority (APEDA)** has helped the country in achieving 84 percent of its total export target for the year 2022-23 in nine months of the current fiscal. APEDA has undertaken initiatives like:

  - ➤ Paperless office (re-engineering, digital signatures, electronic payment facility)

  - ➤ APEDA Mobile App

  - ➤ phase-wise delivery of online services, monitoring and evaluation, uniform access

  - ➤ Virtual trade fair to make governance more efficient and effective

About APEDA

- **Founded:** 1986

- APEDA works under the **Ministry of Commerce and Industry.**

- The Authority replaced the **Processed Food Export Promotion Council (PFEPC).**

- APEDA is mandated with the responsibility of export promotion and development of the following scheduled products.

INCREASE IN INTEREST RATE FOR PF DEPOSITS

Context: Recently, the Centre has accepted the recommendation of the Central Board of Trustees (CBT) of the Employees' Provident Fund Organisation (EPFO) to increase the interest rate of deposits in Provident Fund (PF) to 8.15%.

About the information:

- ❋ The new rate will be applicable for **financial year 2023-24**.

- ❋ The CBT had recommended an increase to **8.15% from 8.10%** interest to the deposits on **March 28, 2023.**

What is Employee Provident Fund (PF)?

- ❋ It is a **government-established savings scheme** for employees of the organised sector.

Employees' Provident Fund Organisation (EPFO):

- EPFO is one of the World's **largest Social Security Organisations** in terms of clientele and the volume of **financial transactions** undertaken.

- At present it maintains **24.77 crore accounts (Annual Report 2019-20)** pertaining to its members.

- The central board of trustees which administers the EPFO runs three schemes - **EPF Scheme 1952, Pension Scheme 1995(EPS) and Insurance Scheme 1976 (EDLI).**

❋ The EPF interest rate is declared every year by the EPFO (Employees Provident Fund Organisation) which is a statutory body under the **Employees' Provident Fund Act, 1956**.

❋ For the current financial year 2022-23, the interest rate on the EPF account **has been fixed at 8.15%. Only employees of companies registered under the EPF** Act can invest in the EPF or PF.

❋ Both the employer and employee are required to contribute **12% of the employee's basic salary** and **dearness allowance every month** to the EPF account.

Who regulates the Employee provident funds?

❋ The **Employees' Provident Fund Organisation (EPFO) is** one of the two main social security organization under the Government of India's **Ministry of Labour and Employment** and is responsible for regulation and **management of provident funds in India**, the other being Employees' State Insurance.

❋ The interest rate was recommended by the **Central Board of Trustees of the Employees' Provident Fund Organisation (EPFO).**

EPF vs. PPF:

• Public Provident Fund (PPF) is a government-supported savings scheme. It is open to everyone – **employed, self-employed, unemployed, or even retired.**

• It is not mandatory and anyone can contribute any amount to the PPF subject to a minimum of Rs 500 and a maximum of Rs 1.5 lakh per year.

• It has a fixed return which is set by the government every quarter. You can open a PPF account with the post office or most major banks.

• The PPF interest rate is reviewed every quarter. The current PPF interest rate is 7.1%.

Drawbacks of EPF:

❋ EPF is only open to employees of companies that have registered under the EPF Act.

❋ This means companies with 20 workers or more. It is not available to **self-employed or retired individuals.**

❋ The EPF contribution is **rigid and fixed at 12%** of salary and DA from the employer and employee.

❋ You cannot contribute less than this amount, although you can contribute more to **VPF (Voluntary Provident Fund)**

❋ Withdrawal **before 5 years** from account opening of **EPF is taxable**. In the modern economy, many people cannot keep a job in an EPF-registered company for 5 years.

❋ The EPF rate may not match the long term returns of **Mutual Funds or the National Pension System (NPS).**

LUDWIGIA PERUVIANA

Context: **"Ludwigia peruviana",** an aquatic weed native to countries like Central and South America, is threatening elephant habitats in Valparai, Tamil Nadu which is further reviving the risk of human-elephant conflicts in the region.

About the species:

❋ Ludwigia peruviana is an aquatic, sometimes deciduous species of flowering plant in the evening primrose family.

❋ Ludwigia is among the **22 priority invasive plants** in Tamil Nadu.

❋ It is used as an ornamental plant for its **tiny yellow** flowers. It grows fast along water bodies.

❋ Ludwigia peruviana, which grows fast along water bodies, has infested the majority of the hill station's swamps, locally known **as vayals**, where elephants used to find lush grass even in the summer.

Elephant Habitat in India:

❋ Currently, they are found in four fragmented populations in the **south, north, central and northeast India.** Habitat generalists' habitat ranges from wet tropical evergreen forests to semi-arid thorn and scrub forests.

❋ However, the highest densities of the elephant population are found in tropical deciduous forests.

❋ According to the report, **Karnataka has the highest number of elephants (6,049),** followed by Assam (5,719) and Kerala (3,054).

Indian Elephant:

- Indian elephants are greyish-black animals that are subspecies of the Asian elephant. They are about **6.6 to 11.5 feet** in height and weigh about **6000 to 11,000 pounds**.

- These elephants go by the scientific name *Elephas maximus indicus* and have long trunks that are completely boneless.

- They feed mainly on grasses, but large amounts of tree bark, roots, leaves and small stems are also eaten.

- Cultivated crops such as **bananas, rice and sugarcane** are favored foods as well.

- Since they need to drink **at least once a day**, these elephants are always close to a source of fresh water.

- **Significance:** Elephants are not only a cultural icon in India and throughout Asia; they also help to maintain the integrity of their forest and grassland habitats.

DEATH OF CHEETAHS

Context: Recently, Supreme Court (SC) urged the government to transfer the Cheetahs to a more conducive environment due to alarming rate of death of Cheetahs since March 2023.

Reintroduction Plan for Cheetahs:

- **Aim:** To establish a viable and secure cheetah population in India promoting its conservation.

- Twenty cheetahs have been brought from **Namibia and South Africa** since September 2022 to reintroduce them into Indian habitat.

- Eight of the animals have died, but the long-term plan is to gradually release the animals into the wild and keep adding more until a self-sustaining population is established.

- Four of the cheetahs have already been released into the wild, but the remaining cheetahs will remain in the acclimatisation camps for the duration of the monsoon season.

- The **National Tiger Conservation Authority (NTCA)** is the nodal body for Project Cheetah.

Why Cheetahs being relocated to India?

- The cheetah is the **only large carnivore** to have gone extinct in India, primarily due to hunting and habitat loss.

- **Maharaja Ramanuj Pratap Singh Deo** of Korea, Madhya Pradesh, is widely believed to have killed the last three recorded cheetahs in India.

- **In 1952, the Indian government officially declared the Cheetah extinct in the country.**

Demand for Reintroduction of Cheetah:

- **The State Wildlife Board of Andhra Pradesh** was the first to suggest the policy in **1955,** on an experimental basis in two districts of the state.

- In the 1970s, the Department of Environment formally requested Iran, which had **300 Asiatic cheetahs** at the time, for some cheetahs.

  ➤ However, the Shah of Iran was deposed before any deal could be reached.

- Attempts to bring cheetahs to India were revived **once more in 2009,** and the **Wildlife Trust of India** conducted a meeting to discuss the feasibility of cheetah reintroduction.

  ➤ Several sites were chosen, of which **Kuno-Palpur National Park (KNP)** was seen as the most suitable.

  ➤ This was because the area had a large habitat area available and significant investments had already been made to displace the villagers inhabiting the site.

Reasons for the death:

- Around **40% of the cheetahs** out of 20 that were introduced in India under Reintroduction of Cheetah project died in KNP in last four months.

- **As per the report for analysing reasons for death**:

  ➤ Sasha, a female cheetah, died due to chronic renal failure.

  ➤ Uday, a male cheetah, suffered a cardiopulmonary failure.

  ➤ Cheetah Daksha died of traumatic shock, the report said without elaborating on the causes.

  ➤ Male cheetah Tejas died due to traumatic shock.

  ➤ Suraj, the fifth one brought in from Africa, also died of traumatic shock.

  ➤ Three cubs born at the park died of heatstroke.

- **Radio Collars:** Two cheetahs died of suspected **Septicaemia** (an infection of the bloodstream) due to **neck wounds caused by radio collars** in Kuno.

- ➤ If there is **constant rainfall** then the skin under the collar becomes infected due to constant moistness resulting in a systematic infection brought on by flies and maggots, eventually causing death.
- ➤ Additionally collar affects the athleticism of cheetahs as it amounts to nearly **7kg of massive weight** during sprinting eventually causing injuries.

IMPORTANCE OF WETLAND CONSERVATION

Context The recent Delhi floods are and urgent indication to improve the city's drainage systems. They also point to Delhi's diminishing natural line of defence — its water bodies and wetlands — against such hazards, without which the river cannot drain its water naturally.

What are wetlands?

* India's Wetland Rules 2017 define wetlands **areas of marsh, fen, peat land or water, including lakes/ponds, oxbow lakes, riverine wetlands, tanks, lagoons and mangroves**, performing **critical ecological functions** for wildlife habitat, groundwater recharge, carbon storage and water regulation.

* These ecosystems exist as **mangroves, marshes, peatlands, ponds, lakes, reservoirs, floodplains, and deltas.**

* Many Indian cities are endowed with wetlands, such as **Kolkata (East Kolkata Wetlands), Mumbai (mangroves), Chennai (Adyar flood plains) and Guwahati (Deepor Beel Lake).**

India has over 757000 wetlands which cover 15.3 million hectares or about **4.7% of the geographical area of the country.**

Benefits of Wetlands

* **Climate resilience:** Wetlands are crucial to our defence against climate change.

* **Carbon storage:** With their thick canopies and aerial roots (especially mangroves), wetland floral species have an immense capacity to store carbon.

* **Buffer:** They act as buffers against storms, prevent flooding, control erosion, and store and purify water.

* **Biodiversity hotspots:** They also serve as biodiversity hotspots.

* **Tangible benefits:** They have **tangible environmental** and **economic benefits** through flood control, fish production and the treatment of wastewater (such as sewage).

Threats to Wetlands	Impact
• **Encroachment** on wetlands in the form of haphazard real-estate development. • The **disposal of untreated sewage.** • **Climate Change** • **Lack of proper classification and demarcation of wetlands**	• **Immeasurable destruction:** The collapse of wetlands can expose cities to cyclones. • **Threat to species:** Wetlands are home to several aquatic and terrestrial species and microorganisms. Due to threatened wetland, the species that depend on them are also lost. • They have **negative impacts** on water quality, nutrient cycling, and climate regulation.

Government Initiatives to conserve wetland

* **Wetlands (Conservation and Management) Rules 2010**: In 2016, the **Wetlands (Conservation and Management) Rules 2010** was bought under the umbrella of the **Environment (Protection) Act 1986.**

* **Wetland management:** In January 2021, the **National Mission for Clean Ganga** formulated a local stakeholders-focused toolkit for wetland management in cities.

* **Census of waterbodies:** The **Department of Water Resources, River Development and Ganga Rejuvenation** launched the census of waterbodies in 2018-19, published as a Census Report of pan-India waterbodies.

 - ➤ Out of the enumerated 24,24,540 water bodies, 97.1 percent (23,55,055) are in rural areas, while 2.9 percent (69,485) are in urban areas.

* **Amrit Sarovar Mission:** The Government of India launched the mission in 2022. Under the Mission, 75 water bodies will be developed and rejuvenated in each district of the country as a part of the celebration of Azadi Ka Amrit Mahotsav.

CURE FOR DRUG–RESISTANT TUBERCULOSIS (DR–TB)

Context: Recently, Johnson & Johnson's patent expired on 'Drug Bedaquiline- a medicine for drug-resistant TB'. This long-awaited expiry will allow generic manufacturers to supply the drug.

❋ Also, the **Indian Patent Office** rejected U.S. pharmaceutical giant Johnson & Johnson's (J&J) attempt for **Evergreening of Patent** on manufacturing of the anti-tuberculosis **drug Bedaquiline** in India beyond July 2023.

What is Evergreening of Patents?

❋ The evergreening of patents is a practice of tweaking drugs in order to extend their patent term and thus their profitability.

❋ The **Indian Patents Act 1970** introduced many provisions to prevent the mischievous practice of "evergreening" of patents.

About Tuberculosis:

Vital intervention

Bedaquiline, manufactured by J&J, is a crucial anti-TB drug

- around $400 for a six-month treatment regimen, the prices are likely to fall
■ After July, generic producers like Lupin and Macleods are likely to manufacture the drug
■ India has rejected J&J's appeal to extend its patent beyond July 2023
■ Currently priced at
■ Over 55,000 patients, in whom other drugs have stopped working, may benefit from Bedaquiline access
■ Till March 2020, only a little over 10,000 patients received the drug

❋ It is caused by **bacteria (Mycobacterium tuberculosis)** that most often **affect the lungs**.

❋ **Transmission:** TB is spread from person to person through the air. When people with lung TB cough, sneeze or spit, they propel the TB germs into the air.

❋ **Symptoms:** Cough with sputum and blood at times, **chest pains, weakness, weight loss, fever and night sweats.**

❋ **Treatment:** TB is treatable and curable disease. It is treated with a standard 6 month course of 4 antimicrobial drugs that are provided with **information, supervision and support** to the patient by a health worker or trained volunteer.

Forms of TB:

❋ **Multidrug-resistant Tuberculosis:**

➤ It is a form of TB caused by bacteria that do not respond to isoniazid and rifampicin, the 2 most powerful, **first-line** anti-TB drugs.

➤ MDR-TB is treatable and curable by **using second-line drugs.**

❋ **Extensively drug-resistant Tuberculosis:**

➤ It is a more serious form of MDR-TB caused by bacteria that do not respond to the most effective second-line anti-TB drugs, often leaving patients without any further treatment options.

Major Drugs:

❋ **First line medications: Rifampin, isoniazid, pyrazinamide, and ethambutol** are first-line antitubercular medications, which are FDA-approved and indicated for the treatment of **Mycobacterium tuberculosis infections**.

❋ **For Drug-resistant TB:** Fluoroquinolones (levofloxacin or moxifloxacin), bedaquiline, and linezolid are strongly recommended for a longer MDR-TB regimen.

Generic medicines in India:

❋ India is the **largest manufacturer of generic medicines** globally.

❋ Its pharmaceutical industry plays a crucial role in **global healthcare, providing affordable generic medicines that impact the lives of the global poor.**

❋ It is currently valued at USD 50 Bn being a major exporter of Pharmaceuticals, with over 200+ countries served by **Indian pharma exports.**

❋ It is expected to reach USD 65 Bn by 2024 and to USD 130 Bn by 2030.

Role of Generic medicines for TB:

❋ As to aid millions of people who can't afford the **expensive modified drugs**, as well as for the development of the domestic generic drug market, development of generic medicines are important for India.

❋ India holds the highest burden of **Tuberculosis patients**, thus needs a sustainable drug mechanism which can be affordable by all.

Related Government Initiatives:

- Production Linked Incentive (PLI) Scheme for Pharmaceuticals
- Promotion of Bulk Drug Parks Scheme
- Strengthening Pharmaceuticals Industry Scheme

DESICCANT–BASED WATER HARVESTING FROM AIR

Context: Recently, a Bengaluru-based deep-tech start-up has found a technique to harvest water from air entirely powered by renewable energy.

What is this new Product?

❋ The product is based on '**desiccants'.**

❋ This contains a **salt solution of calcium chloride.** It allowed to scale up production to **20-30 litres of water per day.**

❋ The product is significant to reimagine the water infrastructure by reducing dependence on conventional water sources such **as groundwater.**

> As per the observations, for coastal areas like **Chennai and Calicut**, where the relative humidity is usually **80-90 per cent** on average, **optimum water production** can be done at lower energy.

How water extraction can be done from air?

❋ Conventional technologies that harvest water from the air are roughly based on an **air conditioning device.**

What Is a Desiccant?

A desiccant is a subtance that adsorbs or absorbs water and promotes drying.

Calcium chloride   **Silica gel**   **Activated charcoal**

❋ Basically, the air conditioner cools the air by **condensing the moisture** present in the atmosphere and then forms water.

❋ But the new technology is power-hungry and is highly dependent on the relative humidity of the place.

'Science' behind the Technique:

❋ **Desiccants** are materials that attract and absorb moisture from the surrounding air. The common example of a desiccant is **silica gel**.

➤ It can absorb moisture from the air when exposed.

➤ And heating this material to **about 70-80°C** releases the moisture in an almost **steam-like form**, which can be condensed to form **fresh water**.

How does the equipment make drinkable water?

❋ First, when **air enters the unit,** the absorber air filters remove some dust particles.

❋ Second, the **liquid desiccant** has an affinity only for **water vapor and no other pollutants**.

❋ Third, **microbial life** dies when the material is heated to over 70°C. The water becomes pure and distilled, with **no minerals, heavy metals, or microbial life**.

❋ To make it drinkable, the water is passed through **an ultrafiltration membrane**.

➤ The **ultrafiltration stage** removes any particles that might have entered after the water gets collected; no water gets wasted at this stage.

❋ At last, it is passed through an **ultraviolet disinfection** chamber **to add an extra layer of safety and minerals** (minerals are primarily added in the form of a powder).

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Section D [QUIK BYTE]

- Stitched shipbuilding method or 'Tankai' method
- Qubbat-ul-Islam Mosque
- Income Tax Day
- National Broadcasting Day 2023
- India Climate Energy Dashboard (ICED) 3.0
- Electric Freight Accelerator for Sustainable Transport (e-FAST) initiative
- Special Rupee Vostro Accounts
- Akira Ransomeware
- Solar Technology Application Resource Centre (STAR C) Initiative
- World Fragile X Day
- Controlled Human Infection Studies (CHIS)
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- Silver cockscomb

Stitched shipbuilding method or 'Tankai' method

In a remarkable initiative to revive and preserve the **2000-year-old technique** of shipbuilding known as the '**stitched shipbuilding method**', the **Ministry of Culture** and the Indian Navy have entered into a **Memorandum of Understanding (MoU).**

About the method:

- The technique is known as '**Tankai'** method or the "stitched shipbuilding method".

- The stitched ship is made by **stitching wooden planks**.

- These ships are more durable as nails are not used.

- Also these ships caused less damage due to shoals and sandbars.

- For thousands of years they contributed to trade, cultural exchange, and exploration.

Qubbat-ul-Islam Mosque

The **Delhi High Court** asked the **Archaeological Survey of India (ASI)** to produce any records available with respect to a **January 1914** notification pertaining to the **Mughal Mosque** situated near Qutub Minar.

About the orders:

- The court has asked ASI to clarify the policies regarding "**In all protected monuments all over the country no worship is permitted**" on which the ASI counsel responded to seek instructions.

- ASI said "**Qutub Minar** being the **Monument of National Importance** and also a **UNESCO World Heritage Site**. Since the time of its protection the monument or any part of the building has not been used for any type of **worship by any community**.

- The mosque in question comes within the boundary of Qutub Minar Complex.

- The **Archaeological Survey of India (ASI)** said that prayers cannot be permitted there since the mosque comes within the boundary of Qutub Minar.

Qubbat-ul-Islam Mosque (Dome of Islam):

- The mosque stands next to the Qutb Minar.

- Many subsequent rulers, including the **Tughlaqs, Alauddin Khalji and the British added structures to the complex.**

An **1871-72 report** prepared by the **Archaeological Survey of India** states that the mosque on the Qutub Minar campus was constructed over Hindu temples.

Income Tax Day

Income Tax Day, also known as Aaykar Diwas, is celebrated by the Income Tax Department every year on July 24.

About

- The day is celebrated on July 24 as it was on this day in 1860 when Sir James Wilson introduced income tax for the first time in India.

- This step was taken to compensate the British government for the losses incurred during the First War of Independence in 1857.
- The **first Income Tax Day** in India was celebrated on **July 24, 2010**.

Income Tax department

- The **Income Tax department**, headquartered in New Delhi, is in charge of direct tax collection for the Government of India.
- It reports to the **Ministry of Finance's Department of Revenue** and is overseen by an apex body known as the **Central Board of Direct Taxes (CBDT).**

National Broadcasting Day 2023

National Broadcasting Day in India is marked on **July 23** as symbolic of the **Radio Club of Bombay.**

About Journey from IBC To Akashvani:

- Radio broadcasting services were introduced in India during British rule in 1923 as an initiative of the **Radio Club of Bombay**.
- India's first-ever radio broadcast commenced from Bombay Station under the **Indian Broadcasting Company** in 1927.
- On July 23, 1927, **All India Radio** was founded as a private company called "**Indian Broadcasting Company Ltd (IBC),"** and this date became the basis for celebrating **National Broadcasting Day, established in 1936.**
- Later, on June 8, 1936, IBC was transformed into **All India Radio (AIR)**.
- In 1956, the name "**Akashvani"** was officially adopted for AIR, inspired by **Rabindranath Tagore's 1938 poem titled "Akashvani,"** which translates to "voice or announcement from the skies."

India Climate Energy Dashboard (ICED) 3.0

Recently, NITI Aayog has released **the India Climate Energy Dashboard (ICED) 3.0.**

What is ICED 3.0?

- The ICED is the country's **one-stop platform** for near real-time data on the energy sector, climate, and related economic datasets based on government published sources.
- ICED 3.0 enables users to freely access and analyse datasets using an analytical engine.
- It will facilitate insights and enhance understanding about the energy and climate sectors while identifying the key challenges.
- The Portal will draw insights from the available data parameters and hence immensely useful in monitoring the progress of India's clean energy transition journey.
- This dashboard offers more than 500 parameters, over 2000 infographics, and a number of interactive visualizations, allowing users to gain a holistic understanding of India's energy sector.

Electric Freight Accelerator for Sustainable Transport (e-FAST) initiative

Fifteen prominent companies have come together under the **Zero Emission Vehicles Emerging Markets Initiative (ZEV-EMI)** and the Indian government's **E-FAST (Electric Freight Accelerator for Sustainable Transport)** initiative to advance the electrification of the truck market in India.

What is e-FAST?

- **e-FAST** is **India's first national electric freight platform.**
- **Launched by:** NITI Aayog, in collaboration with **World Resources Institute (WRI),** India.
- **Objective:** To bring together different stakeholders from across the freight ecosystem, to strengthen partnerships and identify and support innovative freight solutions.
- e-FAST India aims to raise awareness on freight electrification, supported by on-ground demonstration pilots and evidence-based research.
- In addition, the platform also support scalable pilots and inform policies aimed at accelerating freight electrification in India.

Special Rupee Vostro Accounts

Banks from 22 countries have opened Special Rupee vostro accounts in Indian banks in order to trade in local currency as part of gradual de-dollarization plans, as per latest information.

What are Special Rupee vostro accounts?

- The Rupee Vostro Account system is a financial arrangement that enables **foreign banks to conduct transactions in Indian rupees** with domestic banks.
- Under the system, a vostro account is a bank account held by a domestic bank for a foreign bank, denominated in the domestic currency of the former.

Akira Ransomeware

India's nodal agency for computer security-related threats has issued a warning to citizens and organisations about the emergence of a new ransomware called **'Akira'.**

What is Akira ransomeware?

- Akira is a specific type of ransomware designed to encrypt data on infected computers and manipulate filenames by appending the ".akira" extension.
- Upon execution, Akira deletes the Windows Shadow Volume Copies on the targeted device.
- The ransomware then encrypts files with a predefined set of extensions.
- A '.akira' extension is appended to each encrypted file's name during this encryption process.
- Once inside the system, the ransomware turns itself on and encrypts all sensitive information and converts them into files with .akira extensions.

- Akira ransomware can enter computers through various means such as malicious email attachments or links, pirated software websites, peer-to-peer (P2P) networks, free file hosting sites, and third-party downloaders.

> **Ransomware** is a type of malware that holds users' data hostage, denying access until a ransom is paid to the attackers.

Solar Technology Application Resource Centre (STAR C) Initiative

India is considering expanding its solar STAR-C initiative, run by the International Solar Alliance, to a number of Pacific Island countries.

What is STAR C Initiative?

- The initiative is run by the **International Solar Alliance** in partnership with the **United Nations Industrial Development Organisation (UNIDO)**.
- The project is also funded by **France.**
- The programme aims to boost solar power ecosystems in the poorest countries.
- It aims to create a strong network of institutional capacities within ISA member states to enhance quality infrastructure for the uptake of solar energy products and services.

Significance:

- This move is part of India's efforts to expand its diplomatic footprint in the region, which has seen increased outreach by China.

> ### International Solar Alliance (ISA)
>
> - **Founded in**: 2015
> - ISA is a treaty-based intergovernmental organisation.
> - It works with governments to improve energy access and security worldwide and promote solar power as a sustainable transition to a carbon-neutral future.
> - **Members:** 114 Member and Signatory countries.

World Fragile X Day

The World Fragile X Day celebrated on July 22, raises awareness about the rare genetic illness — **Fragile X or Martin-Bell syndrome** — that causes **intellectual disability and autism.**

About the disease:

- Fragile X syndrome is the leading cause of inherited intellectual disabilities like autism.
- There are behavioural, physical, intellectual and mental health symptoms. Females have milder symptoms than males.
- FXS is **not life-threatening** and although there is no cure, medication and therapy can help manage the symptoms.
- FXS is one of three syndromes in the fragile X family. The other two syndromes are:

➤ **Fragile X-associated tremor/ataxia syndrome (FXTAS).** Symptoms include balance problems, shaky hands, unstable mood, memory loss, cognitive problems and numbness in the hands and feet.

● **Fragile X-associated primary ovarian insufficiency (FXPOI).** Symptoms include reduced fertility, infertility, missing or unpredictable menstrual periods and premature menopause.

Controlled Human Infection Studies (CHIS)

India has taken its first step to introduce '**Controlled Human Infection Studies (CHIS)'**, by **Indian Council of Medical Research's (ICMR) Bioethics Unit** which is used in many countries for **vaccine and treatment development**.

What is Controlled Human Infection Studies?

● **Controlled Human Infection Model (CHIM) study** is a well-characterised strain of an **infectious agent** is given to carefully select adult volunteers in order to better understand human diseases, how they spread, and find new ways to prevent and treat them.

● These studies play a vital role in helping to **develop vaccines for infectious diseases.**

● On 6 February 2018, the **Academy of Medical Sciences**, supported by the Human Infection Challenge Vaccine network.

Infectious diseases:

● Infectious diseases are disorders that are caused by organisms, usually microscopic in size, such as **bacteria, viruses, fungi, or parasites** that are passed, directly or indirectly, from one person to another.

● **Some of them includes;** Chickenpox, Common cold, Diphtheria, E. coli, Giardiasis, HIV/AIDS, Infectious mononucleosis and Influenza (flu) etc.

ISRO to launch Singapore's DS-SAR Satellite

The **Indian Space Research Organisation (ISRO)** has announced the launch of the **PSLV-C56** carrying **Singapore's DS-SAR satellite.**

About:

● DS-SAR carries a **Synthetic Aperture Radar (SAR)** payload developed **by Israel Aerospace Industries (IAI).**

● This allows the DS-SAR to provide for all-weather **day and night coverage** and is capable of imaging at **1m resolution at full polarimetry.**

● The DS-SAR satellite is developed under a partnership between **DSTA (representing the Government of Singapore) and ST Engineering.**

● Once deployed and operational, it will be used to support the satellite imagery requirements of various agencies within the Government of Singapore.

● ST Engineering will use it for multi-modal and higher responsiveness imagery and **geospatial services for their commercial customers**.

● The **New Space India Limited (NSIL)** has procured **PSLV-C56** to deploy the DS-SAR satellite.

Silvopasture

In light of the global deterioration of natural resources and forests, **silvopasture systems** offer a relevant solution to deforestation trends.

What is Silvopasture?

- Silvopasture is an **ancient and proven practice** that harmoniously integrates trees, forage and livestock on the same land.

- By combining these elements, silvopasture brings numerous environmental advantages, including improved local climate resilience.

- As silvopasture systems combine trees and livestock on the same land, silvopasture can play a vital role in reversing the negative trend of deforestation for pasture land.

- Moreover, the trees on silvopasture lands act as **natural carbon sinks**, sequestering significantly five-10 times more carbon then pastures without trees, all while maintaining or enhancing productivity.

Srivilliiputhur Megamalai Tiger Reserve

In an RTI, illegal, unauthorised or unrecognised resorts were identified in **Srivilliiputhur Megamalai Tiger Reserve**

About:

- **Srivilliputhur Megamalai Tiger Reserve** is the **fifth tiger reserve** in Tamil Nadu.

- It lies in the **Western Ghats** region.

- **Srivilliputhur-Megamalai Tiger Reserve** is Tamil Nadu's fifth tiger reserve and **India's 51st**.

- Srivilliputhur was well-known as the **Grizzled Giant Squirrel Wildlife Sanctuary**.

- **Bengal tigers, elephants, gaurs, Indian giant squirrels, leopards, Nilgiri tahrs, and other animals** can be observed here.

- It's a blend of **tropical evergreen and semi-evergreen forests, dry deciduous and moist mixed deciduous woods, and grassland** in this area.

- SMTR is also adjacent to the **Kalakad-Mundanthurai** reserve. The Srivilliputhur end is about 45 km from Virudhunagar town.

LOCATION IN NEWS

Tel Tsaf site

According to a paper published in **Israel in 2022**, records from the **Tel Tsaf site** shows cotton fibers originated in the **Indian subcontinent** around **5200 BCE**.

Tel Tsaf site:

Early States of the Old World

EGYPT

MESOPOTAMIA

CHINA

INDUS VALLEY

Arabian Sea

Indian Ocean

- Tel Tsaf, a **Middle Chalcolithic site**, is located in the **central Jordan Valley**.

- Cotton fibres found at Tel Tsaf are younger than the cotton strings found at **Mehrgarh copper beads**.

- Excavations unearthed have **four architectural complexes** where each consists of a closed courtyard with round or rectangular rooms and numerous rounded silos.

- Burials were found within or adjacent to silos.

- Common findings include- **flints, pottery, animal bones, 150 clay sealings (bullae) and imported items like artifacts of basalt and obsidian, beads, sea shells, Nilotic shell and pottery items of Ubaid culture of north Syria.**

Gomti River

The declaration of the River Gomti as a **"non-perennial river"** in 2020 by the Irrigation department of the Uttar Pradesh has become an issue now.

About the River:

- River Gomti starts from **Gomat Taal** which is famous because of **Fulhaar jheel** that is close to **Madho Tanda** situated in Pilibhit, India.

- This river covers about 900 kilometers which is about 560 miles and it flows through Uttar Pradesh and joins the Ganges close to Saidpur, Kaithi in Ghazipur.

- This river starts at its origin and after crossing 20 kilometers, it joins the small river and the name is Gaihaaee.

- This river is very lean until it arrives at Mohammadi Kheri which is about 100 kilometers from its starting point.

- It is a tehsil of Lakhimpur Kheri district and at this district; the river meets some other tributaries.

- **Tributaries:** The tributaries and sub-tributaries of Gomti are-

  ➤ Sukheta

  ➤ Choha

  ➤ Andhar Choha

What are Non-perennial river?

- The non-perennial rivers are those rivers that have no water flow for the whole year.

- For e.g. - Godavari, Krishna, etc. These rivers are non-perennial mainly because they do not originate from the glacial areas like Ganga, Yamuna, Indus, etc.

- The Godavari is the second-longest river after the Ganga i**n India.**

SPECIES IN NEWS

Silver cockscomb

In **Karnataka's Chamarajanagara district**, where **silver cockscomb (anne soppu),** farmers of the **Soliga tribe** say controlling the weed can cost up to Rs 2,000 per acre (0.4 hectare) per year.
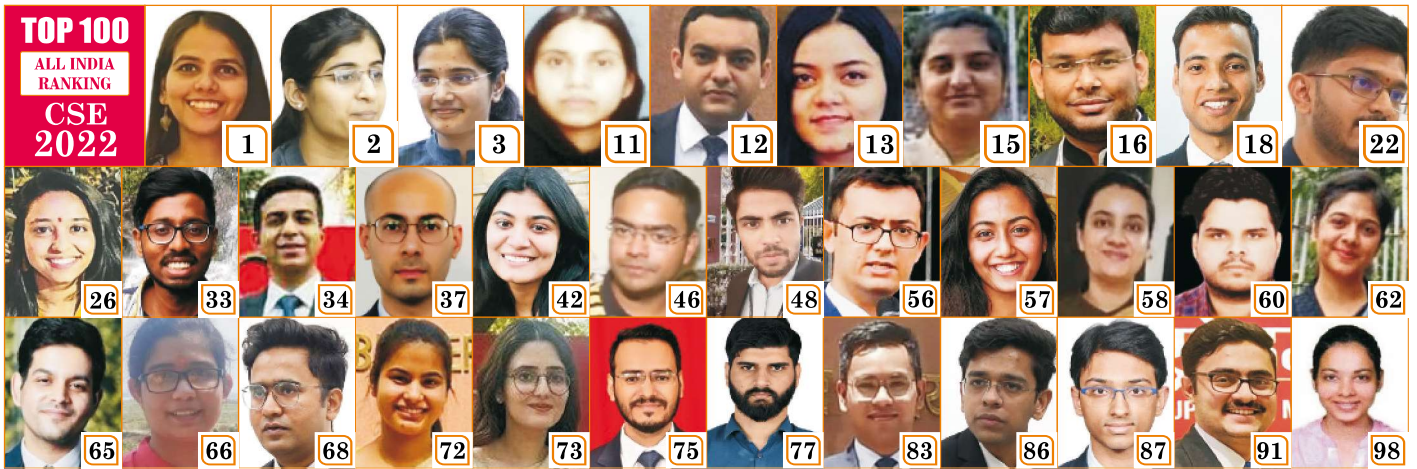
About:

- Silver cockscomb is a short-lived 50-60 cm-tall plant that bears simple, spirally arranged leaves around the stem with pinkish or silky white flowers.

- It is **native to India and Africa or North and South America**.

- **Medicinal use:** The flowers and seed are **astringent, haemostatic, ophthalmic, parasiticide and poultice**. They are used in the treatment of bloody stool, haemorrhoid bleeding, uterine bleeding, leucorrhoea, dysentery and diarrhoea.

- Since it grows widely on farmlands across the country, most farmers use the plant as fodder.

- But like the Soliga tribe, some communities also consume it as a leafy vegetable.

Soliga Tribe:

- The Soliga people of the **Biligiri Rangana Hills**, a tribal community in Southern India, could be among the country's first settlers.

- This forest-bound, **Dravidian speaking group**, lives isolated, practicing subsistence-level agriculture under primitive conditions.

- The Soligas are known for their intimate knowledge of the forests and judicious use of **medicinal plants and non-timber forest produce** like **honey, gooseberry, lichen, tubers, etc.**

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