



**MANIKA IAS**

INSPIRING MINDS



# **CURRENT AFFAIRS**

**January 2024**

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# POLITY

## 1. Judiciary

### Supreme Court Verdict on Ban on Sale of Liquor

**Context:** Supreme Court bench headed by D.Y. Chandrachud has asserted that its December 2016 ban on the sale of liquor within 500 metres of the outer edge of national and State highways will not extend to municipal areas recalling a Supreme Court order of March 20, 2023.

**2023 Judgement:** Relocation of a liquor shop in Puducherry to an area beyond 500 metres from a temple, mosque or educational institution, saying that local municipal laws will also apply to deal with wine shops.

**2016 Judgement:** The Supreme Court in 2016 came out with a significant verdict in a case titled **State of Tamil Nadu Vs K Balu** holding that no liquor shops will be permitted within 500 metres of national and state highways to prohibit drunken driving and road mishaps. Later, the decision was modified and liquor vends were permitted at a distance of 220 metres from national and state highways if the area is a municipal area with a minimum population of 20,000.

### Promotion for Disabled Staff

- The Union Government issued an order paving the way for persons with disabilities to be considered for reservation in promotions up to the lowest rung of Group A posts in the Central government, with effect from June 30, 2016.
- The Supreme Court on June 30, 2016, had initially ruled that candidates with disabilities must be entitled to reservation in promotions irrespective of whether the positions were filled through reservation or not.
- After the court finally upheld the right to reservation in promotions in a 2021 order, the government issued rules for the implementation of it.

### Speaker Decision in Maharashtra

**Context:**

- Speaker of Maharashtra Assembly, Rahul Narwekar, had to determine if the breakaway group of Shiv Sena MLAs, led by Eknath Shinde, voluntarily gave up party membership and voted against the party whip, leading to disqualification under the Tenth Schedule of the Constitution.
- Anti-defection law considers voluntarily giving up party membership or voting against the party whip as defection.

**Speaker's Dilemma:**

- Irrelevant factors: Becoming Chief Minister, majority joining Shinde group, or Shiv Sena becoming a minority are irrelevant to disqualification under the Tenth Schedule.
- Petition filed by the original Shiv Sena party seeking disqualification of the Shinde group.

### **Attempt to Prevent Disqualification:**

- The Shinde group had secret meetings, did not attend party meetings, and formed an alliance with the opposition.
- Speaker Narwekar had to decide if Shinde's actions could be considered voluntarily giving up party membership.

### **Voluntarily Giving Up Membership:**

- Determined based on facts and circumstances of each case.
- Supreme Court's observation in Rajendra Singh Rana vs Swami Prasad Maurya (2007) considered.
- Shinde group's actions are considered as voluntarily giving up party membership.

### **Flawed Judgment and Misinterpretation:**

- The Speaker's judgment attempted to avoid disqualification but was flawed.
- Omission of the split provision in 2003; now, only the merger provision remains.
- Speaker erroneously determined the real Shiv Sena faction, a decision beyond his jurisdiction.

### **Speaker's Erroneous Move:**

- Attempts to decide which faction is the real Shiv Sena, a question under the Election Commission's jurisdiction.
- The Tenth Schedule does not require the Speaker to decide this question.
- Speaker's declaration contradicts the Supreme Court's findings in the Subhash Desai judgment.

### **Judiciary's Clear Enunciation of the Law:**

- The Speaker's decision contradicts the Supreme Court's findings in Subhash Desai judgment.
- Subhash Desai judgment clarifies that Uddhav Thackeray-led Shiv Sena is the original political party, and Shinde group incurred disqualification under the Tenth Schedule.
- The speaker's decision on the real Shiv Sena faction is without jurisdiction.

The Election Commission should decide which faction is the real party. Parliament did not consider paragraph 15 of the Symbols order as a relevant factor while enacting the Tenth Schedule.

## REMISSION POLICY

**CONTEXT:** Supreme Court's Decision: On January 8, the Supreme Court overturned the remission of 11 convicts involved in the gang rape of Bilkis Bano and the murder of her family during the 2002 Gujarat communal riots. The remission order, issued by the Gujarat government in August 2022, was set aside.

## CLEMENCY

- **Clemency Powers Defined:** Articles 72 and 161 of the Constitution grant clemency powers to the President and Governor, respectively. These powers include the authority to grant pardon, commutation, remission, respite, or reprieve to a convict. These powers are exercised on the advice of the Council of Ministers.
- **Additional Clemency Powers:** Section 432 of the Criminal Procedure Code, 1973 (CrPC), empowers the State government to remit the punishment of a convict. However, for life imprisonment convicts, this remission can only occur after a minimum of 14 years in jail according to Section 433A of the CrPC.

## REMISSION:

- **Background to the Remission:** The convicts committed heinous crimes during the 2002 Gujarat riots. The Supreme Court shifted the trial to Maharashtra in 2004 for a fair trial, leading to a CBI trial court in Mumbai sentencing the convicts to life imprisonment in 2008.
- **Remission Application:** One of the convicts sought remission under Gujarat's 'Remission policy' of 1992, arguing its applicability during the commission of the offence and sentencing. The Supreme Court directed the Gujarat government to consider the application in May 2022, resulting in the convicts' release in August 2022.
- **Legal and Moral Issues:** Serious legal and moral concerns arose regarding the premature release. Provisions of the CrPC were not followed, as the remission application should have been considered by Maharashtra, where the sentencing occurred. The presiding judge's opinion was not sought, as required by law.
- **Supreme Court's Ruling:** The Supreme Court held that the Gujarat government was not the appropriate authority for considering the remission petitions. The May 2022 order was deemed obtained through fraud and suppression of facts, rendering it null. The Court ordered the surrender of all 11 convicts within two weeks, emphasising that Maharashtra is the appropriate authority to consider their remission petitions.
- **Guidelines for Remission:** The Supreme Court's ruling emphasised guidelines laid down in previous cases, including Laxman Naskar versus Union of India (2000) and Sangeet versus State of Haryana (2012). It reinforced the idea that crimes affecting society at large deserve no mercy.

and expected the Maharashtra government to follow these guidelines in their consideration.

## **ELECTION PETITION**

**CONTEXT:** The Madras High Court refused to declare as null and void the election of four MPs and eight MLAs, who had contested on reserved symbols belonging to other political parties in the 2019 general election and the 2021 Assembly election, respectively.

**Reason:** the question in dispute could not be decided in writ jurisdiction but by election Petition.

**Stand of Election commission:** Returning Officers perform a quasi-judicial act of accepting the nomination of a candidate on the basis of the papers filed before him/her, and if there are any discrepancies in those documents, the election of such a candidate could be challenged only by way of an election petition

### **Constitutional provision**

- They could be resolved only by marshalling evidence and conducting a trial.
- Article 329(b) of the Constitution clearly states that no election to Parliament or a State legislature could be called into question except by way of an election petition presented to such authority and in such manner as may be provided for under any law.
- According to Section 80-A of the Representation of the People Act, 1951, The High Court is the authority to receive such a petition.
- A petition of this nature must be filed within 45 days after the date of the poll results; anything filed beyond that is not considered by the courts.
- Although the Representative of the People Act (RP Act) of 1951 requires the High Court to try to complete the trial within six months, it generally takes considerably longer, even years.
- The High Court should notify the Election Commission of India and the Speaker of the House or the Chairman of the State Legislature of the content of its judgement as soon as possible after the end of the trial of an election petition.
- Grounds of election Petition:
  - Section 100 of the Representation of the People Act, 1951 provides ground of Election petition.
  - An election petition can be filed on one or more of the following grounds:
    - **Ineligibility:** On the day of his election, a returning candidate was ineligible or disqualified to fill the seat.

- **Corruption:** A returned candidate or his election agent, or any other person with the approval of a returned candidate or his election agent, has engaged in any corrupt activity.
- Bribery
  - Undue influence exercised by the candidate or his/her agent; includes threats, efforts to convince voters or other candidates, statement of public policy or action, or the simple exercise of a legal right, among other things.
  - A candidate or his election agent requests that voters refrain from voting on the basis of religion, race, caste, community, or language.
  - Use of national symbols, national emblems, and national flags to advance the candidate's election prospects or to negatively impact the election of any other candidate.
  - False statements made by the candidate or his election agent. A remark of this type can also include one that is reasonably designed to harm the chances of that candidate's election.
  - Making incorrect statements about election expenditures.
  - Attempting to gain the services of government employees in order to advance electoral prospects. These government employees may include gazetted officers, magistrates, members of the armed forces, police officers, excise officers, revenue officers, and others.
  - Booth capturing by the candidate of election agent.
    - Improper acceptance of any nomination.
    - By improperly receiving, refusing, or rejecting any vote, or receiving an invalid vote.
    - **Violation:** Any violation of the provisions of the Constitution or RPA, or any rules or directives issued under this act.

## 2. Legislature

### Simultaneous Elections

**Context:** Ram Nath Kovind led high level committee on “one nation, one election” has received over 20,000 responses from citizens and 81% of them have “affirmed” the idea of simultaneous polls.

### Simultaneous Elections

Simultaneous elections refer to the concept of holding all elections to the Lok Sabha (the lower house of India's Parliament) and state legislative assemblies at the same time.

### Key points:

- **Current Scenario:**



- India currently follows a system of separate elections for the Lok Sabha and state legislative assemblies.
- Elections at the state level are held independently and at different times, resulting in frequent elections across various states.
- **Rationale for Simultaneous Elections:**
  - **Stability and Governance:** Advocates argue that simultaneous elections can provide stability and continuity in governance as frequent elections can lead to policy disruptions.
  - **Cost Efficiency:** Conducting elections simultaneously is believed to be more cost-effective, as it reduces the financial burden associated with organizing elections frequently.
- **Challenges and Concerns:**
  - **Constitutional and Legal Challenges:** Implementing simultaneous elections poses constitutional and legal challenges as terms of state governments may need to be altered to synchronise with the central government's term.
  - **Logistical Challenges:** Coordinating elections across the vast and diverse country poses logistical challenges, including security arrangements and availability of election infrastructure.
  - **Loss of Regional Focus:** Critics argue that simultaneous elections may dilute the regional focus of state elections, as they might be overshadowed by national issues.
- **Constitutional Amendment Requirement:**
  - Achieving simultaneous elections may require amendments to the Constitution of India, as the current constitutional provisions do not explicitly provide for synchronized elections.
- **Government's Stand:**
  - The idea of simultaneous elections has been discussed at various levels, and there have been periodic debates on its feasibility and desirability.
  - The government has periodically expressed interest in exploring the possibility of simultaneous elections, citing governance efficiency and cost savings.
- **Election Commission's Role:**
  - The Election Commission of India plays a crucial role in organizing and conducting elections. Any move towards simultaneous elections would involve extensive coordination with the Election Commission to ensure smooth implementation.
- **Public and Political Opinion:**
  - The concept of simultaneous elections has generated mixed reactions among political parties and the public. Some view it as a positive step

for stability, while others express concerns about its practicality and impact on democratic principles.

- **Pilot Programs and Experiments:**
  - Some states have experimented with aligning their election schedules with the Lok Sabha elections to test the feasibility and effects of simultaneous elections on governance and public participation.
- **Ongoing Debate:**
  - The debate on simultaneous elections continues, with proponents and critics presenting their arguments. The topic involves considering various constitutional, legal, logistical, and political aspects before any decision can be made.

## Ladakh Demand on Gilgit-Baltistan

Ladakh, a Union Territory in India, is facing socio-political challenges and has presented a series of demands to the central government. Here's a summary of the current status and key developments:

- **Formation of Ladakh as a Union Territory:** Ladakh was carved out as a Union Territory on August 5, 2019, along with the reorganization of the state of Jammu and Kashmir. Unlike Jammu and Kashmir, Ladakh does not have a legislature but is governed by two elected hill councils: the Ladakh Autonomous Hill Development Council-Kargil (LAHDC) and LAHDC-Leh.
- **Demands from Leh Apex Body (LAB) and Kargil Democratic Alliance (KDA):** The LAB, representing Buddhist religious and political parties, and the KDA, representing Muslim religious groups and local parties, submitted a memorandum to the Ministry of Home Affairs (MHA) in January. The demands include extending Ladakh's territorial control up to Gilgit-Baltistan in Pakistan Occupied Kashmir.
- **Current Political Landscape:** Ladakh is a Muslim-majority Union Territory, with the Leh district predominantly Buddhist and Kargil predominantly Shia Muslim. There was a varied reaction to the abrogation of Article 370 and 35A in 2019, with Leh supporting the demand for Union Territory status and Kargil expressing a desire for reintegration with Kashmir.
- **Recent Demands and Protests:** Over the past two years, both Leh and Kargil have protested against the Union Territory status without a legislature. There is a joint demand for the restoration of Statehood with a legislature. Additionally, there is a call for special status under the Sixth Schedule and Article 371 of the Indian Constitution, similar to other northeastern states.

- **Territorial Control Extension:** Ladakh is seeking an extension of territorial control up to Gilgit-Baltistan, emphasizing historical connections prior to 1947 when Ladakh also included the Gilgit-Baltistan area.
- **Committees and Government Response:** In response to protests, the central government formed committees, including one in 2022 led by Minister of State G. Kishan Reddy and another in 2024 led by Minister of State Nityanand Rai. These committees engage with LAB and KDA to find appropriate solutions to issues related to language, culture, and land conservation.
- **Empowering Locals:** Ladakh argues that empowering locals and addressing their demands will foster stability in the region, especially considering the region's strategic importance, including its volatile Line of Actual Control (LAC) with China.

The situation is dynamic, and developments may have occurred since the latest available information. The ongoing dialogue between the central government and Ladakh's socio-political bodies aims to address the region's concerns and find a resolution to the demands put forth by LAB and KDA.

## UNIFORM JUSTICE SYSTEM

**News:** The Lok Sabha passed three amended Bills that seek to repeal and replace criminal laws which date back to colonial times.

### **Reforms brought by New Laws:**

- **Terrorism:** It brought terrorism of fences into a general crime law for the first time.
- **Sedition:** It drops the crime of **sedition**: *Rajdroha* (sedition or of fence against the government) has been replaced with *deshdroha* (offence against the nation or country). It is because, in an independent democratic country, one can criticise the government. *Deshdroha* includes harm to the country's flag and the country's property.
- It also makes **mob lynching** punishable by death.
- An amendment to the BNSS, also **excluded doctors from criminal prosecution** for death due to medical negligence.
- It will also make **hit and run accident** cases punishable by ten years imprisonment.
- Under Clause 187 the total police custody would only be 15 days.
- **Bharatiya Nagarik Suraksha (Second) Sanhita,**
  - It replaces the CrPC and prescribes a time limit for the initiation of criminal proceedings, arrest, investigation, filing of charge sheet, and proceedings before the magistrate, which is aimed at speedy delivery of justice and a high conviction rate.

- The First Information Report (FIR) has to be registered within three days after receiving a complaint and in cases with seven to 14 years of imprisonment, preliminary inquiry will have to be done within 14 days. The search and seizure report will have to be sent to court within 24 hours.
- Earlier there was no time limit for medical examination of rape victims. Now, the medical report will be submitted to court within seven days,

### Decriminalising medical negligence

**Recent Example of Medical Negligence:** Babita Rai in Jamshedpur in Tata Hospital died due to a colon infection during surgery related to an ovarian cyst. The relatives claimed that the tempering of assent documents concerning the change in the name of a senior surgeon with the junior surgeon.

**Cases of Medical Negligence:** in September 2023 the IMA (Indian Medical Association) submitted to the Parliamentary Standing Committee on the BNSS. According to the submission, the IMA reported around 98,000 deaths per year due to medical negligence in contrast with 52 lakh medical negligence cases filed against doctors.

#### **Recommendation of IMA:**

- Exemption from criminal prosecution as Criminal prosecution of doctors has become a form of harassment and doctors are mortally afraid of the law
  - And it will also result in “better results in patient care.”
- Law criminalising violence against doctors be included in the BNSS since “75% of doctors and paramedics face violence as per IMA
- The IMA also estimated the economic loss due to violence against doctors to be in the order of billions of rupees per day.
- IMA also asked in its submission that the BNSS make a clear distinction between medical “negligence” and medical “accident”. While “negligence” would refer to a “reckless”, “conscious and voluntary disregard of the need to use reasonable care” on part of the doctor, an “accident” would involve sudden and unexpected deaths of patients under medical care without conscious intention to harm on the part of the doctor.

#### **Changes in Legislations:**

- **Section 106(1) of the Bharatiya Nyaya (Second) Sanhita (BNSS)**, which will replace the Indian Penal Code, doctors will continue to face a two year imprisonment and/or a fine if convicted. This is lesser than the Sanhita’s recommended punishment of five years for other cases of death by negligence (for example, by rash driving).

#### **Arguments against the Proposal of removing criminal charges:**

- bioethicists, lawyers, and members of the public express concerns that a blanket exemption of doctors from criminal prosecution for negligence might lead to an increase in medical malpractice and put marginalised populations at an increased risk.
- It might lead to medical malpractice against people from marginalised genders and castes.
- In a doctor-patient relationship there is an unequal balance of Power between the two, thus the responsibility is higher.

### **Truck drivers strike and New Criminal Law**

**Context:** Truck drivers went on a month-long strike angst stricter punishment for hit-and-run cases under Bharatiya Nyaya Sanhita (BNS) 2023.

**Concern:** Fuel shortages: due to strikes even by truck drivers of oil tankers.

#### **Law:**

- **Section 106 (1) of the BNS says**, “Whoever causes the death of any person by doing any rash or negligent act not amounting to culpable homicide, shall be punished with imprisonment of either description for a term which may extend to five years, and shall also be liable to fine.”
- **Section 106 (2) states**, “Whoever causes the death of any person by rash and negligent driving of vehicle not amounting to culpable homicide, and escapes without reporting it to a police officer or a Magistrate soon after the incident, shall be punished with imprisonment of either description of a term which may extend to ten years, and shall also be liable to fine.”
- The BNS also does not provide the relief provided under **Section 134 in the Motor Vehicles Act, 1988** which lays down the duty of a driver in case of an accident and requires him to secure medical attention for the injured person unless “it is not practicable to do so on account of mob fury or any other reason beyond his control.”

#### **Law u/IPC:**

- **Section 304A of the Indian Penal Code (IPC)**, the punishment for causing death by negligence is two years imprisonment and fine, or both.

#### **Issue:**

- Changes were made without any consultation.
- The jail term and fine are too steep for drivers who earn only ₹10,000 to ₹15,000 per month and
- The new law fails to provide a detailed accident investigation protocol in the country, in the absence of which drivers of heavy vehicles will continue to be deemed guilty even before an investigation is conducted.
- President of APTOU, Happy Sandhu, says there is a need for better enforcement of traffic violations such as overloading of trucks and a check on the movement of tractor trolleys on roads which is prohibited, and

implementing the permissible working hours laid down under the Motor Transport Workers' Act, 1961 which caps it at eight hours.

### **Road accidents data about hit and run cases**

- A total number of 4,61,312 road accidents with 1,68,491 deaths were reported across the country in 2022, claiming lives.
- Of these, 56% of accidents and 60.5% of fatalities occurred on National and State Highways.
- Trucks accounted for 9% of total accident deaths and buses 3.5%.
- Hit and run cases were 18.1% of total accident deaths.

### **Overall Issues and Need:**

- Truck drivers are a vulnerable category of road users and easy targets for the police who tend to deem drivers of heavier vehicles guilty. Therefore, there is a need for police training in not just implementing the IPC (now BNS), but also in how to establish rash and negligent driving with the help of driving regulations such as the Motor Vehicles Act, 1988, and Motor Vehicles (Driving) Regulations 2017.
- There is a need for better use of forensic evidence for violations such as speeding by capturing tyre marks, which is absent. There are many factors beyond the control of drivers of heavy vehicles, such as assigning the left-most lane on roads for buses and trucks which are also used by cyclists and even pedestrians where there are no footpaths.
- here is the issue of driver fatigue which should be addressed by regulating their working hours as well as ensuring that their truck cabins are ergonomic so that they are comfortable and in better control of the vehicle they are driving.

### **Punjab and BSF Issue**

Context: Legal and constitutional dispute between the Government of India and the State of Punjab regarding the extension of the jurisdiction of the Border Security Force (BSF).

#### **Issue:**

- **BSF Jurisdiction Extension:** In 2021, the Indian government increased the jurisdiction of the Border Security Force (BSF) from 15 kilometres to 50 kilometres inside the international borders in the states of Punjab, West Bengal, and Assam. This move was primarily aimed at preventing trans-border crimes.
- **Punjab's Allegations and Lawsuit:** The State of Punjab, particularly the Punjab government, challenged the constitutional validity of the notification issued by the Centre in October 2021, extending the reach of the BSF to 50 kilometres. Punjab filed a lawsuit under Article 131 of the

Indian Constitution, accusing the Centre of stripping the state and its police of their powers

- **Constitutional Challenge:** Punjab argues that the extension of BSF's jurisdiction encroaches upon the powers of the state, as police and law and order are subjects under the state's jurisdiction according to Schedule 7, List-II Entries 1 and 2 of the Constitution. The lawsuit challenges the constitutional validity of the notification, invoking Section 139 of the Border Security Force Act, of 1968.
- **Supreme Court's Involvement:** The Supreme Court of India has scheduled a hearing for the lawsuit, with a three-judge Bench headed by Chief Justice of India D.Y. Chandrachud. The court will examine whether the notification constitutes an "arbitrary exercise of power" by the Centre and an "unconstitutional interference" with Punjab's authority.
- **Punjab's Concerns:** Punjab's concerns are distinct from other states, as it argues that the 50-kilometer extended jurisdiction includes densely populated and fertile areas. The state contends that the extension will inconvenience people, including farmers who have to cross barbed wire fencing to cultivate their land along the border.
- **Supreme Court's Questions:** The Supreme Court has raised several issues for consideration, including whether the notification is arbitrary, whether the increased jurisdiction is beyond the defined "local limits of areas adjoining the borders of India," and whether all states should be treated alike in determining these limits. The court will also explore whether the notification amounts to unconstitutional interference in the legislative domain of the state

The legal proceedings and the Supreme Court's examination will provide insights into the constitutional and legal aspects of the dispute between the central government and the state of Punjab over the extension of BSF's jurisdiction.

## **Centre-state Relation**

### **Constitutional Responsibilities of State Governments:**

- State governments, under constitutional obligations, are responsible for maintaining public order and exercising police powers.
- Punjab perceives the expansion as a breach of federal principles and intrusion into law and order powers of Punjab police.

### **BSF's Role and Limitations:**

- BSF primarily focuses on preventing trans-border crimes, specifically unauthorized entry or exit from Indian territory.
- It lacks the power to investigate or prosecute offenders and must hand over arrests and seized contraband to local police.
- Coordination between BSF and local police is crucial to avoid jurisdictional clashes.

## Concerns and Justifications:

- While the Union government may have justifications for the jurisdictional expansion, it should not be interpreted as encroachment on the State government's domain.
- Expanded jurisdiction allows BSF to conduct more searches and seizures, particularly in cases where offenders enter deep into the country.

## 3. Constitution

### Legal Issues in Minority Status for Aligarh Muslim University

In an ongoing legal dispute in the Supreme Court (SC) concerning the minority character of Aligarh Muslim University (AMU).

#### Key points:

- **Definition of 'Minority Character':**
  - Article 30(1) in Part III of the Constitution empowers all religious and linguistic minorities with a fundamental right to establish and administer educational institutions of their choice.
  - Clause 2 ensures that the State maintains 'equality of treatment' in granting aid to all educational institutions, irrespective of their minority status.
  - Institutions: educational institutions at all levels, from primary schools to professional education.
  - They enjoy exemptions from the implementation of SC, ST, and OBC reservations in both admissions and employment.
  - Additionally, they can reserve up to 50% of seats for students from their community and exercise greater control over employees compared to other institutions.
  - In the *T.M.A. Pai Foundation* (2002) case, the SC clarified that a 'minority' is to be determined by the concerned State's demography, not the national population.
- These institutions, including AMU, enjoy certain privileges, such as exemptions from SC, ST, and OBC reservations and the ability to reserve up to 50% of seats for students from their community.
- **Background of the Case:**
  - In 1877, Sir Syed Ahmed Khan founded the Muhammadan Anglo-Oriental College, later incorporated into AMU in 1920.
  - The legal dispute began in 1967 when the Supreme Court, in the *S. Azeez Basha versus Union of India* case, reviewed amendments to the AMU Act. The amendments were challenged, arguing that Muslims, having established AMU, had the right to manage it.
  - In 1981, the AMU Act was amended to affirm the university's minority status after protests and challenges.



- In 2005, the Allahabad High Court struck down the reservation policy for Muslim candidates, leading to appeals and legal proceedings.
- **Current Issues in the Supreme Court:**
  - The SC is addressing two main issues: the criteria for determining the minority status of an educational institution and whether an institution established under a statute (like AMU) can enjoy minority status.
  - The petitioners argue that AMU is entitled to minority status, while the Union of India (UOI) endorses the 1967 S. Azeez Basha verdict.
- **Legal Arguments:**
  - Sr. Adv. Rajeev Dhavan argues that statutory regulations or state aid do not deprive an educational institution of its minority character, citing the T.M.A. Pai Foundation verdict.
  - Solicitor General Tushar Mehta contends that AMU surrendered its rights to the British government and assumed a secular character with the 1920 Act.
- **Current Status:**
  - The judgment in this case will set a precedent impacting the rights and legal recognition of all minority institutions.

## Delisting Kuki Zomi tribe

### Context:

- Centre instructs the Manipur Government to examine a representation seeking the delisting of certain Kuki and Zomi tribes from the Scheduled Tribes (ST) list.
- Chief Minister N. Biren Singh announces the potential formation of a special committee to address the representation.

### **Background and Ethnic Conflict:**

- Ethnic conflict in Manipur continues for the eighth month between the Meitei people in the valley and the Kuki-Zo (ST) people in the hills.
- Conflict triggered by a Manipur High Court order directing the State government to recommend Meiteis' inclusion in the ST list.

### **Representation's Content:**

- Representation sent by Maheshwar Thounaojam argues for Meiteis' inclusion in the ST list by seeking the exclusion of specific Kuki and Zomi tribes.
- Objections raised against three entries in the ST list: "Any Mizo(Lushai) Tribes," "Zou," and "Any Kuki Tribes."

### **Claims and Evaluation:**

- Claims argue that these tribes are not "indigenous" to Manipur and were not mentioned in pre-Independence Censuses.
- Argument refuted as the 1950 Constitution (Scheduled Tribes) list for Manipur included these tribes, and there is no empirical evidence supporting organized illegal immigration.

### **Backward Classes Commission Recommendations:**

- First Backward Classes Commission (1955) recommended adding individual tribe names instead of umbrella tribes for Assam and Manipur.
- ST list for Manipur revised in 1956, including 29 entries with individual tribe names, retaining "Any Mizo (Lushai) Tribe."

### **Evolution of Kuki Tribes:**

- Lokur Commission (1965) noted a "splintering tendency" among Kuki tribes, leading to the adoption of unique identities.
- In 2002-2003, "Any Kuki Tribes" was added to the ST list, leading to confusion, according to the Bhuria Commission Report (2002-2004).

### **Implications and Recommendations:**

- Representation's claims lack support in historical records and commission reports.
- Potential widening of divides among communities in Manipur due to the ongoing examination of the representation.
- The need to address inter-tribe differences is highlighted, emphasizing the importance of specifying tribe names in the ST list.

## **10th Schedule**

**Context:** The Speaker of the Maharashtra Assembly has declined to disqualify 40 members of the Eknath Shinde faction, affirming its recognition as the legitimate Shiv Sena. The Speaker validated the whip issued by this group and, citing technical reasons under the Tenth Schedule, refrained from disqualifying 14 members of the Uddhav Balasaheb Thackeray (UBT) group.

### **Origin of Tenth Schedule:**

- 1960s and 1970s: The defections of legislators from their parent parties created political instability in many States, bringing down elected governments.
- Thus to ensure the stability of elected governments, the 52nd constitutional amendment introduced the 'anti defection' law through the Tenth Schedule in 1985.

### **Provision of 10th Schedule**

- A member of a House of Parliament or State legislature who voluntarily gives up the membership of their political party or votes against the

instructions of their party in a House is liable for disqualification from said House.

- This instruction with respect to voting is issued by the ‘whip’ of a party. A ‘whip’ is a member of the ‘legislature party’ in a House who is appointed as such by the respective ‘political party’.
- The ‘political party’ is the entire organisation of a party including the legislators, while the ‘legislature party’ is only the members of a political party in a House of Parliament or State legislature.

### **Exceptions to Disqualification**

Originally there were 2 exceptions:

- 1/3rd members of the ‘legislature party’ splitting to form a separate group
- Merger of their ‘political party’ with another party that is approved by two--third members of its ‘legislature party’.

However, considering the need to strengthen the ‘anti defection’ law, the split provision was omitted in 2003.

### **Issues involved**

- Post omission of split provision, two-third members of a legislature party ‘practically’ defecting but claiming to be the original political party to escape disqualification.
- Also there have been instances where more than two-third of members of a State ‘legislature party’ of a national political party merged themselves with another political party to escape disqualification.
  - Example: In September 2019, in Rajasthan, all six Bahujan Samajwadi Party MLAs merged themselves with the Congress Party
  - In September 2022, in Goa, when eight out of 11 Congress MLAs merged themselves with the BJP.
- The responsibility for deciding on matters of disqualification lies with the Speaker of the House. Despite the expectation that they carry out this constitutional duty impartially, historical instances have raised doubts, as Speakers have often appeared to show favouritism towards the ruling party, undermining confidence in the neutrality of their decisions.
- The Supreme Court in *K. M. Singh versus Speaker of Manipur (2020)*, recommended that Parliament amend the Constitution to vest these powers in an independent tribunal headed by judges.

### **Reforms Needed**

- The Supreme Court in *Sadiq Ali versus Election Commission of India (1971)*, laid down the three test formula for determining which faction is to be recognised as the original political party by the Election Commission.
  - Aims and objects of the party
  - its affairs as per the party’s constitution that reflect inner party democracy;
  - majority in the legislative and organisation wings.

In Maharashtra case: the Election Commission in February 2023, recognised the Eknath Shinde faction as the real Shiv Sena, solely based on votes polled by legislators supporting Eknath Shinde in the Maharashtra Assembly elections of 2019.

- The real reform required is institutionalising internal democracy through regular inner party elections in our political parties with strict monitoring by the Election Commission.

## SC status for Madiga community

- **Formation of the High-Level Committee:**
  - Established by the Union government.
  - Chaired by the Cabinet Secretary.
  - Aimed at ensuring equitable distribution of benefits among over 1,200 Scheduled Castes (SCs).
- **Background and Need for the Committee:**
  - Resulted from a meeting chaired by Prime Minister Narendra Modi in December 2023.
  - Responding to the demand for SC sub-categorization raised by the Madiga community in Telangana.
  - The Madiga community claims marginalization within the SC category by the dominant Mala community.
  - Similar complaints from SC communities across states about being crowded out of benefits by more dominant groups.
- **State Initiatives and Legal Challenges:**
  - Several states attempted sub-categorization through reservation laws (e.g., Punjab, Bihar, Tamil Nadu).
  - Legal challenges in courts led to delays.
  - High-level committee aims to explore alternative ways of addressing grievances beyond sub-categorization.
- **Committee's Composition and Scope:**
  - The Committee includes Secretaries from the Home Ministry, Law Ministry, Tribal Affairs Ministry, Social Justice Ministry, and Department of Personnel and Training.
  - Broad scope beyond one community in one state; addresses issues faced by similarly-placed SC communities across the country.
- **Committee's Mandate and Approach:**
  - Examines ways to direct benefits of government schemes and initiatives toward marginalized SC communities.
  - Focus on designing special initiatives for communities in need and ensuring even distribution of benefits.
  - No specific deadline, but the committee instructed to present findings at the earliest.

- **Past Attempts and Legal Opinions:**
  - The Madiga community's demand was raised in 1994; legal options sought in 2005.
  - Past Attorney General's opinion suggested sub-categorization was possible with "unimpeachable evidence."
  - National Commissions for Scheduled Castes (NCSC) and Scheduled Tribes (NCST) opposed constitutional amendments, emphasizing prioritizing existing schemes.
- **Constitutional Aspects:**
  - Articles 341 and 342 vest powers in the President to notify SC and ST lists and Parliament to create the lists.
  - No explicit instruction on sub-categorization within these lists.
  - Article 16(4) allows states to create special provisions for any backward classes deemed under-represented.

## Hate Speech

### **Context:**

- Supreme Court said authorities need to be “conscious that no incitement to violence and hate speech are permissible” while ordering the Maharashtra and Chhattisgarh police and local authorities to keep a close eye on public events planned by the Hindu Janajagruti Samiti on Thursday at Yavatmal and by BJP MLA T. Raja Singh at Raipur for seven days starting from January 19.

### **What is hate Speech?**

International human rights law prohibits hate speech and defines it as “incitement to discrimination, hostility or violence”.

### **Broader definition of Hate speech: Definition by UN**

UN Strategy and Plan of Action on Hate Speech defines hate speech as... “*any kind of communication in speech, writing or behaviour, that attacks or uses pejorative or discriminatory language with reference to a person or a group on the basis of who they are, in other words, based on their religion, ethnicity, nationality, race, colour, descent, gender or other identity factor.*”

It has 3 important attributes:

- Hate speech can be conveyed through any form of expression, including **images, cartoons, memes, objects, gestures and symbols** and it can be disseminated offline or online.
- Hate speech is “**discriminatory**” (biased, bigoted or intolerant) or “**pejorative**” (prejudiced, contemptuous or demeaning) of an individual or group.

- Hate speech calls out real or perceived “identity factors” of an individual or a group, including: “**religion, ethnicity, nationality, race, colour, descent, gender,**” but also characteristics such as language, economic or social origin, disability, health status, or sexual orientation, among many others.

## **Hate Speech in India**

267th Report of the Law Commission of India:

- Hate speech is stated as an incitement to hatred primarily against a group of persons defined in terms of race, ethnicity, gender, sexual orientation, religious belief and the like.
- The **context of speech is crucial** in determining whether it constitutes hate speech or not.
- It can cause harm to the targeted individuals and groups, as well as to the society at large, by inciting hatred, violence, discrimination, and intolerance.

## **Legal Position of Hate Speech in India:**

- **Freedom of Speech**
  - Article 19(1)(a) of the Indian Constitution guarantees freedom of speech and expression as a fundamental right for all citizens.
  - Article 19(2) imposes reasonable restrictions on this right, balancing its use and misuse. Restrictions include:
    - interests of sovereignty,
    - integrity,
    - security,
    - friendly relations with foreign states,
    - public order,
    - dignity, morality,
    - contempt of court,
    - defamation, or instigation of an offence.

In *Pravasi Bhalai Sangathan v. Union of India*, the Supreme Court held that the implementation of existing laws would solve the problem of hate speech to a great extent.

## **Existing Laws**

- **Indian Penal Code (IPC) Provisions –**
  - Under Section 153A of IPC, ‘*promotion of enmity between different groups on grounds of religion, race, place of birth, residence, language, etc., and doing acts prejudicial to maintenance of harmony*’, is an offence punishable with three years imprisonment.
  - Section 505 of IPC makes it an offence to making “statements conducing to public mischief”.
- **Representation of the People Act, 1951 –**

- Section 8 disqualifies a person from contesting an election if he is convicted of indulging in acts amounting to illegitimate use of freedom of speech and expression.
- **Protection of Civil Rights Act, 1955 –**
  - Section 7 penalizes incitement to, and encouragement of untouchability through words, either spoken or written, or by signs or by visible representations or otherwise.
- **Religious Institutions (Prevention of Misuse) Act, 1988 –**
  - Section 3(g) prohibits religious institution or its manager to allow the use of any premises belonging to, or under the control of, the institution for promoting or attempting to promote disharmony, feelings of enmity, hatred, ill-will between different religious, racial, language or regional groups or castes or communities.

### **Guidelines Issued by Supreme Court to Curb Misuse of Legal Provisions w.r.t. Hate Speech**

- In *Tahseen Poonawalla vs Union of India* (2018), the Supreme Court issued comprehensive guidelines to the Union and State Governments regarding the prevention of mob violence and lynching.
- Again, in the *Kodungallur Film Society case* (2018), directions were issued to control vandalism by protesting mobs.
- Major guidelines include –
  - Fast-tracked trials,
  - Victim compensation,
  - Deterrent punishment,
  - Disciplinary action against lax law-enforcing officials,
- Nodal officers to be appointed to take note of hate crimes and register FIRs across the nation.

# INTERNATIONAL RELATIONS

## 1. BILATERAL TIES

### India-US ties

**Context:** The defence minister highlights the importance of India-US ties in a conference with respect to Strengthening Indo-U.S. Relationship in Amrit Kaal – Aatmanirbhar Bharat," organized by the Indo-American Chamber of Commerce.

#### Key points:

- **Cooperation for Development:** Defence Minister Rajnath Singh emphasised that the capital and technological know-how from the U.S. could aid India in achieving its goal of becoming a developed country by 2047.
- **Mutual Benefits:** Investments from the U.S. in India could yield high returns for American companies. India's fast-growing economy, demographic dividend, skilled workforce, and large domestic market offer opportunities for U.S. businesses.
- **Global Impact:** Cooperation between India and the U.S. would act as a force multiplier for a rules-based world order. The collaboration of the two large democracies is expected to strengthen the democratic world order and contribute positively to the global scenario.
- **Alignment in Strategic Interests:** India and the U.S. are natural partners with a shared commitment to a free, open, and rules-based international order. Also, there is considerable alignment in their strategic interests, contributing to a strong partnership.

### India- France Relationship

**Context:** French President Emmanuel Macron's visit to India last week was primarily symbolic and ceremonial, given the circumstances surrounding the invitation. Macron stepped in for U.S. President Biden, who declined the Republic Day invitation.

#### **Pre-existing Agreements: Foundation for the Visit**

- India and France had already sealed several agreements in 2023, marking 25 years of their strategic partnership.
- Prime Minister Narendra Modi and President Macron had several meetings, announcing an ambitious "Horizon 2047" relationship roadmap.
- Plans included joint production of military hardware, cutting-edge technology transfers, and new purchase deals for French aircraft, engines, and submarines.

#### **Diplomatic Challenges: Limited Preparation Time**



- Diplomats faced challenges in preparing for Macron's Republic Day visit due to the existing agreements and limited time.
- Speculation arose about whether India missed an opportunity to invite other global partners from the South Asian neighbourhood or Global South, given the swift arrangements.

### **Post-Meeting Agreements: Building on the Roadmap**

- The agreements announced after the Modi-Macron meeting in Jaipur were largely in line with the existing roadmap.
- These included the "Defence industrial" roadmap, aiming to expand on plans for co-designing, co-developing, and co-producing defence hardware in the air, on land, and at sea.
- Additionally, a space-defence partnership and Memoranda of Understanding (MoU) on agriculture, digital health, and science and technology cooperation were signed.

### **Joint Statement: Shared Positions on Regional and Global Issues**

- A joint statement was issued on regional and international developments, showcasing shared positions with France.
- Notably, India aligned with France on condemning terror attacks in Israel, advocating for humanitarian assistance in Gaza and Ukraine, and expressing concerns over attacks in the Red Sea.
- This contrasts with challenges in finding common ground on these issues with other partners, such as the U.S. and Russia.

### **Progress and Challenges: Demonstrating Continuity**

- While there was progress in certain areas, such as the assembly-line manufacture of civilian helicopters (Airbus-Tata), challenges persisted in big-ticket defence hardware deals, nuclear cooperation, and other significant aspects.
- The emphasis remained on the continuity of the partnership, demonstrating that each area is a work in progress and evolving.

### **Shared Commitments: Tradition and Innovation**

- During the presidential banquet, Macron emphasised the shared commitment to "tradition and innovation" as driving forces behind the partnership.
- The strategic autonomy of both nations was highlighted, showcasing an ongoing work in progress for various collaborations.
- The visit underscored a partnership built on mutual respect and a commitment to navigating the complexities of the evolving global landscape.

## **India and France: Joint surveillance missions**

- **Joint Surveillance Missions:** India and France have conducted joint surveillance missions in the southwest Indian Ocean, building on their collaboration from 2020 and 2022. These missions carried out from the French territory of La Reunion, contribute to the security of strategic sea lanes of communication.
- **Bilateral Dialogue:** The joint statement emphasizes the progress in bilateral dialogue between the two countries. Specific opportunities for using India as a base for the manufacture and export of defence equipment for friendly countries in the region were identified and welcomed.
- **Joint Patrols and Exercises:** India and France have conducted joint patrols with the Indian Navy's P-8I maritime patrol aircraft deployed on the French territory of La Reunion. The leaders expressed satisfaction with the increasing complexity and interoperability of joint defence exercises across air, sea, and land. They are considering a distinct joint tri-services exercise.
- **Maritime Domain Cooperation:** The leaders discussed actively increasing capacities, particularly in the maritime domain, by collaborating with other like-minded countries. The extension of interactions in India's maritime neighbourhood is welcomed.
- **Defense and Security Partnership:** The joint statement highlights the defence and security partnership as a principal pillar of the overall partnership. This partnership spans from intelligence and information exchange to exercises and equipment, covering all domains from the seabed to space.
- **Trilateral Cooperation:** India and France have committed to revitalizing trilateral cooperation with Australia, deepening cooperation with the United Arab Emirates, and exploring new trilaterals in the region. The Indo-Pacific region is a focus, with a comprehensive roadmap finalized in July 2023.
- **Defense Industrial Cooperation:** A comprehensive roadmap for defence industrial cooperation has been adopted, emphasizing the commitment to further deepening integration between the defence industrial sectors of India and France.
- **Defence industrial road Map:** It will be developed for cooperation on defence production, future collaboration on “code sign and co development” of military hardware.
  - **Include:** Identify opportunities for partnership in the defence industrial sector that prioritises co-designing, co-development, co-production and also build the defence supply chains between the two countries so that they can fulfil the defence needs.
  - **Fifth Generation fighter jet**
    - Engine is meant to power the Advanced Medium Combat Aircraft (AMCA).

- **F414 engine:** The deal with General Electric (GE) is for the manufacturing licence of the already operational F414 engine, which is set to be manufactured in India by Hindustan Aeronautics Limited.
  - Meant to power the indigenous Light Combat Aircraft (LCA)-MK2, a larger and more capable variant of the LCA currently in service, and the initial version of the AMCA.
- **Space cooperation**
  - Defence space partnership for collaboration on “space situational awareness”,
  - A MoU on coordinating on satellite launches, was signed.
- Other agreements on partnerships in energy, digital health, agriculture, and education were also signed.
- Major defence deal in pipeline between India and France:
  - **26 Rafale M fighter jets for the Navy’s aircraft carriers**, and three additional
  - 3 Scorpene class conventional submarines.

## **India-Pakistan Relation**

**Context** taken from: Anger Management: The Troubled Diplomatic Relationship between India and Pakistan" by Ajay Bisaria, the last High Commissioner to Pakistan.

### **Historical Background:**

The quote: The only ‘normal’ ones, are those you don’t know very well by Austrian psychologist Alfred Adler about people applying to India-Pakistan relations, which were separated in a painful birth. Both countries have attempted to build normal relations for decades, but every attempt has failed.

### **Recent Developments:**

- Since 2014, a series of events have led to a complete breakdown of bilateral discourse.
- Direct trade, travel, and various exchanges between the two countries have been halted.

### **Reason for strained relations:**

- **Expulsion of High Commissioner:** The expulsion of Ajay Bisaria in 2019 following the Modi government's Article 370 move marked a significant event, underscoring the heightened tensions between the two countries.
- **Pulwama Attack and Balakot Crisis:** The Pulwama attack and India's response with airstrikes at Balakot, and the subsequent events lead to a brief détente and then a total disconnect between the two countries.
- **Third-Party Involvement:** The involvement of third parties, including the U.S., U.K., UAE, and Saudi Arabia, in mediating the India-Pakistan crisis is highlighted as a significant factor.

- **Article 370 Move:** The reorganization of Jammu and Kashmir and the modification of Article 370 in India triggered a further escalation in tensions and contributed to the breakdown of relations.
- **Counter-Terrorism Efforts:** The tussle between the Pakistani military and the government regarding counter-terrorism efforts, including a pause in Pakistan's counter-terror campaign post-August 2019.
- **Missed Opportunities for Peace:** The narrative emphasizes missed opportunities for peace, citing instances where leaders failed to seize opportunities, as well as the impact of terror attacks on diplomatic efforts.
- **Diplomatic Expulsions and Disconnections:** The cessation of High Commissioner positions, the discontinuation of political contact, and the total disconnection between India and Pakistan since 2019.
- **Reflections on Diplomacy:** Despite the challenges, the importance of engagement and the relationships forged between diplomats, emphasise the complexities of the India-Pakistan relationship. These major issues collectively contribute to the strained and troubled diplomatic relationship between India and Pakistan.

### India-Russia Pact on Kudankulam Nuclear Power Plant

**News:** India and Russia signed some “very important” agreements related to the construction of the future power generating units of the Kudankulam nuclear power plant.

#### **Kudankulam Nuclear Power Plant**

- The plant is expected to start operating at full capacity in 2027.
- Kudankulam Nuclear Power Plant is the largest nuclear power station in India, situated in Kudankulam in the Tirunelveli district of the southern Indian state of Tamil Nadu.
- Its construction started in 2002.
- S Jaishankar, described Russia as a “special partner” in a few areas such as defence, nuclear power and space.

### S Jaishankar’s visit to Russia

**News:** External affairs minister started his 5-day visit on 25 December.

#### Expected area of discussion:

- About continuing problems over the rupee rouble payment mechanism amid a surge in the import of Russian oil and bilateral trade.
  - Delayed payments, as well as the need for India to use third country currencies, including the UAE Dirham and Chinese Yuan to pay for Indian imports from Russia that have grown a massive 368% year on

year from 2022 to 2023, mainly due to an increase in import of Russian oil, leading to a major trade deficit

- Delays in supplies of defence equipment.
  - Russia's supply of the fourth and fifth regiment of the S400 Triumph Air Defence Systems, also under U.S. sanctions, has been delayed and is now expected in 2024.
- Culture and people-to-people connect.
- Discussions on Ukraine and Israel issues is also expected to take place:
  - While Russia has been strongly opposing US support to Israel, India's response was shunted. India abstained from voting in UNGA.
  - India didn't join the U.S. led naval operation against Houthi attacks on shipping in the Red Sea, named "**Operation Prosperity Guardian**".

**Significance:** The India-Russia annual summit between the PM and President of India and Russia is due to be held. It was called off for the second year in a row in 2022 and 2023 due to the Ukraine conflict, from it start from 2000 to 2021.

### S. Jaishankar Visit to Nepal

**News:** India's External affairs minister will visit Nepal on 4 and 5th January for a bilateral meeting with Nepal's PM Pushpa Kamal Dahal aka Prachanda. The last meeting between India and Nepal was held in January 2021.

### Expected Areas of discussion

- An Agreement on the modalities of purchasing 10,000 MW of hydroelectric power from Nepal.
  - Aim: "to increase the quantum of export of power from Nepal to India to 10,000 MW within the next 10 years"
  - India agreed to permit the "first trilateral power transaction from Nepal to Bangladesh via India" for up to 40MW.
- Air connectivity issues
  - The PM of Nepal asked for permit international flights to fly over India to access two of Nepal's new airports at Pokhara and Bhairahawa, near the Buddha's birthplace in Lumbini.
  - In the absence of permission, the two airports, connected to important tourist destinations in Nepal, have not been able to bring in the required revenues from international airlines and foreign tourists, leading to worries over a "debt trap"
- Digital payments
- The inauguration of development projects funded by India.
- Measures to update the 1950 India-Nepal Friendship treaty and to improve bilateral ties.

## INDIA MALDIVES RELATIONS

**Context:** Relations between India and the Maldives have become strained, stemming from a meeting between Indian Prime Minister Narendra Modi and the recently elected Maldivian President Mohamed Muizzu. The trigger for the tension was a series of tweets by Maldivian ministers, where they criticised Prime Minister Modi for promoting the Lakshadweep islands and expressed concerns about his close ties with Israel.

### About the News:

- Although the tweets were subsequently deleted, and the ministers were suspended, the damage had been done, leading to calls for an economic boycott of the Maldives by certain segments of the Indian population.
- Deeper issues contributing to the strained relations are associated with the change in government in the Maldives. President Muizzu, who won on an "India Out" campaign, has chosen Turkey and China as his first bilateral destinations, deviating from the traditional approach of making India the priority.
- President Muizzu has also continued to press for the withdrawal of Indian military personnel, despite clarifications from India about their role.
- The article emphasizes the need for both Delhi and Male to step back and reassess their responses to avoid further escalation.
- It underscores that President Muizzu cannot afford to antagonise India due to its proximity, economic strength, and historical role as a net security provider in the Indian Ocean.
- Additionally, the article advises India against exerting undue pressure on its smaller neighbour and highlights the benefits of a stronger relationship, as demonstrated during President Ibrahim Solis's tenure.
- There is a broader emphasis on India maintaining stable relationships with its neighbours, especially given the upcoming elections in the region.
- The article stresses the importance of ensuring that domestic political changes in neighbouring countries do not adversely affect the fundamental structure of bilateral ties and regional stability.

## INDIA-UK TIES

**Context:** Defence Minister Rajnath Singh's recent visit to the United Kingdom (U.K.) came after a hiatus of 22 years.

**Cooperation:** Opportunities have grown significantly in the past few years as opposed to two decades ago.

- **Reorientation of strategic ties:** The growth of Chinese military power and in particular, its expansion into the Indian Ocean which threatens India and also Sea Lines of Communications (SLOCs), on which the U.K. depends.

- **Fulfil Technological gaps for the Indian navy:** It has several capability related needs to make up for the shortfalls the service faces vis à vis the People's Liberation Army Navy (PLAN). Thus, India needs to secure key technologies which has been an integral part of Mr. Singh's visit to the U.K.
- **Electric Propulsion:** Both are cooperating in electrical propulsion to power aircraft carriers such as Type 054B frigates warships.
  - The Indian Navy's carriers, are not powered by electric propulsion technology whereas The Queen Elizabeth Class aircraft carriers of the Royal Navy (RN) use electric propulsion and the RN has mastered this technology.
  - The advantage of using electric propulsion is that warships integrated with this capability produce a low acoustic signature by removing the link between the principal mover and propulsion. Thus it will promote **Maritime Security**.
  - A joint working group dubbed the "IndiaUK electric propulsion capability partnership" first met in February 2023 and was followed on.
  - In November 2023, during another meeting The British agreed to train, equip and help establish the infrastructure necessary to develop an electric propulsion system.

## Challenges

- **Legacy issues:** UK's effort to balance its ties between India and Pakistan. Successive U.K. governments have simultaneously supplied India and Pakistan with weapons or curbed weapons exports.
- **Khalistan and Sikh separatism**

With the emergence of the People's Republic of China (PRC) as a major naval power whose deployments in the Indian Ocean Region (IOR), forging closer defence ties between the U.K. and India have become necessary. Several joint military exercises have already taken place. the British officially declared that they will be deploying a littoral response group, a specialised amphibious warfare group in 2024 and a carrier strike group in 2025 to train and increase interoperability with the Indian Navy.

## India UK Defence Deal

**Context:** India and the United Kingdom signed a **Memorandum of Understanding (MoU) for a bilateral international cadet exchange** programme and a **Letter of Arrangement (LoA) on defence** collaboration in research and development during the first visit by an Indian Defence minister to the UK in last 2 decades.

Mr Grant Shapps stressed that the relationship between the UK and India is not transactional, instead, both countries are natural partners with many commonalities and shared goals.

### **About the News:**

- A Letter of Arrangement between the Defence Research and Development Organisation (DRDO) and the UK's Defence Science and Technology Laboratory (DSTL) on defence collaboration in research and development.
- These documents will provide impetus to the people-to-people exchanges particularly among the youth, and larger areas of defence research collaboration between the two countries.

### **India-Korea Defence Cooperation**

News: In November 2023, General Manoj Pande, Chief of the Army Staff visited South Korea.

### **Significance of visit:**

- It fortified diplomatic ties and also unveiled the challenges

### **Challenges:**

- Absence of a shared vision for a new comprehensive defence framework to construct a novel and sustainable emerging regional order.
- **Korean view of India's regional role**
  - Korea needs to comprehend that India is not merely the largest consumer of defence products. Rather, it stands as a regional power capable of substantial contributions to peace and stability in the Indo-Pacific.
  - This is a departure from Cold War mentalities, where the Korean government perceived India as standing in the opposite Soviet bloc.
  - Further, it also highlights that the Indian government has kept its focus on the acquisition of weapons and technology transfer which inevitably has also overshadowed broader strategic considerations.
  - Powerful arms lobbies in India and Korea pose a potential roadblock, emphasising the necessity to prioritise longterm strategic goals over short term gains.
  - The emerging coalition of North Korea, China, and Russia poses a new serious challenge to collaborative efforts between the two nations.

### **Explore technological collaborations**

- India and South Korea are aiming to collaborate in developing advanced defence systems and equipment.



- Such synergy can lead to a mutually beneficial defence technology and industry partnership, propelling both countries to the forefront of innovation and self-reliance.
- Significance: Korea is a highly advanced tech digital superpower especially when Space warfare, information warfare, and cybersecurity are paramount.
- Further potential lies in **counter-terrorism** collaboration and also in **maritime security**, including joint patrolling and information sharing, given the significant maritime interests both countries have in the Indian Ocean.

### **Peacekeeping and exercises**

- They can leverage their United Nations peacekeeping expertise for collaborative efforts. It can enhance regional and global stability, underscoring their joint commitment to peace and security.
- Additionally, joint exercises and the exchange of best practices in Humanitarian Assistance and Disaster Relief (HADR) demonstrate the shared responsibility of both nations in addressing vulnerabilities to natural disasters.

## **GLOBAL ISSUES**

### **Conflict in West Asia**

**Context:** West Asia is in flux. It started as a direct military confrontation between Israel and Hamas has snowballed into a regional security crisis. Hezbollah, Kataib Hezbollah, Hashad alShabi, Houthis, Iran, Pakistan and the United States are all now part of an expanding conflict theatre.

#### **ISRAEL-HAMAS CONFRONTATION:**

- On October 7, Hamas launched cross-border attacks and killed 1200 Israelis and the retaliatory attack so on. Together this entire instability has caused 24000 deaths.

#### **Spread of confrontation:**

- Hezbollah, the Lebanese Shia group that's backed by Iran, fired rockets at Israeli forces in the Shebaa Farms, an Israel controlled territory which Lebanon claims as its own and attacks so on.
- Arab countries took the path of diplomacy to put pressure on Israel.
- Iran backed militias elsewhere opened new fronts.
- Houthis, the Shia militias of Yemen, started attacking commercial vessels in the Red Sea in mid-November. Houthis control Yemen and the Red Sea coast using sea denial tactics and has impacted commerce.

- Post Houthi's attack, the U.S. continued to support Israel's war on Gaza and started carrying out airstrikes in Yemen, targeting Houthi positions.
- Hashad al-Shabi, the Shia Mobilisation Forces of *Iraq and Syria*, who are also backed by Iran, launched more than 100 attacks against U.S. troops deployed in the two countries.
- In retaliation, the U.S. carried out attacks in Syria and killed a commander of Hashad al-Shabi in Baghdad, which led to protests in Iraq.
- Israel has carried out multiple strikes inside Syria and Lebanon, killing Hamas, Hezbollah and Iranian commanders.
- As instability spread, the Islamic State terror group attacked a memorial event for Qassem Soleimani, the Iranian general assassinated by the U.S. in January 2020, in Kerman, southeastern Iran.
- Under domestic and regional pressure, Iran carried out strikes on January 16, in Iraq's Kurdistan, Syria and Pakistan. In retaliation, Pakistan carried out air strikes in Iran on January 18.

### **Main Operational Centres**

- Israel: Israel says it has the right to attack Gaza until it meets its objectives of dismantling Hamas and releasing hostages
- Iran is backing all anti-Israel non-state actors in West Asia, be it Hamas, the Islamic Jihad, Hezbollah, Houthis or the Shia militias of Iraq and Syria.
- U.S.: want to ensure the security of Israel, the security of America's troops and assets deployed in the region and the perseverance of the U.S.led order in the region.

### **Impact of war on regional Security**

- The region has been unstable. But currently, the region is witnessing a widespread security crisis, involving both powerful states and non-state actors.
- The last time West Asia faced a major transnational war was in 1967 when Israel launched attacks on surrounding Arab countries. But the 1967 war concluded within six days, with Israel's decisive victory against the Arabs.
- Old Order: The US has retained a domineering presence in West Asia earlier and Rivals were wary of breaching certain red lines. This was the backbone of the U.S.led order in West Asia. Though Iran stayed out of it since 1979, it never risked a direct war with the U.S. or Israel. This order seems to be tattered.
- Iran backed proxies are directly attacking both Israeli and American positions, while Iran is flexing its military muscle through cross border attacks.
- The Houthis have challenged the U.S.'s ability to provide security to one of the world's busiest shipping routes.

- The U.S., despite its support for Israel, seems unable or unwilling to push Israel to end its disastrous war and bring back some stability.

## **ICJ ON ISRAEL**

- The preliminary hearing at the ICJ in The Hague regarding South Africa's case against Israel's Gaza military campaign has gained global attention.
- South Africa alleges that Israel's actions in Gaza may fall within the terms of the Genocide Convention, pointing to "genocidal intent."
- The case aims for provisional measures, including a suspension of military operations and steps to prevent genocide.
- Israel rejects the case, labelling it as 'blood libel,' and argues that its actions in Gaza were a legitimate response to a terrorist attack.
- Israel downplays the significance of its leaders' statements, attributing civilian casualties to Hamas using civilians as shields and hospitals for storing explosives.
- The broader concern is whether Israel will comply with any provisional measures, drawing parallels with instances where countries ignored ICJ orders in the past.
- The outcome of the case may cast a shadow on the legitimacy of Israel's Gaza war, with potential global implications.

ICJ verdict: Israel must prevent genocidal acts in Gaza and allow humanitarian aid into the territory

## **ICJ: International Court of Justice and Genocide**

**Context:** South Africa accused Israel of committing genocide against the Palestinians, and pleaded with ICJ to urgently order a halt to the country's military operation. Gaza war is part of a decades oppression of the Palestinians by Israel. Approximately 23,200 Palestinians in Gaza, according to the Health Ministry in the Hamas enclave.

### **Israel response**

- While Israel has vehemently denied the allegations and is unlikely to comply with any order from the court to halt operations.

### **Genocide**

- In 1948, the Convention on the Prevention and Punishment of the Crime of Genocide was adopted by the UNGA and came into force in 1951.

### **Genocide?**

Genocide has been defined under **Article II** of the Convention on the Prevention and Punishment of the Crime of Genocide.

- According to the convention, genocide refers to the acts that are committed with the intent to destroy in whole or partly, a national, ethnical, racial or religious group. These acts include:
  - Killing members of the group
  - Causing serious bodily or mental harm to members of the group
  - Deliberately inflicting on the group conditions of life calculated to bring about its physical destruction in whole or in part.
  - Imposing measures to prevent births within the group.
  - Forcibly transferring children of the group to another group
- India and Genocide convention:
  - India signed the Convention on the Prevention and Punishment of the Crime of Genocide, 1948 on 29th November, 1949 and ratified the Convention on 27th August, 1959.
  - However, no specific law has been enacted for the same.
  -

### **International Court of Justice:**

The International Court of Justice (ICJ) is the principal judicial organ of the United Nations (UN). It was established in 1945 and is located in **The Hague, Netherlands**. The ICJ settles legal disputes between states and gives advisory opinions on legal questions referred to it by the UN General Assembly, the UN Security Council, or other specialized agencies and organs of the UN.

### **Key features of the International Court of Justice include:**

- **Composition:** The ICJ consists of 15 judges who are elected by the UN General Assembly and the UN Security Council. The judges serve nine-year terms and may be re-elected.
  - The 15 judges of the Court are distributed in the following regions:
    - Three from Africa.
    - Two from Latin America and the Caribbean.
    - Three from Asia.
    - Five from Western Europe and other states.
    - Two from Eastern Europe.
- **Jurisdiction:** The ICJ has jurisdiction over two main types of cases:
  - **Contentious cases** (disputes between states) and
  - **Advisory proceedings** (providing legal advice on questions referred to it by UN organs and specialized agencies).
  - States must agree to submit to the jurisdiction of the ICJ, and its decisions are binding on the parties involved.
- **Advisory Opinions:** The ICJ can provide advisory opinions on legal questions at the request of UN organs and specialized agencies. While these opinions are not binding, they carry significant legal weight and are often considered authoritative interpretations of international law.

- **Procedures:** The court follows established procedures for the submission and consideration of cases. The process typically involves written and oral pleadings by the parties involved, as well as the opportunity for other states and interested organisations to submit observations.
- **Enforcement:** The ICJ does not have its own enforcement mechanisms. Instead, it relies on the cooperation of states to comply with its decisions. However, the UN Security Council may take measures to enforce the court's rulings under Chapter VII of the UN Charter.

The International Court of Justice plays a crucial role in the peaceful settlement of international disputes and contributes to the development and clarification of international law. It is separate from the International Criminal Court (ICC), which is responsible for prosecuting individuals for war crimes, crimes against humanity, and genocide.

### **Deterrence in Red Sea**

**Context:** Houthi based in Yemen have been attacking ships in the Red Sea using drones and Anti-ship ballistic missiles (ASBMS). The United States had earlier removed the Houthis from its terror listing even though Saudi Arabia had warned of the danger of Houthi attacks. But now, the U.S., from mid-February, “will consider the Houthis a specially designated global terrorist” group, which could block its access to the global financial system, among other measures.

#### **Impact:**

- It has impacted the stability of the region.
- It has also impacted trade which is a growing concern.
- Major concern is the modern weaponry being used and the inability of nations, both allies and strategic partners, to work together as a team, despite the substantial presence of maritime forces. This also raises questions about the claim of a high degree of interoperability after years of joint defence exercises.
- The delayed international response had provided the pirates with time to adapt to modern technologies and adopt tactics.

#### **Global Response**

- Operation Prosperity Guardian, launched by the U.S. and intended to operate within the Combined Maritime Force’s Combined Task Force 153, has garnered a tepid response from allies and strategic partners. This raises concerns about the U.S.’s capacity to rally international cooperation for addressing situations that require the deployment of military force.
- Initially comprising nine nations, the operation witnessed three NATO allies—France, Italy, and Spain—opting for independent operations rather than participating in the joint initiative. Notably, Bahrain, hosting the U.S.

Fifth Fleet headquarters, is the sole West Asian nation actively involved in the operation.

- Saudi Arabia's absence from the operation can be attributed to potential negative repercussions on its ongoing negotiations to end the Yemeni conflict and recent diplomatic efforts to improve relations with Iran. Additionally, avoiding perceived support for Israel seems to be a key consideration influencing both Saudi Arabia and the United Arab Emirates in abstaining from participation.
- India, despite upgrading to a full member of the CMF in November 2023, has chosen to operate independently. This decision may be linked to India's relations with Iran, despite complying with U.S. demands to halt oil imports. Surprisingly, even staunch U.S. allies, Japan and Australia, have yet to join the operation.

### **Need:**

- The tepid response to Operation Prosperity Guardian, has created an opportunity for the Houthis to challenge the perceived global dominance of the U.S. The recent attacks by the U.S. and the U.K. underscore the necessity of addressing the issue on the ground, akin to combating piracy.
- While prevailing operational and tactical strategies emphasise targeting launchers, there is a crucial need to halt the supply of weaponry. Unlike Libya, Iraq, or Afghanistan, Yemen's complexity and global implications demand a more nuanced approach.

### ***Red Sea trouble impacted India***

Background: The Red Sea is the quickest sea route connecting Asia with Europe through the Suez Canal. However, Attacks in the Red Sea by Houthi militia from Yemen since Nov. 2023 have made it unsafe. Thus freighters take a longer route from Cape of Good Hope

### **Global trade is impacted by the following reasons:**

1. Red Sea issue
2. Pandemic
3. Russia-Ukraine War
4. Global economic slowdown

### **Impact on Indian Trade:**

- 90% of cargo to and fro India that used to go to the Red Sea is getting directed through the Cape of Good Hope.
- 10% of Indian cargo is either not moving or using a transit facility.
- **Impact varies on the type of buy-seller contract:**

- **FOB (free on board):** freight burden is on the buyer. In FOB, the buyers have comfortable inventory, they are asking the Indian exporter to hold back consignment
- **CIF (Cost, insurance and freight) or C&F (Cost and freight):** freight has to be borne by the exporter. Exporters who have to bear the freight are requesting their buyers to allow them to hold the consignment given the increase in freight costs including peak season surcharge and contingency surcharge.
- Container Corporation of India is saying about 25% of its containers are being held back by Indian exporters.
- This will make imports costlier and call for better inventory management.

Response:

- UN: “No cause or grievance” could justify Houthi attacks against freedom of navigation in the Red Sea.
- The U.S.: wants more support for the multinational ‘Operation Prosperity Guardian’ it is spearheading to keep the sea lanes open and free of threats.

### **Labour rules for workers abroad**

**Context:** The governments of Uttar Pradesh and Haryana, in collaboration with the National Skill Development Corporation (NSDC), are recruiting around 10,000 workers for construction activities in Israel. The initiative, promoted as a "passport to dreams abroad" on the NSDC website, offers an opportunity to "discover new horizons in Israel." However, Trade unions have protested the move citing Emigration rules.

### **Emigration Rules:**

- Workers going to conflict zones or places without sufficient labour protections are required to register with the Ministry of External Affairs’ ‘e-migrate’ portal.
- Passports issued under the ECR (Emigration Check Required) scheme cover workers travelling to 18 countries, including Afghanistan, Bahrain, Indonesia, Iraq, Jordan, the Kingdom of Saudi Arabia, Kuwait, Lebanon, Libya, Malaysia, Oman, Qatar, South Sudan, Sudan, Syria, Thailand, the UAE, and Yemen.
- Israel is not on this list and the ‘emigrate’ system will not be used for those going to Israel despite continuing violence due to Israel’s bombing of Gaza.
- **Recruitment fees issues:**
  - No recruiting agent shall collect from the worker service charges more than a maximum of ₹30,000 and the service charges shall

include costs of domestic travel or lodging and boarding for conducting of interviews by the recruiting agent.

- Here, the workers will have to pay a fee to the NSDC, pay for their flight tickets, etc, which will add up to almost ₹1 lakh. The unions point out that paid recruitment in a war zone facilitated by governments violates provisions of the Emigration Act.
- MEA: India is satisfied with Israel's labour standards. "Labour laws in Israel are very strict, robust. It's an OECD (Organisation for Economic Cooperation and Development) country, therefore labour laws are such that they provide for the protection of migrant rights, and labour rights.
- Further, the Israeli Defence Minister has said there is no place in Israel that is safe now" due to Hamas. According to some estimates, about 100 people who died in Gaza are migrant workers from Asian and African countries.

### **International practices for Protection of Migrant workers**

- International practices for protection of migrant workers are governed by two conventions of the ILO
  - The Migration for Employment Convention (Revised), 1949: Each Member for which this Convention is in force undertakes that it will, so far as national laws and regulations permit, take all appropriate steps against misleading propaganda relating to emigration and immigration
  - Migrant Workers (Supplementary Provisions) Convention, 1975
- India has not ratified both conventions,
- Israel had ratified the 1949 convention.

### **Migrant workers**

- As per the Indian Embassy website, as of February 2023, There are about 18,000 Indian citizens in Israel, primarily caregivers employed by Israeli elders to take care of them, diamond traders, IT professionals and students.
- According to a 2017 report prepared by the ILO, international migration has grown significantly in the last two decades. The number of migrants from Asia to the Arab states has more than tripled, from 5.7 million in 1990 to 19 million in 2015.

### **Way forward**

- **ILO's World Employment and Social Outlook: Trends 2024 report:** The global unemployment rate is set to increase in 2024 while growing social inequalities remain a concern,
- The Joblessness and the jobs gap have both fallen below pre-pandemic levels but global unemployment will rise in 2024, it said.



- It added that many **low and middle income countries** will experience a demographic transition after 2030 and asked the countries to design sensible migration policies and skilling initiatives to support and develop local labour markets with growing populations.
- A more accurate forecast of labour demand by occupations and sectors in destination countries, and a strengthened education and training system in countries with excess labour resources.
- In 2019, a report of the Parliament Standing Committee on External Affairs asked the Centre to draft a migration policy. The panel, then headed by MP Shashi Tharoor, said it is concerned to note that the existing institutional arrangements for the protection, safety and welfare of Indian emigrants are based on inadequate data infrastructure.

### **S. Korea, Japan, and U.S. conduct naval exercise**

South Korea, Japan and US conducted Naval exercises in waters of South Korea's Jeju island.

Purpose: sharpening the countries' combined deterrence and response capabilities against North Korean nuclear, missile and underwater threats, and also training for preventing illicit maritime transports of weapons of mass destruction,

**Issue:** Mr. Kim declared that North Korea would abandon its longstanding commitment to a peaceful unification with South Korea and ordered a rewriting of North's constitution to eliminate the idea of a shared statehood between the war divided countries.

### **China, U.S. hold rival drills in disputed South China Sea**

**Context:** China conducted drills in the South China Sea.

#### **About the News:**

- These drills follow tense standoffs between Beijing and Manila in disputed reefs that saw vessels from the two countries collide and Chinese ships blast water cannon at Philippine boats.
- The drills coincided with an two day exercise by the U.S. and the Philippines in the disputed waters, involving an aircraft carrier strike group led by the USS Carl Vinson.

### **South China Sea Dispute:**

Significance of South China Sea:

- **Trade:**
  - 1/3rd of all the world's maritime (relating to oceans) trade goes through the South China Sea.
  - Half of all oil and gas tankers from the Middle East sail into it on their way to China, Japan, the U.S., and elsewhere.

- **Strategic Importance** : It is also militarily strategic, valuable for national security.
- **Natural Resources**: The Sea itself is rich in fish, Oil and natural gas reserves below the sea bed are significant.

### **Geographical Significance:**

There are two major clusters of land features in the Sea.

- The **Paracels island** consist mainly of islands and reefs. Reefs are chains of rocks or coral at or near the surface of the water.
- The **Spratlys islands** have some islands but are mostly reefs and rocks that may not even appear above water at high tide.

### **Disputes Locations:**

The islands are disputed between 6 nations in the following manner:

- Paracels: China, Taiwan, Vietnam
- Spratlys: China, Taiwan, Vietnam, Brunei, Malaysia, Philippines
- Almost all the South China Sea, its land features, and resources: China
- Five small nations claim parts of the South China Sea's land features and surrounding waters. Vietnam and the Philippines are the most active claimants.

### **Why these claims?**

- **Vietnam Claims:**
  - It is based on 17th century maps.
  - In the 1920s troops from France's colony of Vietnam occupied some Paracel islands.
  - However, Post-Vietnam War (1955-1975), Vietnam occupied the western Paracels and annexed certain Spratly land features.
  - In 2009, Vietnam declared sovereignty (supreme legal authority) over both the Paracels and Spratlys.
- **Philippines claims:** After gaining independence from the US in 1946, the Philippines took control of several Spratly land features.
  - Later, the Philippines declared all of the Spratlys its territory and also sovereignty over Scarborough Shoal. This lies about 150 miles from the Philippines and is the most important for its strategic location near the Philippines and major shipping lanes.
- **China's Claims**
  - In 1947, the Republic of China published a map with nine dashes. When connected, the dashes form a U that encloses most of the South China Sea. However, the Republic of China did not clearly explain this "nine-dash line."
  - In 1949, Chinese communists defeated the Republic of China in a civil war and drove the anti-communist Chinese to the large offshore island of Taiwan. The communist People's Republic of China then took over the mainland. It also adopted the map with the "nine-dash

line.” This is how it is referred to today, although China added a tenth dash in 2013 to include Taiwan.

### International law

Context: The ongoing conflict in Israel along with the Russia illegal invasion of Ukraine, which, too, has caused devastation. These two wars have led many to pronounce the death of international law

**United Nation Charter: Article 2(4)** especially the rule prohibiting the use of force in international relations

#### Issues:

- **Unthoughtful Assumption:** More than 50 years ago too, Thomas Franck argued that Article 2(4) was dead because it worked on the flawed assumption that the permanent members of the UN Security Council would continue to cooperate after World War 2.
- **Structural deficiencies:** International law lacks a global police force to enforce despite having courts.
- **Poor compliance**
- **Accountability:** The significance of international law cannot be limited to material outcomes because the fundamental attribute of any legal system should be its ability to distinguish between sheer public power and legitimate authority.

#### Example:

In December, South Africa moved the International Court of Justice (ICJ) alleging that Israel’s conduct in Gaza violates the **Convention on the Prevention and Punishment of the Crime of Genocide**.

Here Accountability must stem from several actors such as states and private individuals invoking international law to ask questions of those in power and make a case if their actions are illegitimate, not necessarily by punishing the wrongdoer.

For example, the Israel Defence Forces have tried to explain how their military offensive is consistent with international law.

#### **Benefit of International Law:**

- Absence of international law would have been even worse.
- Israel would not have to explain its conduct to the larger world, and there would be no ICJ to hear a complaint against it.

So, despite even if there is no universal compliance with international law, especially international humanitarian law, there is a universal aspiration towards compliance. International law must be moulded and accentuated to become an instrument that holds the powerful accountable in international relations. The

world needs more, not less, of fair international law to constrain expansionist, imperial, and illiberal propensities.

## II. REGIONAL GROUPING

### INDIA-ASEAN TRADE PACT

**Context:** India- ASEAN will rework their 15-year-old free trade pact.

#### **Trade Pact:**

- The current trade pact needs modernisation to bring more balance, as it is currently not much in favour of India.
- New elements, product-specific rules and trade remedies will be brought in.
- The purpose is to bring down India's trade deficit with ASEAN. India's trade deficit with ASEAN was \$7.5 billion when the pact came in place however, it bloomed to \$43.5 billion in 2023. Indian exports were \$43.57 billion in FY23 whereas Indian imports were \$87.57 billion.
- In February first talks related to the ASEAN-India Trade in Goods Agreement (AITGA) will held.
- It will also include changes in Rules of origin laws.

## ECONOMY

### Economic Review

**Context:** This year before the interim budget, the finance minister presented a 10-year economic review instead of an economic survey.

**Key points of the Review:**

- GDP will grow close to 7% in 2024-25, with scope to go ‘well above’ 7% by 2030. From about \$3.7 trillion this year, India’s economy will expand to \$5 trillion in three years, making it the world’s third largest, and could hit the 7 trillion dollar mark by 2030, it reckons.
- India’s growth story into two phases
  - 1950-2014:
    - before 2014 Growth was hobbled by structural constraints such as tardy decision making, ill-targeted subsidies and a large informal sector, while inflation was unpalatably high.
  - **2014-2024: a ‘decade of transformative growth’**
    - Post 2014 reforms have restored the economy’s ability to grow healthily with “longer and stronger” economic and financial cycles, and made India the fastest growing G20 nation,
    - The review asserts that India’s 7% growth when the world is growing 2%.
    - Now that the twin balance sheet problem inherited from the UPA days has turned into an ‘advantage’, as the review stresses, it must translate into a wider private investment revival.
    - Four years of 7% plus growth, post-pandemic, would be commendable indeed.
    - India needs to grow faster to create jobs at the scale its youth need.
    - Review expects an ‘**all inclusive welfare approach**’ to help enlarge the consumption base by expanding the middle class.
    - But those dependent on handouts, such as the 800 million that need free food by the Centre’s reckoning, must progressively shrink for growth to be meaningful and equitable.
    - The report rightly mentions reforms in learning outcomes, health, and easier compliances for smaller firms, as priorities, with some critical changes at the ‘sub national government’ level to accelerate growth.
    - It is also essential that flaws in reforms such as GST are fixed
    - Need policy measures, for instance, import licences and price controls on deregulated products, that send convoluted signals about India’s ‘open market with predictable policies’ pitch, are reconsidered.

## **RBI Guidelines on State Guarantees**

The Reserve Bank of India (RBI) Working Group, formed to address issues related to guarantees extended by State governments, made several recommendations on January 16. Here are key points from the recommendations:

- **Definition of Guarantee:**
  - A guarantee is defined as a contingent liability of a State, processed by an accessory contract that protects the lender/investor from the risk of borrower default.
  - It involves a 'creditor' (entity receiving the guarantee), 'principal debtor' (entity on whose behalf the guarantee is given), and 'surety' (entity giving the guarantee, typically State governments).
  - Guarantees may lead to fiscal risks, unanticipated cash outflows, and increased debt for States.
- **Expanded Definition of Guarantee:**
  - The Working Group suggests a broader definition of 'guarantee' to include all instruments, regardless of name, creating an obligation on the guarantor (State) to make a payment on behalf of the borrower in the future.
  - No distinction is to be made between conditional or unconditional, financial or performance guarantees concerning fiscal risk assessment.
- **Usage of Government Guarantees:**
  - Government guarantees should not be used to obtain finance through State-owned entities that substitute budgetary resources of the State.
  - Guarantees should not create direct liability on the State and should adhere to Government of India guidelines.
- **Risk Determination:**
  - States should assign appropriate risk weights (high, medium, or low) before extending guarantees, considering the past record of defaults.
  - A ceiling on the issuance of guarantees is deemed desirable to avoid fiscal stress.
- **Ceiling on Issuance of Guarantees:**
  - For incremental guarantees issued during a year, the report proposes a ceiling at 5% of Revenue Receipts or 0.5% of GSDP, whichever is less.
  - This is intended to manage potential fiscal stress if a guarantee needs to be invoked.
- **Disclosures:**
  - The Working Group recommends that the RBI may advise banks/NBFCs to disclose credit extended to State-owned entities backed by State government guarantees.
  - Availability of data from both issuer and lender is expected to enhance the credibility of reported State government data.

- A proper database capturing all extended guarantees is sought.

These recommendations aim to provide a framework for managing fiscal risks associated with state guarantees and ensuring transparency in reporting and disclosure practices.

## **Remission of Duties and Taxes on Export Products (RoDTEP)**

**Context:** RoDTEP was extended to goods sent abroad via Courier and e-commerce channels from sectors gems, jewellery, leather, textiles, Pharma and handicrafts.

### **About News:**

- It will help small and medium-scale sectors take advantage of government schemes.
- It will promote e-commerce exports and boost overall export growth from the country to achieve the target of \$1 trillion in merchandise exports by 2030.
- India's exports of goods via e-commerce is about \$1-1.5 billion, out of a total \$420 billion.
- China's e-commerce exports are close to \$300 billion annually and the global cross-border e-commerce is about \$800 billion annually.

### **About the scheme:**

RoDTEP became operational on 1st January 2021 replacing the existing export incentive scheme, Merchandise Exports from India (MEIS) owing to the Two rulings that MEIS is not fully compliant to WTO rules.

### **RoDTEP Committee**

- It operates within the **Department of Revenue** and is primarily responsible to review and recommend ceiling rates for different export sectors under the RoDTEP Scheme.

### **Objective:**

- To provide comprehensive support to exporters by remitting duties and taxes incurred during the production and distribution of exported products.
- Importantly, RoDTEP covers taxes, duties, and levies at the central, state, and local levels, which are not refunded through any other existing mechanisms.

## **Toy Industry of India**

**Context:** Between 2014-15 and 2022-23, toy exports increased by 239% and imports declined by 52%, making India as a net exporter. The trade balance was negative ₹1,500 crore in 2014-15, which turned positive from 2020-21 after a gap of 23 years.

### **Reason**

- **Protectionism:** A rise in import duties could reduce the demand for toys. The imposition of non-tariff barriers can shrink supply, raise prices and thus reduce demand.
  - In February 2020, customs duty on toys was tripled from 20% to 60%.
  - Since January 2021, non-tariff barriers (NBTs), namely, quality control order (QCO), and mandatory sample testing of each import consignment were imposed, restricting imports. Hence, in 202021, imports fell and the net exports turned positive.
  - Moreover COVID-19 pandemic impacted global supply chains and reduced imports.
  - As the global supply chain is restored in 2022-23, net exports were reduced to ₹1,319 crores, from ₹1,614 crore in the previous year. The dip in net exports is steeper (31%) for toys
- **Investment upswing** could expand capacity and augment labour productivity to boost competitiveness and exports
- The factory or organised sector accounted for 1% of the total number of factories and enterprises, employed 20% of workers, used 63% of fixed capital, and produced 77% of the value of output.
- Make in India.

### Significance:

- Protectionism for a limited period may enable the domestic industry to make adequate investments, allow for “learning by doing” and enhance productivity to compete globally.
- Such protectionism needs to be complemented with investment policies, and provision of localised, industry/cluster-specific public infrastructure to stimulate a virtuous circle of expanding domestic industry.

### Centre hikes copra MSP

#### News:

- Cabinet Committee on Economic Affairs (CCEA), has decided to increase the minimum support price (MSP) for copra for 2024. The new MSP for milling copra will be ₹11,160 a quintal an increase of ₹300 from the 2023 season.
- New MSP for ball copra will be ₹12,000 per quintal an increase of ₹250 per quintal

### COPRA:



Copra(or) Dry Coconut is a coconut endosperm separated from the shell and husk. It consists of a white and fleshy edible portion of the seed with an outer brown skin, which is divided into two sections and then dried to a specified moisture level. Copra is sun-dried or dried using special copra dryers.

### Milling and Ball copra

Feature	Milling copra	Ball copra
Use	to extract oil	consumed as a dry fruit and used for religious
Producer	Kerala, Tamil Nadu	Karnataka
Definition	Milling copra consists of non-uniform dried pieces	Ball Copra is typically the fine, well-dried whole of the coconut kernel

### India's Banana Export

**News:** India has successfully exported trail shipments of fresh bananas to the Netherlands through sea routes.

**India's Target:** India is aiming to increase the exports of bananas to \$1 billion in the next 5 years.

#### Fruits Export:

- Presently, most of the fruits are exported from India by air because of lower volumes and different ripening periods.
- To increase the volumes, India is developing sea protocols for fresh fruits and vegetables like bananas, mangoes, pomegranates and jackfruit to promote their exports through ocean routes.
- The protocol includes understanding **voyage time, scientifically understanding the ripening of these commodities, harvesting at a particular time and training farmers.**
- Despite being the **world's largest banana producer, India's global export share is just 1%**, though the country accounts for **26.5% of the world's production.**

### UNEMPLOYMENT IN INDIA

M Visvesvaraya, in 1932 pointed to the high prevalence of unemployment amongst the educated.

#### Unemployment Rate:

- According to the latest data from the Periodic Labour Force Survey (PLFS), unemployment hit a high of 6.1% in 2017-18, and has reduced to 3.2% in 2022-23. This analysis only focuses on individuals aged 18 to 65.

- These rates have been falling since 2017-18, and there exist significant disparities in the experience of unemployment.
- While unemployment rates are currently higher than in previous decades, it has shown a reduction compared to 2017-18
- However, the highest rates of unemployment are faced by young highly educated workers. This is a structural feature of the Indian economy.

### **Education and unemployment**

- Individuals with higher education have always faced higher unemployment rates than the rest of the population.
- From roughly 9% in the 1990s, the rate fell to 7.66% in 2011-12, before rising to 17% in 2017-18 and then 13% in 2022-23.
- Unemployment rate for young workers aged 18 to 29 with a graduate degree. From 1993-94 to 2004-05, almost a fifth to a quarter of all young individuals with graduate degrees faced long unemployment spells of 6 months or more.
  - The rate dropped to 20% in 2011-12, before rising to a staggering 36% in 2017-18. The rate has been reduced by 2022-23 with 27% of young graduates facing long spells of unemployment.
  - In 1993-94, only 5% of the labour force were graduates. However, with the expansion of higher education, the share of graduates in the labour force has risen to around 15% by 2022-23.

### **Narrowing trade deficit cut India's CAD to 1% of GDP in Q2**

**Context:** India's CAD was reduced to \$8.3 Billion which is 1% of GDP in second quarter between July-September 2023.

#### **CAD:**

- It was \$9.2 billion in the first quarter.
- Reason:
  - Decline in Merchandise trade deficit to \$61 billion from \$78.3 billion.
  - Services exports increase by 4.2% on a year-on-year basis.
  - Private remittances increase by 2.6% amounting to \$28.1 billion.

### **Renewable energy investments to surge 83% to \$16.5 billion in 2024**

**Context:** As per estimates of Power Ministry estimates, India will witness a more than 83% increase in investments in renewable energy (RE) projects to about \$16.5 billion in 2024 as the country focuses on energy transition to reduce carbon emissions.

### **Clean energy targets in India**

- This is in line with In having 500 GW of renewable energy by 2030 and its resolve to reduce overall power generation from fossil fuel to 50%. It is expected that India's energy from non-fossil fuel sources will be 65% by 2030.
- India has a net zero target by 2070.
- Apart from solar and wind energy, India has increased its focus on green hydrogen in a big way to reduce dependence on fossil fuels, mainly diesel, which is required for long-haul vehicles. India is a diesel based economy most commercial, passenger vehicles and freight services use diesel as their main fuel.
- In January this year, the Union Cabinet approved the National Green Hydrogen Mission with an outlay of ₹19,744 crore.

## **FISCAL DEFICIT**

**NEWS:** India's fiscal deficit may breach the 5.9% of GDP target for this year and could hit 6%, though tax collections have been buoyant and may offset a wide shortfall in disinvestment outcomes, due to the likelihood of revenue spending exceeding the Budget Estimate by about ₹2 lakh crore.

### **About the News:**

- The Centre has recently secured parliamentary approval for the first supplementary demand for grants this year, involving an additional cash outgo of ₹53,378 crore, lifting its total spending commitment for 202324 to ₹45.6 lakh crore, including about ₹35.6 lakh crore of revenue expenditure and ₹10.1 lakh crore of capital expenditure.
- In the first supplementary demand for grants, the government sought more funds for priority areas like food, fertilizer, and LPG subsidy.
- A major reason for the increased expenditure would be higher expenditure by a few select Ministries and recouping of over ₹28,000 crore to the Contingency Fund of India which was drawn by 30 departments.

### **Supplementary Grants:**

It is granted when the amount authorised by the Parliament for a particular service for the current financial year is found to be insufficient for that year. The Comptroller and Auditor General of India bring such excesses to the notice of the Parliament. The Public Accounts Committee examines these excesses and gives recommendations to the Parliament.

## **Food inflation in December**

**Context:** As per a report by Crisil, The cost of putting together a vegetarian food plate shot up 12% year on year last month, compared with 9% in November YoY.

**Inflation:**

- The primary source of food inflation in December were onions and tomatoes, which recorded price spikes of 82% and 42%.
- Price of pulses accelerated 24% from December 2022 levels.
- India's overall consumer prices had risen at a three month high pace of 5.55% in November.
- Food price inflation had surged to 8.7% owing to a steeper price rise in vegetables, pulses, fruits, and sugar.
- According to Crisil a typical vegetarian food plate, which includes rotis, vegetables, rice, dal, curd and salad, cost ₹29.7 in December, about 3% lower than November, but still the second steepest in four months.
- This easing is due to a 14% and 3% on 3-month decrease in prices of onion and tomato, respectively, with the festive season coming to an end.
- The average price of a typical non-vegetarian plate, which replaces the dal component in a vegetarian Thali with chicken, however, dropped 4% from December 2022 levels.
- This was attributed to a 15% dip in prices of broilers, which account for about 50% of a non-vegetarian plate cost.

**Women Participation in Labour Force:**

**Context:** In the Past two decades, there has been a significant decline in female Labour Force Participation (LFP) along with an overall reduction in labour force engagement.

**Reason:**

- **Structural rigidities** in India's manufacturing and service sectors have restricted employment opportunities in the informal sector, where a substantial 90% of the workforce is involved.
- **Gender Bias:** When compounded with gender bias and caste discrimination, women often find themselves situated at the bottom of the labour pyramid, which limits their employment choices primarily to the agricultural or the informal sector.
- **Educational background:** When of higher caste have better education but the labour force participation is less from higher caste. LFP increases as we move down the caste hierarchy. Lower caste women tend to work more in the public sector due to reservation.
- **Gender Barriers:**
  - Societal expectations prioritize women's roles in housework and caregiving, hindering their workforce participation.

- Legal and economic constraints, such as restrictions on night shifts for women, limit their employment opportunities.
- **Informal Sector Dynamics:**
  - In the non-farm, informal sector, laws restricting women's work on night shifts are less applicable.
  - Female-headed households, lacking patriarchal figures, drive women to seek employment in the informal sector.
- **Lower-Caste Households:**
  - Economic constraints and limited social mobility drive higher female labour force participation (LFP) in the informal sector among lower-caste households.
  - Historical expectations of lower castes engaging in manual and domestic work shape women's participation in the workforce.
- **Caste and Education Influence:**
  - Clear caste patterns in women's employment, with lower-caste women having higher work participation than upper-caste women.
  - Limited educational opportunities confine lower-caste women to the informal sector, while education enables entry into the formal economy, especially through affirmative action.
- **Societal Impact of Women's Participation:**
  - Regardless of the informal or formal economy, women's workforce participation benefits them and society.
  - Studies show increased decision-making capacity for women, delayed age of marriage and childbirth, higher child schooling rates, and reduced susceptibility to domestic violence when women earn.
- **Overall Impact on Society:**
  - Despite caste and gender bias obstacles, women's workforce participation positively influences the socio-economic fabric.
  - Liberates women from societal and economic constraints, contributing to a more educated and enlightened future.
  - Provides insights for creating inclusive policies to address gender and caste disparities in the Indian workforce.

## FCRA rules and issues

### Context:

- The Centre for Policy Research (CPR) and World Vision India (WVI) faced FCRA registration cancellations.
- Monitoring Authority: The Union Ministry of Home Affairs (MHA) oversees FCRA implementation.

### **FCRA Implementation and Amendments:**

- MHA plays a crucial role in monitoring FCRA adherence.

- Due to the COVID-19 pandemic and 2020 amendments, the renewal process for thousands of NGOs was affected.
- MHA granted relief for renewal applications until September 30, 2021, and extended the deadline multiple times, with the latest being March 31, 2024.

### **FCRA Purpose and Registration:**

- MHA regulates foreign donations to prevent adverse impacts on internal security.
- NGOs must register under FCRA to receive foreign donations, and the registration is valid for five years, renewable upon compliance.
- Registered NGOs can utilize foreign contributions for social, educational, religious, economic, and cultural programs.

### **FCRA Registration Statistics:**

- Since 2015, over 16,000 NGOs had their FCRA registrations canceled.
- As of January 22, 2024, there were 16,989 active FCRA-registered NGOs, with nearly 6,000 ceasing operations from January 1, 2022.

### **Risk Assessment and Enforcement:**

- MHA's 2012 report highlighted vulnerabilities in the NGO sector, emphasizing the risks of money laundering and terrorist financing.
- In 2023, a record number of 1,111 associations were granted fresh FCRA registrations.

### **Financial Contributions and Applications:**

- 13,520 associations received ₹55,741.51 crore in foreign contributions during the financial years 2019-2022.
- In 2021-2022, out of 1,615 FCRA registration applications, 722 were granted clearance, while 225 were rejected.

### **Reasons for CPR and WVI Registration Cancellations:**

- CPR faced allegations of diverting foreign donations for protests, legal battles, and violating FCRA norms in current affairs programming.
- CPR deemed the MHA's decision incomprehensible and disproportionate.
- WVI's registration was cancelled due to alleged FCRA violations from 2012-13 to 2020-21, despite being the highest recipient of foreign donations among FCRA-registered NGOs in 1986.

## **WORLD BANK TASK FORCE ON MDB REFORMS**

**NEWS:** The World Bank has set up a task force to study the recommendations for strengthening multilateral development banks (MDBs) laid out by an independent experts' group formed during India's G20 presidency.

### **About the News:**

- This came after a meeting of Minister Nirmala Sitharaman with Mr. Bagga where she suggested that the World Bank, which other MDBs looked up to,

take the lead in carrying forward the reform roadmap for MDBs to make these global lenders bigger, better and bolder.

### **Multilateral Development Banks:**

- Multilateral development banks, or MDBs, are supranational institutions set up by sovereign states, which are their shareholders. Their remits reflect the development aid and cooperation policies established by these states.
- They have the common task of fostering economic and social progress in developing countries by financing projects, supporting investment and generating capital for the benefit of all global citizens.

### **Tax contribution by states**

- **Role of Finance Commission:**
  - Recommends a distribution formula for each state's share in Union tax revenue.
  - Weighted determinants in the distribution formula determine state shares.
- **Historical Perspective:**
  - Initial Finance Commissions considered tax contribution as a determinant.
  - Since the 10th Finance Commission, tax contribution was dropped from the formula.
  - Argument for the inclusion of tax contribution in the context of the Goods and Services Tax (GST) regime.
- **Equity and Efficiency in Tax Revenue Transfers:**
  - Finance Commission tasked with recommending the proportion and share of Union tax revenues for states.
  - Principles of equity and efficiency guide the distribution formula.
  - Equity favours revenue-scarce states and those with higher expenditures.
  - Efficiency rewards states efficiently in revenue collection and spending rationalisation.
- **Evolution of Distribution Formula:**
  - Till the 10th FC, states' share is based on personal income tax and Union excise duties.
  - Post-2000, all Central tax revenues were pooled, and states' shares were decided.
  - Emphasis on equity indicators in the distribution formula since the 10th Finance Commission.
- **Issues with Previous Indicators:**
  - Challenges in using income tax revenue due to difficulties in identifying the origin of income.

- Distribution of Union excise duties based on the value of taxable products consumed, hindered by consumption statistics' unavailability.
- Tax contribution is an efficiency indicator with only 10% to 20% weight in previous commissions.
- **Inclusion of New Indicators:**
  - GST and petroleum consumption are proposed as reliable indicators of tax contribution.
  - GST offers stability, reflecting an accurate tax base exploited for national benefit.
  - Petroleum consumption indicates relative differences in the incomes of residents, considering it a fair and accurate measure of efficiency.
- **Proposed Changes in Distribution Formula:**
  - Suggestion for the 16th Finance Commission to debate and include GST and petroleum consumption ratios.
  - Recommended weightage of at least 33% for these indicators in the distribution formula.

### Conclusion:

There is a need for reevaluation of efficiency indicators in the distribution formula for better resource allocation among states. Emphasizes the stability and fairness of GST and petroleum consumption as measures of efficiency.

## WORLD ECONOMIC FORUM SUMMIT

**Context:** Annual Meeting of the World Economic Forum from January 15 to 19 in Davos, Switzerland.

### Origin of World Economic Forum

German professor Klaus Schwab founded the WEF in 1971. It was originally known as the European Management Forum.

He was a mechanical engineering graduate and did a Master of Public Administration degree from the John F. Kennedy School of Government at Harvard University. He was a professor of business policy at the University of Geneva.

EMF introduced the concept of **Stakeholder capitalism**..

- It is a form of capitalism in which companies do not only optimise short-term profits for shareholders, but seek long-term value creation, by taking into account the needs of all their stakeholders, and society at large.”
- The WEF idea: A company should serve all its stakeholders, not just its shareholders: employees, suppliers, and the community it is part of.

### Shaping of Present-day WEF:



- Events in 1973, namely the collapse of the Bretton Woods fixed exchange rate mechanism and the Arab-Israeli War, saw the Annual Meeting expand its focus from management to economic and social issues.
- Two years later, the organisation introduced a system of membership for ‘the 1,000 leading companies of the World’.
- In the past, it has been used as a location for pivotal international diplomacy as leaders can break tensions in the Davos
- The WEF also publishes rankings such as the Global Competitiveness Report and the Global Gender Gap Report.

### **AI-Powered misinformation: Biggest short term threat to global economy?**

**CONTEXT:** The World Economic Forum's latest Global Risks Report identifies false and misleading information fuelled by advanced artificial intelligence as the top immediate risk to the global economy. Released ahead of the annual meeting in Davos, the report, based on a survey of experts and leaders, highlights environmental risks as the most significant long-term threats.

Key points from the report:

- **Immediate Risk: Misinformation and AI:** The report underscores the immediate threat posed by misinformation and disinformation supercharged with cutting-edge artificial intelligence. The authors express concern that rapid advancements in technology, including AI, create new challenges and exacerbate existing ones.
- **Technology's Role:** The rise of generative AI chatbots, such as ChatGPT, is mentioned, emphasising that creating sophisticated synthetic content capable of manipulating large groups will no longer require specialised skills. The report highlights the potential misuse of AI for generating deepfakes and spreading misinformation.
- **AI at Davos:** AI is expected to be a hot topic at the Davos meetings, with the attendance of tech company leaders, including OpenAI CEO Sam Altman, Microsoft CEO Satya Nadella, and Meta's chief AI scientist, Yann LeCun. The focus is on AI-powered misinformation and disinformation, which poses a risk, especially during upcoming elections in various countries.
- **Impact on Democratic Processes:** The report warns that AI-driven misinformation could impact democratic processes by making it harder for people to verify facts. This could lead to questions about the legitimacy of elected governments, potentially eroding democratic processes and deepening societal polarisation.
- **Other AI Risks:** Beyond misinformation, AI brings other risks, empowering malicious actors by facilitating cyberattacks, automating phishing attempts, and creating advanced malware. The report notes

concerns about poisoning data used to train AI systems, leading to the embedding of biases that are challenging to reverse.

- **Long-Term Concerns:** Climate change emerges as a major global concern, with extreme weather identified as the second-most-pressing short-term risk. In the long term (defined as 10 years), extreme weather tops the list, followed by critical changes to Earth systems, biodiversity loss, ecosystem collapse, and natural resource shortages.
- **Climate Change Tipping Point:** The report suggests that irreversible climate change tipping points could be reached over the next decade as Earth's systems undergo long-term changes.

## Multidimensional Poverty

**Context:** The NSO has estimated GDP growth for 2023-24 at 7.3 per cent in its first advance estimates. Further as per IMF projections, India is likely to outperform G20 countries.

### **About the Multidimensional Poverty Index (MPI),**

- States like Uttar Pradesh, Bihar, Madhya Pradesh, and Rajasthan recorded the sharpest decline in the number of people in multidimensional Poverty.
- It considers twelve different indicators of poverty included under three broad dimensions, namely health, education, and standard of living.
- Severity of deprivation declined at a slightly lower rate between 2015-16 and 2019-21 compared to 2005-06 and 2013-14.
  - Severity of deprivation measures deprivations the average multidimensionally poor person suffers from.
- Reduction of deprivation was faster after 2015-16 in terms of reduction in the share of MPI poor out of the total population compared to the decade before, owing to a lesser number of years.
- In 2005-06, the share of MPI poor in India's total population was 55.34 per cent.
- It highlights is coronavirus pandemic would not have hit the share of MPI poor in 2022-23 would have been much lesser.
- However it may not fully reflect the impact of Covid on the economy as part of NHFS-5 data collected between 2019-21 was collected before the pandemic.
- India is likely to achieve Sustainable Development Goals (SDG) Target 1.2, which calls for reducing "at least by half the proportion of men, women and children of all ages living in poverty in all its dimensions according to national definitions" much ahead of 2030.
- As per the paper, indicators in the standard of living dimension showed the highest levels of deprivation in 2005-06.

- According to the estimated share of MPI poor in 2013-14 and 2022-23, Bihar recorded a 53 per cent drop from 56.3 per cent share of MPI poor in 2013-14 to 26.59 per cent in 2022-23.
- Jharkhand also recorded a 50 per cent drop from 47.13 per cent share of MPI poor to 23.34 per cent.

### Good signals for economy:

- The Sensex is booming, having crossed the 72,000 mark first time in history.
- Foreign exchange reserves have crossed \$620 billion as on December 22, 2023.
- Inflation has been contained within the RBI's desirable band of 4 plus/minus 2 per cent.

### Poverty

- World Bank's definition of extreme poverty at \$2.15/day/per capita (in 2017 constant purchasing power parity, PPP).
- **Between 1977-2004**
  - India's headcount poverty level declined from 63.11 per cent to 39.91 per cent
  - Absolute population living in extreme poverty increased from 411 million to 453 million due to rapid population growth (2.1 per cent).
- During 2014-19
  - poverty fell but at a declining rate, from about 19.7 per cent in 2014-15 to 11.1 per cent in 2018-19, that is, a 1.72 per cent decline per year.
  - During 2019-20 to 2023-24, poverty declined very meagrely at 0.3 per cent per annum.
  - Reason: Covid-19
  - In 2023, India had the highest number of people (160 million) in extreme poverty, marginally up from 152 million in 2018.

### UNDP's Multidimensional Poverty Index (MPI),

- It is computed using 10 indicators under three dimensions health, education and standard of living halved from 55.1 per cent to 27.7 per cent between 2005-06 to 2015-16.
- That means about 271 million people moved out of poverty.
- NITI Aayog's national MPI (similar to UNDP's MPI with 12 indicators)
  - dropped from 24.85 per cent to 14.96 per cent between 2015-16 and 2019-21,

- indicating that about 135 million people were lifted out of multi-dimensional poverty.
- Reason:
  - It was largely a result of improved access to sanitation, schooling, cooking fuel, etc.
- Need
  - it is crucial to address income poverty which is still very high and has remained defiant over the last five years.
  - For that, policy needs to focus on spurring employment-intensive growth.
  - Skill formation in rural areas to enable people to move out of agriculture to higher productivity jobs in urban areas, coupled with direct income transfers to the most vulnerable (antyodaya) can help.

## **DIRECT TAX COLLECTION**

### **Context:**

India's net direct tax collections touched ₹14.7 lakh crore, meeting over four-fifths of this year's target and reflecting a growth of 19.4% over the same period of 2022-23.

### **About the News**

- **Net Direct Tax Collections (as of January 10, 2024):**
  - Reached ₹14.7 lakh crore, meeting over 80% of the annual target.
  - Showed a growth of 19.4% compared to the same period in 2022-23.
- **Provisional Direct Tax Collections:**
  - Gross collections increased by 16.77% to ₹17.18 lakh crore.
  - Personal Income Tax (PIT) inflows led the growth with a 26.11% rise.
  - Corporate Income Tax (CIT) collections grew at a relatively slower pace of 8.32%.
- **Adjusted Growth Rates:**
  - After adjusting for refunds, net growth in CIT collections was 12.37%.
  - Net growth in PIT collections (PIT only) was 27.26%.
  - Net of refunds, PIT and Securities Transaction Tax receipts increased by 27.22%.
- **Record ITR Filings:**
  - Fresh record with Income Tax Return (ITR) filings for the year surpassing 8 crore.
- **Net Growth Since December 17, 2023:**

- The net direct tax kitty grew by ₹1 lakh crore since December 17, crossing ₹13.7 lakh crore.
- Growth was slightly higher at 20.66% during that period.
- **Contribution to Budget Estimates:**
  - Net direct tax collection, excluding refunds, stands at ₹14.70 lakh crore.
  - Reflects a 19.41% increase compared to the corresponding period of the previous year.
  - Represents 80.61% of the total Budget Estimates of Direct Taxes for F.Y. 2023-24.
- **Refunds:**
  - Refunds amounting to ₹2.48 lakh crore issued to taxpayers by Wednesday.
  - ₹23,000 crore higher than the refunds sent by December 17.
- **ICRA's Projections:**
  - Rating agency ICRA expects full-year direct tax collections to exceed Budget estimates by ₹1 lakh crore.
  - Anticipates a growth rate of around 18% over provisional numbers for 2022-23.
  - Forecasts direct tax revenues to grow by 12% in 2024-25.
  - Based on expectations of benign commodity prices benefiting corporate profitability.
  - Continued efforts by the Government to improve compliance likely to support personal income tax inflows amid widening the tax base. “Direct tax revenues are projected to grow by 12% in 2024-25, based on expectations that benign levels of commodity prices would augur favourably on the profitability of corporates, and hence such tax collections and the continued efforts by the Government to improve compliance are likely to support personal income tax inflows amid widening of the tax base.

## Telecom law

**Context:** Parliamentary passed the Telecommunications Bill, of 2023 and repealed The Indian Telegraph Act, of 1885.

About the Bill;

- Universal Services Obligation Fund (USOF) as the “Digital Bharat Nidhi”. The USOF, which is a levy on telecom service providers (Reliance Jio or Airtel), funds projects such as rural connectivity, has seen little structural change from the way it was designed under the Telegraph Act, 1885.

- It allowed for the allocation of satellite spectrum without the need for auctions that are listed in **the First Schedule of the Telecom Bill**

### Issues:

- It is considered more of a political gimmick due to the inclusion of term Bhartiya and no substantial change in the provisions.
- As in reports by the Telecom Regulatory Authority of India, the growth of new telecom users has sharply stagnated and research reports from the International Data Corporation show a contraction of smartphone sales for the second consecutive year. Here, the Act does not address the **digital divide**.
- The provision created to the allocation of satellite spectrum is likely to benefit the market entry of select private firms. For example: “ISRO Transfers Satellite Bus Technology To Adani Group’s Alpha Design Technologies”.
- Even provisions for “regulatory sandboxes” and online dispute resolution systems are likely to benefit large corporations rather than Indian users due to the prevailing oligopoly in the telecom sector.
- It will allow the Union government to license OverTheTop (OTT) messaging applications such as WhatsApp or email services such as Gmail. This power will, in the coming years, be used alongside other regulations to break the security and confidentiality enjoyed by Indians by using encryption messaging.

### Adani Hidenberg Judgement

**Context:** The apex court has ruled that there is no regulatory failure on SEBI’s part and hence no need for any external agency like a Special Investigating Team (SIT) to further investigate the matter.

**About the Judgement:** The apex court judgment expresses reluctance to act as an appellate authority over regulatory policies framed by SEBI by stating that the court “may interfere only when it is found that the actions are arbitrary or violative of constitutional or statutory mandates”.

### **What’s short selling?**

- The **Securities and Exchange Board of India (SEBI)** defines short selling as the sale of a security or share that the seller does not own.
- In short selling, an investor sells borrowed shares in the market in the hope of buying them back at a cheaper price.
- In other words, short selling is exactly the opposite of usual stock market investments, where an investor has bought a stock, hoping that its price will rise in future. In short selling, an investor holds a short position after anticipating a decrease in the value of a stock.

- In short selling, an investor does not need to own a particular company's shares to sell them. Instead, they can borrow shares/assets of the company from any broker or dealer.

### Purchasing Managers Index

**Context:** Purchasing manufacturing index for the month of December slid to 18 months low.

#### **PMI for the month of December:**

- It was 54.9, compared with 56 in November.
- Factories' output grew at the slowest pace since October 2022, with demand for certain types of products fading.
- International orders grew in December, but at the joint slowest rate in eight months.
- Input costs rose at the second slowest.

### About Purchasing Managers Index

- **Survey-based measure:** It asks the respondents about changes in their perception about key business variables as compared with the previous month.
- **Purpose:** To provide information about current and future business conditions to company decision makers, analysts, and investors.
- **Key features:**
  - It is **calculated** separately for the **manufacturing and services sectors** and then a composite index is also constructed.
  - The **PMI** generally range from **0 to 100**.
    - **A score of more than 50** means expansion,
    - A score less than 50 means contraction.
    - A reading at **50** indicates no change.
  - PMI is usually released at the start of every month.
  - PMI is compiled by IHS Markit for more than 40 economies worldwide. IHS Markit is part of S&P Global.

#### **Significance of PMI:**

- It is an indicator of economic health because the manufacturing and services sector is a key driver of economic growth.

### Palm oil imports

**Context:** India's palm oil imports rose 1.9% to 4-month high in December.

#### **Largest Producer of Palm oil :**

- Indonesia is the largest producer of Palm oil followed by Malaysia. These two together contributed to 84% of Palm oil production.
- Other Major producers are Nigeria, Thailand, and Colombia.

- **India is the largest importer of palm oil.**

Palm oil:

- Grown only in the tropics, the oil palm tree produces high-quality oil used primarily for cooking in developing countries.
- It is also used in food products, detergents, cosmetics and, to a small extent, biofuel. Palm oil is a small ingredient in the U.S. diet, but more than half of all packaged products Americans consume contain palm oil—it's found in lipstick, soaps, detergents and even ice cream.

### **India's debt burden**

**Context:** IMF raised concerns about the longterm sustainability of India's debts. Second, it reclassified India's exchange rate regime, terming it a "stabilised arrangement" instead of "floating in its annual Article IV consultation report.

**About IMF report:**

- IMF said that India's government debt could be 100% of GDP under adverse circumstances by fiscal 2028.
- **Reasons for high Longterm risks**
  - Considerable investment is required to reach India's climate change mitigation targets and improve resilience to climate stresses and natural disasters.
  - Though government borrowings can play a vital role, the weight of debt can act as a drag on development due to limited access to financing, rising borrowing costs, currency devaluations and sluggish growth.
  - As per UN, Countries are facing the impossible choice of servicing their debt or serving their people and 3.3 billion people live in countries that spend more on interest payments than on education or health.
  - Further, the burden of debt is asymmetric between developed and developing countries as the developing countries have to pay higher interest rates undermining debt sustainability.
- **Reasons for Borrowing**
  - Increase in the cost of living crisis, and climate change. As a result, the number of countries facing high levels of debt increased from 22 in 2011 to 59 in 2022.
  - Global public debt has increased more than fourfold since 2000, while global GDP only tripled. In 2022, global public debt reached a record USD 92 trillion with developing countries accounting for 30% of total debt (of which 70% is attributable to China, India and Brazil)
- **Need**



- There is a need of concessional sources of financing are needed, as well as greater private sector investment and carbon pricing or equivalent mechanism.

## Challenge for India

- Challenges in enhancing its credit ratings:
  - Increase debt levels and substantial costs associated with servicing debt impact credit rating.
  - Even being the fastest growing major economy, sovereign investment ratings for India have remained the same for a long time for example S&P Global and fitch have kept India's rating at BBB since 2006.
  - India's low per capita income is a major factor that pulls down the score in the sovereign rating.

## Government Debt:

- Union debt was ₹155.6 trillion, or 57.1% of GDP, at the end of March 2023 and the debt of State governments was about 28% of GDP.
- India's public debt to GDP ratio has barely increased from 81% in 2005-06 to 84% in 2021-22, and is back to 81% in 2022-23.
- However, as per the levels specified in the Fiscal Responsibility and Budget Management Act (FRBMA), the 2018 amendment specified debt to GDP targets for the Centre, States and their combined accounts at 40%, 20% and 60%, respectively.

## India's oil import from Saudi

**Context:** India increased Saudi oil imports in December as due to payment issues its Russian oil buys to an 11 month low.

### About the News:

- Indian Oil Corporation (IOC), which was set to get the Sokol oil, had to with draw from its inventory and buy from West Asia to make up the shortfall.
- India's oil imports from Russia in December declined between 16% and 22%.
- Its imports of Saudi oil, rose by about 4%,.

# SCIENCE AND TECHNOLOGY

## Unusual object within Black hole mass gap

**Context:** While observing the star cluster NGC 1851, astronomers discovered a unique system that challenges categorization. It appears to consist of a millisecond pulsar, **a rapidly spinning neutron star emitting radio light beams, and a massive, hidden object of unknown nature.** This is an object that is neither a neutron star nor a black hole, using the MeerKAT radio telescope in South Africa

### Basic Concept

- **Neutron stars:** are some of the densest objects in the universe. They are as compact as an atomic nucleus, yet as large as a city. The heavier a neutron star is, the more likely it is to eventually collapse to become something even denser: a black hole.
  - They have high density and their gravitational pulls so strong, that their cores are permanently shrouded from the universe by **event horizons (they have surfaces of perfect darkness from which light cannot escape).**

### About the Recent discovery:

- The massive object is dark, meaning it is invisible at all frequencies of light (from the radio to the optical, Xray and gamma ray bands).
- **Millisecond pulsars** are akin to **cosmic atomic clocks.**
  - Their spins are incredibly stable and can be precisely measured by detecting the regular radio pulse they create.
  - Although intrinsically stable, the observed spin changes when the pulsar is in motion or when its signal is affected by a strong gravitational field.
- **Combined Mass:** The NGC 1851E system was found to weigh almost four times as much as the Sun. The dark companion's mass falls within the "black hole mass gap," posing an outstanding question in astrophysics.
- **Formation Speculation:** One possibility is that the system involves a pulsar in orbit around the remains of a merger of two neutron stars, made possible by the dense packing of stars in NGC 1851. Collisions and exchanges between stars in the crowded stellar environment may have led to the observed system.
- **Ongoing Research:** Work is ongoing to identify the true nature of the companion, determining whether it is the lightest black hole or the most massive neutron star. The discovery holds promise for understanding extreme environments in the universe.

## INSAT-3DS

- INSAT-3DS is an exclusive meteorological satellite for enhanced meteorological observations and monitoring of land and ocean surfaces for weather forecasting and disaster warning,
- Primary objective: to provide continuity of services to the existing in-orbit INSAT-3D and 3DR satellites and significantly enhancing the capabilities of INSAT system.
- Launch Vehicle: GSLV F14.
- The satellite is a user-funded project with the Ministry of Earth Science (MoES). Indian Industries have significantly contributed to the making of the Satellite.
- It has state-of-the-art payloads viz., 6 channel Imager & 19 channel Sounder meteorology payloads, communication payloads.

## Smart Lander for Investigating Moon (SLIM)

Context: Smart Lander for Investigating Moon (SLIM) touched down near the Shioli crater, Japan became the fifth country to softland a robotic instrument on the Moon.

### About the landing:

- According to the JAXA statement, SLIM was within 10 m of its designated landing spot until it was 50 m above the surface.
- The engine's failure eventually caused SLIM to drift to a spot 55 m east, where it landed. Whether this failure is related to the solar panels' inability to generate power.

### SLIM

- It is built and launched by the Japan Aerospace Exploration Agency (JAXA) on September 7, 2023, from the Tanegashima spaceport.
- Weight: 590 kg, 1/7th of Chandrayaan 3, which weighed 3,900 kg at launch as Chandrayaan carried large instruments.
- It was launched together with XRISM, a next generation X-ray space telescope, onboard an H2A rocket.
- It is the second Japanese attempt to soft land this year on the moon after HAKUTOR M1.

On December 25, SLIM entered into an elliptical orbit around the moon over three minutes or so. Its apogee (farthest point) in this orbit is 4,000 km and perigee (closest point) is 600 km above the lunar surface.

### **Difference between Chandrayaan and SLIM**

Properties	Chandrayaan 3	SLIM
Weight	3900 Kg	590 kg

<b>Fuel</b>	3.9 tonnes, propulsion module itself was of 2.1 tonnes	Much less fuel
<b>Time taken to</b>	Less than a month	4 months (sept-dec), as it was light in weight
<b>Route</b>	Hohmann Transfer orbit	More Fuel thrifty route (based on weak stability boundary theory)
<b>Path in Earth's orbit</b>	Similar to SLIM	Once launched into orbit around the earth, it swung around the planet and build up <b>kinetic energy</b> , and at an appropriate speed it shot
<b>Path in moon's orbit</b>	Once close to moon It applied brakes which needed fuel to slow down its speed capture moon's weak gravity	Instead of slowing down like Chandrayaan, it allowed itself to be deflected in the moon's direction even as it shot past lunar orbit, deeper into space, and will bring
<b>Landing</b>	Vikram's lander of Chandrayaan3 was designed to descend in an elliptical area that was 4 km long downrange and 2.5 km wide crossrange, and it eventually landed at a spot 350 metres away from a predetermined one. Downrange means in the direction of the craft's motion and crossrange means to	It is being referred to as <b>MOON SNIPER</b> Because it will try to land within 100 metres of its chosen landing site. This is an unusually tight limit given the history of moonlanding missions. Site: Shioli Crater it was still allowed to land anywhere inside an ellipse of 6 km x 6 km.
<b>Rover</b>	Pragyan	Two small rovers called Lunar Excursion Vehicle (LEV) 1 and 2
<b>Purpose</b>	to demonstrate the ability to soft-land on the moon. To demonstrate the rover Vikram's ability to move on the moon. ISRO aims to	study the lunar surface near the landing point, collect temperature and radiation readings, and attempt to study the moon's mantle

### Examples of Landing:

- Curiosity rover by NASA: landing at the centre of a 20 km x 7 km ellipse in Gale Crater on Mars on August 6, 2012, and it landed 2.4 km away.

- The most precise moonlanding in history was China's Chang'e 3 spacecraft: which landed 89 metres away from its chosen spot in the Mare Imbrium plain on the moon

### **How will SLIM affect Chandrayaan 4:**

#### **Chandrayaan 4**

- Indian Space Research Organisation successfully executed its Chandrayaan3 mission by soft landing a robotic craft on the moon's surface, on August 23, It also concluded the second phase of its lunar exploration programme.
- The first mission of its third phase is the Lunar Polar Exploration (LUPEX) mission, a.k.a. Chandrayaan 4.
- LUPEX will be an Indian-Japan joint enterprise (however, while JAXA has approved LUPEX, India is yet to) with the earliest launch date in 2026.

#### **Significance of South Pole**

- Some of the craters in South Pole are always in shadow, allowing the temperature there to drop very low as well as sparing them the effects of sunlight and diurnal temperature variations.
- These parts contain water ice, and a lunar surface mission could potentially explore these sites and attempt to extract water.
- The terrain near either of the moon's poles is rocky, pocked with several craters, and full of steep slopes.
- If there is a suitable landing spot for a (relatively) large landing module or rover, its downrange and crossrange limits will be lower than they were for Chandrayaan3. The craft will have to land as close to the site as possible, if not at the site itself.

### **GM Mustard**

**Context:** Supreme Court questioned the government on whether the Genetic Engineering Appraisal Committee (GEAC) had considered the reports of the court appointed Technical Experts Committee (TEC) on the biosafety of transgenic mustard hybrid DMH11 before approving it for environmental release.

#### **GEAC**

- GEAC is a statutory body which operates under the Ministry of Environment, Forest and Climate Change (MoEFCC) and was established under the Environment Protection Act, 1986.
- **Mandate:** Responsible for evaluating the safety and environmental impacts of genetically engineered organisms (GMOs), including genetically modified crops, before they are allowed for commercial cultivation.
- **Chairperson:** Special Secretary/Additional Secretary of MoEF&CC and co-chaired by a representative from the Department of Biotechnology.

- **Functions and Responsibilities**

- **Evaluation of GMOs:** To evaluate and assess the potential environmental impact, biosafety, and risks associated with the release of genetically modified organisms (GMOs) into the environment.
- **Review of Proposals:** It reviews and appraises proposals for the environmental release of GMOs, including genetically modified crops. This involves examining data on the safety and efficacy of genetically modified organisms.
- **Granting Approvals:** Based on its evaluation, the GEAC makes recommendations to the Ministry of Environment, Forest and Climate Change regarding the approval or rejection of proposals for the release of GMOs.
- **Monitoring and Compliance:** GEAC is also involved in monitoring and ensuring compliance with the conditions laid down during the approval process to mitigate potential risks and ensure environmental safety.
- **Public Consultation:** In some cases, the committee conducts public consultations to gather input and address concerns from stakeholders, including farmers, environmentalists, and the public.
- **Regulatory Framework:** GEAC operates within the framework of the Rules for the Manufacture, Use, Import, Export, and Storage of Hazardous Microorganisms/Genetically Engineered Organisms or Cells, 1989, under the Environment Protection Act, 1986.

### **About GM Mustard:**

GM mustard, also known as Dhara Mustard Hybrid 11 (DMH-11), was developed by the Centre for Genetic Manipulation of Crop Plants at Delhi University. The Genetic Engineering Appraisal Committee (GEAC) recommended the commercial release of GM mustard in 2016, but it faced opposition and was under review by the government.

### **Key points regarding GM mustard in India:**

- **Development:** DMH-11 was developed to increase mustard yields and reduce dependency on edible oil imports.
- **Benefits:** Proponents argued that GM mustard could enhance yield, making India more self-sufficient in edible oil production. It was engineered to resist pests and herbicides, making cultivation more efficient.
- **Concerns:**
  - **Environmental Impact:** Unintended effects on non-target organisms, soil health, and biodiversity. It might affect ecological balances in ways that are not fully understood.
  - **Farmer Dependency on Seed Companies:**
    - The use of GM seeds may lead to increased dependence on seed companies, particularly if farmers are required to purchase

new seeds each planting season. This dependence can raise issues related to intellectual property rights, seed costs, and the autonomy of farmers.

- **Socio-Economic Issues:**
  - The adoption of GM crops can have socio-economic implications for farmers. Concerns include increased costs associated with purchasing GM seeds and potential impacts on small-scale or traditional farming practices.
- **Contamination of Wild Mustard Varieties:**
  - Cross-pollination between GM mustard and wild mustard varieties is a concern. There's the potential for genetic material from GM crops to spread to related wild plants, creating hybrids and potentially affecting natural ecosystems.
  - Other concerns include Human Health Concerns, lack of long-term studies, and ethical and cultural concerns.

## Role of microbes

- **Microbes in Life:** Microbes are highlighted as the original masters of life's great design, outnumbering humans and existing everywhere, including within our bodies.
- **AMR:** Antimicrobial resistance, where certain microbes evolve to resist the effects of medicines, creating difficulties in treating infections.
- **Coexistence with Microbes:** Rather than a confrontational approach, the text suggests that our interaction with microbes should be about learning to live alongside them. This involves creating new medicines, quick disease detection methods, and cutting-edge technologies while considering the intricate microbial ecosystem.
- **Search for New Antibiotics:** The importance of finding new antibiotics in the fight against AMR is emphasized. Zosurabalpin and Wockhardt's cefepime-zidebactam are mentioned as promising candidates currently in development.
- **Role of Startups:** The text notes a shift in pharmaceutical innovation towards startups, citing the example of the Pfizer COVID-19 vaccine developed by the German startup BioNTech. It stresses the need to foster a supportive environment for startups, particularly in the biotech sector.
- **Rapid Diagnostics:** The urgency for advanced rapid diagnostics is highlighted for effective and prompt detection of infections. The text mentions the Longitude Prize initiative and the importance of supporting startups in this field, such as Module Innovations in India.
- **Phage Therapy:** Bacteriophage therapy, which involves using viruses to target and destroy bacteria, is suggested as an alternative method. The text encourages the development of indigenous phage therapies in India.

- **Therapeutic Vaccines:** The importance of developing therapeutic vaccines to prevent the recurrence of infections is stressed. India is seen as well-positioned to lead in this area with its robust biotech sector.
- **Service Delivery and Infection Control:** The need for innovative service models to ensure infection control in hospitals is discussed. QuorumVeda, an Indian startup, is mentioned for its online service delivery model aimed at enhancing infection control and antibiotic stewardship in mid-size and small hospitals.
- **Entrepreneurship as Hope:** Entrepreneurship is portrayed as a beacon of hope in conquering the AMR challenge. The text underscores the significance of tangible implementation, cutting-edge technology, and the entrepreneurial spirit in finding sustainable solutions.
- **Socio-Economic Dimensions:** The text concludes by noting that AMR is not just a health concern but a complex socio-economic puzzle intertwined with sanitation and education. It emphasizes the need to address foundational issues for a comprehensive fight against AMR.

## Pulsars

### **Discovery of the First Pulsar (1967):**

Astronomers at the University of Cambridge, Jocelyn Bell Burnell and Antony Hewish observed periodic radio signals while studying distant stars. This discovery was later identified as the first pulsar, named PSR B1919+21.

### **What are Pulsars and Neutron Stars?**

- Neutron stars, formed from the cores of collapsing heavy stars, resist gravity with outward pressure due to the inability of neutrons to have the same energy levels.
- Pulsars identified as rotating neutron stars emitting narrow radio signal cones, similar to a lighthouse beam.

### **Pulsar Rotation and Glitches (1969):**

- Physicists observed a slowing rotation of pulsars over time.
- In 1969, a glitch was discovered in PSR 0833-45, involving an abrupt and brief increase in rotation rate.
- Over 3,000 pulsars were identified, with approximately 700 glitches reported.

### **Post-Glitch Relaxation and Superfluid State:**

- After a glitch, the rotation rate briefly increases before relaxing to the original value, a slow process.
- The slow relaxation suggests the presence of superfluidity inside the neutron star, where neutrons behave in a slippery, frictionless state.

### **Superfluid Vortices and Pinning:**



- Neutron star structure includes a 20-km-wide sphere with a solid crust and a core containing superfluid.
- Superfluid in a rotating system leads to the formation of vortices, with pinning causing them to attach to nuclei in the crust.
- As the neutron star loses energy, pinned vortices eventually overcome pinning, leading to their outward release and a temporary increase in rotation (glitch).

### **Glitching Mechanism Controversies:**

- Details of glitching mechanisms, including triggers in space and evolutionary patterns, are highly debated.
- Scientific inquiry into glitches provides insights into the diverse physics occurring within neutron stars.

### **India's Genome Sequencing**

- **Context:** JN.1 variant, a descendent of the BA.2.86 Omicron lineage has been rapidly spreading reaching over 27%, marking an eightfold increase in just a month. It was first identified in Luxembourg in late August this year. This has also become the dominant variant in a few countries.

### **About JN.1**

- Compared to the parent variant JN.1 variant carries an additional mutation (L455S) in the spike protein, which enhances its immune evasion significantly.
- Like other Omicron sublineages, the JN.1 variant too has high transmissibility. Aided by the winter season in the northern hemisphere.
- Based on available limited evidence, WHO has noted that JN.1 is not associated with increased disease severity compared with other circulating variants.

### **JN.1 in India:**

- The first COVID19 case caused by the JN.1 variant was detected in Kerala during routine surveillance,
- Goa has reported the greatest number of cases so far.

### **LEDs: Light-emitting diodes**

“Incandescent light bulbs ... lit the 20th century; the 21st century will be lit by LED lamps.”

### **DIODES**

- A diode is an electronic component about 5 mm wide.
- It has two points of contact, or terminals, called its anode and cathode.
- Purpose is to allow current to flow in only one direction.

### **LED:**

- An LED is a diode that emits light.
- the free electron releases energy and If the frequency of this energy is in the visible part of the electromagnetic spectrum, the diode will be seen to emit light. The overall phenomenon is called electroluminescence.
- The energy of a wave is proportional to its frequency. So making sure the light emitted by an LED is visible light is a matter of making sure the electron hole recombination releases a certain amount of energy, not more and not less.

### **Colours that Led produces**

- Since LEDs can produce all three primary colours red, green, and blue different LEDs can be combined on a display board to produce a large variety of colours.
- Scientists were able to create red and green LEDs more than 40 years before they created blue LEDs. as scientists had identified a compound, gallium nitride, that was electroluminescent and whose band gap could yield blue light, but they didn't know how to create crystals of this compound with the precise physical, electronic, and optical properties.
- Gallium nitride was also fragile, quickly becoming a powder in the process used to create crystals.
- In the late 1980s, three Japanese researchers, Isamu Akasaki, Hiroshi Amano, and Shuji Nakamura, led teams that produced a bright blue LED with gallium nitride. For this feat they received the physics Nobel Prize in 2014.

### **Advantages of LEDs**

- Improvements to LEDs since 1970 have followed Haitz's law. It states that for a given frequency of light, the cost per unit of light of an LED will drop 10x and the amount of light it produces will increase 20x every decade.
- LEDs were more efficient than incandescent bulbs and fluorescent lamps.
- per watt of power consumed, LEDs can produce up to 300 lumen (amount of visible light emitted per second) versus incandescent bulbs' 16 lumen and fluorescent lamps' 70 lumen
- Together with their greater durability and light contrast, LEDs' advantages translated to higher cost savings and less material waste.

### **Application:**

- Industry, consumer electronics, and household appliances: from smartphones to TV screens, signboards to 'feeding' plants light in greenhouses, barcode scanners to monitoring air quality.
- LEDs can be 'embedded' in the skin, and organic LEDs emit more light (albeit by a different mechanism). Researchers are also exploring more efficient LEDs made of materials called perovskites.

## **Kairali AI Chip**

Context: Digital University Kerala has de signed the **State's first silicon proven artificial intelligence (AI) chip** – Kairali AI Chip.

About the Chip

- It leverages unique features to deliver capabilities such as speed, power efficiency and scalability.
- It is touted to contribute its edge intelligence (or edge AI) in a wide array of areas including agriculture, aerospace, mobile phone and automobile industries, drones and security.
- It allows complete storage and processing of information from the sensory circuits with minimum power and latency, which helps in offloading cloud computations.
- Application of Chip
  - Agriculture sector: it can revolutionise precision farming techniques by enabling real time monitoring of crop health, soil conditions and environmental factors, and thereby pave the way for more efficient use of resources and better crop yields.
  - Mobile phone: It can enable advanced features like realtime language translation, enhanced image processing and AI-powered personal assistants.
  - Autonomous vehicles: it can provide necessary computing power for realtime processing of sensory information which is crucial for efficient autonomous driving.
  - Its edge computing capability can enable faster and efficient facial recognition algorithms, threat detection and realtime analytics in security and surveillance.

## **Edge computing**

- It enables data to be analysed, processed and transferred at the edge of a network.
- The data is analysed locally, closer to where it is stored, in real-time without latency, rather than sent it far away to a centralised data centre.
- It allows for quicker data processing and content delivery.
- Edge computing is different from cloud computing with reference to the place where the data processing takes place. Internet of Things (IoT) systems perform all of their computations in the cloud using data centres.
- In Edge computing, massive amounts of data generated by IoT devices are stored and processed locally.
- That data doesn't need to be sent over a network as soon as it is processed; only important data is sent therefore, an edge computing network reduces the amount of data that travels over the network.

## **NISAR MISSION**

**Context:** As per an official statement by NASA, the Nissar mission is on track and the final tests are scheduled for this week.

**NISAR:**

- It is a NASA ISRO joint collaboration named NASA-ISRO Synthetic Aperture Radar (NISAR) mission.
- It is designed to observe natural processes and changes in Earth's complex ecosystems.
- This single observatory solution is equipped with a long wavelength band (L-Band) SAR payload system provided by NASA and a short wavelength band (S-Band) ISRO payload.
- It will be a low earth orbit (LEO) observatory.
- Life: 3 years.
- Uniqueness of the mission:
  - The volume of data will be enormous, and it helps us to have a reliable set of measurements over any spot on the earth where we want to do science or monitoring applications, forest management, agriculture monitoring or even just looking at an approaching hurricane
  - The data collected will be placed on our respective data servers in India and the U.S. and they will be made open to the public essentially as soon as they are processed to a validated data product.
- Importance:
  - **Earth Observation:**
    - The mission will use a synthetic aperture radar to scan **Earth's land and ice-covered regions** twice every 12 days in ascending and descending passes.
    - It is capable of penetrating cloud cover and operating day and night, NISAR is expected to revolutionise earth-observing capability.
  - **Disaster Monitoring and Mitigation:** It is also expected to be a reliable data source for disaster monitoring and mitigation.

**XPoSat**

**News:** XPoSat was launched by ISRO on 1 January.

**About XPoSat:**

- XPoSat: X-ray Polarimeter Satellite (XPoSat)
- Launch Vehicle: Polar Satellite Launch Vehicle PSLV-C58.
- Launched From Satish Dhawan Space Centre in Sriharikota, Andhra Pradesh.
- Launched into Lower Earth Orbit (LEO), 650 Km.
- **Payloads:**

- **POLIX payload**, realised by the Raman Research Institute, will track X-rays in the 830 kilo- electronvolt (keV) energy range and observe emissions from around 50 sources in five years.
- **XSPECT payload, developed** by ISRO's U.R. Rao Satellite Centre, will study X-rays of energy 0.815 keV and changes in continuous X-ray emissions. Together, they are expected to shed light on intense X-ray sources such as pulsars and black holes.
- **Significance:**
  - It is India's first dedicated scientific endeavour to study the polarisation of cosmic X-rays from celestial sources.
  - India has become the second country in the world after the United States to send a specialised astronomy observatory **to study black holes and neutron stars in our galaxy.**

### PSLV Operation:

- PSLV Launched XPoSat in a 650km circular orbit around the earth.
- And then the fourth stage of the rocket lowered itself into a 350 km high orbit and unfurled solar panels, becoming a rudimentary satellite and orbital test bed for the 10 payloads it carried.
- These 10 Payloads are a radio payload by the K.J. Somaiya Institute of Technology and a device to measure ultraviolet radiation from L.B.S. Institute of Technology for Women; a 'green' CubeSat propulsion unit, a 'green' mono propellant thruster, a tantalum based radiation shield, a heater less hollow cathode, and a nano satellite platform, all from private entities; and an interplanetary dust counter, a fuel cell power system, and a high-energy cell from ISRO centres.
- This is only the third time ISRO has operated the PSLV fourth stage in this way.

### Draft road maps for critical tech sectors

**Context:** The Ministry of Electronics and Information Technology has put out draft road maps for conducting indigenous research and development for cyberforensics, quantum computing technologies, mobile security, cryptography, and Internet of Things (IoT) security.

#### About RoadMap:

- The road map is prepared by the Centre for Development of Advanced Computing (CDAC).
- **Aim:** To solve a series of issues in different time spans between now and 2047, the centenary of Indian independence.
- The cybersecurity roadmap, for instance, seeks to develop "social media analytics" by 2026, and "Dark Web forensics" by 2030.
- Detection of child exploitation and human trafficking is marked as ongoing efforts that will start in 2027 and continue beyond 2047.

- GPS and vehicle forensics will be completed by 2027 and 2029, respectively, while banking fraud and UPI payment forensics solutions have until 2029 and 2030, respectively.
- Research and development efforts to develop quantum computers will carry on till 2034.
- The mobile security roadmap aims, on the other hand, to engage in fostering “enter prisegrade” security systems, creating an “indigenous system for secure [operating systems] and mobile device hardware.”
- Cryptography road map seeks to achieve domestic digital encryption development goals says goals for “asymmetric cryptography” and IoT devices should be done by 2028-33, including “quantum resistant cryptography.”

### **GM CROPS AND EDIBLE OIL**

Context: In a response to Supreme Court while hearing a petition by Gene Campaign and activist Aruna Rodrigues, have challenged the government move to commercially release Dhara Mustard Hybrid11 (DMH11) citing environmental challenges, the government argued that growing genetically modified (GM) crops such as mustard would make quality edible oil cheaper for the common man and benefit the national interest by reducing foreign dependence.

#### **Edible oil usage in India:**

- Mustard is the most used edible oil.
- Presently 50-60% of edible oil is imported.
- Total edible oil demand of India was 24.6 million tonnes (2020-21) with domestic availability of 11.1 million tonnes (2020-21).
- In 2020-21, 13.45 million tonnes (54%) of the total edible oil demand was met through import estimated at ₹1,15,000 crore. This includes palm oil (57%), soybean oil (22%), sunflower oil (15%) and a small quantity of canola quality mustard oil.
- In 2022-23, 155.33 lakh tonnes (55.76%) of the total edible oil demand was met through import.
- Further, nearly 2.8 lakh tonnes of soybean oil is imported annually by India. Most exporting countries such as Argentina, the U.S., Brazil, and Canada cultivate GM soybeans. Globally around 80% of soybean growing is GM soybean

#### **Significance of GM crops:**

- It will enhance India’s food security and reduce foreign dependence.
- It will fulfil the government’s duty to promote the Right to food.

### **Regulation of Indian Online Gaming Industry**

### **Market Failures and Regulatory Intervention:**

- Various market failures like monopolies, externalities, and information asymmetries diminish economic value and erode societal well-being.
- Government regulatory intervention becomes vital to restore trust and safeguard public interest.
- Adequacy of intervention is measured by ensuring benefits surpass potential costs.

### **Digital Markets Overview:**

- Online services are integral to daily life, with India having the world's second-largest Internet user base.
- Mobile app usage has surged to 4.9 hours daily, with 82% dedicated to media and entertainment.
- Concerns arise from AI-generated deep fake videos blurring the lines between reality and simulation.
- Proposed digital regulations address challenges in the intricate interplay of data and algorithms.

### **Online Gaming Industry in India:**

- Online gaming industry, growing at 27% CAGR, is a home-grown start-up ecosystem.
- Estimated potential contribution of AI and online gaming to India's GDP is \$300 billion by 2026-27.
- Concerns include addiction, mental illness, suicides, financial fraud, privacy, data security, money laundering, and national security.
- Growth of illegal offshore gambling markets poses significant challenges, contributing to financial malpractices.

### **Market Failures and Insufficient Regulation:**

- Market failures in online gaming result from insufficient regulation.
- Safety and financial ramifications arise from illegal offshore betting and gambling markets.
- Lack of mechanisms to differentiate between legitimate and illegal platforms.
- Absence of a specialized regulatory authority leads to inadequate enforcement.

### **Impact of Illegal Offshore Gambling:**

- Illegal offshore gambling and betting market receives \$100 billion annually, growing at a rate of 20% in the past three years.
- Substantial losses to the exchequer estimated at \$45 billion per annum in taxation.
- Multiplication of illegal operators due to inadequate enforcement.

### **Regulatory Initiatives in India:**

- Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Rules, 2021, marked a commendable step.

- Delayed notification of Self-Regulatory Bodies has hindered progress.
- Urgent need for strict regulation to protect the 373 million gamers in India.

### **Global Perspective - UK Model:**

- The U.K. has a centralized government regulator for online gaming.
- Quarterly reports show significant fines for operators violating player protection requirements.
- Strict enforcement and harm reduction efforts have led to a decline in disordered gaming.

### **Importance of Strict Regulatory Framework:**

- An unregulated market may not deliver the greatest benefit to society overall.
- High taxes and weak regulatory enforcement create fertile ground for a shadow economy.
- Urgent need for a strict regulatory framework to protect national interests and ensure responsible growth in the online gaming sector.

## **India's OTT Market**

**Context:** India's OTT market, sized at \$2.1 billion (this includes You Tube), went through a major disruption in CY23. They are facing issues of growth and profitability

### **Reason:**

- As Jio Cinema offered the most premium content Indian Premier League free to users to build base and this impacted revenue growth for peers as they were forced to offer cricket world cup for a fee (Disney plus).

### **Challenges**

- **Profitability:** Since the advent of affordable 4G service and video OTT in India in 2017, none of the video streaming platforms have been able to reach breakeven point, which could lead to some structural changes in this market in 2024.
- **Consolidation:** consolidation is another big challenge. There are rumours of the perspective merger of Zee/Sony and potential talk of RIL/Disney. Jio Cinema, Sony Liv, Hotstar and Zee5 together command a market share of more than 40% in video advertising (including YouTube). This will improve bargaining power aggressively in favour of platforms and arrest content costs across various types of content (movies, web series etc). Consolidation between the larger names may also lead to smaller platforms scaling down or eventually partnering with the larger ones.

### **Structural Changes required:**



- **Content costs correction:** It is the need of the hour, as most big OTT platforms are making hefty losses. Because the India OTT industry revenue (excluding YouTube) is \$1 bn, however, the content cost alone for the industry is about \$1.5-\$2 billion, which is approximately 65-70% of the OTT platforms' cost base alone (other costs include marketing, manpower and technology).
- **Rationalisation in content costs or Selective content:** There will be a sharp decline in experimentation within web series and a more selective approach when it comes to purchasing digital rights of films in CY24.
- **Censorship:** However, don't expect blanket censorship as that will stall the growth of digital consumption. Self-regulation will continue to exist going ahead, too; however, there could be a potential set-up wherein content on OTT is constantly monitored and platforms making content hurting religious or minority sentiments may be penalised by way of hefty fines
- **Data sharing:** Video OTT has the best advantage of tracking consumption and viewership trends across markets. Net flix recently started sharing data, providing details of time spent on various shows globally. Transparency from the OTT platforms will increase, as they start sharing selective data around viewership trends. This could benefit 1) advertisers for better ROI and 2) content creators to predict what kind of content actually does well.

### Voice cloning through artificial intelligence is being used for scams

**Context:** Voice cloning through artificial intelligence which was just a phenomenon used for amusements is now being widely used for scams.

#### Examples:

- In April last year, a family living in Arizona, U.S., was threatened to pay ransom for a fake kidnapping pulled off by an AI cloned voice.
- It has also been used to spread disinformation: Free AI voice cloning tools to generate celebrity hate speech, wherein Harry Potter actress Emma Watson read out a portion of the *Mein Kampf* and conservative political pundit Ben Shapiro made racist comments against Democrat politician Alexandria Ocasio Cortez.

### India is a major target of Voice cloning scams:

- As per a report titled 'The Artificial Imposter' 47% of surveyed Indians have either been a victim or knew someone who had fallen prey to an AI-generated voice scam. This is twice the global average of 25%.
- India topped the list with the maximum number of victims of AI voice scams.
  - For example: in december, a Lucknow resident fell prey to a cyberattack that used AI to impersonate the voice of the victim's

relative, requesting the person to transfer a substantial amount through UPI.

- In August stated that a man from Haryana was duped of ₹30,000 after a call was made from a scamster who used an AI app to sound like the victim's friend in dire need of money due to an accident.
- **According to McAfee**, 66% of Indian participants admitted that they would respond to a voice call or a phone call that appeared to be from a friend or family member in urgent need of money, especially if the caller was supposedly a parent (46%), spouse (34%) or their child (12%).
- The report stated that messages that claimed the sender had been robbed (70%), involved in a car accident (69%), lost their phone or wallet (65%) or needed financial aid while travelling abroad (62%) were the most effective excuses.
- It also said that 86% of Indians were prone to sharing their voice data online or via voice notes at least once a week which has made these tools potent.

### **How are voice clones done?**

- Step 1: Scammer finds an audio clip of an individual.
- Step 2: Upload their voice clip to the online program that can replicate the voice accurately barring some intonations. The popular application includes Murf, Resemble and Speechify. Another important platform is ElevenLabs which was founded by former Google and Palantir employees.
  - it released a product called AI Dubbing which can translate even longform speech into 20 different languages

### **Role of big tech firms:**

- Meta launched SeamlessM4T, an opensource multilingual foundational model that can understand nearly 100 languages from speech or text and generate translations in realtime.
- Apple introduced a voice cloning feature in iOS 17 intended to help people who may be in danger of losing their voice say to a degenerative disease.
- ChatGPT, also has a voice transcription feature that can be used for cloning. But OpenAI has been careful to partner with specific parties to prevent the illegal use of these capabilities.
- YouTube also announced Dream Track which partners with just 100 creators in the U.S. would allow them to create song clips featuring AI vocals with permission from pop stars like Demi Lovato, Sia and John Legend.

### **Steps that can be taken:**

- The U.S. Federal Trade Commission or FTC launched a Voice Cloning Challenge which asked the public to send in their ideas to detect, evaluate and monitor cloned devices. Just yesterday, the contest posted a prize of \$25,000 for the winner.
- The FTC is also considering the adoption of a recently proposed Impersonation Rule that will help deter deceptive voice cloning.
- On January 2, researchers from Massachusetts Institute of Technology (MIT) and Tsinghua University in Beijing, China, and members of AI startup MyShell released OpenVoice, an opensource voice cloning tool that is almost instant and offers granular controls to modify one's voice that isn't found on other such platforms.
- And the segment is only expected to grow exponentially. A report by Market US has revealed that the global market for these applications stands at \$1.2 billion in 2022 and is estimated to touch almost \$5 billion in 2032 with a CAGR above 1540%.

## Aditya L1

**Context:** ADITYA L1 entered in a halo orbit around the Lagrangian point (L1).

### About Aditya L1:

- It is India's first mission to study the Sun.
- It would get into a 'halo orbit' around the Lagrange Point 1 (L1), one of the five spots in the moving Sun-Earth system, where the gravitational effects of the two bodies roughly balance each other.
- **Present Scenario:**
  - Aditya L1 has already reached the L1 point and the manoeuvre (on January 6) will put it in the desired orbit. Without getting into the orbit, the spacecraft will continue to travel towards the Sun.
  - This manoeuvre is critical. It involves the firing of thrusters to change the speed and trajectory of the spacecraft. If the intended orbit is missed in the first attempt, there would be multiple subsequent corrections and thruster firings required.
- **Lagrange Point:**
  - These five spots are relatively stationary to the Earth and Sun, and offer a somewhat stable location for a spacecraft to view the Sun
  - The L1 point is about 1.5 million kilometres from the Earth. This is just 1 per cent of the total distance between the Earth and the Sun.
- **Benefit of moving into the orbit:**
  - Moving into this three-dimensional orbit also offers the spacecraft an opportunity to view the Sun from different angles.
- **Payloads:** It has 7 scientific payloads:

- Visible Emission Line Coronagraph (VELC), Solar Ultraviolet Imaging Telescope (SUIT), Solar Low Energy X-ray Spectrometer (SoLEXS), High-Energy L1 Orbiting X-ray Spectrometer (HEL1OS) are designed to directly track the Sun.
- Other in- situ (on site) measuring instruments like the Aditya Solar Wind Particle Experiment (ASPEX), Plasma Analyser Package for Aditya (PAPA), and Advanced Triaxial High Resolution Digital Magnetometers.

### **DRDO counter drone system**

**Context:** The counter drone system developed by the Defence Research and Development Organisation (DRDO) is ready for production.

### **DRDO counter drone system**

- A comprehensive integrated anti-drone system has been developed which comprises detection, identification and neutralisation of a drone.
- It is capable of detection, identification, and neutralisation of an intruding drone on our land borders also.
- It is capable of countering attacks, soft kill, and hard kill of all types of drones, including micro drones,
- The Transfer of Technology (ToT) for above technologies has been handed over to private industries, including BEL, Adani, Larsen & Toubro (L&T), and Icom.
- Tapas Medium Altitude Long Endurance (MALE) UAV developed for the Intelligence, Surveillance, Target Acquisition and Reconnaissance (ISTAR) application is in advance stage of developmental trials.
- The short range armed UAV Archer is being developed for reconnaissance, surveillance and low-intensity conflict, and developmental flight trials are under progress.

### **Superconductivity**

**Context:** A group of scientist from China and Japan have reported finding a sign of super-conductivity in a material named copper substituted lead apatite. Also south Korean Researchers have observed superconductivity in LK99.

### **Meissner effect:**

- It is one of a few ‘effects’ certain materials exhibit when they are able to conduct electric currents without any resistance i.e. when they become superconductors.
- Researchers have observed the Meissner effect in a compound called copper substituted lead apatite.
- Many types of materials including metals, metallic compounds, ceramics, hydrides, etc have become superconductors. They all have one thing in

common: they become superconducting either when they're cooled to extremely low temperatures or when they're subjected to extremely high pressures.

- However, the recent studies are focussing on identifying materials superconducting at room temperature and pressure (RTP).
- Application of such material:
  - It could be used to make wires that transport electricity with zero loss; such transmission losses are the largest source of electric energy loss in the world today.
  - Medical diagnostics, computing, power generation, advanced electronic circuits, and many other fields. For example, the water absorbing properties of modern diapers were first tested with particle accelerators, which use superconducting magnets to work.

### Challenges:

- The overall shape of the forward and backward path –called the hysteresis loop combines the effects of temperature, the magnetic field, and the material's magnetisation on the material's properties. As a result, it contains information about the conditions in which the material switches in and out of its superconducting states.
- The portions that seemed to be superconducting were quite small
- The critical magnetic field strength beyond which the material can't superconduct was small. The higher this field is, the easier it is to probe the material's properties.

### Kavach System

**Context:** A Bench of Justices Surya Kant and K. V. Viswanathan was hearing a petition which raised the issue of safety measures to prevent train accidents.

#### KAVACH

- It is India's indigenous **automatic protection system**, which is in development since 2012, under the name **Train Collision Avoidance System (TCAS) or Kavach or "armour"**.
- KAVACH is a set of **electronic devices and Radio Frequency Identification (RFID) devices** installed in locomotives, in the signalling system as well as the tracks.
- **Locomotives are** connected to each other **using ultra high radio frequencies to control the brakes** of trains and also alert drivers, all **based on the logic programmed into them.**
  - TCAS or Kavach **includes the key elements from already existing, and tried and tested systems** like the European Train Protection and Warning System, and the indigenous Anti Collision Device.

- **Kavach** also has features of the **high-tech European Train Control System Level-2 in future.**
- The current form of Kavach adheres to the highest level of safety and reliability standard called **Safety Integrity Level (SIL)4.**
  - **SIL** comes from two voluntary standards used by plant owners/operators to **quantify safety performance requirements for hazardous operations.**
  - There are four SIL Levels (1-4). A higher SIL Level means a **greater process hazard and a higher level of protection required.**
- In the **new avatar, India wants to position Kavach as an exportable system,** a cheaper alternative to the European systems in vogue across the world.
- While now Kavach uses **Ultra High Frequency,** work is on to make it compatible with **4G Long Term Evolution (LTE)** technology and make the product for global markets.

## Significance

- **Safety:**
  - It will **prevent accidents on rail tracks like collision of trains.**
  - When the system is activated, all trains within a 5-km range will halt to **protect trains on adjacent tracks.** Currently, the loco-pilots or assistant loco-pilots have to look out for caution signs and signals.
- **Cost:**
  - It will only cost Rs 50 lakh per kilometre to operate in comparison to about Rs 2 crore worldwide.
- **Communication:**
  - It will also include stationary equipment to gather signalling inputs and relay them to a central system to **enable seamless communication with the train crew and stations.**

## Global nuclear order

**Background:** it originated during the Cold War in the aftermath of Cuban missile cases, 1962 were the head of the two blocks U.S. President John F. Kennedy and General Secretary Nikita Khrushchev were so close to face a nuclear attack.

This is when they understood that being a nuclear power it is essential to have bilateral mechanisms to prevent tensions from escalating to the nuclear level. And also nuclear weapons are dangerous and, therefore, their spread should be curbed. This led to the emergence of the Global nuclear order.

## Global nuclear order:

- **Hotline:** It was the first bilateral measure developed in 1963 to enable the leaders to communicate directly. It was later upgraded into nuclear risk reduction centres.
- **Arms control negotiations:** they followed the hotline, during these negotiations, two nuclear superpowers sought to manage their nuclear arms race and maintain strategic stability.
- **Nuclear NonProliferation Treaty (NPT):** it was in 1965 in Geneva, that the two started negotiations to curb its proliferation and In 1968, the NPT was opened for signature. Today there are 191 signatories to the treaty.
- **London Club, 1975 later came to be called as Nuclear Suppliers group:** India did not sign the NPT and chose to conduct underground peaceful nuclear explosive, or PNE in 1974. Post this, Seven countries (the U.S., U.S.S.R, U.K., Canada, France, Japan, and West Germany ) came together and sought urgent export controls to ensure that nuclear technology, was transferred for peaceful purposes.
- Today it consists of 48 countries, which observe common guidelines for exporting nuclear and related dualuse materials, equipment, and technologies.

### **Impact of nuclear control regime:**

- The World has not witnessed a nuclear attack since 1945.
- Nonproliferation has been a success: There were five nuclear countries in 1968 the U.S., U.S.S.R., U.K., France, and China and only four countries have since gone nuclear, i.e., India, Israel, North Korea, and Pakistan. Although there are predictions that about 20 countries possess nuclear weapons.
- After the Cold War both the US and Russia cooperated to ensure that Belarus, Ukraine, and Kazakhstan which hosted Soviet nuclear weapons and possessed some capabilities, were denuclearised

### **Limitations:**

- It did not end the US-USSR nuclear race: Their arsenals grew from 28,000 bombs in 1962 to over 65,000 bombs in the early 1980s. However, it was after the 1980s that it declined to 12,000 bombs today which is largely due to the disintegration of the USSR.
- US ignored Israel went nuclear in the 1960s70s and again when China helped Pakistan with its nuclear programme in the 1980s. More recently, the nuclear submarine AUKUS deal (Australia, U.S., U.K.) with Australia, a nonnuclear weapon state, is raising concerns in the NPT community. However, when South Korea in 70s considered a nuclear weapon program spurred by a US withdrawal from Vietnam, it forced France to withdraw its nuclear supply from South Korea in 1975-76.

- It also suppressed Taiwan's nuclear weapons programme in 1977-88 as it stepped up normalisation of ties with China.

### **Challenges posed by changing Geopolitics**

- Multipolar world: US is facing threats from Assertive China which is more competitive and intertwined in terms of economy and technology unlike USSR during war times.
- Impacted treaty between US and Russia:
  - In 2002, the U.S. withdrew from the AntiBallistic Missile (ABM) Treaty
  - In 2019, it withdrew from the Intermediate Range Nuclear Forces (INF) Treaty on grounds that Russia was violating it.
  - The only remaining agreement, New START, will lapse in 2026 and its verification meetings were suspended during the COVID19 outbreak and never resumed.
  - Russia deratified CTBT (comprehensive test ban treaty). Strategic stability is in danger considering the threats Russia is facing from NATO and also its aggression in Ukraine.



# ENVIRONMENT

## COP 28 AND ITS OUTCOME

### COP 28:

The 28th session of the Conference of the Parties (COP) which is an annual convening of countries signatories to the United Nations Framework Convention on Climate Change (UNFCCC) took place in Dubai.

### **Outcome:**

#### **Loss and damage fund**

- COP27 agreed to create a ‘Loss and Damage’ (L&D) fund. The fund was operationalised at COP28.
- However, only a meagre \$790 million has been pledged so far, by a few nations, despite the corpus requiring \$100 billion to more than \$400 billion a year.
- The U.S., the largest historical emitter, committed only \$17.5 million.
- The World Bank was designated to oversee and administer the fund.
- **Concerns**
  - Experiences of developing countries with the World Bank related to questions about legal autonomy, flexibility, and decision making authority, and general scepticism about the fund’s agility in responding promptly to emergencies, have emerged.
  - Also communities affected by climate related disasters should be able to directly access funding, preferably in the form of grants and not loans.

#### **Global Stocktake**

- COP 28 saw the first global stocktake(GST).
- The GST “enables countries and other stakeholders to see where they are collectively making progress towards meeting the goals of the Paris Agreement and where they are not”.
- At COP28 countries decided to **transition away from fossil fuels** and also to **triple renewable energy capacity** by 2030.
- More than 20 countries also pledged to **triple their nuclear energy capacity**.
- However, the **transition from fossil fuels is restricted to energy systems alone**; they can continue to be used in the plastics, transport, and agriculture sectors.
- The declaration also refers to ‘**transitional fuels**’, **such as natural gas**, for ensuring energy security. But this falls short of true climate justice as it allows industries to continue operating in the business as usual mode.

- Further, while the declaration called for **accelerated climate mitigation**, it alluded to unproven and risky technologies such as carbon capture and storage (CCS) and carbon removal.
- CCS enables users of fossil fuels to prevent their emissions from entering the atmosphere by capturing the emissions at the source and storing them permanently underground.

### **Green finance**

The financial segment of the GST implementation framework recognises the responsibility of developed nations to take the lead in climate finance. There is also a reference to the private sector's role in addressing financial shortfalls and an imperative to supplement grant oriented, concessional finance to enable equitable transition in developing countries. However, the specific information regarding the entities obligated to furnish this grant based finance is lacking.

- COP 28 need to establish innovative **Global Green Finance** mechanisms to support developing nations in their transition to sustainable practices.
- The Green Climate Fund received fresh support of \$3.5 billion, allowing it to finance adaptation and mitigation projects in vulnerable
- An additional \$188 million was pledged to the Adaptation Fund.
- New partnerships between public and private sectors were forged to mobilise investments in renewable energy, sustainable agriculture, and infrastructure.
- The COP28 Presidency also introduced ALTÉRRRA, an investment initiative with an ambitious goal to globally mobilise an unprecedented sum of \$250 billion by 2030.
- Despite these efforts, the available funds fall well short of the \$194366 billion annual funding requirement for adaptation, as estimated by the United Nations.

### **Declaration on climate and health**

- For the first time declaration was made on climate and health. It acknowledged the role of nature based solutions for biodiversity conservation and climate, and the need to transition away from fossil fuels. About 134 countries also agreed to a landmark declaration to transition to sustainable and resilient food systems.
- It recognises the growing health impacts of climate change and acknowledges the benefits of climate action, including a reduction in air pollution and a lower cost of healthcare. The declaration, signed by 123 countries, has collectively committed \$1 billion to address the growing climate health crisis.
- However, **India didn't sign this declaration because reducing greenhouse gas (GHG) emissions in the health sector would mean a**

**reduction in emissions from gases used for cooling.** As India's healthcare infrastructure is still growing, such a commitment could compromise the healthcare requirements of a growing population, particularly rural.

### Global Methane Pledge launched at COP26

- It was focussed in COP 28 with the **Climate and Clean Air Coalition** becoming the new secretariat and partner of the pledge announcing more than \$1 billion in new grants for funding projects to reduce methane emissions from agriculture, waste, and gas sectors.
- More than 150 countries signed the pledge to reduce methane pollution. However, **India didn't sign the s pledge because it shifted its focus from carbon dioxide to methane**, a GHG with a lower lifetime. Also, methane emissions in India are primarily from rice cultivation and enteric fermentation (livestock rearing), which support the livelihoods of small and marginal farmers.

### The key issue of contention

- **fossil fuel subsidies:** While developed countries advocated for phasing them out, developing countries, including India, refused a phaseout over implications on economic growth and development.
- Social implications of phase-out include several communities relying on fossil fuels (coal, in India's case) for gainful employment.
- Moreover, emphasising the principle of common and differentiated responsibilities and the historical responsibility of developed countries for GHG emissions, developing countries argued for increasing the flow of climate finance and technologies to facilitate just job transitions and inclusive development.
- Some countries questioned the role of the World Bank as the agency for managing the L&D fund, and private sector engagement in climate action.

## BIODIVERSITY

### Kangaroo Lizard

- A new species of tiny lizards, which researchers have de scribed as "diminutive dragon". *Agasthyagama edge* or northern kangaroo lizard, which belongs to the Agamidae family, is known to have a maximum snout vent length of 4.3 cm.
- Discovered from the southern Western Ghats at Kulamavu in Kerala's Idukki.
- It is the second one of the *Agasthyagama* genus after *A. beddomii* or Indian kangaroo lizard that has been previously reported from the Sivagiri hills in Tamil Nadu.

- A reduced fifth toe makes these reptiles poor climbers and hence do not climb trees like other lizards.
- Instead, they are mostly terrestrial and found in areas with dense leaf litter cover.

### Snow Leopard Survey

**Context:** As per the four-year-long estimate the first-of-its-kind estimation exercise, done by the Wildlife Institute of India, has an estimated 718 snow leopards in the wild.

#### **Snow Leopard:**

- It is an elusive cat located in mountainous terrain that is hard to access.
- The highest number of cats was estimated to be in Ladakh (477), followed by Uttarakhand (124), Himachal Pradesh (51), Arunachal Pradesh (36), Sikkim (21), and Jammu and Kashmir (nine).
- The current estimate puts the number of Indian snow leopards between 10% and 15% of the global population.
- **Method:** Use camera method and software and statistical methods to estimate the number of individual cats that are present but not caught on camera.
- **Wildlife Institute of India**
  - Based in Dehradun
  - It is an autonomous body of the Union Environment Ministry.
- The Snow Leopard Population Assessment in India (SPAI) began in 2019 and involves the World Wide Fund for Nature India and the Nature Conservation Foundation, Mysuru, along with the WII.
- **IUCN status:** Vulnerable
- **Threats** from free ranging dogs, human wildlife conflicts, and poaching.

### Laughing Gull

**Context:** a migratory bird from North America, has been sighted for the first time in the country at the Chittari estuary in the Kasaragod district.

About Laughing Gull: The bird is known for its unique laughter like calls.

### Namdapha Flying Squirrel

**News:** Nocturnal flying squirrel has resurfaced in Arunachal Pradesh after 42 years.

#### About Namdapha Flying Squirrel

- The Namdapha flying squirrel (*Biswamoyopterus biswasi*) was seen in Namdapha Tiger Reserve in Changeling District of Arunachal Pradesh.
- It has reddish, grizzled fur with white above. Its crown is pale grey, its Patagium is orangish and its underparts are white.

## TIGER RESERVES

### **Nagarjunasagar Srisailem Tiger Reserve (NSTR)**

- Nagarjunasagar Srisailem Tiger Reserve (NSTR) is situated in the Nallamala, an extension of the Southern Eastern Ghats of Andhra Pradesh (AP).
- It is over two Wildlife Sanctuaries, viz. Rajiv Gandhi WLS and Gundla Brahmeswaram (GBM) WLS together constitute the tiger reserve area.
- An operation to rescue an adult male tiger that was first sighted in a maize field in the Eluru forest range in Andhra Pradesh was launched by NSTR.

### Project Tiger

#### **Background of Project Tiger**

1972: India enacted the **Wildlife (Protection) Act (WLPA)**. It introduced new spaces within notified forests called ‘National Parks’, where the rights of forest dwellers were removed and vested with the State government. It also created ‘Wildlife Sanctuaries’, where only some permitted rights could be exercised.

Project Tiger came in 1973 under this act. In 1973 there were 9 Tiger Reserves. Currently, there are 54 tiger reserves in 18 states as a result of this. Critical Tiger Habitats (CTH) 26% of the area under National Parks and Wildlife Sanctuaries.

The government created the CTHs to create a safe part of India’s forests for tiger centric agendas. Beyond each CTH would be a Buffer Area which a mix of forest and non forest land. But even though non-forest land had an inclusive, people oriented agenda, the overall ‘fortress conservation’ approach to protecting tigers displaced people who had coexisted with tigers for generations.

2005: A five member of Tiger Task Force to crack the mystery of vanishing tigers.

Reasons identified by the task force:

- **Ineffective Approach for protection:** using guns, guards, and fences.
- **Human wildlife conflict:** The increasing conflict between the forest/wildlife bureaucracy and those who coexist

Suggestions:

- The protection of the tiger is inseparable from the protection of the forests it roams in.
- Protection of these forests is itself inseparable from the people who, in India, inhabit forest areas.”

2006,: Parliament amended the WLPA to create the National Tiger Conservation Authority (NTCA) and a tiger conservation plan.

Purpose:

- To ensure that CTHs remained inviolate.

- The Act only modified forest dwellers' use of the forest mostly tribals — and planned to relocate them if required.

2006: Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest) also known as the FRA was enacted.

- It recognised all customary and traditional forest rights on forest land, including in tiger reserves.
- The Gram Sabhas became the authority to protect, conserve, and manage forests, wildlife, and biodiversity within their customary and traditional boundaries. The FRA secured the livelihoods of at least 20 crore Indians in 1.79 lakh villages.
- It introduced a 'Critical Wildlife Habitat' (CWH), like the CTH under WLPA, with one difference once a CWH had been notified, it couldn't be diverted for non-forest purposes.

### **Issue:**

- In 2007, NTCA gave the Chief Wildlife Wardens 13 days to submit a proposal to delineate CTHs. As a result, the government notified 26 tiger reserves in 12 States without proper compliance. And except for Similipal in Odisha, the CTHs had no Buffer Area which was later added in 2012 after supreme court interference.
- India's basis for CTHs
  - The tiger conservation plan was required to "ensure the agricultural, livelihood, development and other interests of the people living in tiger bearing forests or a tiger reserve." This has caused irreversible damage to wildlife.
  - Buffer Area outside the CTH is to promote human animal coexistence while recognising the livelihood, developmental, social, and cultural rights of the local people. Its geographical limits are to be determined based on objective criteria with inputs from the concerned Gram Sabha as well as an expert committee.
  - Issue:
    - Tiger reserves have been notified without meeting these requirements.
    - The government hasn't obtained informed consent from forest dwelling Scheduled Tribe communities and other traditional communities.

### **Relocation and rehabilitation**

- The WLPA allows voluntary relocation on mutually agreed terms and conditions" satisfying requirements in the law.

- Once the FRA recognises people's rights under it, the State acquires those rights according to the terms of the Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement (LARR) Act 2013.
- No relocation can happen without the consent of the affected communities. The LARR also requires the rehabilitation package to provide financial compensation as well as secure livelihoods to those relocated.

Under the LARR, the government needs to compensate relocated people by paying them twice the market value of the land, the value of assets attached to the land including trees and plants, a subsistence allowance for a year, and a onetime financial assistance for relocation.

## POLLUTION

### AMMONIA

**News:** Ammonia gas leaked from an under water supply pipeline to a fertilizer plant in Ennore, Chennai. NGT took Sun Moto's cognisance of the Ammonia Leak matter.

#### **About Ammonia:**

- Ammonia is a **colourless and highly irritating gas** with a sharp suffocating odour.
- **Impact of water:** Dissolves in water to form ammonium hydroxide solution which can cause irritation and burns.
- **Pressure:** it gets easily compressed to form a clear, colourless liquid.
- Ammonia gas is lighter than air and will rise so that generally it does not settle in low-lying areas. However, in the presence of moisture, can form vapours that are heavier than air. These vapours can spread along the ground or other low-lying areas.
- **Ammonia is not highly flammable, but containers of ammonia may explode when exposed to high heat.**
- **Application:**
  - Majority of ammonia produced is used in agriculture as fertilizer.
  - It is also used as a refrigerant gas, to purify water supplies, and in the manufacture of plastics, explosives, fabrics, pesticides, dyes and other chemicals.
  - It is found in many household and industrial-strength cleaning solutions.
  - Higher concentrations of ammonia can irritate.

## WETLANDS

**CONTEXT:** The union government has embarked on a mission to promote tourism at ecologically sensitive wetlands, better known as Ramsar sites, such as the Chilika Lake in Odisha and Sultanpur bird sanctuary in Haryana.

### **Amrit Dharohar Capacity Building Scheme, 2023.**

- To shift these fragile wetlands from high value tourism to nature tourism by directly supporting conservation action and letting local communities and economies take the lead.
- 16 Ramsar sites have been identified under the initiative and five of them have been taken up as a pilot project for skill development of the facilitators, tourism service providers, and stakeholders in and around these sites.
- These five wetlands are Sultanpur National Park (Haryana), Bhitarkanika Mangroves (Odisha), Chilika Lake (Odisha), Sirpur (Madhya Pradesh) and Yashwant Sagar (Madhya Pradesh).
- **MINISTRY:** Union Tourism Ministry and the Ministry of Environment, Forest and Climate Change under the Amrit Dharohar Capacity Building Scheme, 2023.
- The Amrit Dharohar initiative, part of the 2023-24 Budget announcement, was launched in June 2023 to promote unique conservation values of Ramsar sites in the country while generating employment opportunities and supporting local livelihoods.
- **Training programme:** As part of the mission, a total of 30 participants have been trained for 15 days under the Alternative Livelihood Programme (ALP)

### **RAMSAR SITES**

- A Ramsar site is a wetland designated to be of international importance under an environmental treaty signed in February 1971 at Ramsar, Iran under UNESCO.

### **National Clean Air Programme**

#### **Context:**

As per the analysis by Respirer Living Sciences and Climate Trends out of 49 cities whose PM number were under monitor for last 5 years only 27 show a sign of decline in PM 2.5. And only 4 had met or exceeded the targeted decline.

It also said that the number of monitors installed in the city, where Delhi and Mumbai-like cities have enormous amount air quality monitors. Only 4 out of 92 cities had more than 10 such stations.

#### **For Example:**

- Delhi has seen average annual PM 2.5 levels decline only 5.9%.
- Navi Mumbai, a suburb of Mumbai, has seen a 46% rise in PM 2.5 levels.



- Varanasi, with a 72% average reduction in PM 2.5 levels and 69% reduction in PM 10 levels.

### About NCAP:

- It was launched **by the Ministry of Environment, Forest and Climate Change (MoEFCC) in January, 2019.**
- It is the first-ever effort in the country to frame a national framework for air quality management with a time-bound reduction target.
- Goal: To reduce average particulate matter concentrations 40% by 2026 (compared to 2017) in 131 cities.
- When the programme was initiated, the aim was to cut pollution 20-30% by 2024 in these cities but it was in 2022 it was shifted to 2026 with a target of 40% reduction.

### Cities:

- It covers 132 non-attainment cities which were identified by the Central Pollution Control Board.
- Non-attainment cities: are the cities that have fallen short of the National Ambient Air Quality Standards (NAAQS) for over five years.
- NAAQs are the **standards for ambient air quality with reference to various identified pollutants** notified by the CPCB under the **Air (Prevention and Control of Pollution) Act, 1981.** List of pollutants under NAAQS: PM10, PM2.5, SO2, NO2, CO, NH3, Ozone, Lead, Benzene, Benzo-Pyrene, Arsenic and Nickel.

### PM 2.5 & PM 10

FEATURES	PM 2.5	PM 10
SIZE	2.5 micrometers or smaller in	10 micrometres or smaller in
SOURCES	Fine particles from sources such as vehicle exhaust, industrial emissions, and	can include dust, pollen, mould spores, and some larger pollutants.
ILL EFFECTS	are more concerning for human health because they can penetrate deep into the lungs and even enter the	irritate the eyes, nose, and throat, they generally don't penetrate deeply into the lungs
IMPACT ON HEALTH	to penetrate deeply into the lungs, leading to more severe	PM 10 can affect the upper respiratory system

## INDIAN SOCIETY AND SOCIAL ISSUES

### Challenges faced by women in internal migration in India

- **Underrepresentation of Women in Migration Discourse:**
  - While internal migration is a significant aspect of physical and social transition in India, there is little dialogue surrounding women migrants, who make up a substantial portion of the migrant pool.
  - The normative literature often portrays migration as a male-dominated narrative, but women, particularly those of working age, comprise a significant share of migrants.
- **Data Inaccuracy in National Surveys:**
  - National surveys, such as the **Periodic Labour Force Survey (PLFS)**, provide inaccurate pictures of female migration. These surveys typically ask about the primary reason for migration, overlooking secondary reasons like climate shocks and food insecurity.
  - Data on migrant women's labour force participation might be misleading due to underreporting, and anecdotal evidence suggests that many women engage in casual employment not captured by the surveys.
- **Definitional Issues and Women's Beliefs:**
  - The definition of employment in national surveys often excludes women who work in informal or unpaid roles, contributing to the underreporting of their employment status.
  - Women may view their work as an extension of domestic commitments rather than formal employment, leading to misreporting.
- **Human and Social Capital Barriers:**
  - Entry into the formal labour force for migrant women may be challenging due to limited human and social capital. About 85% of migrant women in PLFS have less than 10 years of education.
  - Lack of social networks after migration and lower education levels may significantly hinder employment chances for migrant women.
- **Post-Pandemic Challenges:**
  - The COVID-19 pandemic has further exacerbated challenges for women in the labour force, with some studies indicating that a significant percentage did not return to their places of employment after lockdowns.
- **Political Disregard and Lack of Targeted Policies:**
  - Women migrants are often overlooked politically, resulting in a lack of targeted policies addressing their specific needs.
  - Existing policies, such as **One Nation One ration card, e-Shram, and affordable rental housing complexes**, are mainly tailored toward the male migrant population.
- **Recommendations and Steps to Take:**

- National surveys should collect more information on the socio-economic conditions of female migrants post-migration.
- There is a need for increased collection of female-specific data to address the lack of awareness about the challenges faced by women in internal migration.
- Policy changes and a shift in the narrative are essential to address the unmet needs of female migrants, leading to more informed and progressive policymaking.

### Women-Driven Development

**Context:** The G20 Summit in Delhi adopted a Declaration which resolved to set up a “working group on the empowerment of women.”

#### **Present issue:**

- This is a welcome step due to the continuing discrimination against women and girls, this is welcome. But by and large, “working groups” formed in the past have not been implemented.
- For example, only 12% of the Sustainable Development Goals targets are on track.
- **Ambiguity of "Women-Led Development":** The concept lacks a clear definition and implementation strategy, leading to ambiguity in its practical application.
- **Masking Reduced Investments:** The phrase often disguises declining government investments in programs specifically aimed at women's development.
- **Economic Participation Decline:** Statistics reveal a decrease in women's involvement in regular waged work, with over 95% engaged in insecure, unorganised sectors.
- **Misleading Government Schemes:** Government initiatives under this banner seem to hide reduced funding for women-centric projects rather than genuinely empowering women economically.
- **Disproportionate Resource Allocation:** Only a fraction of the budget is dedicated to programs exclusively benefiting women, failing to address the core issues of economic disparity.
- **Impact on Marginalised Communities:** Economic policies favouring corporate interests further burden and exploit women, especially those from marginalised backgrounds.
- **Rhetoric without Substance:** The term 'women-led development' lacks tangible actions and fails to address the systemic challenges faced by women in a corporate-driven economic framework.

### PM-JANMAN

**News:** the Centre has set a target of one week to achieve Aadhaar, caste certificate, and Jan Dhan account saturation across 15,000 PVTG habitations in 100 districts, as these are mandatory requirements to proceed with the scheme.

- **Stands for: Pradhan Mantri Janjati Adivasi Nyaya Maha Abhiyan (PM JANMAN).** It was launched in November 2023.
- **Mandate:** To bring about a 360-degree development in tribal areas.
- **Target population:** 75 Particularly Vulnerable Tribal Groups (PVTGs) who have been left out by the schemes of various Ministries/Departments. In the absence of clear data, as per government estimated data, there are over 22,000 such habitations, where around 28 lakh people live.
- **Budget:** Around Rs. 24,000 crores.
- **Nodal Ministry:** Union Ministry of Tribal Affairs. It focuses 11 sectors with the involvement of 9 key ministries, they will implement interventions related to them.

### Sanitation Solutions: processing, managing and treating used water

Sanitation systems play a pivotal role in safeguarding public health and the environment by managing used water.

While rudimentary sanitation was introduced by ancient civilisations around 4000 BC, the modern sanitation system was built in London around the 1800s.

#### **Solution systems encompass various types**

**Of Onsite solutions (OSS)** like twin pits and septic tanks.

- In Rural areas or spacious urban residences, used water goes into twin pits or septic tanks, also known as **onsite sanitation systems (OSS)**, connected below ground to toilets.
- Other type of OSS include biodigester toilets, biotanks, and urine diversion dry toilets.
- **Working of OSS**
  - These systems serve as **collection and storage structures** that passively treat the used water and dispose of the liquid into the surrounding soil. The residue that collects within the pits and septic tanks is called faecal sludge, or septage, and is composed primarily of solids from human excreta.
- **Twin pits are two pits separated by at least one metre.** These pits have **porous walls** that allow the liquid part of used water to soak into the ground while solids collect and degrade at the bottom of the pit.
- When one pit reaches capacity, it is covered and left unused for two years until its contents are dry, pathogen free, and safe for reuse. In this period, the second pit operates, and the cycle repeats.

- Twin pits are a complete system by itself, as the full sanitation cycle from containment to treatment and disposal happens within the pit and its immediate surroundings.
- Septic tanks are watertight, as used water flows through the tank, solids settle at the bottom, while scum mostly oil and grease floats to the top (this needs to be removed, This is done using trucks equipped with vacuum pumps that suck the faecal sludge out and transport it to treatment facilities called **faecal sludge treatment plants (FSTPs)**).
- The clear liquid is disposed of in the surrounding soil through pits that are like twin pits or in a longer, shallower trench.
- However, they are not suitable for rocky soil, as water percolates slowly.

**Centralised sewer networks** lead to treatment facilities as part of the water we drink and consume through our food, we use water for cooking, cleaning ourselves and our homes, and washing clothes and utensils.

- They are used in densely populated urban areas that lack space within properties, an underground network of pipes aka sewers collects and conveys the used water to treatment facilities.
- **Working:**
  - They used water from toilets, bathrooms, and kitchens to **treatment facilities** by gravity or with the help of pumps.
  - Sewers have machine holes for maintenance and to remove blockages. This used water, called sewage, is transported by sewers to **sewage treatment plants (STPs)**.
  - **Treatment facilities**
    - FSTPs can be either mechanical or gravity based.
      - Mechanised systems: they rely on equipment such as screw presses or centrifuges for dewatering
      - Gravity based systems use sand drying beds and sunlight.
    - The treated solids can be reused in agriculture when composted with organic municipal solid waste. It is often reused in landscaping within the FSTP facilities.
    - This process of containing, conveying and treating faecal sludge is also called **faecal sludge management (FSM)**.
    - STPs use physical, biological, and chemical processes to remove pollutants and contaminants from used water. Like FSTPs, the treatment of used water has a primary stage that separates solids from the liquid part, followed by purification (where solids settle and are digested by microorganisms), and disinfection.

- For the reuse of used water, advanced systems use additional treatment such as membrane filtration.
- STP technology can be mechanised and non mechanised & is chosen based on technomanagerial and the financial capacities of a city's government.

### **Comparison between FSTPs and STP**

Feature	FSTP	STP
Size	Small	Large
Location	Decentralised closed to the source of decal	Centralised, located near water bodies
Area	Generally rural	Large urban areas, require substantial infrastructure

### **Need of such complex sanitation systems**

- As water moves through its various domestic and non domestic uses, it accumulates natural as well as human introduced impurities including organic matter, nutrients from detergents, pathogens such as bacteria, viruses, and parasites, and heavy metals from solvents and pesticides.
- To ensure that used water doesn't pollute or cause public health issues.
- There have been significant improvements in public health since sanitation systems were invented, but universal access to safely managed sanitation services remains a challenge.
- Overcoming issues like poorly designed and built systems and unsafe operation and maintenance practices is crucial to effectively managing used water and protecting our increasingly precious water bodies and groundwater aquifers.

### **Annual Status of Education Report (ASER): "Beyond Basics"**

**Context:** ASER which involved a survey by the civil society organisation Pratham among rural students aged 14 to 18 was released with the title Beyond Basics.

About the Survey:

- It is a household survey, conducted in 28 districts across 26 States, assessed the foundational reading and arithmetic abilities of 34,745 students.
- It discussed the activities students are engaged in, their basic and applied reading and maths abilities and digital awareness and skills.
- 86.8% of 14 to 18 year old are enrolled in an educational institution.
- There are small gender gaps in enrolment, but not able differences are visible by age.

- The percentage of youth not enrolled is 3.9% for 14 year old youth and is 32.6% for 18 year olds.
- Most of the people in this age group were enrolled in the Arts/Humanities stream. In Class 11 or higher, more than half are enrolled in the Arts/Humanities stream (55.7%) and girls are less likely to be enrolled in the Science, Technology, Engineering, and Mathematics stream (28.1%) than boys (36.3%), it said.
- Basic abilities
  - On abilities such as basic reading, maths and English abilities; application of basic skills to everyday calculations; reading and understanding written instructions; and financial calculations that need to be done in real life, about 25% still cannot read a Class 2 level text fluently in their regional language.
  - A little over half can read sentences in English (57.3%). “Of those who can read sentences in English, almost three-quarters can tell their meanings (73.5%),” the report added.
  - Close to 90% of all youth have a smartphone in the household and know how to use it.

### Gaps in Education Institution

- More than half struggled with basic mathematics, a skill they should have mastered in Classes 3 and 4.
- About 25% of this age group cannot read a Class 2 level text in their mother tongue.
- **Gender Gap:** Boys are better in arithmetic and English reading skills than girls.
- **Age gap:** Overall, 86.8% in the 14-18 year age group are enrolled in an educational institution, but there are gaps as they grow older while 3.9% of 14 year olds are not in school and increases to 32.6% for 18 year olds.
- **Skewed stream options:** Also, for Class 11 and higher, most students opt for Humanities; while girls are less likely to be enrolled in the science stream (28.1%) compared with boys (36.3%), only 5.6% have opted for vocational training or other related courses.
- **Private Tuition:** Children opting for private tuition nationwide went up from 25% in 2018 to 30% in 2022.
- Approximately 90% of the youngsters surveyed have a smartphone and know how to use it, though many are unaware of online safety settings.

### Initiative of GOI

- National Education Policy 2020 gives top priority is to “achieve universal foundational literacy and numeracy in primary school by 2025”.

- Under the NIPUN Bharat Mission, all States have made a major push in foundational literacy and numeracy.

### **Conclusion:**

- While rising enrolment is a good thing however completion of the compulsory school cycle (Class 8) needs to be ensured and it is lacking because of the quality of education as discussed sometimes they are simply not able to cope with the ambitious curriculum set for the higher secondary level.
- The Right to Education Act, of 2009 may have ensured universal access to education, but there is many a gap to fill before it touches every child in the true spirit of the legislation.

### **The International Labour Organisation (ILO)'s World Employment and Social Outlook: Trends 2024'**

- **Global Unemployment Increase:** The ILO predicts an increase in the global unemployment rate in 2024, despite both joblessness and the jobs gap falling below pre-pandemic levels. Growing social inequalities and stagnant productivity are identified as concerns.
- **Macroeconomic Environment Deterioration:** The report notes a significant deterioration in the macroeconomic environment in 2023. Ongoing geopolitical tensions and broadening inflation led to frequent and aggressive moves by central banks globally. Advanced and emerging economies witnessed the fastest increase in interest rates since the 1980s, with global repercussions.
- **Impact on China, Turkey, and Brazil:** China, Turkey, and Brazil experienced considerable slowdowns, causing adverse effects on global industrial activity, investment, and trade. The ILO emphasizes the repercussions of monetary authorities' actions in these economies.
- **Positive Notes:** Despite the economic slowdown, global growth in 2023 exceeded expectations, and labour markets showed surprising resilience. Strong job growth led to improvements in the global unemployment rate and jobs gap, but the latter remained elevated at close to 435 million.
- **Concerns About Labor Market Imbalances:** While labour market imbalances eased somewhat in 2023, concerns arise about the structural nature of these imbalances rather than being cyclical
- **Real Wages and Inequality:** Real wages declined in most G20 countries as wage increases failed to keep pace with inflation. The report highlights concerns about rising inequality and the increasing number of workers living in extreme poverty globally.



- **Positive Real Wages in China, Russia, and Mexico:** Only China, Russia, and Mexico experienced positive real wage growth in 2023. China and Russia saw the strongest wage gains, driven by high labour productivity growth. India and Turkey also had positive real wage growth, although the data refers to 2022 compared to 2021.

# PUBLIC HEALTH

## CANCER

- **Global Impact of Cancer: A Growing Public Health Concern**
  - 20 million new cancer patients annually worldwide
  - WHO estimates a 60% increase in cancer burden over the next decade
  - Potential shift to become the second major cause of death globally
- **Genomic Basis of Cancer: Understanding the Disease**
  - Cancer results from gene changes causing uncontrolled cell division
  - Genetic changes can be inherited or acquired
  - Advancements in genomic technologies, including the Cancer Genome Atlas, contribute to understanding molecular aspects
- **Precision Oncology: Tailoring Therapies with Genomic Insights**
  - Precision oncology therapies target molecular defects
  - Nearly one-third of FDA-approved therapies involve DNA-based tests as biomarkers
  - Emerging focus on making genomic tests central to cancer treatment
- **U.K.'s '100,000 Genome Program': Transforming Cancer Care**
  - Study of 13,800 cancer patients integrates genome sequencing with clinical data
  - Whole-genome sequencing aids in customising cancer treatments
  - Potential to revolutionise cancer care beyond current medical practices
- **Insights from U.K. Wide Study: Shaping Treatment Strategies**
  - Whole-genome sequencing of blood and tumor tissues reveals actionable details
  - Distinct DNA changes identified in brain, bowel, and lung cancers for targeted therapies
  - Novel insights on ovarian cancers and sarcomas reshape understanding
- **Consequences of Genomic Medicine: Real-world Applications**
  - NHS keen on leveraging genomic medicine for enhancing cancer care
  - Lessons from large-scale studies already influencing patient care in some U.K. hospital trusts
  - Immediate impact on clinical settings, guiding treatments and clinical trial referrals
- **Cautious Optimism: Nuances of Genomic Medicine**
  - Researchers advise caution in interpreting genomic information
  - Challenges include the identification of harmful genetic changes without available treatments

- Need for nuanced perspectives on the consequences of genomic medicine
- **Advances in Precision Oncology: Closing the Gap**
  - Rapid progress in precision oncology therapies addressing challenges
  - Move towards a comprehensive understanding of tumors through 'multi-omics'
  - Integration of genomics, proteins, and metabolites for identifying molecular subtypes
- **Shifts in Clinical Testing: Adapting to New Insights**
  - Paradigm shift required in clinical testing for seamless integration of new insights
  - Identification of molecular subtypes influencing cancer progression and treatment
  - Ongoing transformation of clinical care protocols in response to genomic advancements
- **Future Horizons and Challenges: Genomic Insights in Clinical Decision-Making**
  - Milestone study sparks broader conversations on integrating genomics into cancer care
  - Unfolding horizons, opportunities, and challenges in genomics research for oncology
  - Foundation laid for a future where genomics informs clinical decision-making on a population scale.

## **MALARIA VACCINE**

**CONTEXT:** Launch of the RTS,S malaria vaccine in Cameroon.

### **About the Issue:**

- **RTS,S Malaria Vaccine Launch:** On January 22, 2024, Cameroon became the first country in the world to launch the RTS,S malaria vaccine for children into its routine national immunization services. This initiative follows a malaria vaccine pilot program in Ghana, Kenya, and Malawi.
- **Global Malaria Burden:** Malaria is a significant cause of mortality, especially among children under the age of five. More than 30 countries worldwide have areas with moderate to high malaria transmission. In 2022, nearly half of the world's population was at risk of malaria. Africa bears the highest malaria burden, accounting for 94% of cases and 95% of global malaria deaths. India accounted for 66% of malaria cases in the WHO South-East Asia Region.
- **Malaria in India:** Despite a 55% reduction in cases since 2015, India remains a significant contributor to the global malaria burden. The country aims for a malaria-free status by 2027 and elimination by 2030.

- **Funding for the Vaccine:** The vaccine rollout is part of a UNICEF initiative, and the contract for the supply of the malaria vaccine was awarded to the British multinational pharmaceutical and biotechnology company GSK, with a value of up to \$170 million. The rollout is expected to provide 18 million doses of the vaccine over the next three years.
- **RTS, S Malaria Vaccine:** The RTS, S malaria vaccine, developed over 35 years, is the first-ever vaccine against a parasitic disease. It targets the *Plasmodium falciparum* parasite, the most deadly malaria parasite globally. The vaccine is administered in a schedule of four doses in children starting from around five months of age.
- **Challenges and Climate Change:** Experts highlight climate change as a major driver affecting malaria transmission and burden. Changing climate conditions enhance the sensitivity of the malaria pathogen and vector, facilitating its spread. Regions such as Southeast Asia, including parts of India and Indonesia, already face challenges, and climate change poses a substantial risk to malaria progress.
- **Efficacy and Challenges:** The efficacy of the RTS,S/AS01 vaccine is considered modest but still provides significant public health benefits. Challenges in malaria prevention include the need for sustainable and resilient responses to address the impact of climate change, which influences malaria transmission dynamics.
- **Global Efforts and Challenges:** Organizations such as GAVI, and the Vaccine Alliance, aim to provide equal access to new and underused vaccines for children in the world's poorest countries. While progress has been made, challenges remain in terms of vaccine supply, distribution, and addressing the diverse malaria risk factors, including climate-related factors.

### 3 Drug regime for Leprosy

#### Context:

- The Union government has approved a new treatment regimen for leprosy, aiming at stopping its transmission at the subnational level by 2027.
- The Ministry of Health and Family Welfare has decided to introduce a three drug regimen for Pauci Bacillary (PB) cases in place of a two drug regimen for six months
- Indian Target: Eradicate leprosy in India by 2027

#### Leprosy:

- As Per The WHO: leprosy is a chronic infectious disease caused by *Mycobacterium Leprae*.

- Transmission: via droplets from the nose and mouth during close and frequent contact with untreated cases.
- Treatment: Leprosy, reported from all the six WHO regions, is curable with multi-drug therapy (MDT). The majority of new cases detected are from Southeast Asia.
- Pauci-Bacillary infections: They have fewer bacteria visible and show no signs of advanced disease in biopsies.
- Multi-bacillus: MB patients have visible bacteria and may show signs of more advanced disease in biopsies.
- Regime:
  - The WHO's recommended treatment regimen consists of three drugs : Dapsone, rifampicin and clofazimine.
  - The combination is referred to as MDT. The duration of treatment is six months for PB and 12 months for MB cases.
  - MDT kills the pathogen and cures the infection.
  - The WHO has been providing MDT free of cost. Free MDT was initially funded by the Nippon Foundation and since 2000, it has been donated through an agreement with Novartis.

### Non-invasive testing method to tackle anaemia

**News:** ICMR invited Expression of Interest (EOI) from eligible organisations, companies and startups manufacturing non-invasive haemoglobinometer useful in effective screening of anaemia.

#### **Anaemia in India:**

- In India, the prevalence of anaemia among six groups as per the National Family Health Survey 5 (201921) is 25% in men (15-49 age group), 57% in women (15-49), 31.1% in adolescent boys (15-19), 59.1% in adolescent girls, 52.2% in pregnant women (15-49) and 67.1% in children (6-9).

#### **Anaemia Must Bharat**

- Anaemia Mukta Bharat (AMB) strategy was launched with the target of reducing anaemia in the vulnerable age groups such as women, children and adolescents in a life cycle approach providing preventive and curative mechanisms through a **6X6X6 strategy** including six target beneficiaries, six interventions and six institutional mechanisms for all stakeholders to implement the strategy.
- Testing and treatment of anaemia, using digital methods and point of care treatment, with a special focus on pregnant women and school adolescents, is one of the key AMB strategies.

### R21 Vaccine

**News:** WHO prequalifies a malaria vaccine named R21/ Matrix-M developed by Oxford University and manufactured by Serum Institute of India.

### **R21 Vaccine:**

- The WHO in October 2023 recommended its use for the prevention of malaria in children.
- It is the second malaria vaccine prequalified by the WHO.
- **Prequalification:**
  - It means larger access to vaccines as a key tool to prevent malaria in children, with it being a prerequisite for vaccine procurement by UNICEF and funding support for deployment by GAVI the Vaccine Alliance.
  - It ensures that vaccines used in global immunisation programmes are safe and effective within their conditions of use in the targeted health systems
- **Malaria:** It is a mosquito borne disease, places a particularly high burden on children in the African region, where nearly half a million children die from the disease each year. In 2022, there were an estimated 249 million malaria cases in the world and 6,08,000 malaria deaths across 85 countries.

### **JN.1 CASES**

**News:** The government issued an alert for COVID-19 after the positivity rate in some States such as Kerala, Maharashtra, Jharkhand and Karnataka. The government also said that no clustering of cases of the new JN.1 variant of SARSCoV2.

### **WHO classification**

- JN.1 as a separate variant of interest (VoI) from the parent lineage BA.2.86 given its rapidly increasing spread.
- It was previously classified as a VoI that was part of the BA.2.86 sub-lineage.
- The additional global public health risk posed by JN.1 is currently evaluated as low.
- Despite this, with the onset of winter in the Northern Hemisphere, JN.1 could increase the burden of respiratory infections in many countries

### **CERVICAL CANCER**

**Context:** The government is planning to include the cervical cancer vaccine in the universal immunisation programme; an inoculation campaign targeted at girls in the nine to 14 age group is likely to commence this year.

### **Cervical Cancer**

- Cervical **cancer** is the second-most common cancer among women in India, mostly affecting the middle-aged.
- India contributed to one-fifth of the global cervical cancer burden with 1,23,907 new cases and 77,348 deaths in the year 2022.
- **Cause:** Presence of persistent high-risk type of Human Papillomavirus (HPV) infection. Other Co-factors like low socioeconomic conditions, low immunity status, other genital infections, smoking etc, facilitate initiation and progression to cancer.
- Cervical cancer is preventable and curable if detected early.
- **Detection:**
  - Most cervical cancer and pre-cancer cases can be detected in the reproductive age group.
  - Cervical cancer has a long pre-invasive phase that lasts for 10–15 years. This provides a window of opportunity to detect and treat the neoplasia in pre-invasive stages by simple outpatient treatment modalities, preceded by early detection of cancers.
  - When cervical cancer is detected and managed at an early stage, it is found to have over 93 per cent cure rate.

**Prevention:** It can be prevented through HPV vaccination of girls.

### Issue

- Detection of the disease generally happens in advanced stages, resulting in high mortality.
- **Lack of awareness:** The Indian Institute of Public Health-IIPH Hyderabad in 2021 evaluated cancer-care pathways in five districts of Andhra Pradesh. It showed that for 68 per cent of patients, the first point of contact after having cancer symptoms was traditional healers and only 3 per cent had received HPV vaccination.
- Fear of cancer,
- Early symptoms of the disease not being evident
- Women not being screened

### Cure:

- Cervical cancer is the only non-communicable disease that can be eliminated and can make significant contributions to Sustainable Development Goal 3.4 of reducing premature deaths by one third by 2030.
- The WHO advocates for interventions that are simple, feasible, scalable and are already showing initial successes in many low or middle-income countries (LMICs).
- **WHO's global strategy**
  - incorporates clear targets and means of accountability, along three strategic pillars
    - widespread HPV vaccination,

- screening and early diagnosis
- treatment of cervical pre-cancer and cancer.
- **Target:**
  - 90 per cent of girls fully vaccinated by 15 years of age with two doses of HPV vaccine;
  - 70 per cent of women screened with a high-performance test at 35 and 45 years of age;
  - 90 per cent of women with cervical pre-cancer and cancer receiving treatment, including palliative care, to achieve **a goal of less than four cases per 1,00,000 women.**

### Government of India initiative

- NPCDCS programme: **GOI has** implemented cancer screening by trained nurses even in primary health centres under the National Programme for Prevention and Control of Cancer, Diabetes, Cardiovascular Diseases and Stroke **the NPCDCS programme.**
- Screening tools like visual screening tests and HPV tests are simple and easily available.
- Even if any precancerous abnormality is detected, it can be treated by simple, painless outpatient treatment methods.
- Indigenous HPV test kits and HPV vaccines can be a boon for resource-scarce settings, enabling the scaling up of activities further.
- The promising new developments like single-dose HPV vaccination, self-sampling for HPV testing, and artificial intelligence technologies for easy and accurate diagnosis and treatment will further accelerate the future potential in the elimination of cervical cancer even in LMICs.

### Need:

- **Awareness:** To strengthen population-level awareness of causes as well as prevention methods for cervical cancer.
- Encourage the **uptake of HPV vaccine**, devise strategies to overcome vaccine hesitancy, and encourage age-appropriate screening, especially using HPV testing.
- **Capacity building** for scaling up pre-cancer treatment processes, smooth referral linkages, ensuring quality cancer treatment and palliative care services as required, and ultimately strengthening the health systems to be prepared to cater for the entire gamut of services for cervical cancer.
- **Integration of latest technologies** in screening programmes for accurate and early diagnosis.
- **Strengthening cancer registries** both at the population level and hospital-based, with improved referral linkages.
- **Reduce the financial** burden of care.
- To **build and strengthen partnerships** at the primary, secondary, and tertiary hospital level with NGOs working in communities, innovators



striving to develop tests at the individual level, and public health professionals.

## GEOGRAPHY

### **Reason For Lack of Snowfall**

**Context:** Unusual weather patterns affecting regions like Kashmir, Himachal Pradesh, and Uttarakhand in India, leading to a lack of snowfall.

**Several factors are identified as contributors to this phenomenon:**

- **Drastic Fall in Western Disturbances (WDs):**
  - Western Disturbances are storms that originate in the mid latitude regions and travel thousands of kilometres to bring rains to northern India.
  - Such WDs in the winter dissipate fog and increase the sunshine incident on the ground raising temperatures.
  - They also, when the temperatures are low, result in snowfall and water being available as snow melts.
  - The melting glaciers contribute to the water available in the Ganga, Indus and Yamuna.
  - On the other hand, they can also bring in hail, which is destructive to standing wheat crops. Usually, 5-7 WDs impact northwest India from December to January. But this winter there have been none. There were two WDs in this period, but their impact was mainly connected to Gujarat, north Maharashtra, east Rajasthan and Madhya Pradesh. As a result of the lack of these rains, the Western Himalayan Region got 80% less rain than normal.
- **El-Nino Conditions:** El-Nino, characterised by warmer ocean temperatures in the equatorial Pacific Ocean, may have played a role. However, the passage suggests that even without El Nino or its counterpart, La Nina, the number of WDs in December and January has been on a decline.
- **Absence of a Strong Jet Stream:** Jet streams, powerful high-altitude winds, usually contribute to the movement of WDs and bring moisture from the Arabian Sea. However, the lack of moisture means that the jet streams are contributing to the subsidence of cold air, enhancing the cold over north India. The shifting of the jet stream northwards is attributed to warming in the Arctic seas, affecting the natural gradient of temperature necessary for the strength and direction of the jet streams.

### **Jal Jeevan Mission**

Jal Jeevan Mission, a government initiative in 2019, aimed at providing tap water to rural households in India.

#### **Objective:**

- Addressing water scarcity,
- Improving health and hygiene, and

- Achieving the United Nations' Sustainable Development Goal 6 on clean water and sanitation for all.

### **Success of Mission:**

- The mission has made significant progress, with 73% of rural households having tap connections, compared to 3.23 crore in August 2019.
- **Challenges faced by mission:** The mission faced challenges due to diverse terrains and geographical differences in India. Infrastructure strengthening was a priority to ensure the supply of tap water to every rural household.

### **Strategy:**

- **Customised Solutions:** Recognising the diverse needs of different regions, the mission adopted tailored approaches. For example, insulated pipes were used in hilly and cold regions, and multi-village schemes were implemented in areas with water quality issues.
- **Community Involvement:** The mission emphasizes community involvement, with the active participation of communities, development partners, NGOs, and the creation of village water and sanitation committees. The involvement of women in decision-making processes and youth empowerment through skill development are integral components.
- **Transparency and Efficiency:** The mission uses a dashboard for real-time updates and progress reports, ensuring transparency and efficiency in water resource management. Continuous monitoring of water quality parameters is carried out through advanced technologies

### **Impact of Mission:**

- **Health Impact:** Studies, including one by Nobel Laureate Dr. Michael Kremer, suggest that providing safe water can reduce infant deaths by almost 30%, potentially preventing 25% of under-five deaths in India. Another study by the World Health Organization estimates that providing tap water in every household can avert 4 lakh diarrheal deaths.
- **Economic Benefits:** The Jal Jeevan Mission is expected to lead to economic savings of up to \$101 billion or ₹8.37 lakh crore.
- **Employment Generation:** The mission has a significant employment generation potential, with around 59.93 lakh person-years of direct employment during the construction phase and additional employment opportunities during the operation and maintenance stage.

**Future Outlook:** The mission aims to eliminate water scarcity, engage people in maintaining water assets, and achieve its drinking water targets. The outlook for

the future is described as positive, with resources in place to implement objectives.

## Lithium

Context: India to pump in 200 crore to develop five lithium blocks in Argentina. An agreement was signed between Khanij Bidesh India Ltd (KABIL), a state-owned joint venture, and Catamarca Minera Y Energ tica Sociedad Del Estado (CAMYEN), a government-owned mining corporation in the Catamarca province of Argentina to this effect.

### **Lithium**

- Lithium is the single most important critical mineral for the energy transition.
- It belongs to the alkali metal group of the periodic table and is a soft, silvery-white metal.
- **Properties:**
  - **Physical Properties:** Lithium is the lightest metal and the least dense solid element at room temperature. It is highly reactive and flammable.
  - **Chemical Properties:** It readily forms compounds with other elements and is known for its ability to donate electrons. Lithium compounds are used in various industrial applications.
- **Occurrence:**
  - Lithium is a relatively rare element in nature. It is typically found in trace amounts in the Earth's crust, often in mineral deposits and salts. Major sources include spodumene, lepidolite, and petalite.
- **Applications:**
  - **Batteries:** One of the most well-known applications of lithium is in rechargeable lithium-ion batteries, which are widely used in electronic devices like smartphones, laptops, and electric vehicles due to their high energy density.
  - **Pharmaceuticals:** Lithium compounds are used in certain psychiatric medications to treat conditions such as bipolar disorder.
  - **Industrial Applications:** Lithium and its compounds are used in various industrial processes, including the production of glass, ceramics, and lubricating greases.
  - **Medical Uses:** Lithium has been used in medicine, particularly in the treatment of mood disorders. Lithium carbonate is a common medication for bipolar disorder.
  - **Nuclear Applications:** Lithium-6 is used in some types of nuclear reactors as a neutron absorber, helping control nuclear reactions.
- **Challenges:**

- Despite its many uses, there are challenges associated with lithium, including concerns about the environmental impact of lithium mining and extraction, as well as the limited geographical distribution of lithium resources.
- **Future Prospects:**
  - The demand for lithium has increased significantly with the growing popularity of electric vehicles and renewable energy storage. Ongoing research is focused on improving battery technology and finding more sustainable ways to extract and process lithium.

## Rare Earth Technology

**Context:** China Banned rare earth Technology as it overhauled a list of technologies deemed key to national security. It also banned the export of production technology for rare earth metals and alloys

### **Rare earth technology:**

- China is the top rare earth processor.
- It is used to extract and separate the strategic metals
- Rare Earth is a group of 17 metals used to make magnets for use in EVs and other technology. These include the fifteen lanthanides along with scandium and yttrium that show similar physical and chemical properties to the lanthanides.
- The 17 Rare Earths include cerium (Ce), dysprosium (Dy), erbium (Er), europium (Eu), gadolinium (Gd), holmium (Ho), lanthanum (La), lutetium (Lu), neodymium (Nd), praseodymium (Pr), promethium (Pm), samarium (Sm), scandium (Sc), terbium (Tb), thulium (Tm), ytterbium (Yb), and yttrium (Y).
- They are called 'rare earth' because earlier it was difficult to extract them from their oxide forms technologically.
- They occur in **many minerals** but typically in low concentrations to be refined in an economical manner

### **Properties and application of Rare Earth Mineral**

- They have **unique magnetic, luminescent, and electrochemical properties.**
- **They** are used in many modern technologies, including consumer electronics, computers and networks, communications, health care, national defence, clean energy technologies etc.
- Even futuristic technologies need these REEs as, high-temperature superconductivity, safe storage and transport of hydrogen for a post-hydrocarbon economy etc.

### **China Monopoly over Rare Earth:**

- China has over time acquired global domination of rare earths, even at one point, it produced 90% of the rare earths the world needs.
- Currently, China's contribution has come down to **60% and the remaining is produced by other countries, including the Quad** (Australia, India, Japan and the United States).
- Since 2010, when China curbed shipments of Rare Earths to Japan, the US, and Europe, production units have come up in Australia, and the US along with smaller units in Asia, Africa, and Latin America.

### **India's Current Policy on Rare Earth**

- Exploration: **conducted by the Bureau of Mines and the Department of Atomic Energy.**
- Mining and processing: Performed by **some minor private players in the past. It is currently concentrated in the hands of IREL (India) Limited (formerly Indian Rare Earths Limited)**, a Public Sector Undertaking under the Department of Atomic Energy.
- India has **granted government corporations such as IREL a monopoly** over the primary mineral that contains REEs: monazite beach sand, found in many coastal states.
- IREL produces rare earth oxides (low-cost, low-reward “upstream processes”), selling these to foreign firms that extract the metals and manufacture end products (high-cost, high-reward “downstream processes”) elsewhere.
- IREL's focus is to provide thorium extracted from monazite to the Department of Atomic Energy.

## **FOG**

### **CONTEXT:**

- **Fog in Northern India:** In the closing days of 2023 and the beginning of 2024, northern India experienced the onset of winter, marked by a significant blanket of fog. This weather phenomenon posed challenges for both residents and travellers.
- **Affected States:** The impact of the fog was widespread, affecting several states. Weather reports indicated that Punjab, Haryana, and the northern regions of Rajasthan and Uttar Pradesh had minimum temperatures ranging from 6-9 degrees Celsius. In New Delhi, south Rajasthan, and north Madhya Pradesh, some areas recorded minimum temperatures between 10-12 degrees Celsius. Dense fog reduced visibility in many areas, with Haryana, Chandigarh, Uttarakhand, Uttar Pradesh, Bihar, Rajasthan, and Madhya Pradesh reporting visibility below 200 meters.
- **Effects on Air Travel:** The dense fog significantly disrupted air travel, particularly at Delhi's Indira Gandhi International Airport. On December

27, nearly 450 flights were delayed or canceled due to the dense fog. Subsequent days also saw disruptions, with around 100 and 80 flights delayed on December 29 and 30, respectively. The poor visibility and dense fog also caused delays in the arrival and departure of trains bound for Delhi.

**Fog Formation:**

- Fog is explained as a collection of small water droplets formed when evaporated water cools and condenses.
- Fog is essentially a thick cloud near the earth's surface. It forms when temperatures drop, and there is abundant moisture close to the surface.
- Fog in Indian winters occurs due to temperature disparities between the ground and the air, with aerosols in the atmosphere condensing during the night and early morning.

**Mechanisms of Fog Formation:**

- Infrared cooling, a process occurring during the transition from summer to winter, contributes to fog formation.
- During summer, the ground absorbs sunlight, warming and moistening the air.
- As cooler weather sets in, the warm, moist air encounters cooling processes, causing rapid condensation of water vapor and the formation of fog.
- Another type, radiation fog, occurs when a warm, humid day precedes a rapid temperature drop.

**Factors Influencing Fog:**

- The specific type, duration, and effects of fog depend on various environmental conditions.
- The Indo-Gangetic plains, including northern India, are particularly prone to fog during the winter season due to low temperatures, low wind speed, moisture availability, and the presence of aerosols.
- Moisture incursion can occur when a Western Disturbance or, at times, from the Arabian Sea, brings precipitation to northern India during winter months.

## INTERNAL SECURITY

### Free Movement Regime (FMR):

**Context:** India is set to scrap the free movement regime with Myanmar and the Government will be developing around 300 km of the border and it will be fenced. People living in border areas, who could cross over to India, will soon require visas to travel to India.

### Background:

- India and Myanmar have an unfenced border and people on either side have familial and ethnic ties, which prompted the arrangement of the Free Movement regime in the 1970s and was last revised in 2016.
- Under the regime every member of the hill tribes, who is either a citizen of India or a citizen of Myanmar, and who resides within 16 km on either side of the border, can cross the border on production of a border pass, usually valid for a year, and can stay for up to two weeks per visit.
- However, The Manipur government has suspended the FMR since 2020, following the COVID19 pandemic as it attributed ongoing ethnic violence due to this regime. Over 40,000 refugees took shelter in Mizoram, and around 4,000 refugees are said to have entered Manipur.

### Free Movement Regime:

The border between India and Myanmar runs for 1,643 km in the four states of Mizoram, Manipur, Nagaland, and Arunachal Pradesh. The FMR is a mutually agreed arrangement between the two countries that allows tribes living along the border to travel up to 16 km inside the other country without a visa.

- The FMR was established in 2018 as part of the Narendra Modi government's Act East policy.
- It allows people living on either side of the India-Myanmar border to travel up to 16 km inside each other's country without a visa.
- Border residents need a border pass, valid for a year, to stay in the other country for about two weeks per visit.
- The FMR aimed to promote localised border trade, customs stations, and designated markets, and facilitate access to better education and healthcare facilities.

### Reasons for Reconsidering FMR:

- Security concerns: The unfenced border, especially through hills and jungles, has been a challenge for security forces. Extremist groups operate from clandestine bases in the Chin and Sagaing regions of Myanmar.



- Trafficking concerns: The ease of cross-border movement has been flagged for the trafficking of drugs and wildlife body parts.
- Conflict trigger: The conflict between the majority Meitei and tribal Kuki-Zo communities in Manipur in May 2023 contributed to the reconsideration of the FMR.
- Concerns over "influx": The Manipur government expressed concern over the "influx" of Myanmar nationals (Kuki-Chins) and called for an Assam-like National Register of Citizens to address the issue.

### **Scale of Migration:**

- The civil war in Myanmar led to a significant increase in people seeking refuge in India.
- In September 2022, Manipur authorities pushed back 4,300 out of 5,500 Myanmar nationals from the Moreh area.
- A committee in Manipur estimated the number of such migrants in 2023 at 2,187.
- Approximately 40,000 people sought refuge in Mizoram, primarily due to their ethnic affiliation.

### **Opposition from Mizoram and Nagaland:**

- Mizoram Chief Minister Lalduhoma opposes the move to fence the India-Myanmar border and end the FMR. He emphasizes ethnic ties with the Chin people across the border.
- Nagaland's government has not reacted, but the Naga Students' Federation condemned the decision, considering it "regressive" and asserting historical claims to the territories between the Chindwin River in Myanmar and the Saramati mountain in Nagaland.

## **Terrorism in Jammu and Kashmir**

### **Context:**

- Terror strike in Rajouri-Poonch districts at Dera ki Gali (DKG) resulted in four soldiers' deaths.
- Allegations of three civilians being killed by security forces in the aftermath.

### **Concerns and Focus on Terrorist Neutralisation:**

- Director General of Police, J&K, highlighted encouraging numbers of terrorists killed in the year.
- Media reports indicated a lower number of terrorists killed in 2023, causing concern.
- Union Home Minister urged security forces to destroy terror infrastructure, emphasising neutralising terror cadres.

### **Debatable Obsession and Misplaced Focus:**

- Obsession with the number of terrorists killed is debatable in the context of lower terror indices.
- Historical insurgency in Rajouri-Poonch districts shows the futility of an obsession with the number of 'kills.'
- The region, once near to being declared terror-free, is experiencing a resurgence of instability.

### **System's Reluctance to Adapt:**

- The Counter-terrorism approach's misplaced focus on numbers may be contributing to instability.
- Reluctance to adapt to changing dynamics and peace-building efforts.
- Focus on 'tangibles prove performance' persists despite declining terror-related fatalities.

### **Challenges in Adjusting Modus Operandi:**

- Limited tenures, short-term gains, competitive career environments, and a false sense of glory contribute to the focus on numbers.
- Tactical-level operations should be people-centric, addressing the aspirations of the population.
- People's acceptance should be a priority, but often neglected for performance imperatives.

### **Leadership and Political Process:**

- Leadership should bridge the gap between the interests of people and soldiers.
- Security forces must manage conflict, and hand over stable situations to the government for political processes.
- Political initiatives have been unprepared and reluctant, hindering conflict resolution.

### **Current Political Scenario in J&K:**

- People in J&K have lacked Assembly representation since 2018, ceasing electoral representation at the grassroots level.
- The objective of eliminating terrorists rather than addressing terrorism may continue to prevail.

## **Semiconductor Design-Linked Incentive (DLI) Scheme:**

### **Issues with the Scheme:**

- **Underwhelming Performance:** Only seven start-ups were approved, significantly below the five-year target of supporting 100 start-ups.
- **Mixed Results of Semicon India Program:** India's \$10 billion Semicon India Program has had mixed results.
  - Goals include

- To reduce dependence on semiconductor imports, particularly from China, and especially in strategic and emerging sectors, ranging from defence applications to Artificial Intelligence development.
- The second is to build supply chain resilience by integrating into the semiconductor global value chain (GVC).
- The third is to double down on India's comparative advantage
- **Challenges in Semiconductor Strategy:** Limited resources pose challenges to semiconductor strategy, Prioritisation is needed in industrial policy to maximise benefits from investments.
- **Foundry vs. Design Ecosystem:** Design ecosystem stimulation is less capital-intensive than foundry and assembly stages. Opportunity for stronger forward linkages from bolstering the design stage.
- **Barriers in DLI Scheme:** Prima facie, the DLI scheme provides access to design infrastructure and financial subsidies. Start-ups face barriers like maintaining domestic status and limitations on foreign direct investment. Ownership restrictions hinder access to crucial long-term funding.
- **Capital Challenges for Start-ups:** Semiconductor R&D has long-term payoffs, creating funding challenges for start-ups. The absence of a mature start-up funding ecosystem in India reduces domestic investors' risk appetite.
- **Inadequate Incentives:** Modest incentives under the DLI scheme capped at ₹15 Crore for Product DLI and ₹30 Crore for Deployment Linked Incentive per application. Not considered a worthwhile trade-off for start-ups facing limitations on access to long-term funding.
- **Need for Delinking Ownership:** Ownership restrictions hinder equity financing and bring in foreign funds. Delinking ownership from semiconductor design crucial for financial stability and global exposure.
- **Revised Focus on Design Capabilities:** The DLI scheme should prioritize cultivating semiconductor design capabilities. Shift focus to facilitate design capabilities for a wide array of chips within India, irrespective of ownership restrictions.
- **Enhanced Financial Outlay:** The financial outlay of the DLI scheme must be substantially enhanced to support the revised policy shift.

A recent government statement emphasizes the need for India-designed chips, signalling a move in the right direction.

### Sashastra Seema Bal (SSB)

**Context:** on the 60th foundation day of SSB in north central Assam's Tezpur earlier in the day, Mr. Shah said the entire country would be 100% free from the Naxal problem within the next three years.

### Steps Taken:

- For this India is also ending its Free movement regime with Myanmar.
  - The FMR, implemented in 2018 as part of India's Act East Policy, allowed residents of both countries living along the border to travel up to 16 km into each other's territory without a visa.
  - The Union government will soon fence the 1,643 km border between India and Myanmar.
  - Manipur wants the Myanmar border to be fenced, to prevent illegal entry from the Myanmar border.
  - Mizoram and Nagaland, on the other hand, are against the dual move on the Myanmar front as the people on either side of the International Border in those States belong to the same ethnic communities. Some 30,000 Chin people from civil war torn Myanmar have also taken shelter in Mizoram since February 2021.
- India has also dual-fenced its 4000 km border with Bangladesh.

### Sashastra Seema Bal

- It was established as the Special Service Bureau in May 1963, in the aftermath of the Chinese aggression (in 1962).
- It is under the aegis of the Ministry of Home Affairs (Jan 2001).
- Motto: Service, Security and Brotherhood.
- Mandate: To promote a sense of security among the people living in the border areas; prevent trans-border crimes and unauthorized entry into or exit from Indian territory; and to prevent smuggling and other illegal activities on our frontiers.
- It is guarding borders with Nepal and Bhutan. It is one of the seven Central Armed Police Forces under the administrative control of the Ministry of Home Affairs (MHA).

### ULFA PEACE PACT

**Context:** The Pro-talks faction of the United Liberation Front of Asom (ULFA) signed a tripartite peace deal with the Centre and the Assam government on December 29, 2023.

### Provision of the memorandum of settlement

- **Renounce violence:** The ULFA has agreed to renounce violence, disarm, disband the armed organisation, vacate their occupied camps, and participate in peaceful democratic process established by the law.

- **Integrity of Country**: It aims to ensure the integrity of the country contrary to what the ULFA had initially demanded in form of independent Assam.
- **Financial package**: A comprehensive package entailing an investment of ₹1.5 lakh crore for the all round development of Assam
- **Addressing the political demands**:
  - Maintaining the territorial integrity of Assam through amicable settlement of boundary disputes with neighbouring States in the Northeast and continuation of the “guidelines and methodology” adopted for the delimitation exercise conducted in 2023 in future delimitation processes.
  - **Maximum representation for indigenous communities** in the 126-member Assam Assembly by keeping non-original inhabitants, primarily migrant Muslims, out. The 2023 delimitation is said to have made it impossible for non-indigenous communities to contest 106 of these seats.
  - The pact seeks exemption for Assam from Section 3 of the Citizenship Act of 1955 dealing with people who have renounced Indian citizenship or whose citizenship has been terminated, to conditionally stop people of one constituency from being registered in another, and prepare an error free National Register of Citizens.

## **Challenges**

- Baruah and some 200 fighters of his ULFA (I) (ULFA (Independent) group were not part of the pact.

## **BACKGROUND**

### **Formation of ULFA**

- 1979: Anti- foreigners Assam Agitation began and ended with the signing of the **Assam Accord of 1985**. As a byproduct of this ULFA was formed, with a group of radicals, including **Arabinda Rajkhowa, Anup Chetia, and Paresh Baruah** on April 7, 1979, with a fear that the Assamese and other indigenous communities would be pushed out of their backyard by “illegal immigrants”
- The group recruit and train its members in Myanmar, China, and Pakistan before striking with a series of abductions and executions.
- The government responded in 1990 with an extensive code-named Operation Bajrang and banned the ULFA following which Assam was declared a disturbed area with the imposition of the Armed Forces (Special Powers) Act.

## **Beginning of Peace Talks**

- Counterinsurgency operations led to the arrest of 1,221 ULFA members in the early 1990s.
- ULFA set up camps in Bangladesh and Bhutan with support from terror groups such as HarkatulJihade Islami and Pakistan's InterServices Intelligence,
- They were removed in 2003 from Bhutan and in 2009 from Bangladesh.
- After falling in the net of the security forces in India in 2009, the leaders of the Rajkhowa faction signed a ceasefire agreement with the Centre in September 2011. Opposed to talks, Baruah "expelled" Rajkhowa from the ULFA in 2012.
- In April 2013, the anti-talks group was renamed ULFA (Independent). The ULFA (I) operates from hideouts in the Sagaing Division of Myanmar. Baruah is believed to be based on the Myanmar-China border.

## MISCELLANEOUS

### Ayodhya Temple:

Relevance: Art and Architecture

#### **Art and Architecture:**

- It is made of sandstone. No iron or steel has been used in the construction of the grand structure.
- Stones have been sourced from the Bansi Paharpur area in Rajasthan.
- The entire temple superstructure will eventually be three storeys.
- It is built in Nagara style
  - It is 380 feet long from east to west, 250 feet wide and 161 feet high.
  - Each floor will be 20 feet high and will have 392 pillars and 44 gates.
- **PERCOTA:** Around the grand temple is a rectangular periphery which is a feature found in temples in South India, but not generally in the north,
- Ornate figures of elephants and lions and idols of Lord Hanuman and Garuda were installed at the main entrance made using sand stones.

### **1528 – Mosque construction**

Babri Mosque is built by Mughal commander Mir Baqi under the rule of the first Mughal king, Babur.

### Madhika

Context: The Madhika Language is on the verge of extinction with only 2 speakers left.

About the Language:

- It is spoken by the Chakaliya Community.
- The community stays in Kookanam, near Karivellur grama panchayat in Kerala's Kannur district.
- It has no script, and will be lost to the world
- It is a blend of Telugu, Tulu, Kannada, and Malayalam but is largely influenced by Havyaka Kannada, an old form of Kannada

### Swachh Survekshan Awards

**Context:** Annual clean city awards for 2023 were announced by the Union Urban Affairs Ministry in India.

#### Survey:

- **Theme of Cleanliness Survey:** for 2023 "Waste to wealth," and for 2024, it is "Reduce, reuse, and recycle."
- President Droupadi Murmu emphasised the importance of mechanised cleaning to establish a sensitive society. She also launched the 'Swachh Survekshan' 2023 dashboard.

- The Swachh Survekshan, which started with 73 major cities in 2016, now covers 4,477 cities. The evaluation involved over 3,000 assessors, and nearly 12 crore citizen responses were received.

### **Key points:**

- **Cleanest Cities:** Surat in Gujarat and Indore in Madhya Pradesh were jointly declared the cleanest cities of India. Indore received this recognition for the seventh consecutive time.
- **Top 10 Cleanest Cities:** The top 10 cleanest cities with a population of more than one lakh include Navi Mumbai, Greater Visakhapatnam, Bhopal, Vijayawada, New Delhi, Tirupati, Greater Hyderabad, and Pune.
- **State Rankings:** Maharashtra secured the first position in state rankings, followed by Madhya Pradesh and Chhattisgarh. Odisha, Telangana, Andhra Pradesh, Punjab, Gujarat, Uttar Pradesh, Tamil Nadu, Sikkim, Karnataka, Goa, Haryana, and Bihar were also mentioned.
- **Cities with a Population of Less Than One Lakh:** Sasvad and Lonavala in Maharashtra and Patan in Chhattisgarh were the top three cities.
- **Cantonment Board:** The Mhow Cantonment Board in Madhya Pradesh was adjudged the cleanest cantonment Board.
- **Ganga Towns:** Varanasi and Prayagraj in Uttar Pradesh won the top two awards for the cleanest Ganga towns.
- **Remarks by Urban Affairs Minister Hardeep Singh Puri:** Hardeep Singh Puri highlighted the success of the Swachh Bharat Mission, stating that every city in India is now open defecation-free. He mentioned the transition from manhole to machine hole and the increase in scientific processing of waste.

### **Minorities Institutions**

#### **Context:**

- The Supreme Court, while listening to a plea for minority status of Aligarh Muslim University, observed that the right given to religious and linguistic minorities to establish and administer their educational institutions under Article 30(1) of the Constitution was not intended to “ghettoise” (segregated) them.
- Chief Justice of India said that the minority character of an educational institution is not lost if its founders, who belong to a particular minority community, choose administrators from other communities, including the majority group, to run the institution.
- Further, The Chief Justice said minorities have a right under Article 30 of the Constitution to establish and administer educational institutions. The Bench asked whether even the right to establish such an institution or



university would be contingent on the state recognising it through an enabling statute. Then you are making a constitutional right subservient to a statute,

### Article 30

- CJI further said, Article 30 does not mandate that the administration of a minority educational institution should be only by members of that community. It is the discretionary power of authority.

### Atal Setu

- Equipped with cutting edge Japanese technology, the Mumbai Trans Harbour Link (MTHL), also known as the Atal Bihari Vajpayee Sewri Nhava Sheva Atal Setu.
- It will connect Mumbai to Navi Mumbai
- India's longest sea bridge and the six lane project.

### Indian Economy Growth

**Context:** The Advanced estimates of national income were released projecting it at 7.3 %.

Analysis:

- GDP of 2022-2023 was 7.2 %.
- Overall GVA growth is slowing to 6.9% from 7% in 2022-23.
- The **agriculture, livestock, forestry and fishing sectors** the bedrock of the rural economy, one of the largest providers of work and the second largest generator of economic value outside the services economy will see output expanding by 1.8% which is slowest in eight years and less than half of 2022-23's 4% pace.
- Even 1.8% growth estimates are optimistic due to estimated shortfall in *kharif* output and lag in *rabi* sowing, particularly in paddy and pulses.
- The second largest component of the services economy, the omnibus trade, hotels, transport, communication and broadcasting sector which is also a large provider of jobs is estimated to grow at 6.3%, from 14% last fiscal.
- On the demand side,
  - Private final consumption expenditure which is the **largest component of GDP** is projected to log its slowest non pandemic year expansion in more than 20 years.
  - At 4.4%, private consumption spending growth is estimated to have been at its lowest ebb since the pandemic and accompanying lockdowns caused spending to contract by more than 5% in 2020-21, and just over half of 2022-23's 7.5% pace.
  - Reason for weak Rural Economy:

- Impact of the monsoon vagaries and the resultant weakness in farm output,
- demand for producers of a range of goods from soaps and detergents to packaged foods and two wheelers is yet to regain any kind of vigour in the hinterland.

### **Factors for current expected fiscal growth:**

- Gross fixed capital formation, which includes government capital spending, remains the main bright spot and driver of momentum.
- As per NSO, GFCF growing 10.3% to reach a record 34.9% share of GDP this fiscal.

### **GI tags**

- Given to the Product for its uniqueness under the Government of India enacted the Geographical Indications of Goods (Registration and Protection) Act, 1999. This act came into force in September, 2003. GOI started giving GI tag in 2003
- Darjeeling Tea of West Bengal was the first product to receive the GI tag.
- 15 products originating from 9 different countries have also received GI tags – Italy, France, UK, USA, Ireland, Mexico, Thailand, Peru, and Portugal.

### **Who can apply for GI tags:**

- Any trader's body, association, or organisation can apply for a GI tag.
- The applicants need to prove the uniqueness of the item with historical records and a complete breakdown of how the product is made.
- Every GI tag recognises a particular region and product and brings it to the public eye.
- Raw materials for such products do not have to come from that region (unless it is an agricultural tag). For instance, the leaf that gives the Banarasi paan its identity is not grown in Varanasi; it comes from Bihar, West Bengal, or Odisha. The mulberry silk used in Kancheepu ram sarees comes from Karnataka and the gold zari from Surat.

### **GI tag in India**

- There are over 500 GI tags in India.
- There are 34 classes of products that can get GI tags, from chemicals and paint to foodstuff, handicrafts, musical instruments, and even firearms and locomotives

**Benefit:** Prevents unauthorised use of a Registered Geographical Indication by others. It provides legal protection to Indian Geographical Indications which in turn boost exports.

## **India Skill Award 2024**

**News:** The India Skill Award 2024 report was published by talent assessment agency Wheebox in association with various agencies including All India Council for Technical Education, the Confederation of Indian Industry and the Association of Indian Universities.

- Kerala has emerged as the most preferred state to work in India Skill Report 2024.
- Kochi and Thiruvananthapuram have come second and fourth respectively among cities where both men and women prefer to work regardless of their age.
- Kerala came third overall among States. Kerala was also ranked third in terms of the highest concentration of employable talent in the B.E./B.Tech and polytechnic domains, as well as for the highest availability of English skills.

## **Sahitya Akademi Awards**

**NEWS:** Tamil author Rajasekaran (Devibharathi), Telugu writer T. Patanjali Sastri and Malayalam writer E.V. Ramakrishnan were awarded the Sahitya Akademi awards for 2023.

### **About the Awards:**

- The Sahitya Akademi Award was established in 1954 and is a literary honour which is conferred annually by Sahitya Akademi.
- Akademi gives 24 awards annually to literary works in the languages it has recognized and an equal number of awards to literary translations from and into the languages of India.
  - Along with 22 languages enumerated in the Constitution of India, the Sahitya Akademi has recognised **English and Rajasthani** as languages in which its programme may be implemented.
- The Sahitya Akademi Award is the **second-highest literary honour** by the Government of India, after the Jnanpith Award.
- **Criteria for Choosing Awardee:**
  - The author must be of Indian Nationality.
  - Book/work eligible for the award must be an outstanding contribution to the language and literature to which it belongs.
  - When equal merit for books of two or more are found, certain criteria like total literary contribution and standing of authors shall be taken into consideration for declaring the award.

**The prize includes a copper plaque and ₹1 lakh prize money,**