ENSURE IAS

Current Affairs Total (CAT)

JULY 2025

Scan Here

Price ₹250

7900-44-7900 | www.ensureias.com

INDEX

Click Here for INDEX

Society and Culture (97-109)

Click Here for INDEX

History (110-124)

Ethics (125-129)

Places in News (130-134)

POLITY AND GOVERNANCE

1. Socialism and Secularism

Why in the News?

1. There has been increasing debates around removing the words **"Socialist"** and **"Secular"** from the **Preamble** of the Indian Constitution.
2. These debates are linked to the criticism of the **Emergency period (1975–77)**, during which these words were added via the **42nd Constitutional Amendment (1976)**.
3. This undermines the **core values** and **foundational philosophy** of the Indian Republic.

Key Highlights

1. The debate is **not just about two words**, but it also challenges the **spirit and identity** of the Constitution.
2. **Dr. B.R. Ambedkar's Vision (Constituent Assembly, Nov 25, 1949):** Real democracy means equality in all forms (political, social, and economic), rooted in socialism and secularism.
3. **Socialism** and **Secularism** are not limited to the Preamble, they are reflected across **Fundamental Rights, Directive Principles of State Policy (DPSP) and Basic Structure Doctrine.**
4. These values are rooted in **India's anti-colonial struggle**, **Constituent Assembly debates**, and the **Objective Resolution** moved by Jawaharlal Nehru in 1946.

Socialism in the Constitution

1. **Indian socialism** is not about **complete state control**. It refers to:
   a. Social and economic justice
   b. Reduction of inequalities
   c. Welfare of the weaker sections
   d. Equal opportunity for all
2. **Where is it reflected in the Constitution?**
   a. **Preamble** (post-42nd Amendment): Promises **justice (social, economic, and political)** and ensures **equality of status and opportunity.**
   b. **Fundamental Rights**
      i. **Article 14**: Equality before law and equal protection of laws
      ii. **Article 15**: No discrimination based on religion, race, caste, sex, place of birth
      iii. **Article 16**: Equal opportunity in public employment.
      iv. **Article 21:** Right to life includes dignified living, often linked to social justice.
      v. **Article 23–24:** Protection from exploitation, reflects socialist concerns.
   c. **Directive Principles of State Policy (Part IV)**
      i. **Article 38**: State to secure a social order for the promotion of welfare
      ii. **Article 39:** Ensures equal distribution of resources, adequate livelihood, no concentration of wealth
      iii. **Article 41:** Right to work, education, and public assistance in certain cases
      iv. **Article 42:** Just and humane conditions of work and maternity relief
      v. **Article 43:** Living wage and decent standard of life for all workers
3. **Impact on Law and Governance:** Socialism inspired key laws like land reforms, MGNREGA, food security and is upheld in various Supreme Court rulings supporting social welfare policies.

Secularism in the Constitution

1. **Secularism means**
   a. Not mere **religious neutrality**, but **equal respect for all religions**
   b. State can regulate religion-related activities but must not favour any one religion
2. **Where is it reflected in the Constitution?**
   a. **Preamble** (post-42nd Amendment): Assures **liberty of thought, expression, belief, faith and worship.** It also ensures **fraternity** and **dignity of the individual.**

b. **Fundamental Rights:**
   i. **Article 25**: Freedom of conscience and right to freely profess, practise, and propagate religion
   ii. **Article 26**: Freedom to manage religious affairs
   iii. **Article 27**: No tax shall be used to promote a religion
   iv. **Article 28**: No religious instruction in state-funded institutions
   v. **Article 29**: Protection of interests of minorities
   vi. **Article 30**: Minorities have the right to establish and administer educational institutions

3. **Judicial Recognition:** In **Kesavananda Bharati vs State of Kerala (1973)**, the Supreme Court held that **Secularism is part of the Basic Structure** of the Constitution. Thus, it cannot be amended or removed by Parliament.
4. **Linguistic Secularism**:
   a. **Inclusive Secularism**: Indian secularism respects both religion and language.
   b. **No National Language**: Hindi is official; States choose their own languages **(Art. 343)**.
   c. **Constitutional Safeguards**: **Art. 29 and 8th Schedule** protect linguistic rights.
   d. **High Diversity**: India has 121 languages, 270 mother tongues **(Census 2011)**.
   e. **Emerging Threats**: Language-based violence reflects identity politics, not true cultural protection.

Click Here for INDEX

Challenges and Way Forward

Challenge	Way Forward
Attempts to **remove** or **weaken core constitutional values** like secularism and socialism	**Strengthen public awareness** and reaffirm commitment to constitutional morality
Misuse of history (like the Emergency) to delegitimize progressive ideals	**Educate citizens** about the **continuity** of constitutional values before and after 1976
Rise of majoritarian ideology that contradicts secular ideals	**Promote inclusive governance**, protect minority rights, and ensure judicial independence
Efforts to **dilute welfare** and equality principles in policy making	Ensure laws reflect Directive Principles, and courts **safeguard social justice goals**

2. Simultaneous Elections

Why in the News?

1. The **Parliamentary Joint Committee** is reviewing:
   a. **Constitution (One Hundred and Twenty-Ninth Amendment) Bill, 2024**
   b. **Union Territories Laws (Amendment) Bill, 2024**
2. These bills seek to introduce **simultaneous elections** across India.
3. Previous CJIs expressed concerns about legal infirmities in the proposed laws.

Key Highlights

1. The **Constitution** does **not prohibit** holding national and state elections together.
2. Conducting them **simultaneously** does not violate the principles of **free and fair elections.**
3. The former Chief Justice of India noted that **staggered elections** were not originally envisioned in the Constitution. It is **not a part of its basic structure.**
4. **Electorate is Politically Mature**
   a. The claim that Indian voters are too naive to distinguish between national and state issues during simultaneous polls was dismissed.
   b. The **electorate** is considered capable of **making informed choices**.
   c. Also, it is not necessary to **separate election timings** for national and state issues
   d. Voters can **clearly differentiate** between the two, even when polls are held concurrently.

Simultaneous Elections

1. It refers to the **synchronized conduct of elections** to the **Lok Sabha (House of the People)** and all **State Legislative Assemblies** across India **at the same time or within a close time frame.**

Historical Background

1. The concept of simultaneous elections is **not a new idea** in India.
2. The first general elections to the Lok Sabha and State Assemblies were held together in **1951-52**, a practice that continued for three subsequent general elections in **1957**, **1962**, and **1967**.
3. This cycle of **synchronised elections** was disrupted in **1968** and **1969** due to the premature dissolution of some State Legislative Assemblies.
4. **Premature dissolutions** and **term extensions** have firmly disrupted the **cycle of simultaneous elections**, leading to the **current pattern of staggered electoral schedules** across the country.

Rationale for Simultaneous Elections

1. **Ensures Governance Continuity:** Frequent elections keep governments in campaign mode, diverting attention from policy. Simultaneous polls allow sustained focus on development and public welfare.
2. **Prevents Administrative Disruptions:** Repeated enforcement of the Model Code of Conduct delays schemes and causes policy paralysis. One-time elections enable smoother, uninterrupted governance.
3. **Improves Resource Efficiency:** Conducting multiple elections strains administrative staff and security forces. Synchronised elections reduce this burden and enhance institutional efficiency.
4. **Strengthens Regional Voices:** Regional parties get equal opportunity to highlight state-specific concerns without being drowned out by national narratives.
5. **Promotes Political Inclusivity:** Prevents overexposure of a few leaders and encourages diverse leadership across regions, strengthening internal democracy in parties.
6. **Reduces Cost and Conflict:** Simultaneous polls cut logistical expenses, limit aggressive campaigning, and foster a stable, investment-friendly political environment.

Challenges and Way Forward

Challenges	Way Forward
Marginalisation of smaller/regional parties	Implement **electoral safeguards** like proportional representation or funding aid.
Logistical and administrative hurdles	Strengthen **Election Commission capacity** and ensure **infrastructure upgrades**.
Premature dissolution of assemblies	Amend laws to allow **constructive votes of no confidence** (i.e.,a government can only be removed if there is an alternative ready to take its place) or **fixed-term mechanisms**.
Federal concerns from states	Build **consensus with state governments** through dialogue and negotiation.
Legal challenges and interpretation issues	Frame the reform within a **robust constitutional amendment** process.

3. Collegium System

Why in the News?

1. **Chief Justice of India (CJI) assured full transparency** in the collegium system for judicial appointments during a felicitation event by the **Bombay Bar Association.**
2. **He emphasized merit, inclusivity, and independence** as guiding principles of the selection process.
3. **He addressed past concerns and controversies**, including delays in elevation and internal differences within the collegium.

Key Highlights

1. **Institutional Inclusivity:** Efforts are being made to ensure representation from all sections of society within the judiciary. The process aims to be broad-based and equitable.
2. **Clarification on Appointment Delays:** Internal discussions and concerns among senior judges are part of the collegium functioning. Decisions are taken collectively to maintain institutional balance.
3. **Collegial Nature of Supreme Court:** The Supreme Court functions as a collective institution. The Chief Justice is regarded as the "**first among equals**," not a central authority.

Click Here for INDEX
Polity I.R. Security Economy Science Geography Society History Ethics P.i.N.

4. **Importance of Bar Association Support:** Support from legal communities is crucial in shaping the judiciary. Elevations often reflect collective confidence rather than individual lobbying.

Collegium System of India

1. The **Collegium System** is the mechanism through which **judges are appointed and transferred** in the **Higher Judiciary of India**, i.e., the **Supreme Court and High Courts**.

Key Features

1. **Composition**
   a. For Supreme Court appointments: **CJI + 4 senior-most judges** of the Supreme Court.
   b. For High Court appointments: **CJI + 2 senior-most SC judges**, and consultation with the concerned High Court collegium (CJI of the High Court + 2 senior-most judges of that HC).
2. **Function**
   a. Recommends names for appointment of judges to the President.
   b. Also handles the transfer of High Court judges.
3. **Not in Constitution**
   a. The collegium system is not mentioned in the Constitution.
   b. It operates through **judicial precedent** and **convention**, not legislation.
   c. It evolved through **Supreme Court judgments** known as the **Three Judges Cases**:
      i. **First Judges Case (1981):** The Supreme Court ruled that "consultation" with the CJI for judicial appointments does **not mean concurrence**, giving primacy to the executive.
      ii. **Second Judges Case (1993):** Overturned the earlier ruling and held that "consultation" means **concurrence**, giving **primacy to the judiciary**. The CJI's advice, given after consulting two senior-most judges, became binding.
      iii. **Third Judges Case (1998):** Expanded the collegium to include the **CJI and four senior-most judges** of the Supreme Court. Recommendations must not be sent if **two or more judges dissent**, ensuring **plurality in decision-making**.

Click Here for INDEX

Current Status

1. The **National Judicial Appointments Commission (NJAC)** Act (2014) aimed to replace it but was **struck down** by the Supreme Court in 2015, citing judicial independence.
2. Thus, the **Collegium remains in place** and continues to operate as the current system for higher judicial appointments.

Challenges and Way Forward

Challenges	Way Forward
Lack of transparency in earlier collegium decisions	**Institutionalize** clear, time-bound disclosure norms for decisions and reasons.
Allegations of **favoritism or bias in appointments**	Develop objective, **publicly known criteria** for evaluation of candidates.
Delays in elevation of deserving judges due to internal disagreements	Improve internal communication and decision-making **protocols among collegium members**.
Perceived **centralization of power** in the office of the CJI	Strengthen collegial decision-making with **equitable voice for all senior judges.**
External pressures (political/social) influencing selections	Safeguard the system with legal and procedural buffers ensuring **independence** from outside forces.

4. Zonal Councils

Why in the News?

1. Union Home Minister highlighted the **transformation** of **zonal councils** from **mere discussion platforms** to **effective engines** of **cooperation**.
2. The central government is using **Zonal Council platforms** to address **regional challenges** more actively and ensure **faster decision-making.**
3. The developments in **27th Eastern Zonal Council Meeting** reflect a strategic push towards **cooperative federalism** and **conflict resolution** through **structured institutional mechanisms.**

Key Highlights

1. **27th Eastern Zonal Council Meeting** held in **Ranchi, Jharkhand**, with CMs and officials from **Bihar, Jharkhand, Odisha, and West Bengal**.
2. **Evolved Role**: Zonal Councils now act as **decision-making bodies**, resolving **83%** of issues raised.
3. **Better Coordination**: Enhanced **Centre–State and inter-state cooperation**, enabling faster dispute resolution and joint action.
4. **Legacy Disputes Addressed**: Long-pending issues like **PSU asset-sharing** between Jharkhand and Bihar are being resolved by mutual consent.
5. **Increased Meetings**: Number of meetings **rose to 63 (2014–2025)**, compared to **25 (2004–2014)**.
6. **Security & Development**: **Naxalism has declined** in affected states; Centre is focusing on **law & order and development** in backward regions.

About Zonal Councils

1. Zonal Councils are **statutory bodies** in India.
2. They are established to promote **cooperation and coordination between the Centre and the states,** and **among the states themselves,** especially in matters of **common interest.**

Key Features

1. **Established under:** The States Reorganisation Act, 1956.
2. **Total Councils**
   a. **5 Zonal Councils:** Northern, Southern, Eastern, Western, and Central.
   b. **North-Eastern Council:** established under **North Eastern Council Act, 1971**
      i. The North Eastern Council (NEC) is a **statutory advisory body** for the **economic and social development** of northeastern states.
      ii. Unlike the five Zonal Councils formed under the **States Reorganisation Act, 1956**, the NEC is governed by a separate law.
3. **Composition:**
   a. The **Union Home Minister** is the **Chairman** of all zonal councils.
   b. **Chief Ministers** of member states act as **Vice-Chairmen (on a rotational basis).**
   c. **Other members** include **Governors** and **ministers of concerned states and Union Territories.**

Significance of Zonal Councils

1. **Promote Regional Cooperation**: Enable Centre and states to discuss shared issues (e.g., border, transport, water sharing).
2. **Support Coordinated Development**: Align plans for infrastructure and reforms across states.
3. **Resolve Disputes Peacefully**: Provide non-judicial platforms for resolving issues like river disputes.
4. **Strengthen Centre-State Coordination**: Aid joint action on issues like Naxalism and disaster management.
5. **Address Region-Specific Challenges**: Tackle issues like state bifurcation or security threats in affected areas.
6. **Promote Cooperative Federalism**: Build consensus on policies like education and digital governance.

Challenges and Way Forward

Challenges	Way Forward
Old **issues like sharing of PSU assets** between states are still not fully solved.	**Time-bound** dispute resolution mechanisms.
Disparities in development and infrastructure among states.	Increased **financial support and targeted regional planning.**
Some areas still face problems like **leftover Naxal violence and lack of development**.	Continued **security efforts** with integrated rural development.
Political differences slowing cooperation.	Institutional mechanisms for **bipartisan cooperation**.

5. Legal Status of Right to Vote

Why in the News?

1. The **Supreme Court of India** is currently hearing cases challenging the **Special Intensive Revision (SIR)** of electoral rolls in Bihar.
2. During the hearings, an important constitutional debate has emerged on the **nature and legal status of the 'right to vote'**.

Click Here for INDEX
Polity I.R. Security Economy Science Geography Society History Ethics P.i.N.

3. The discussion revisits whether voting is a **statutory right**, a **constitutional right**, or has links to **fundamental rights** under the Constitution.

Different Types of Rights

1. **Natural Rights**
   a. These are **basic rights that every human being is born with** (like the right to life and liberty).
   b. They are called **inalienable** (cannot be taken away) and **inherent** (belong to us by nature).
   c. Example: Right to live with dignity, or right to personal freedom.
   d. Courts in India **do not directly protect natural rights**, but **if they are part of Fundamental Rights**, they can be enforced.
2. **Fundamental Rights (Part III of the Indian Constitution)**
   a. These are **important rights guaranteed by the Constitution** to all citizens.
   b. Examples: **Right to equality (Article 14)**, **Right to freedom of speech (Article 19)**, **Right to life (Article 21)**.
   c. If these rights are violated, a person can **go directly to the Supreme Court under Article 32** and ask for protection.
   d. The **State (government)** cannot make laws that violate these rights.
3. **Constitutional Rights (Outside Part III of the Constitution)**
   a. These rights are also given by the Constitution, but they are **not called Fundamental Rights**.
   b. Examples: **Right to property (Article 300A)**, **Right to free trade (Article 301)**, and **Right against taxation without authority of law (Article 265)**.
   c. These rights can be enforced by going to the **High Court under Article 226** or using the process given in the related law.
   d. They are still strong rights, but not as powerful as Fundamental Rights.
4. **Statutory Rights**
   a. These rights are **created by regular laws** (made by Parliament or State Legislatures), not by the Constitution.
   b. Examples: **Right to work** under the **MGNREGA Act** (for rural employment), **Rights of forest dwellers** under the **Forest Rights Act** and **Right to subsidised food** under the **National Food Security Act**.
   c. These rights can be **changed or removed by Parliament**.
   d. They are **enforced through normal legal procedures**, like going to a civil court.

Constitution and Right to Vote

1. **Article 326** grants **universal adult franchise**, stating that every citizen aged 18+ has the right to vote, unless disqualified by law.
2. However, the **right to vote is not explicitly listed as a Fundamental Right**.
3. **Two key laws** operationalize this:
   a. **Representation of the People Act, 1950**: Deals with qualifications for voter registration.
      i. **Section 16**: Disqualifies non-citizens.
      ii. **Section 19**: Voters must be 18+ and "ordinarily resident" in a constituency.
   b. **Representation of the People Act, 1951**: Governs the conduct of elections.
      i. **Section 62**: Grants voting rights to those on the electoral roll but excludes prisoners and disqualified individuals.

Judicial Interpretation

1. **N.P. Ponnuswami v. Returning Officer (1952)**: The SC held that the **right to vote is a statutory right**, not a fundamental or natural right.
2. **Jyoti Basu v. Debi Ghosal (1982)**: Reaffirmed the above view—voting is neither a fundamental nor a common law right.
3. **PUCL v. Union of India (2003)**: Justice P.V. Reddy acknowledged that voting, while not fundamental, can be considered a **constitutional right**.
4. **Kuldip Nayar v. Union of India (2006)**: A Constitution Bench held the right to vote remains **statutory**, reinforcing the traditional view.
5. **Raj Bala v. State of Haryana (2015)**: Departed from previous rulings and declared voting a **constitutional right**, citing PUCL.

Click Here for INDEX

6. **Anoop Baranwal v. Union of India (2023)**:
   a. **Majority opinion**: Reaffirmed the statutory nature of the right to vote.
   b. **Dissent by Justice Ajay Rastogi**: Argued that voting is an extension of **freedom of expression under Article 19(1)(a)** and thus part of the **basic structure doctrine**.

Current Legal Status of Right to Vote

1. As of now, the **right to vote in India is considered a "statutory right."**
2. This means it is **not directly guaranteed by the Constitution**, but is given by a **law made by Parliament**.
3. However, some judges and legal experts have argued that the **right to vote** should be given **higher status**, as a **constitutional right** or even a **fundamental right**.
4. Their **reasons** include:
   a. Voting is a form of "**political expression**" (expressing one's choice), which is closely linked to **Article 19(1)(a)**: the **Right to Freedom of Speech and Expression.**
   b. The idea of **free and fair elections** is part of the **Basic Structure of the Constitution** (a set of core values that Parliament cannot change).
   c. If citizens are **unable to vote freely**, the **fairness** of **elections** is **compromised**, which in turn **weakens** the **foundations** of **democracy**.

What Elevating the Right Might Mean?

1. Recognizing the **right to vote as constitutional or fundamental** could:
   a. **Trigger stricter judicial scrutiny** of voter roll revisions and exclusions.
   b. Demand higher standards of **procedural fairness** in electoral administration.
   c. **Link voter rights** with freedom of speech, dignity, and equality.
   d. Open doors to **Public Interest Litigations (PILs)** challenging voter disenfranchisement.

Implications

1. **Improved Electoral Reforms and Governance**
   a. Elevating voting rights strengthens the **legal basis for transparent, inclusive elections**.
   b. Leads to **better regulation of electoral rolls**, reducing arbitrary deletions and improving oversight.
2. **Boost to Democratic Legitimacy and Political Participation**
   a. Recognizing voting as a higher-order right enhances **public trust in electoral processes**.
   b. Encourages higher **voter turnout** and participation, especially among **marginalized and excluded groups**.
3. **Judicial and Legal Clarity**
   a. Resolving this ambiguity ensures **consistent rulings** in future legal challenges related to elections.
   b. Clarifies the **scope of constitutional protections** available to voters and election commissions.
4. **Reinforcement of Rule of Law and Accountability**
   a. Ensures that **State actions regarding electoral lists** are held to a higher legal standard.
   b. Reduces misuse of disqualification provisions or selective voter deletions.
5. **Support for Long-Term Economic Stability**
   a. Political stability, born out of **free and fair elections**, is a **pre-condition for investor confidence**.
   b. Enhances policy continuity and improves India's **governance ratings** globally.

Challenges and Way Forward

Challenges	Way Forward
Legal uncertainty about the status of the right to vote	The Supreme Court must settle the issue through a **Constitution Bench ruling.**
Arbitrary deletions from electoral rolls during revisions	**Electoral roll revisions** should be made transparent, auditable, and justiciable.
Low awareness about voter rights in rural or marginalized areas	Expand **SVEEP campaigns** and **localized IEC programs** using digital and local media.

Misuse of disqualification provisions in electoral laws	Introduce **stronger safeguards** and allow **judicial review** of disqualifications.
Over-dependence on statutory frameworks which can be altered easily	Elevate the right to vote to **constitutional status** to protect against erosion.

6. Vice-Presidential Election Process

Why in the News?

1. The **Election Commission (EC)** has formally initiated the process to elect a new **Vice-President of India** by appointing the Returning and Assistant Returning Officers.
2. The election has been necessitated by the **unexpected resignation of Vice-President Jagdeep Dhankhar**, resulting in a rare mid-term vacancy in India's second-highest constitutional office.

Click Here for INDEX

Key Highlights

1. **Election Initiated**: The Vice-Presidential election process has begun with **P.C. Mody**, Secretary-General of Rajya Sabha, appointed as **Returning Officer**, and **Garima Jain** and **Vijay Kumar** as Assistant Returning Officers.
2. **Legal Framework**: The election is conducted under the **Presidential and Vice-Presidential Elections Act, 1952** and **Election Rules, 1974**, covering nomination, polling, and result declaration.
3. **Electoral College**: The **Electoral College** includes **elected and nominated members of Rajya Sabha** and **elected members of Lok Sabha** (unlike the Presidential election, which excludes nominated MPs).
4. **Nomination Rules**: A candidate needs **20 proposers and 20 seconders**, all from the Electoral College. Nominations must be submitted between **11 a.m. and 3 p.m.** on notified days.
5. **Constitutional Role**: The Vice-President is also the **ex-officio Chairman of Rajya Sabha**, making the timely election vital for **legislative functioning**.

Key Articles Related to the Vice-President:

1. **Article 63**- There shall be a **Vice-President of India**.
2. **Article 64**- The Vice-President shall be the **ex-officio Chairman of the Rajya Sabha**.
3. **Article 65**- The Vice-President acts as **President** in the event of a vacancy, resignation, removal, or death of the President.
4. **Article 66**- Describes the **election process** for the Vice-President.
   a. No person shall be eligible for election as Vice-President unless he is a **citizen of India,** has completed the age of **thirty-five** years and is **qualified** for election as a **member of the Council of States.**
5. **Indirect Election:** The Vice-President is **not directly elected by the people**. He is elected by an **Electoral College**.
6. **Voting System:** The election is held through a system of **proportional representation** by means of a **single transferable vote**. Voting is done by **secret ballot**.
7. **No Involvement of State Legislatures: State Legislative Assemblies have no role** in the election of the Vice-President, unlike in Presidential elections.
8. **Article 67**- deals with the **tenure (term of office)** and the **removal procedure** of the **Vice-President of India**. **Key Provisions of Article 67:**
   a. **Term of Office:** The Vice-President holds office for a period of **five years** from the date of entering office.
   b. **Resignation:** The Vice-President can **resign at any time** by **writing to the President of India**.
   c. **Removal from Office: Removal is by a resolution of the Rajya Sabha**, passed by a **majority of all the then members** of the House. This resolution must also be **agreed to by the Lok Sabha**.
   d. **Continued Office Until Successor Takes Over:** Even after the five-year term ends, the Vice-President **continues in office until a successor assumes charge**.
9. **Article 68**- procedure for handling **vacancies** in the office of the **Vice-President**- whether due to expiration of term, death, resignation, removal, or otherwise. **Key Provisions of Article 68:**

a. **Filling Vacancy Before Term Expiry:** An election to fill the vacancy **caused by the expiry of the term** must be held **before the term ends**. This ensures that there is **no gap** between two Vice-Presidents.

b. **Filling Vacancy Due to Death, Resignation, or Removal:**
   i. If a **vacancy occurs due to death, resignation, removal**, or any other reason **before the term ends**, the election must be held **as soon as possible**.
   ii. The new Vice-President elected under this clause will **serve a full five-year term** from the date of assuming office — not just the remainder of the predecessor's term.

c. **No Time Limit Specified:** The Constitution says the election should be held **"as soon as possible"**, but it **does not mention an exact timeframe**.

Implications

1. **Continuity in Governance**: Timely Vice-Presidential elections ensure the office doesn't remain vacant, maintaining **Rajya Sabha's stability**, where the VP serves as **presiding officer**.
2. **Democratic Strengthening**: The structured process reinforces **trust in democratic institutions** and ensures **institutional continuity** in the constitutional setup.
3. **Political Impact**: A **mid-term vacancy** may prompt **parties to recalibrate strategies**, especially in coalition dynamics, showing the political weight of the office.
4. **Electoral Inclusion**: **Nominated members** participate in Vice-Presidential elections (unlike in Presidential polls), reflecting their **symbolic electoral role**.
5. **Administrative Readiness**: The **appointment of senior Rajya Sabha officials** as Returning Officers reflects **institutional preparedness** and **procedural integrity**.
6. **Upholding Constitutional Values**: The smooth conduct of such elections affirms India's commitment to **democratic continuity and constitutional values**.

Challenges and Way Forward

Challenges	Way Forward
Mid-term vacancy in a high constitutional office	**Expedite** the **electoral process** while maintaining procedural fairness
Ensuring political neutrality in a potentially sensitive election	Maintain **strict EC oversight** and transparency in nomination and voting
Limited awareness about nomination process among MPs	Conduct **orientation sessions** or briefings for Electoral College members
Managing logistical coordination across two Houses of Parliament	Use **digital tools and pre-poll planning** for smooth and synchronized execution
Upholding the **dignity of the office** amid political competition	**Promote consensus** or respectful campaigning, keeping the Vice-President's role non-political.

7. Presidential Reference

Why in the News?

1. The **Supreme Court** received a **Presidential Reference** asking if **Governors** and the **President** can be legally bound to act within a **time frame on State Bills**.
2. This comes after the **Court's April, 2025 judgment** that, for the first time, set **enforceable timelines** for constitutional authorities.
3. A Constitution Bench led by **CJI B.R. Gavai** will hear the matter, with proceedings expected to start in **mid-August in 2025.**

Key Highlights

1. **Background of the Case**
   a. Originated from a petition filed by the **Tamil Nadu government** against Governor R.N. Ravi.
   b. The Governor delayed assent to **10 Bills re-passed by the State legislature** and referred them to the President.
   c. The Supreme Court held that such **prolonged inaction was unconstitutional** and mandated **time-bound decisions** by Governors and the President.

2. **Nature and Scope of the Presidential Reference**
   a. Under **Article 143(1)**, the President sought the Supreme Court's opinion on 14 legal questions of **public importance**.
   b. The Reference focuses on whether courts can dictate the **manner and timeframe** in which constitutional authorities must act on State legislation.
3. **Court's Advisory Jurisdiction and Discretion**
   a. Article 143(1) empowers the Court to provide **advisory opinions** on legal questions not linked to active litigation.
   b. However, the Court is not obligated to respond and may **decline a Reference**, as seen in the **Ayodhya-Babri Masjid (1993)** case, where the Reference was deemed unconstitutional.
   c. In the **Special Courts Bill (1978)** case, the Court clarified it has discretion in responding to such references.
4. **Binding Nature of Advisory Opinions**
   a. As per **Article 141**, only decisions given in the Court's adjudicatory capacity are binding on all courts.
   b. Advisory opinions under Article 143 are **not binding precedents**, although they carry **high persuasive value**.
   c. In some cases like **R.K. Garg (1981)**, the Court has treated advisory reasoning as authoritative despite clarifications that it shouldn't be binding.
5. **Impact on the April 8 Judgment**
   a. The Supreme Court cannot use the Reference to **overturn its April 8 ruling**, which was given in an adjudicatory capacity and remains binding.
   b. However, under precedents like **Natural Resources Allocation (2012)** and **Judicial Appointments Reference (1998)**, the Court may **refine or clarify the legal position** without reversing its judgment.
   c. The Constitution Bench can elaborate on the scope and application of the April 8 decision without disturbing its **ratio decidendi** or affecting parties involved.

Click Here for INDEX

Article 143: Presidential Reference

1. Article 143 gives the **President of India the power to refer** questions of **law or fact** to the **Supreme Court** for its **advisory opinion**.
2. **Two types under Article 143:**
   a. **143(1):** On any question of law or fact that is of **public importance** (discretionary and broad).
   b. **143(2):** On **disputes arising out of pre-constitutional treaties or agreements** (used rarely).
3. **Important points:**
   a. The **Supreme Court may decline** to answer.
   b. Its opinion is **not binding**, unlike normal judgments under Article 141.

Article 141: Binding Nature of SC Judgments

1. It says that the **law declared by the Supreme Court** shall be **binding on all courts** in India.
2. **Relevance:** Judgments under **normal cases (adjudicatory role)** are binding.

Role of Governors in State Legislation

After a Bill is passed by the **State Legislature**, it is sent to the **Governor**, who can:

1. **Give assent** (approve the Bill)
2. **Withhold assent**
3. **Reserve the Bill** for the **President's consideration**
4. **Return the Bill** (if not a money bill) for reconsideration

Implications

1. **Boosts Constitutional Accountability** Enforceable timelines by the Court would check executive inaction and ensure constitutional bodies act responsibly.
2. **Strengthens Federal Balance** Clarifying Governors' roles curbs misuse of discretion and reduces Centre-State friction over State legislation.
3. **Guides Constitutional Interpretation** Judicial clarification sets a precedent on institutional checks and balances, influencing future governance-related cases.
4. **Improves Policy Execution** Timely assent to Bills enables smooth rollout of key State schemes, preventing delays in public service delivery.
5. **Redefines Judicial Role** Expands judicial oversight into executive functions, raising debates on overreach versus ensuring democratic accountability.

Challenges and Way Forward

Challenges	Way Forward
Constitutional ambiguity on fixed timelines for Governors and the President	Amend laws or frame guidelines to **specify a reasonable timeline**
Risk of **misuse of Article 143** for political purposes	Establish a **standard test of public importance** before accepting References
Conflict between **judicial enforcement** and **executive autonomy**	Ensure the judiciary acts with **restraint while enforcing accountability**
Advisory opinions not being **binding**	Create a **legislative mechanism** to integrate important advisory inputs
Possibility of **Centre-State constitutional disputes** becoming more frequent	Encourage **institutional dialogue** and proactive resolution via IGC/PM-CM forums

8. CAA Citizenship: Relief for Refugees

Why in the News?

1. A total of **185 displaced persons** from **Pakistan**, residing in the districts of **Rajkot, Morbi, and Kutch in Gujarat**, have been granted **Indian citizenship** under the provisions of the **Citizenship (Amendment) Act (CAA), 2019**.
2. This marks one of the first significant actions taken under the **CAA Rules, 2024**, notified by the **Ministry of Home Affairs**.
3. It enabled formal implementation of the Act passed in **December 2019.**

Key Highlights

1. The recipients included **vulnerable groups** like daily wage labourers, women, children, elderly individuals, and homemakers who had lived in India without legal recognition for years.
2. **Structured Application Process under CAA Rules, 2024:** Applicants must submit an **online form** to a **district-level committee**, undergo **document verification**, take an **oath of allegiance**, and appear in person before the **empowered committee**; failure to do so may lead to rejection.
3. **Required Supporting Documents:** Applicants must provide **identity and residence documents** (e.g. passport, ration card, land/birth/marriage certificates), **a character certificate** from an Indian citizen, and declare **knowledge of a scheduled Indian language.**
4. **Issuance of Digital Citizenship Certificates:** After verification, eligible applicants receive **digital citizenship certificates**, granting them **legal rights** and access to **government services** as Indian citizens.
5. **Government's Message on Dignity and Inclusion:** Gujarat's Minister of State for Home Affairs stated that citizenship restores **dignity** and **rights** to persecuted individuals, reflecting India's ethos of **Vasudhaiva Kutumbakam** as a natural refuge for the oppressed..

About CAA, 2019

1. **Legal and Constitutional Basis:**
   a. The Act derives its foundation from **Articles 5 to 11** of the Constitution.
   b. It amends the **Citizenship Act of 1955**, which governs the acquisition of Indian citizenship through birth, descent, registration, and naturalisation.
2. **Key Provisions of the CAA:**
   a. The CAA allows **Hindus, Sikhs, Buddhists, Jains, Parsis, and Christians from Afghanistan, Bangladesh, and Pakistan** who entered India **on or before December 31, 2014**, even without valid documents, to apply for Indian citizenship.
3. **Reduction in Residency Requirement:**
   a. The Act reduces the mandatory residency period for naturalisation from **11 years to 6 years** for the eligible communities.
   b. This makes it easier for them to qualify for Indian citizenship.
4. **Exemption from Legal Prosecution:**
   a. Eligible individuals under CAA are protected from prosecution under the **Foreigners Act, 1946** and the **Passport Act, 1920**.
   b. Their stay in India will not be treated as illegal.
5. **Geographical and Legal Exceptions:**
   a. The provisions of the CAA do not apply to areas governed under the **Sixth Schedule** of the Constitution in the northeastern states and regions

Polity

protected under the **Inner Line Permit (ILP)** as per the **Bengal Eastern Frontier Regulation, 1873**.

6. **Changes to OCI Provisions:**
   a. The amendment also introduces a new provision under which the **Overseas Citizen of India (OCI)** registration may be cancelled if the individual violates any law notified by the Central Government.

I.R.

Security

Citizenship in India

1. **Definition**
   a. **Citizenship** is the legal status that defines a person as a legitimate member of a nation or state.
   b. In India, the Constitution ensures **single citizenship** for the entire country.

Economy

2. **Constitutional Provisions (Articles 5-11)**
   a. **Article 5**: Grants citizenship to people **born in India** or **domiciled** in India at the time of the Constitution's commencement (January 26, 1950).
   b. **Articles 6-8**: Defines rules for migrants from **Pakistan** and individuals of **Indian origin** abroad.
   c. **Article 9**: Loss of citizenship if voluntarily acquiring foreign citizenship.
   d. **Article 10**: Continues rights of citizens.
   e. **Article 11**: Empowers **Parliament** to make laws regarding citizenship.

Science

Click Here for INDEX

3. **Types of Citizenship**
   a. **Citizenship by Birth**: Born in India (if neither parent is an illegal migrant).
   b. **Citizenship by Descent**: If either parent is an Indian citizen.
   c. **Citizenship by Registration**: For people of Indian origin or married to an Indian citizen, with residency requirements.
   d. **Citizenship by Naturalization**: Awarded based on qualification and through the **Third Schedule**.
   e. **Citizenship by Incorporation of Territory**: If a new territory joins India, people can acquire Indian citizenship.

Geography

Society

History

Ethics

P.i.N.

4. **Rights of Indian Citizens**
   a. **Article 15**: Right against **discrimination**.
   b. **Article 16**: Equal opportunity in **public employment**.
   c. **Article 19**: Right to **freedom** (speech, expression, movement, etc.).
   d. **Articles 29 & 30**: **Cultural & educational rights**.
   e. **Right to vote** and **contest elections**.
   f. **Eligibility** for holding key offices (President, Vice-President).
5. **Duties of Citizens**
   a. **Fundamental Duties** are outlined in **Part IV-A** of the Constitution, emphasizing **patriotism** and **national unity**.
6. **Loss of Citizenship**
   a. **Renunciation**: Voluntary abandonment by an individual.
   b. **Termination**: If the person acquires foreign citizenship voluntarily.
   c. **Deprivation**: Compulsory removal by the government under specific conditions (e.g., fraud, disloyalty, or war-related acts).
7. **National Register of Citizens (NRC)**
   a. **NRC** aims to identify **foreign nationals**, especially in **Assam**.
   b. The **1951 NRC** was the first register created, and the Assam NRC focuses on detecting illegal migrants from Bangladesh.
8. **Overseas Citizenship of India (OCI)**
   a. **OCI** allows **permanent residency** to people of Indian origin but is not **dual citizenship**.
   b. Benefits include **visa-free travel** to India, the ability to own property, and work in India, but **not eligible to vote** or hold public office.
9. **Citizenship (Amendment) Act (CAA) 2019**
   a. **CAA 2019** allows **Hindu, Sikh, Buddhist, Jain, Parsi, and Christian** migrants from **Afghanistan, Bangladesh, and Pakistan** to gain Indian citizenship, addressing **religious persecution**.
10. **Non-Resident Indian (NRI) & Person of Indian Origin (PIO)**
    a. **NRI**: Indian citizens residing abroad for work/ business but maintaining strong ties to India.

b. **PIO**: Individuals with Indian ancestry who hold **foreign citizenship**.

Implications

1. **Legal Rights & Citizenship**: Beneficiaries are now Indian citizens with full fundamental rights and protection from deportation laws.
2. **Access to Welfare**: They can avail government schemes like Ayushman Bharat, PMAY, education, and livelihood benefits, enhancing their socio-economic security.
3. **Political & Constitutional Debate**: The law has triggered concerns over religious bias and potential violation of Article 14; some states like West Bengal and Tamil Nadu have opposed its implementation.
4. **Social Unrest**: Accusations of religious discrimination led to nationwide protests, some turning violent (e.g., Delhi, Assam).
5. **Global & Federal Repercussions**: International bodies criticised the law on human rights grounds; domestically, it caused Centre-state tensions over implementation.

Challenges and Way Forward

Challenges	Way Forward
1. Allegations of Constitutional Violation (Article 14)	The Supreme Court should deliver a **clear verdict** to settle questions of legality.
2. Exclusion of Other Persecuted Minorities	India may consider a **faith-neutral refugee law** covering all persecuted groups.
3. Fear of NRC–CAA Linkage	The government must reassure citizens that **NRC and CAA are separate processes**.
4. Document Deficiency Among Refugees	Provide **legal aid** and flexible documentation procedures for genuine applicants.
5. Resistance by State Governments	The Centre should engage with states through dialogue to maintain **cooperative federalism**.

9. Removal of High Court Judge

Polity

Why in the News?

1. The Lok Sabha is set to initiate proceedings for the **removal of Justice Yashwant Varma** of the Allahabad High Court.
2. The move follows a **controversy over cash recovery** from Justice Varma's official residence during his tenure at the Delhi High Court.
3. The motion has gained **bipartisan support**, with over 150 MPs across party lines signing it, making it a rare and significant step in judicial accountability.

Key Highlights

1. A fire at Justice Varma's official residence led to the discovery of **half-burnt currency notes**.
2. At the time, he served in the **Delhi High Court** and was later **transferred to the Allahabad High Court**.
3. A motion for his removal was **signed by 152 MPs** from both the ruling and opposition parties.
4. The **Lok Sabha will take up the motion first**, as per the procedure outlined in the Judges (Inquiry) Act, 1968.
5. **Judges (Inquiry) Act, 1968 Provisions**
   a. a motion must be signed by **at least 100 Lok Sabha MPs or 50 Rajya Sabha MPs**.
   b. The **Chairman of the Rajya Sabha** or the **Speaker of the Lok Sabha** has the discretion to **admit or reject** the motion after consultation.
   c. If admitted, a **three-member inquiry committee** must be formed, including:
      i. Chief Justice of India or a Supreme Court judge
      ii. A Chief Justice of a High Court
      iii. A distinguished jurist
   d. The committee investigates the allegations. If the judge is **cleared of misconduct or incapacity,** the motion is **dropped** and not pursued further.
   e. If the committee finds the **judge guilty** of misbehaviour or incapacity, the **report is tabled in both Houses of Parliament**, where the motion must be passed by a **special majority**.
6. **Current Legislative Developments**
   a. Though a **notice was also moved in the Rajya Sabha**, it has **not yet been admitted**.

I.R. Security Economy Science Geography Society History Ethics P.i.N.

Click Here for INDEX

b. Former Vice President Jagdeep Dhankhar confirmed the receipt of the Rajya Sabha notice and clarified it met the **numerical requirement**.

7. **Next Steps in the Process**
   a. The Lok Sabha Speaker **is expected to announce the inquiry committee**.
   b. After the inquiry, the committee's report will guide Parliament on whether to proceed with the removal motion.

Related Articles

1. **Article 124(4):** A Judge of the Supreme Court shall not be removed from his office except by an order of the President passed after an address by each House of Parliament supported by a **majority of the total membership** of that House and by a **majority of not less than two-thirds** of the members of that House **present and voting**, and presented to the President in the same session for such removal on the ground of **proved misbehaviour or incapacity**.
2. **Article 217: Article 217** lays down the **procedure for the appointment and removal** of **High Court judges**, including the **Chief Justice of a High Court**.
   a. **Appointment of a High Court Judge:** by the **President**, in consultation with:
      i. the **Chief Justice of India**,
      ii. the **Governor of the concerned State**, and
      iii. **Chief Justice of that High Court** (in the case of appointments other than the Chief Justice)
   b. **Tenure of a High Court Judge:** A High Court judge holds office **until the age of 62 years**, unless:
      i. **He/she resigns** (by writing to the President), or
      ii. **He/she is removed** according to provisions of the **Constitution**.
3. **Article 217(1)(b): Grounds for Removal** A judge can be removed only on the grounds of:
   a. **Proved misbehaviour** or
   b. **Incapacity** (same as for Supreme Court judges)

Implications

1. **Judicial Accountability** Shows that higher judiciary is subject to legislative oversight and must uphold ethical standards.
2. **Bipartisan Parliamentary Action** Reflects rare political unity on judicial misconduct; may set precedent for future high-level scrutiny.
3. **Judges (Inquiry) Act, 1968** Underscores its role in ensuring judicial accountability and Parliament's role in upholding constitutional discipline.
4. **Public Trust in Judiciary** Transparency in the process is key to restoring trust; mishandling could damage institutional credibility.
5. **Separation of Powers** Demonstrates constitutional checks and balances; judiciary too is accountable under due process.

Challenges and Way Forward

Challenges	Way Forward
Ensuring the inquiry is **free from political bias**	Maintain **transparency** and involve respected, **neutral experts**
Potential **damage** to **judiciary's image**	Handle the process with **sensitivity and procedural integrity**
Procedural **delays** in investigation	**Expedite formation and functioning** of the inquiry committee
Balancing public pressure and fairness	**Avoid media trials;** rely solely on **evidence and due process**
Very few judges have been removed in the past.	Use this as an **opportunity to develop** best practices for the future

10. Custodial Deaths

Why in the News?

1. The issue of **custodial deaths** has gained **national attention** due to the persistent lack of accountability and justice.
2. Despite repeated incidents of deaths occurring in police custody across various states, there have been no convictions of police personnel over several years,
3. This is **raising serious concerns** about **institutional impunity** and the **erosion** of **human rights**.

Definition of Custodial Deaths

1. **Custodial death** refers to the death of a person **while in the custody of police or other law enforcement agencies**, or **in judicial custody** (such as in prison or jail).

Types of Custodial Deaths

1. **Police Custody Deaths**
   a. Occurs when a person dies **while being held by the police**, usually before being presented before a magistrate.
   b. Causes may include torture or assault during interrogation, negligence or denial of medical care and suicide due to abuse or threats.
2. **Judicial Custody Deaths**
   a. Happens when a person dies **while in jail or prison**, after being sent there by a court order.
   b. Causes may include poor medical care, violence by inmates or prison staff and natural causes worsened by neglect.

Key Highlights

1. **Lack of Accountability**
   a. **Zero Convictions:** No police officer was convicted for custodial deaths in Tamil Nadu or elsewhere in India between 2017–2022.
   b. **Judicial Inaction:** Out of 345 magisterial/ judicial inquiries ordered, only 123 led to police personnel being arrested; 79 were charge-sheeted, but **no convictions** were secured.
2. **Nature of Custodial Deaths**
   a. **Data Range:** The data spans custodial deaths between **2017 and 2022.**
   b. **Types of Deaths:** Includes suicides in custody and deaths due to alleged police brutality.
   c. **High-Incidence States:** Uttar Pradesh, Maharashtra, West Bengal, and Tamil Nadu saw the highest number of custodial deaths.
3. **Disproportionate Impact on Dalits**
   a. **Tamil Nadu Case:** Dalits formed 32.4% of custodial death victims in Tamil Nadu in 2021, while they make up only 20% of the state's population.
   b. **National Trend:** Tamil Nadu accounted for 12.2% of the country's SC population in detention as of 2021, despite forming just 5.4% of India's total population.
4. **Human Rights Violations**
   a. Between **2017** and **2022**, a total of **74 cases** were filed against police personnel in India for human rights violations, including illegal detention, custodial deaths, and torture or causing injury.
   b. Out of these, **41 officers** were **charge-sheeted**, but only **3** were ultimately convicted.
   c. Despite clear evidence in several cases, no convictions of police personnel occurred.
5. **Data Sources**
   a. **NCRB, Parliament Questions & Answers**, and **Census 2011** are used for statistical backing.

Challenges and Way Forward

Challenges	Way Forward
No police convictions in custodial deaths cases	Establish **independent oversight** and fast-track courts for custodial death cases.
Underreporting and misclassification of deaths	Mandate **transparent post-mortem** and third-party forensic investigations.
Judicial delays and lack of proactive inquiry	**Strengthen judicial accountability** and timelines for inquiry completion.
Disproportionate targeting of Dalits and other marginalized groups	Enforce **anti-discrimination laws** and implement SC/ST (Prevention of Atrocities) Act strictly
Lack of police accountability and protection by internal mechanisms	Set up **police complaints authorities** at state and district levels as per SC guidelines

11. Rethinking Consent Under POCSO

Why in the News?

1. The Supreme Court is hearing a petition regarding the **decriminalisation of consensual sexual relationships** between **adolescents aged 16 to 18** under the **POCSO Act, 2012.**

Polity

2. Senior Advocate Indira Jaising, acting as **amicus curiae** (friend of the court), has recommended an exemption in the law for such cases, arguing that the current framework criminalises normal adolescent behaviour.

I.R.

Key Highlights

1. **Current Legal Framework**
   a. The **POCSO Act** defines anyone **under 18** as a **child**; hence, **sexual activity** with them is considered statutory **assault**, **regardless of consent.**

Security

   b. The BNS and IPC provisions impose strict penalties, especially under Section 6 of POCSO.
   c. **Section 6 of the POCSO Act- Punishment for Aggravated Penetrative Sexual Assault**
      i. **Minimum punishment**: **20 years imprisonment**, which **may extend to life imprisonment**

Economy

      ii. **Fine**: Also liable to pay fine
      iii. This applies to cases where the assault is committed by a **person in a position of trust** (e.g., police, teacher), or if the child is under 12 years, or if the assault causes grievous injury, pregnancy, or death.

Science

   d. **Section 4 of the POCSO Act – Penetrative Sexual Assault**
      i. **Minimum punishment**: **10 years imprisonment**, extendable to **life imprisonment**

Click Here for INDEX

Geography

      ii. **Fine**: Mandatory fine imposed
      iii. Applies in general cases where sexual intercourse or similar acts are committed with a child.

Society

2. **Indira Jaising's Submission**
   a. Proposed that **consensual sex** between adolescents **aged 16–18** should not be treated as sexual abuse.
   b. Suggested reading an **exception into POCSO** and **Section 63 of the BNS** to prevent misuse.

History

3. **Law Commission's 2023 Report**
   a. **Opposed** changing the age of consent from 18.
   b. **Recommended** using **judicial discretion** while sentencing in cases involving consensual adolescent relationships.

Ethics

4. **Judicial Observations**
   a. Madras High Court **(Vijayalakshmi vs State Rep, 2021)** suggested **allowing exceptions** where the **age gap is within five years.**
   b. Emphasised protecting impressionable adolescents while avoiding unnecessary criminalisation.
5. **Concerns About Misuse**
   a. Increasing cases where consensual teenage relationships lead to criminal prosecution.
   b. Rights activists fear that strict enforcement may harm rather than protect adolescents.

P.i.N.

Implications

1. **Legal Reform and Clarification:** May lead to flexible POCSO provisions for consensual adolescent relationships and clearer interpretation of BNS.
2. **Balance Between Protection and Autonomy:** Ensures laws target exploitation without criminalizing consensual teenage relationships.
3. **Judicial Empowerment:** Allows courts to use discretion based on context, avoiding rigid penalties.
4. **Policy and Education Initiatives:** Promotes legal awareness and education on consent, autonomy, and consequences.
5. **Societal and Cultural Shift:** Encourages open, informed dialogue on adolescent sexuality, challenging rigid norms.

Challenges and Way Forward

Challenges	Way Forward
Blanket criminalisation of consensual adolescent sex	Insert **judicially guided exceptions** into POCSO and BNS
Conservative societal attitudes toward adolescent relationships	Sensitise public and lawmakers through **awareness** and debate
Misuse of laws by families to punish inter-caste/inter-religious relationships	Enforce safeguards against misuse, such as by **setting limits on the age difference between adolescents in a relationship.**
Lack of legal literacy among youth	Integrate **legal education in school curricula**
Risk of **weakening protection** for truly vulnerable children	Create **clear guidelines** to distinguish consensual from exploitative cases

INTERNATIONAL RELATIONS

1. Indus Waters Treaty Under Climate and Security Stress

Why in the News?

1. In **April 2025**, India **suspended** its obligations under the **Indus Waters Treaty** following the **Pahalgam terror attack**, citing national security concerns and invoking **Article XII** to propose modifications.
2. As of **July 2025,** the treaty is under **renewed scrutiny** due to **climate change**, Pakistan's objections to Indian hydropower projects, and broader Indo-Pakistani tensions.

Key Highlights

1. **Background of Indus Water Treaty (IWT)**
   a. It was **signed** in **1960** between **India (Jawaharlal Nehru)** and **Pakistan (Ayub Khan)** and was mediated by the **World bank.**
   b. Initially, India did not want the involvement of the World Bank, but it became inevitable eventually when the basin required infrastructure.
   c. It required building and linking of canals, all of which required funds, thus involving the World Bank.
2. **About IWT**
   a. **Water Usage Rights:**
      i. **Eastern Rivers** for **India's** unrestricted use **(Ravi, Sutlej and Beas)**
      ii. **Western Rivers** for **Pakistan (Indus, Jhelum and Chenab)**
      iii. **India** is, however, allowed to use **western rivers** for some **specific purposes** like domestic use, non-consumptive use (like navigation or fishing), agriculture use or generation of hydro-electric power.
   b. **Implementation:** Both countries must appoint **permanent Indus Water Commissioners**, who will act as the primary channel of communication for all matters related to the Treaty's implementation.
   c. **Dispute Resolution Mechanism (Three-Tiered Structure):**
      i. **Permanent Indus Commission (PIC):** Handles issues related to the interpretation or application of the Treaty, or any facts that may indicate a possible breach.
      ii. **Neutral Expert:** Engaged for resolving technical disputes when the PIC fails to reach an agreement. The Neutral Expert is appointed either jointly by India and Pakistan or by the World Bank.
      iii. **Court of Arbitration:** A seven-member tribunal constituted to adjudicate legal disputes if previous mechanisms fail to resolve the issue.
   d. Despite this structured mechanism, recent disputes, like over the **Kishanganga and Ratle projects,** have led to prolonged legal tussles, highlighting procedural delays.
3. **Pakistan's Strategic Use of the Treaty**
   a. Often projects itself as a "**victim**" and uses legal channels to delay Indian projects.
   b. Fails to **fulfil reciprocal obligations** like timely dispute resolution and annual talks.
   c. Leverages **international sympathy** to halt India's developmental plans.
4. **Impact of Climate Change**
   a. **Shifting Water Patterns** Climate change has altered river flow, timing, and volume due to glacial melt and erratic rainfall.
   b. **Rising Demand** Population growth and expanding agriculture have pushed water needs far beyond 1960s assumptions.
   c. **Evolving Landscape** Urbanisation and deforestation are reshaping river courses, flood risks, and water availability.
   d. **Urgency for Renegotiation** Treaty terms must be updated using current scientific data to ensure equitable sharing amid changing conditions.

Click Here for INDEX

Polity
I.R.
Security
Economy
Science
Geography
Society
History
Ethics
P.i.N.

5. **Indus Treaty on Pause**
   a. **Treaty Freeze** India-Pakistan meetings and data-sharing have halted since 2023.
   b. **Underused Water Rights** India uses **only 0.7–0.8 MAF of its 3.6 MAF** storage rights on western rivers.
   c. **Untapped Hydropower** Only **4,000 MW of 20,000 MW** potential developed; clean energy opportunity missed.
   d. Modern hydrology and climate science must guide treaty revisions, not outdated 1960s data.

Impact on Indian Economy

1. **Water Security & Agriculture** Eastern rivers aid irrigation in key states, ensuring food security and stable rural economies, while reducing monsoon dependence.
2. **Hydropower & Energy** Projects on western rivers promote renewables, lower fossil fuel use, and attract green infrastructure investment.
3. **Strategic & Security Leverage** Treaty suspension signals assertiveness, boosts India's bargaining position, and ties water policy to national security.
4. **Climate & Infrastructure** Demands climate-proof water infrastructure, fosters innovation in agri-tech, and encourages PPPs in water management.
5. **Diplomacy & Global Image** Treaty stability strengthens India's role in water diplomacy; suspension may impact its image but opens space for new regional cooperation.

Click Here for INDEX

Challenges and Way Forward

Challenges	Way Forward
Outdated treaty provisions (pre-climate era)	Propose a **revised framework** incorporating climate data and groundwater use
Legal rigidity and lack of exit clause	Explore **diplomatic renegotiation** under Article XII with World Bank facilitation
Pakistan's **objections** to Indian projects	Enhance **transparency**, third-party audits, and **joint technical reviews**
Geopolitical tensions and terror linkages	Link **water diplomacy** with broader **security** and **counter-terrorism frameworks**
Ecological degradation and river health	**Integrate environmental flows**, biodiversity metrics, and basin-wide conservation

2. Global Remilitarisation and Its Human Costs

Why in the News?

1. At the June 2025 summit, NATO pledged to raise defence spending to **5% of member nations' GDP by 2035**, up from the previous **2% target**.
2. The decision follows a sharp **surge in global military spending**, driven by conflicts such as **Russia-Ukraine**, **Israel-Iran**, and **India-Pakistan** tensions.
3. Experts warn that increased military expenditure may **divert funds from critical areas** like healthcare, poverty reduction, climate change, and the UN's peacekeeping efforts.

Key Highlights

1. **Historical Trajectory of Military Expenditures**
   a. **Historical Comparisons:**
      i. **1960 (Cold War peak):** Military spending was **6.1% of world GDP**.
      ii. **1998 (Post-Cold War low):** Spending dropped to **2.1%**, around **$1,100 billion**.
      iii. **Recent trend:** From **2.3% in 2015** to **2.5% in 2024**, indicating a steady rise.
   b. **Record Spending in 2024:**
      i. Global military spending in 2024 was **$2,718 billion**.
      ii. This marked a **9.4% year-on-year increase**, the **highest since 1988**.
      iii. Major contributors: **Russia-Ukraine war** and **Israel-Gaza conflict**.
   c. **Outlook for 2025 and Beyond:**
      i. Further increase expected due to new conflicts in **India-Pakistan** and **Israel-Iran**.
      ii. **NATO's decision** to raise spending to **5% of GDP** will fuel additional global military expenditure.

2. **Top Military Spenders**
   a. **By Country:** USA > China > Russia > Germany > India.
   b. **By GDP %:** Saudi Arabia > Poland > USA
3. **NATO's Role**
   a. **Combined Spending:** NATO's 32 members accounted for **55% of global defence spending ($1.5 trillion)**.
   b. **New Target:** Raise defence spending to **5% of GDP by 2035**.
   c. **Internal Dissent:** Some NATO members, like **Spain**, criticized the target as "unreasonable."
   d. NATO's justification for more spending is to counter Russia, but:
      i. Russia's economy is 25 times smaller, and
      ii. Military spending is 10 times lower than NATO's.
   e. This indicates a **fear-based narrative** driving **global remilitarisation.**

Impact on India

1. **Surge in Defence Spending** Post-Operation Sindoor, India approved **₹50,000 crore for emergency defence** buys, on top of the ₹6.81 lakh crore annual budget.
2. **Health vs Defence Imbalance**

a. Ayushman Bharat got only **₹7,200 crore** for 58 crore people.

b. Defence gets 2.3% of GDP, while public health gets just 1.84%, below India's 2.5% target and far below developed nations' 10% average.

3. **Impact on Social Sectors** Growing militarisation may reduce funding for health, education, and welfare due to the crowding-out effect.
4. **Global Lessons:** Over-spending on defence harms poorer nations:
   a. Lebanon: 29% of GDP
   b. Ukraine: 34% of GDP

What is NATO?

1. **NATO** stands for the **North Atlantic Treaty Organization**.
2. It is a **political and military alliance** formed in **1949** to promote **collective defence** and ensure peace and stability among member countries.
3. Members: Began with 12 countries. As of 2025, it has 32 member countries from North America and Europe.
4. **Headquarters: Brussels,** Belgium.

Challenges and Way Forward

Challenges	Way Forward
UN lacks funds for peace and aid work	Rich countries should contribute fair share and **resume foreign aid**
Poor countries suffer more from high military costs	Make **global rules** to protect public services during conflict
Military spending increases pollution	Include **military emissions in climate plans** and reduce them
Huge defence budgets vs. underfunded SDGs	Use a small part of military funds to fight poverty and improve lives

3. China Eyes Border Reset, Calls for Talks

Why in the News?

1. China said that the **border dispute with India is complicated** and not easy to solve.
2. It also said that it is **ready to hold talks** on clearly marking the border (delimitation).
3. This comes as both countries are making **fresh efforts to reduce tension along the Line of Actual Control (LAC)**.

Key Highlights

1. **China Acknowledges Complexity:** Admitted that boundary resolution will need structured, long-term, phased negotiations.
2. **Readiness for Delimitation:** China agreed to talk on **LAC delimitation**, stressing peace along the border during the process.
3. **India's Diplomatic Stand:** India reiterated sovereignty and status quo, seeking peaceful talks under existing agreements.

Polity I.R. Security Economy Science Geography Society History Ethics P.i.N.
Click Here for INDEX

Polity

4. **Past Mechanisms & Agreements:** Both countries had earlier set up the **Special Representatives (SR) mechanism** for boundary discussions. Reference made to the **2005 Agreement on Political Parameters and Guiding Principles** for boundary settlement.

I.R.

5. **SCO Context:** Talks occurred on the sidelines of the **SCO Defence Ministers' meet**, using the multilateral setting for bilateral engagement.

India- China Relations

Security

Year	Event / Development
1950	India becomes the **first non-Communist country** to recognize the **People's Republic of China (PRC)**.
1954	Signing of the **Panchsheel Agreement** (Five Principles of Peaceful Coexistence).
1962	**Sino-Indian War**: China occupied Aksai Chin; defeat for India; diplomatic freeze begins.
1988	PM **Rajiv Gandhi's visit to China**; beginning of normalization and border dialogue.
1993	Agreement on **Peace and Tranquility along the LAC** signed.
2001	China became a **founding member of the SCO**.
2005	Agreement on **Political Parameters and Guiding Principles for Border Settlement**. India joins SCO as an **observer state**.
2006	Reopening of **Nathu La pass** for trade
2014	PM **Narendra Modi's visit to China**; economic agreements signed.
2015	China begins pushing its **Belt and Road Initiative (BRI)**; India **refuses to join**, citing sovereignty issues (especially **China-Pakistan Economic Corridor (CPEC)**).
2017	**India** became a **full member of SCO. Doklam Standoff** near Bhutan tri-junction; face-off lasts 73 days.
2018	**Wuhan Informal Summit** between Modi and Xi Jinping to reset ties post-Doklam.
2019	Second Informal Summit held in **Mamallapuram, Tamil Nadu**.
2020	Violent **Galwan Valley clash**: 20 Indian soldiers martyred; first fatalities in 45 years.
2021	China passes a new **Land Border Law** asserting control over disputed areas.
2022	Clash in Arunachal Pradesh's Tawang region India joins **SCO and BRICS summits virtually** amid LAC tensions.
2023	India hosts **SCO summit** in virtual mode; keeps China participation low-profile.
2025	China says it's **open to delimitation talks**, calls the issue "complicated" but manageable.

Economy

Science

Click Here for INDEX

Geography

Society

History

Ethics

P.i.N.

Implications for India

1. **Diplomatic Engagement:** Maintains open communication, lowers escalation risk, and encourages peaceful resolution.
2. **Border Management:** Delimitation talks could stabilize the LAC and prevent clashes like Galwan or Doklam.
3. **Regional Stability:** Progress may boost India's regional influence and align with SCO's security goals.
4. **Strategic Calculations:** India must balance dialogue with firmness, staying alert to China's real intentions.
5. **Military Preparedness:** Vigilance is key; border infrastructure and defence readiness must continue alongside talks.

About Shanghai Cooperation Organization (SCO)

1. **Establishment**
   a. Founded in **2001** in **Shanghai**, China.
   b. It evolved from the **"Shanghai Five"** grouping (Kazakhstan, China, Kyrgyzstan, Russia, Tajikistan) formed in 1996.
   c. **Uzbekistan joined in 2001**, leading to the formal creation of SCO.
2. **Members**
   a. **Full Members**: China, India, Kazakhstan, Kyrgyzstan, Russia, Pakistan, Tajikistan, Iran, and Uzbekistan.
   b. **Observer States**: Afghanistan, Belarus, Mongolia.

c. **Dialogue Partners**: Armenia, Azerbaijan, Cambodia, Egypt, Nepal, Qatar, Saudi Arabia, Sri Lanka, Turkey.

3. **Objectives**
   a. Strengthen ties among member states.
   b. Promote cooperation in political, economic, cultural, educational, and technological fields.
   c. Ensure **regional peace, security, and stability**.
   d. Work towards a **democratic and balanced international order**.
4. **Core Values: Shanghai Spirit**
   a. Mutual trust and respect, Equality, Consultation, Respect for cultural diversity and Pursuit of common development.
5. **Official Languages**

a. **Russian and Chinese** are the working languages of the SCO Secretariat.

Organizational Structure

1. **Council of Heads of State:** The highest decision-making body. It meets annually to define strategic directions.
2. **Council of Heads of Government:** Focuses on **multilateral cooperation** in economy, trade, and development. It holds annual summits.
3. **Council of Foreign Ministers:** Coordinates foreign policy and prepares the agenda for the Head of State meetings.
4. **Council of National Coordinators:** Manages day-to-day activities and ensures implementation of decisions.
5. **Secretariat:** Administrative body based in **Beijing**. It is headed by a **Secretary-General** approved by the Council of Heads of State.
6. **Regional Anti-Terrorist Structure (RATS)** Headquartered in **Tashkent, Uzbekistan**. It coordinates efforts against **terrorism, separatism, and extremism**.
7. **SCO Business Council:** Enhances economic cooperation and private sector engagement.
8. **SCO Interbank Consortium:** Promotes financial coordination and development funding among member countries.

Significance of SCO

1. **Geopolitical Reach:** Covers **40% of global population**, **22% of the world's landmass**, and nearly **20% of global GDP**.
2. **Regional Security and Stability:** Acts as a **regional defensive wall against terrorism**, drug trafficking, and organized crime and conducts **"Peace Mission" military drills** to enhance cooperation.
3. **Connectivity and Integration:** Supports initiatives in **transport, energy, and digital connectivity** and can help India deepen **regional integration with Central Asia**.
4. **Counter to Western Alliances:** Often viewed as an **Asian alternative to NATO.**

SCO and India

1. **Importance for India**
   a. **Counter-Terrorism Cooperation:** Shared platform to counter **cross-border terrorism**, especially relevant given India's security concerns with Pakistan.
   b. **Regional Stability:** Gives India a voice in regional peace efforts and access to Central Asian diplomatic engagements.
   c. **Connectivity and Energy Access:** Offers a route for India's **Connect Central Asia policy** and potential energy partnerships.
   d. **Economic Opportunities:** Expands India's access to **markets, investment**, and **infrastructure projects** in the region.
   e. **Multilateral Diplomacy:** A valuable platform for India to **balance relations with China and Russia** while asserting its own interests.
2. **Challenges for India**
   a. **Balancing Rivalries:** Navigating tensions with **China and Pakistan** while maintaining SCO engagement.
   b. **Strategic Autonomy:** India must balance its **non-alignment policy** with SCO's increasing China-Russia orientation.
   c. **Sovereignty Issues:** India opposes **BRI**, especially the **China-Pakistan Economic Corridor (CPEC)**, while all other SCO members support BRI.

d. **Low Economic ties:**India's trade with Central Asia and Russia is **much lower than China's** in the region.

e. **Security Tensions:** Cooperation with Pakistan and Afghanistan on **counter-terrorism** remains difficult.

3. **India's Role and Opportunities**

a. **SCO Presidency**: India hosted the **SCO Summit in 2023**, showcasing leadership on issues like connectivity, reform, and counter-terrorism.

b. **Currency Push**: Promote **trade in national currencies** to reduce dependency on USD and boost regional economic autonomy.

c. **Asian Century Goals**: Use SCO to build deeper trade and cultural ties across Asia.

d. **Tourism & Cultural Diplomacy**: Leverage **shared cultural heritage** to promote people-to-people connections.

e. **Constructive Dialogue**: Continue engaging diplomatically while protecting national interests.

Challenges and Way Forward

Click Here for INDEX

Challenges	Way Forward
Trust deficit post-Galwan clash	**Confidence-building measures** and open communication
Lack of clarity on LAC in several sectors	Technical talks on **delimitation and demarcation**
China's assertive posturing in the region	**Strengthen ties** with other QUAD and Indo-Pacific nations
Prolonged negotiation history	Set **clear timelines and milestones** for dialogue
Risk of local flare-ups	Maintain **strong military readiness and surveillance**

4. China's New Trilateral Moves in South Asia

Why in the News?

1. China held a **trilateral meeting** with **Pakistan and Bangladesh** in **Kunming, China.**
2. A similar meeting between **China, Pakistan, and Afghanistan** was held in May 2025, aiming to extend the **China-Pakistan Economic Corridor (CPEC).**
3. China is trying to make **Pakistan more important in South Asia** again, especially as India becomes stronger and builds better ties with Afghanistan.
4. These **trilaterals seem to be part of China's plan** to keep India busy with nearby problems while it pushes its own projects like the **Belt and Road Initiative (BRI).**

Chronology of the Events

Year/Period	Event
1962	India-China war; start of China-Pakistan strategic alliance to counter India.
1965	Pakistan considers using East Pakistan, China, and Nepal to cut India off at Siliguri.
2016	Pakistan-backed terror attack in Uri; India responds with surgical strikes.
2019	Pulwama terror attack; India retaliates with Balakot air strikes.
2021	Taliban takeover in Afghanistan; shift in regional alignments.
2024 (end)	Pakistan's loan from China crosses $29 billion.
April 2025	Pahalgam terror attack (Pakistan-sponsored).
May 2025	India launches Operation Sindoor in retaliation; China criticizes India's response.
May 2025	China-Pakistan-Afghanistan trilateral meeting.
June 2025	China-Pakistan-Bangladesh trilateral meeting held in Kunming.

Key Highlights

1. **Past vs Present Tactics** In the 1960s, China and Pakistan used Nepal and East Pakistan to pressure India; now, they are engaging Afghanistan and Bangladesh similarly.
2. **China-Pakistan Alliance:** Strong ties since 1962. China supplies 80% of Pakistan's arms. Pakistan owes China over $29 billion.
3. **India's Response:** Strong retaliation to Uri, Pulwama, and Pahalgam attacks (e.g., Operation Sindoor). Suspended Indus Treaty, halted trade, blocked port access, targeted military assets.

4. **Handling China:** Firm actions in Doklam (2017) and Galwan (2020). Strengthened global partnerships to counter China.
5. **China in South Asia:** Trying to influence Maldives, Nepal, Sri Lanka, and Bangladesh, but facing setbacks.
6. **India's Regional Diplomacy**
   a. **Maldives**: Tilted back to India
   b. **Nepal**: BRI slowed
   c. **Sri Lanka**: Pro-India gesture by President
   d. **Bangladesh**: Cooperation on energy continued despite tensions
7. **Pakistan's Ambitions:** With Chinese backing, Pakistan is re-engaging Afghanistan and Bangladesh, raising regional security concerns

Challenges and Way Forward

Challenges	Way Forward
1. **China's strategic encirclement** through trilateral meetings	**Strengthen regional alliances** like BIMSTEC, IORA, and boost defense ties with key neighbors
2. **Pakistan's renewed role** with Chinese backing in South Asia	Continue **diplomatic isolation** of Pakistan and expose its terror links globally
3. **Growing Chinese economic influence** via CPEC and BRI	Promote **India's own infrastructure initiatives** like IMEC and offer credible alternatives to BRI
4. **Strained India-Bangladesh ties** exploited by China	**Address bilateral concerns** with Bangladesh through dialogue, trade, and energy cooperation
5. **Risk of increased terror and military pressure** in Kashmir and beyond	Enhance **border security, intelligence sharing, and adopt a zero-tolerance policy** towards terrorism
6. **Weakening of India-led regional forums (e.g., SAARC)**	Reinvigorate regional groupings with inclusive development agendas and **faster project delivery**

5. 17th BRICS Summit 2025

Polity

Why in the News?

1. The **17th BRICS Summit** was held on **6–7 July 2025** in **Rio de Janeiro, Brazil**.
2. The theme was **"Strengthening Global South Cooperation for a More Inclusive and Sustainable Governance."**
3. This summit ended with the **'Rio de Janeiro Declaration'** and marked a turning point towards **expansion, reform, and stronger unity** among developing countries.

Key Highlights

1. **Expansion of BRICS:**
   a. **Indonesia** officially joined BRICS as a full member.
   b. **11 new partner countries** were welcomed: Belarus, Bolivia, Kazakhstan, Cuba, Nigeria, Malaysia, Thailand, Vietnam, Uganda, and Uzbekistan.
   c. With earlier members like Iran, Saudi Arabia, and UAE, BRICS now represents **45% of the global population** and **44% of global oil production**.
2. **India's Role:**
   a. India will host the **18th BRICS Summit in 2026**.
   b. The Prime Minister of India introduced a **new vision of BRICS: Building Resilience and Innovation for Cooperation and Sustainability.**
   c. India emerged as a strong voice for issues like **climate finance, digital governance, de-dollarisation**, and **institutional reform**.
3. **Global Governance and Peace:**
   a. BRICS supported **expansion of the UN Security Council** to include more countries from Asia, Africa, and Latin America.
   b. Called for reforms in the **IMF, World Bank**, and **WTO**.
   c. Demanded a **ceasefire in Gaza**, supported a **two-state solution**, and condemned the **Pahalgam terror attack** in India.
   d. Rejected linking **climate change with security threats**.

I.R. Security Economy Science Geography Society History Ethics P.i.N.

Click Here for INDEX

Polity
I.R.
Security
Economy
Science
Geography
Society
History
Ethics
P.i.N.

4. **Economic and Financial Cooperation:**
   a. BRICS launched the **BRICS Multilateral Guarantee (BMG)** to support infrastructure and climate investments.
   b. Discussed **Cross-Border Payments Initiative** to reduce reliance on the US dollar.
   c. Reviewed Strategy for **BRICS Economic Partnership 2025** and welcomed the new Strategy for 2030.
5. **Climate and Sustainability:**
   a. Adopted the **Leaders' Framework Declaration on Climate Finance**.
   b. Signed an MoU on the **BRICS Carbon Markets Partnership**.
   c. Supported the **Paris Agreement** and **UNFCCC**.
   d. Welcomed Brazil's hosting of **COP-30** and supported India's bid for **COP-33 (2028)**.
6. **Technology and Innovation:**
   a. Adopted **Leaders' Statement on Global Governance of AI**.
   b. Agreed on **Data Economy Governance Understanding**.
   c. Formed the **BRICS Space Council** for joint space missions.
7. **Health and Social Development:**
   a. Launched **BRICS Partnership for the Elimination of Socially Determined Diseases** (starting with Tuberculosis).
   b. Focused on **youth empowerment, women's rights, disability inclusion**, and **migration management**.
8. **India-China Relations:**
   a. The **Prime Minister of India** and the **President of China** agreed to **de-escalate tensions along the LAC** and resume **border patrols**, which may help **restore investor confidence**.
9. **US Opposition:**
   a. The US warned of **tariffs** on countries that support BRICS' "anti-American" stance.
   b. India clarified that it does **not oppose the US dollar**, but explores **alternative settlement systems** for practical reasons.
   c. India also refused to trade oil with Russia in **Chinese yuan**, resisting China's growing monetary influence.

Click Here for INDEX

About BRICS

Aspect	Details
About	BRICS is a group of major emerging economies Brazil, Russia, India, China, and South Africa. The acronym **'BRIC'** was coined by British economist **Jim O'Neill** in **2001** to describe fast-growing economies. Started functioning as a formal group during the **G-8 Outreach Summit in 2006**. First summit held in **Russia in 2009**. South Africa joined in **2010**, turning **BRIC into BRICS**.
Current Members	Brazil, Russia, India, China, South Africa, Iran, UAE, Egypt, Ethiopia, and Indonesia (joined in 2025). **Saudi Arabia** has not yet formalised its membership. **Argentina** opted out in 2024.
Significance	1. **45%** of world's population 2. **37.3%** of global GDP (more than EU's 14.5% and G7's 29.3%)
Major BRICS Initiatives	1. **New Development Bank (NDB)**: established in 2014 for infrastructure funding. 2. **Contingent Reserve Arrangement (CRA)**: for financial stability. 3. **BRICS Grain Exchange** for food security. 4. **BRICS Rapid Information Security Channel**: for cyber threat response.- **STI Framework Programme (2015)** – to promote science, technology, and innovation.

Challenges and Way Forward

Challenges	Way Forward
1. Lack of **permanent secretariat** and **structured decision-making.**	Set up a **BRICS permanent secretariat** and adopt **weighted voting** on economic matters.

2. Geopolitical contradictions among members (e.g., Iran vs. UAE, China vs. India).	Create **clear membership criteria** and **issue-based cooperation** to avoid internal deadlock.
3. Weakening BRICS economies (China's slowdown, Russia's war-linked decline).	Focus on **economic diversification** and support **small economies** within BRICS.
4. Intra-BRICS trade is still very **low** (just 2.2% in 2022).	Establish a **BRICS+ Free Trade Agreement** to boost internal trade.
5. BRICS+ holds **only 19% voting power** in global financial institutions.	Push for **voting reform** in the IMF, World Bank, and WTO.
6. Slow progress in **de-dollarisation** and **no consensus on BRICS currency.**	Expand **bilateral currency agreements** and build **cross-border digital payment systems.**
7. Limited lending capacity of the New Development Bank.	Launch a **BRICS+ Development Bank 2.0** with more funding and partnerships with other regional banks.
8. Low visibility of **BRICS' soft power** and **cultural unity**	Set up **BRICS University Network**, promote **student exchanges**, and offer **visa-free travel blocs.**

6. BRICS vs Europe's CBAM

Why in the News?

1. **BRICS nations** have strongly **condemned Europe's Carbon Border Adjustment Mechanism (CBAM)**, calling it **discriminatory and protectionist**.
2. The group urged developed countries to **urgently increase their financial contribution to climate adaptation**, at least **doubling the 2019 levels by 2025**.
3. The **BRICS summit in Brazil** included, for the first time, a **separate declaration focused on climate finance**.
4. The group also stressed the need to uphold **international law** and **trade principles** under the **UNFCCC (United Nations Framework Convention on Climate Change) framework**.

Key Highlights

1. **What is CBAM?**
   a. **CBAM** is an **import duty** imposed by the **European Union** on goods with a **higher carbon footprint** than **EU norms**.
   b. It is designed to prevent **'carbon leakage'**:
      i. **Carbon leakage** means companies move their factories to countries where **climate rules are not strict**.
      ii. This helps them **avoid spending money on reducing pollution**.
      iii. **CBAM** tries to stop this by making such imports **more expensive**.
   c. It affects **carbon-intensive products** like **steel, cement, aluminum**, etc.
   d. **Developing countries** argue it **reduces competitiveness** of their exports to Europe.
2. **BRICS Opposition to CBAM**
   a. **BRICS condemned CBAM** as a "**unilateral, punitive, and discriminatory**" measure taken under the pretext of climate action.
   b. They argued it **violates principles of equity** and **international law**.
   c. Such policies are said to **distort global trade and supply chains**.
   d. They pose obstacles to **clean energy transitions** in developing countries.
3. **Violation of UNFCCC Principles**
   a. BRICS cited **Article 3(5) of the UNFCCC**, which states that **climate measures must not become a form of unjustified trade restriction**.
   b. The declaration said **CBAMs and restrictions on forest goods trade violate UNFCCC provisions** and other **climate agreements**.
   c. BRICS demanded **full implementation of UNFCCC provisions**, particularly those that ensure **trade fairness**.

Polity I.R. Security Economy Science Click Here for INDEX Geography Society History Ethics P.i.N.

4. **Impact on Developing Countries**
   a. **CBAMs and similar policies** risk **diverting away critical resources** needed for clean energy transitions.
   b. BRICS argued that such **trade measures hurt their ability** to invest in **infrastructure** and **sustainable growth**.
   c. **Economic sanctions and restrictions** can weaken developing countries' **capacity to tackle climate change**.
5. **Demands on Climate Finance**
   a. BRICS emphasized the **urgent need to increase climate finance** from developed to developing countries.
   b. Developed countries must at least **double the 2019 levels of adaptation finance by 2025**.
   c. Adaptation finance must be **concessional** (low-interest loans or **grants**), **predictable**, and **accessible to local communities**.
   d. The group emphasized that **finance must not worsen the debt burden** of poorer countries.

Click Here for INDEX

About UNFCCC

1. **Origin and Background**
   a. Adopted at the **1992 Earth Summit** in **Rio de Janeiro** (also called the **Rio Summit** or **Rio Conference**).
   b. Entered into force on **March 21, 1994**.
   c. Has **near-universal membership** with **197 Parties**.
   d. Serves as the **parent treaty to the 2015 Paris Agreement**.
   e. Secretariat was originally in **Geneva**; relocated to **Bonn, Germany** in **1996**.
2. **Objective (Article 2)**
   a. To **stabilize greenhouse gas (GHG) concentrations** at a level that prevents **dangerous anthropogenic interference** with the climate system.
   b. This stabilization should allow **ecosystems to adapt naturally**, ensure **food production is not threatened** and enable **sustainable economic development**.
3. **Institutional Arrangements**
   a. **Conference of the Parties (COP):** Defined in **Article 7.2** as the "**supreme body**" of the Convention. Holds **annual sessions** to review implementation and adopt decisions.
   b. **COP President and Bureau: Presidency rotates** among five **UN regional groups**. The president is usually the **environment minister of the host country**. The Bureau supports the COP and ensures **continuity between sessions**.
   c. **Subsidiary Bodies (SBs): Two permanent bodies:**
      i. **SBSTA (Article 9)**: Provides **scientific and technological advice**.
      ii. **SBI (Article 10)**: **Assesses and reviews implementation effectiveness**.
   d. **The Secretariat:** Also known as the **Climate Change Secretariat**. Ir provides **administrative and logistical support** to COP, SBs, and other bodies.
   e. **Other Bodies:** COP can establish **ad hoc or permanent bodies** for specific tasks. Example: **COP 1** created two **ad hoc negotiating groups**. **COP 11** launched the "**Dialogue**" for strategic long-term cooperation.

Implications for India

1. **Trade and Economic Impact:** CBAM may affect exports like steel and cement, pushing industries toward costly green technologies and climate-aligned trade strategies.
2. **Diplomatic Leverage:** India can rally BRICS and Global South allies to oppose unilateral climate measures and promote equitable global policies.
3. **Financial Support for Transition:** India needs substantial grants and public finance—not just loans—for clean energy and adaptation efforts.
4. **Climate Justice and Equity:** Despite low past emissions, India faces high risk—fair finance, tech access, and equal focus on adaptation are critical.
5. **Policy Integration and Readiness:** India must align climate and trade policies, improve carbon accounting, and adopt global standards in environmental regulation.

Challenges and Way Forward

Challenges	Way Forward
CBAM reduces India's trade competitiveness	Upgrade manufacturing to **greener processes**; secure **climate finance**
Limited access to adaptation finance	Advocate for increased **concessional finance** at global platforms
Unfair global trade policies	Strengthen **Global South alliances**; use **WTO forums** strategically
Technology and infrastructure gaps	Promote **R&D** and invest in **resilient infrastructure**
Risk of increased debt burden	Focus on **grants**, not just loans; improve **access to climate funds**

7. South China Sea

Why in the News?

1. The U.S. Pacific Fleet Commander stated that China's aggressive actions have not succeeded in intimidating smaller Southeast Asian nations in the South China Sea.
2. The statement coincides with the 9th anniversary of the **2016 international arbitration ruling**, which declared China's claims in the South China Sea invalid.
3. The forum saw participation from countries like the U.S., Canada, Australia, Japan, etc., reaffirming support for **freedom of navigation** and **international law**.

Key Highlights

1. China is using **aggressive tactics** like **ramming ships, water cannons, lasers,** and **blocking access** to scare Southeast Asian nations.
2. United States Pacific Fleet Commander said the **U.S. Pacific Fleet is ready** to work with allies to stop aggression and keep peace.
3. Despite China's pressure, countries like **Indonesia, Malaysia, Vietnam, and the Philippines** have continued oil and gas work in their own sea zones.
4. The **Philippines has exposed Chinese actions** like water cannon attacks and laser beams used on their ships.
5. **Southeast Asian countries are building stronger naval forces** to protect their maritime rights.
6. The U.S. and other countries said they **support the 2016 ruling** that rejected China's claim over most of the South China Sea.
7. The **Philippines and China** will soon hold new talks in Beijing to reduce tensions.

South China Sea

1. The **South China Sea** is part of the **western Pacific Ocean** and borders many Southeast Asian countries.
2. It covers around **3.6 million square kilometres** and has an average depth of **1,212 metres**.
3. It is surrounded by **Taiwan, the Philippines, Borneo, the Malay Peninsula, Vietnam, and China**.
4. The **China Sea Basin** is the deepest part, reaching **5,016 metres**.
5. Important geographical features include **reefs, islands, shoals**, and **continental shelves** like the **Sunda Shelf**.
6. The sea **connects with other oceans and seas** through straits like the **Taiwan Strait**, **Luzon Strait**, and **Strait of Malacca**.
7. **Monsoons** affect the water movement, with **southwest winds in summer** and **northeast winds in winter**.
8. Major rivers draining into the sea include the **Mekong River**, **Red River**, and **Pearl River**.
9. **Significance**
   a. The sea has **rich marine biodiversity**, supporting **fishing industries** that feed millions in Southeast Asia.
   b. The **sea is a major source of oil and natural gas**, making it important for energy needs.
   c. It holds **important trade routes** between the **Pacific and Indian Oceans**, especially through the **Strait of Malacca**.
   d. The area has **upwelling zones**, which bring **nutrient-rich water** to the surface, supporting commercial fishing.

e. The region has **strategic military and political value**, leading to frequent international interest and tension.

Implication

1. The South China Sea is a **very important waterway** used for global trade.
2. China claims most of this sea, but other countries have their own **Exclusive Economic Zones (EEZs)**.
3. The U.S. and its allies support **freedom of navigation** and the **rule of law** in the region.
4. The 2016 arbitration ruling gave **legal support** to smaller nations like the Philippines.
5. These efforts are important to **stop conflict** and ensure **safe and open seas** for all countries.

Challenges and Way Forward

Challenges	Way Forward
1. China's aggressive tactics (ramming, lasers, water cannons).	Strengthen naval cooperation among Southeast Asian nations and allies.
2. China ignoring the 2016 international ruling.	Increase global diplomatic support for the ruling.
3. Rising tensions between China and the Philippines.	Continue dialogue and talks to reduce conflict.
4. Weak maritime defense in smaller countries.	Invest in better naval and coast guard forces.
5. Risk of military clash in the region.	Use peaceful methods and international pressure to maintain stability.

Click Here for INDEX

8. India-Maldives Reset: From Strain to Strategy

Why in the News?

1. **Prime Minister Narendra Modi's** visit to **Maldives in July 2025**, to attend the **island nation's 60th Independence Day** celebrations in **Malé**, can help improve the **bilateral relations** between **India and Maldives.**
2. This comes especially after a **phase of strained ties** triggered by the **'India Out' campaign** and the subsequent Indian troop withdrawal in **May 2024**.
3. Several **bilateral agreements are expected** across sectors like trade, fisheries, renewable energy, and maritime security, deepening the recently revived **India-Maldives partnership**.

Key Highlights

1. **Shift in Bilateral Relations Since 2023 Elections**
   a. Mohamed Muizzu came to power in **September 2023** using the **'India Out' narrative** influenced by former President Abdulla Yameen.
   b. Relations began to thaw after PM Modi and President Muizzu met at the **UN COP-28 summit in December 2023**.
2. **Tensions in Early 2024**
   a. Diplomatic ties worsened after **Maldivian ministers made derogatory comments** about PM Modi's Lakshadweep visit.
   b. A **'Boycott Maldives' campaign** on Indian social media hurt Maldives' tourism-driven economy.
   c. Muizzu asserted national sovereignty post his **China visit in January 2024**, stating Maldives was not anyone's backyard.
3. **Withdrawal of Indian Troops by May 2024**
   a. Following Muizzu's demand, India **withdrew all military personnel** stationed in the Maldives by May, 2024.
   b. A compromise was reached by deploying **technical personnel instead of the military**.
4. **Improved Relations and Economic Support (Post-May 2024)**
   a. President Muizzu visited India in **October 2024.**
   b. India extended **a $750 million currency swap agreement** (till **2027**) to help Maldives manage its foreign exchange crisis.
   c. A **$50 million Treasury bill** was rolled over by India in **May 2025** to stabilize the Maldivian economy.

5. **PM Modi's 2025 Visit and Future Cooperation**
   a. **Flags** and **formal welcomes** indicate improved state reception.
   b. India and Maldives to sign agreements on **renewable energy, fisheries, digital infrastructure**, and formalize terms for a **Free Trade Agreement (FTA)**.
   c. The **India-Maldives Comprehensive Economic and Maritime Security Partnership** will act as a **guiding framework** for future bilateral engagement.

Implications

1. **Strategic Balancing in the Indian Ocean:** India reinforces its role as a regional security provider and counters China's expanding influence in the Maldives.
2. **Economic Stabilisation Support:** Indian financial assistance helps Maldives avoid crisis and strengthens trade ties to ease forex pressures.
3. **Boost to Tourism and Soft Diplomacy:** Improved ties revive Indian tourism and deepen cultural, health, and educational cooperation.
4. **Maritime and Defence Collaboration:** Retaining technical staff ensures continued naval presence and joint operations in surveillance and rescue.
5. **Diplomatic Signalling:** Showcases India's pragmatic, non-confrontational diplomacy, reinforcing its image as a dependable regional partner.

Challenges and Way Forward

Challenges	Way Forward
Political unpredictability in Maldivian domestic politics	Continue **high-level engagement across party lines** to build bipartisan trust
Rising Chinese influence and **debt diplomacy**	Enhance **connectivity, digital, and blue economy partnerships** with transparent terms
Nationalist rhetoric against foreign presence	Shift focus to **capacity-building projects and technical cooperation** instead of military footprint
Economic fragility of Maldives	Sustain **financial support with accountability** and expand private sector collaboration
Social media volatility affecting perceptions	Launch **joint public outreach and tourism promotion** to counter misinformation

9. India-UK Free Trade Agreement

Why in the News?

1. India and the United Kingdom have signed a historic **Free Trade Agreement (FTA)**.
   a. **FTA** is a deal between two countries to **reduce or remove taxes** on imports and exports.
2. The agreement gives **99% of Indian exports duty-free access** to the UK.
3. It will help **Indian farmers, manufacturers, exporters,** and **professionals** in many ways.

Key Highlights

1. **Duty-Free Exports:**
   a. 99% of Indian goods going to the UK will have **zero import tax**.
   b. Sectors like **textiles, jewellery, chemicals, spices, plastics, and tea** will benefit.
2. **Agriculture and Processed Food:**
   a. Over **95% of agricultural exports** like **mango pulp, pickles, spices,** and **pulses** will be duty-free.
   b. Sensitive products like **dairy, apples,** and **edible oils** are **protected**.
3. **Marine Products:**
   a. Items like **shrimp, tuna, and fishmeal** will face **zero tariffs**.
      i. Tariff is a tax that countries put on goods coming from other countries.
   b. This opens a **$5.4 billion opportunity** for India.

Polity I.R. Security Economy Science Click Here for INDEX Geography Society History Ethics P.i.N.

4. **Benefit for Labour-Intensive Sectors:**
   a. Sectors like **textiles, engineering goods, and processed foods** will benefit from duty-free access.
   b. These sectors earlier faced high tariffs of up to **70%.**
5. **UK Export Gains:**
   a. 90% of UK exports to India will face lower tariffs.
   b. 85% of them will become **completely duty-free within 10 years**.
   c. UK products like **aerospace, automobiles, and electrical goods** will benefit.
6. **Reduction in Tariffs on UK Items:**
   a. Spirits like whisky: Duty will fall from **150% to 40%** in **10 years.**
   b. Automobiles: Duty will fall from **110% to 10%** under a quota system.
7. **Growth in Key Indian Sectors:**
   a. Textiles and clothing will grow fast with duty-free access to **1,143 products.**
   b. Engineering goods exports to the **UK** may double by **2029-30.**
   c. Pharmaceuticals and medical devices will be more affordable in the UK.
   d. Chemical and plastic exports may grow **30-40% by 2025–26.**
   e. Toys and gems & jewellery exports may **double** in 2-3 years.
   f. The leather and footwear sector will benefit from removal of **16% tariffs.**
8. **Support for Indian Professionals**
   a. 75,000 Indians will **not need to pay UK social security** for 3 years.
   b. Indian companies can work in **36 UK sectors** without special tests.
   c. 1,800 Indian chefs, yoga teachers, and artists will be allowed every **year.**

Significances

1. **Trade Boost**: India–UK trade was $21.9 billion in 2024. The deal could add £25.5 billion in value in the coming years.
2. **More Jobs**: Duty-free access will increase production and exports, creating more jobs in India.
3. **Affordable Goods**: Consumers in both countries will get goods at lower prices.
4. **MSME Growth**: Sectors like leather, textiles, and toys have many small businesses that will benefit.
5. **Market Access**: Indian exporters will now compete better in the UK against countries like **Bangladesh, Cambodia, and China**.
6. **Cultural Exchange**: Movement of Indian professionals will spread Indian culture abroad.

Challenges and Way Forward

Challenges	Way Forward
1. The UK market is very competitive.	Indian exporters should **focus on quality, branding, and timely delivery.**
2. Some Indian farmers may fear competition.	Protect sensitive sectors and provide **support to local farmers**.
3. Tariff cuts may affect the Indian automobile industry.	Strengthen Indian auto-sector with **innovation and domestic support.**
4. Delay in implementation of rules.	Ensure **clear guidelines and regular monitoring** of the agreement.
5. The UK may push for more access to services and data.	India should **protect sensitive sectors** like digital and legal services.
6. Need for skill upgradation of Indian professionals.	Provide **training and international exposure** for Indian workers and companies.

SECURITY

1. Urban Maoism

Why in the News?

1. The **Maharashtra Legislative Assembly** passed the **Maharashtra Special Public Security Bill, 2025** to tackle unlawful activities linked to **Left-Wing Extremism**, including **Urban Maoism**.
2. The bill targets threats to internal security from groups trying to weaken constitutional institutions through subversive actions.
3. However, there are concerns about **vague language** in the bill and the risk of it being **misused against dissent and activism**.

Origin / Background

1. **Rise of Urban Maoism**
   a. **Urban Maoism** refers to the alleged efforts by Left-Wing Extremist groups to spread their ideology through urban intellectuals, student groups, civil society organisations, and NGOs.
   b. These groups are believed to operate covertly in cities, influencing youth and democratic movements while indirectly supporting armed insurgencies in rural and tribal regions.
2. **Need for a Specific Law**
   a. Existing national laws like the **Unlawful Activities (Prevention) Act (UAPA)** and **Maharashtra Control of Organised Crime Act (MCOCA)** are mainly targeted at active terrorism and organized crime.
   b. According to state authorities, some banned organisations continue to operate under the guise of legal entities within Maharashtra, which necessitated a state-specific preventive law.
3. **Other States with Similar Laws**
   a. Maharashtra is now the fifth state to introduce such a law. States like **Telangana and Odisha** have similar preventive laws targeting Left-Wing Extremism.
4. **Legislative Process**
   a. The Bill was passed in the state assembly through a voice vote. It will now be presented in the upper house for further deliberation.

Key Provisions of the Bill

1. **Definition of Unlawful Activities:** Includes **acts, words, signs, or visible representations** that:
   a. Pose a danger to public order, peace, or tranquility.
   b. Interfere with law enforcement or administration of justice.
   c. Undermine constitutional institutions.
2. **Punishment** Provides for imprisonment ranging from **two to seven years** for involvement in unlawful activities as defined in the Act.
3. **Preventive Powers**
   a. Allows authorities to **ban organisations** deemed to promote extremist ideologies.
   b. Empowers law enforcement to act against groups and individuals without waiting for active violence or terrorism.
4. **Purpose Claimed by the Government**
   a. Intended to curb the spread of extremist ideologies that challenge the constitutional framework.
   b. Aims to fill legal gaps left by central laws which apply mostly in cases of actual violence.

Left Wing Extremism (LWE)

1. **What is LWE?**
   a. LWE, also called **Naxalism**, is a violent movement inspired by **Maoist ideology**.
   b. It **aims** to overthrow the Indian government through **armed struggle** and set up its own rule.
   c. It **mainly operates** in tribal and remote regions, especially in the **Red Corridor** (parts of Chhattisgarh, Jharkhand, Odisha, etc.).
   d. LWE groups **attack police, destroy roads**, schools, and mobile towers, and run parallel systems in villages.

Click Here for INDEX

2. **Causes**
   a. **Poverty and Inequality**
      i. A majority of LWE-affected areas are tribal-dominated and fall under the **Aspirational Districts Programme** due to poor socio-economic indicators.
      ii. **NITI Aayog data** shows that districts like **Dantewada, Bijapur, and Malkangiri** score low in health, education, and income indices.
   b. **Lack of Development**
   i. **Poor road and telecom connectivity** prevent the delivery of welfare schemes.
   ii. **Schools and health centres** are either non-functional or regularly targeted by Maoists.
   c. **Exploitation and Alienation**
      i. **Historical displacement** of tribals from forests without proper compensation.
      ii. **Delay** in **implementation** of the **Forest Rights Act (2006)** leads to alienation.
   d. **Weak Local Governance and Justice**
      i. **Insufficient presence of local administration** due to fear of Maoist attacks.
      ii. **Delays in resolving land disputes**, ration card issues, and pension delivery breed resentment.
   e. **Exploitation by LWE Groups**
      i. Maoist cadres fill the **governance vacuum** by delivering quick "justice" through Jan Adalats.
      ii. They **propagate anti-government sentiments** by exploiting local discontent.
3. **Impacts**
   a. **Blocked Development**
      i. **Infrastructure** projects are **delayed** or sabotaged (e.g., mobile towers, roads).
      ii. **Limited access** to education and health worsens human development.
   b. **High Loss of Lives**
      i. Both civilians and security forces **suffer fatalities** in Maoist ambushes and IED attacks.
      ii. Teachers, contractors, and health workers are frequently **targeted.**
   c. **Fear and Displacement**
      i. **Constant violence** forces villagers to flee and live in camps or towns.
      ii. **Migration disrupts** education, farming, and community life.
   d. **Government Schemes Fail to Reach**
      i. **DBT** (Direct Benefit Transfer), **PDS** (ration), and **healthcare** schemes don't reach remote areas.
      ii. **Lack of telecom network** and banking services makes Aadhaar-seeding and delivery difficult.
   e. **Economic Loss and Extortion**
      i. Maoists **extort money** from contractors, traders, and even government employees.
      ii. **Destroyed assets** like school buildings, mobile towers, and roads hamper local economies.
4. **Government Initiatives to Fight LWE**
   a. **Security Measures**
      i. **Special Forces and CRPF** deployed in affected areas.
      ii. **Fortified Police Stations** and new security camps set up.
      iii. Use of **drones, surveillance, and joint task forces**.
   b. **Development Push**
      i. Roads built under **RCP LWE** and **RRP-I** (17,000+ km sanctioned).
      ii. **Mobile connectivity** through 10,000+ planned towers.
      iii. New **schools, skill centres, and ITIs** opened.
   c. **Financial and Social Inclusion**
      i. 1,000+ new **bank branches**, 5,700+ **post offices**, and 37,000+ **banking agents**.
      ii. **Skill training**, tribal youth recruitment into police/security.
      iii. Civic Action and Media campaigns to **counter Maoist propaganda**.
   d. **Policy Backing**
      i. **National Policy and Action Plan (2015)**: Combines security, development, and tribal welfare.
      ii. **Special Central Assistance (SCA)**: ₹30 crore per year for worst-affected districts.

Click Here for INDEX

5. **What more can be done?**
   a. Build more roads and helipads
   b. Use solar towers, satellites, and better security
   c. Expand skill training and create local jobs
   d. Build trust through community policing and development
   e. Strengthen education and awareness programs

Challenges and Way Forward

Challenges	Way Forward
Vague Definitions: Terms like 'urban Maoism' or 'activism' are unclear and open to misuse.	Provide **precise legal definitions** through amendments or supplementary rules.
Lack of Transparency: Public suggestions were largely ignored.	Include **wider consultation and publish reasons** for accepting/ rejecting inputs.
Overlap with Existing Laws: Similar provisions already exist under UAPA and MCOCA.	Clearly **define the Bill's scope** to avoid redundancy and legal confusion.
Potential for Misuse: Risk of harassment of journalists, activists, and dissenters.	Ensure **judicial oversight and strict safeguards** against arbitrary action.

2. INS Tamal and Defence Indigenisation

Why in the News?

1. In **July 2025**, **INS Tamal**, a **stealth multi-role frigate** was commissioned at **Yantar Shipyard, Russia**.
2. It is considered to be **India's last foreign built imported ship**.
3. It is a **major milestone** for the military, which has put efforts to **indigenise** the shipbuilding over years by increasing the **indigenous contents** slowly in the warships as well as **designing** them in India.

Key Highlights

1. **Background**
   a. INS Tamal is the **eighth Talwar class frigate**, which is an improved version of the **Krivak-III class frigates.**
   b. It is the **second of four additional follow-on ships** of the class that was ordered in **2018**.
      i. First was **INS Tushil**, commissioned in **December 2024**
      ii. Second is **INS Tamal**, commissioned in **July 2025**
      iii. Third is **INS Triput**, expected to be **commissioned** in **2026**
      iv. Fourth will be **INS Tavasya**.
   c. INS Triput and Tavasya will be built by **Goa Shipyard Limited** with transfer of technology and design assistance from Russia.
   d. INS Triput will be **India's first indigenously built** Talwar class frigate.
2. **About INS Tamal**
   a. It is a **stealth, multi-role frigate** belonging to the upgraded **Krivak (Tushil) class series**.
   b. The name "**Tamal**" is derived from the **mythical sword wielded by Indra**, the King of the Gods in Indian mythology.
   c. The ship's mascot blends **Indian and Russian symbolism**, drawing from **'Jambavant'**, the **immortal bear king**, and the **Eurasian Brown Bear**, Russia's **national animal**.
   d. It has a maximum **speed** of **30 knots** and a **range** up to **4850 nautical miles**
   e. Crew: 250 sailors and 26 officers
   f. Home port: **Karwar**, **Karnataka**

Tamal: A Moving Sea Fortress

1. The Indian Navy described INS Tamal as a **"formidable moving fortress at sea"** because it can operate in **all four key areas** of **naval warfare** that is **air, surface, underwater and electromagnetic warfare.**
2. **Air**
   a. It carries **2** kinds of **anti-aircraft missiles**
      i. 24 vertically launched **Shtil surface to air missiles** with a range of up to 70 km.
      ii. 8 short range **Igla missiles**.
   b. It also has **two fully-automated AK-630 guns**, 30 mm rotary cannons that can fire over 5,000 rounds per minute,
   c. It is to protect the ship from **close-range threats** like enemy aircraft, missiles, and small boats **using radar and camera-based targeting**.

Click Here for INDEX

3. **Surface**
   a. It is armed with **eight BrahMos supersonic cruise missiles** for attacking enemy ships and land targets
   b. These can travel at speeds of up to **Mach 3 (3,700 km/h)** and have a **range of several hundred kilometres**
   c. It also has a **100 mm A-190E main gun** that can fire **25 kg shells** to over **20 km**.
4. **Underwater**
   a. It is equipped for anti-submarine warfare with an **RBU rocket launcher** that can fire **12 depth-charge rockets at once**
   b. It also has **two 533 mm torpedo tubes** that launch **heavyweight torpedoes** to destroy enemy submarines.
5. **Electromagnetic Warfare**
   a. INS **Tamal** has high-tech **Electronic Warfare (EW)** systems and **Electro-Optical/Infrared (EO/IR)** sensors that help detect enemies and block their radar.
   b. It can also carry two types of helicopters:
      i. **Kamov 28** – used to **find and attack submarines**
      ii. **Kamov 31** – used for **airborne early warning** to detect enemy aircraft and ships from far away
   c. These helicopters make the ship much more powerful in battle and are called **"force multipliers"** by the Navy.
6. INS **Tamal** has a **stealthy design** and offers **greater stability** in rough sea conditions.
7. It is equipped with **automated systems** for **nuclear, biological, and chemical (NBC) defence**.
8. It also has **centralised systems** for **firefighting** and **damage control**, which can be operated from safe, protected areas.
9. These features help **reduce casualties** and quickly **restore combat readiness**, improving the ship's overall **survivability**.

India's Naval Indigenisation Journey

Time Period	Key Developments in Naval Indigenisation
Post-Independence to 1960s	1. After Independence, India did not have the capability to build its own warships and had to depend on imports, mainly from the UK and the USSR. 2. In 1960, **INS Ajay**, a small patrol vessel, became the **first indigenously built ship** in India. 3. By the late 1960s, **Leander-class frigates** began to be produced in **Mazagon Docks** with British collaboration, but with only about **15% indigenous content**.
1970s–1990s	1. Indigenous content in Indian-built ships started to grow slowly from the 1970s onwards. 2. In **1964**, the **Central Design Office (CDO)** was established to support domestic ship design efforts. 3. The CDO became the **Directorate of Naval Design (DND)** in **1970**, marking a significant step in institutionalising indigenous warship design. 4. By the **1990s**, the Indian Navy had acquired the ability to **design aircraft carriers, submarines, and guided missile destroyers** on its own.
2000s	1. Indigenous components in Indian warships increased significantly. For example, **Kolkata-class destroyers** produced in the 2000s had about **59% indigenous content**.
2005–2010	1. In **2005**, the **Directorate of Indigenisation** was set up at the Naval Headquarters in **New Delhi** to further boost self-reliance in defence. 2. In **2010**, **Indigenous Development Field Units** were created in **Mumbai and Visakhapatnam** to strengthen localised development of defence components.

2011–2021	1. Between **2001 and 2011**, the Navy added **57,000 tonnes** and **33 ships** to its fleet. 2. From **2011 to 2021**, it added **92,000 tonnes** and **40 ships**, with the majority of them being built using indigenous resources. 3. Out of the **39 ships ordered** for the Navy as of 2021, **37 were being built in Indian shipyards**, with only **INS Tushil** and **INS Tamal** being foreign-built.
2021–Present	1. The latest **Vishakhapatnam and Nilgiri-class warships** now have more than **75% indigenous content**, marking a high point in India's shipbuilding journey. 2. Even imported ships such as **INS Tamal**, built in Russia, include around **26% indigenous components**.
2025 and Beyond	1. Between **June and December 2025**, the Navy plans to **commission 9–10 new warships**, all of which will be **built in India**. 2. It is expected that **several more ships** will be commissioned over the next **4–5 years**, continuing the focus on **self-reliance in defence production**.

Importance of Defence Indigenisation for India

1. **National Security:** Strengthens national security by reducing dependence on foreign defence supplies.
2. **Strategic Autonomy:** India can take **independent decisions** in defence matters. It **avoids delays** or pressure from foreign suppliers.
3. **Economic Benefits:** Saves **foreign exchange** by cutting imports. Promotes **Make in India**, boosting local manufacturing and defence exports.
4. **Job Creation and Skill Development: Generates jobs** for engineers, technicians, and workers. Develops **advanced technical skills** in the Indian workforce.
5. **Technology Advancement: Encourages R&D** in cutting-edge technologies. Builds India's **long-term strength** in defence and aerospace innovation.

Challenges and Way Forward

Challenges	Way Forward
1. Technological Dependence: Many critical systems like engines, radars, and sonar are still imported.	1. Invest in **indigenous R&D** and support **defence tech startups** to develop core technologies in-house.
2. Capacity Constraints in Shipyards: Delays due to infrastructure gaps and project inefficiencies.	2. Upgrade **shipyard infrastructure** and adopt **modern project management tools** for faster execution.
3. Design Limitations: Advanced warship design capabilities are still evolving.	3. Strengthen the **Directorate of Naval Design (DND)** and promote collaboration with top **academic and tech institutions**.
4. Skilled Workforce Shortage: Limited availability of specialised engineers and technicians.	4. Launch **skill development programs** focused on naval architecture, engineering, and defence manufacturing.
5. Strategic Risks of Import Dependence: Heavy reliance on foreign suppliers like Russia poses geopolitical vulnerabilities.	5. Encourage **joint ventures and technology transfer** under Make in India and reduce foreign dependency gradually.
6. Fragmented Industry Ecosystem: Lack of strong integration between public and private sector players.	6. Build a robust **public-private partnership (PPP) model** and incentivise **private sector participation** in defence.

Polity

3. FATF Flags Online Platforms in Indian Terror Attacks

Why in the News?

I.R.

1. The **FATF** released a report titled "**Comprehensive Update on Terrorist Financing Risks**."
2. It revealed that **terrorists accused in two Indian attacks** used online platforms like **e-commerce sites, digital payments, and VPNs**.

Security

3. These platforms were exploited to **finance, plan, and execute terror activities** while evading detection.

Key Highlights

Economy

1. The FATF noted that online payment services like **PayPal** were used. E-commerce platforms like **Amazon** were used to procure materials. **VPNs** were used to hide digital footprints.
2. These platforms enabled anonymous communication, financial transfers, and procurement of supplies.

Science

3. **Example: Gorakhnath Temple Attack (April 2022)** used PayPal to transfer fund to foreign accounts, used e-commerce platforms and VPN for chats and downloads.
4. **Pulwama Attack (February 2019)**, which killed 40 CRPF personnel also used e-commerce platforms like Amazon to procure raw materials for attack.

Click Here for INDEX

Geography

5. **EPOMs** (e-commerce platforms and online marketplaces) are being exploited for fraudulent purchases, money laundering, terror financing and anonymous buyer-seller transactions using encrypted communications and invoice masking.

Society

6. **Legal Proceedings: 19 individuals** charged under **UAPA (Unlawful Activities Prevention Act),** including **seven foreign nationals** and **the suicide bomber** in the **Pulwama case.**

History

Financial Action Task Force (FATF)

1. It is an **inter-governmental body** established in **1989** during the **G7 Summit in Paris**.
2. **India** became a **full member in 2010.**

Ethics

3. India has been actively participating in FATF discussions and implementing its standards through domestic laws like the **Prevention of Money Laundering Act (PMLA)**.

P.i.N.

Key Features

1. **Purpose:** FATF sets international standards to **combat money laundering (ML), terrorist financing (TF), and other related threats** to the integrity of the international financial system.
2. **Members:** It has **39 members**, including major economies like the **US, UK, India, China,** and **the European Commission.**
3. **Headquarters: Paris, France** and is hosted by the **Organisation for Economic Co-operation and Development (OECD)**.
4. **Key Functions**
   a. **Makes Rules to Fight Money Crime:** FATF has made **40 global rules** to stop money laundering and terrorist funding.
   b. **Checks if Countries Follow the Rules:** FATF does reviews (like report cards) to see how well countries are following its rules.
   c. **Lists Problem Countries:**
      i. **Grey List:** Countries that have problems and need to improve.
      ii. **Black List:** Countries that are not cooperating and are high-risk.
5. **Recent Focus Areas**
   a. Digital currencies and crypto assets.
   b. Misuse of **online platforms**, **crowdfunding**, and **e-commerce** for terror financing.
   c. Strengthening **beneficial ownership transparency** that is to clearly know who owns a particular company to prevent misuse**.**

Implications for India

1. **Digital terror threats** are rising, demanding updates in India's cyber and security policies. India's security infrastructure must adapt to counter **tech-driven radicalisation and planning**.
2. **Financial agencies** need better tools to monitor cross-border digital payments and platforms. Tighter scrutiny is needed for platforms like **PayPal, UPI gateways**, and **e-commerce giants**.
3. **Legal gaps** in laws like UAPA must be addressed to cover digital finance and meet FATF standards.
4. **Tech surveillance** using AI, IP tracking, and cyber forensics must be enhanced with better agency coordination. Coordination among **cyber cells, IB, NIA, and state ATS** units should be institutionalised.

5. **Global cooperation** is vital through data-sharing, FATF compliance, and partnerships with Interpol and others.

Challenges and Way Forward

Challenges	Way Forward
Use of **legal online platforms** by terror groups	**Stricter rules** for EPOMs and payment apps
Hard to trace encrypted transactions	**Boost cyber forensics and global cooperation**
Poor tracking of small cross-border deals	Use **AI for better transaction monitoring**
Limited awareness among service providers	**Train fintech and e-commerce** on terror finance risks

4. Akash Prime Air Defence Missile System

Why in the News?

1. The Indian Army has **successfully tested** the **Akash Prime air defence missile system** in the **high-altitude region of 15,000 feet in Ladakh**.
2. This test was carried out to improve India's defence system, especially in difficult and cold mountain areas near the borders.

Key Highlights

1. The trial was done by the **Army Air Defence Corps**, with the help of **DRDO scientists** and **Indian defence companies** like **Bharat Dynamics Limited** and **Bharat Electronics Limited**.
2. Akash Prime is an **improved version** of the earlier **Akash missile system**.
3. It has a **new Radio Frequency (RF) seeker** made in India, which helps the missile **hit targets more accurately**.
4. It can work well in **cold temperatures** and **low-oxygen conditions** at high altitudes.
5. During the test, it hit **fast-moving aerial targets** with **great accuracy**.
6. Akash Prime has a **range of 27 to 30 kilometers** and can fly up to **18 kilometers in height**.
7. It will be used in the **third and fourth regiments** of the Indian Army's air defence system.
8. The test was part of the **first production model firing trial**.
9. The missile can be used to **protect important military areas** and **installations** from threats like **enemy aircraft and drones**.
10. Earlier, the Akash system performed well during **Operation Sindoor** to stop threats from **Pakistan**.
11. The **original Akash missile** was developed in the **late 1980s** by DRDO under the **Integrated Guided Missile Development Programme**.

Akash Missile System

1. The **Akash Missile System** is an Indian-made air defense system.
2. It is designed to **shoot down enemy aircraft, drones, and missiles** before they reach their targets.
3. **Main Purpose**
   a. Protects **both moving military units and fixed bases** from attacks coming from the sky.
   b. It can defend a large area by shooting down multiple aerial threats.

1. **Range and Targeting:**
   a. Can engage targets up to **45 km away**, with **optimal** performance at **25–30 km.**
   b. Uses **advanced radar and real-time data** to accurately track and **strike multiple threats** from various directions.
2. **Missile Design and Speed**
   a. **5.78 meters long**, weighs about **720 kg**, and is **35 cm wide**.
   b. Uses a special **ramjet engine** that helps it fly very fast up to **2.5 times the speed of sound (Mach 2.5)**.
   c. It carries a **55–60 kg explosive warhead** that explodes near the target to destroy it.
3. **Radar and Guidance System**
   a. Uses advanced radars like **Rajendra radar** to track up to 64 targets simultaneously and guide up to 8 missiles at once.
   b. Highly maneuverable with an 88% single-shot hit probability.
4. **Mobility and Deployment**
   a. **Fully mobile system** transported by truck, train, or aircraft.
   b. A unit includes 4 launchers, radar, and command center, covering up to 5,000 sq km area.

Click Here for INDEX

5. **Electronic Protection**
   a. The system has built-in **electronic protection features** so that it works even if the enemy tries to jam or confuse it using electronic warfare.
6. **Who Uses It?**
   a. The **Indian Army and Indian Air Force** both use the Akash missile system.
   b. It has been **tested in real combat**, especially against enemy drones and missiles.
7. **Variants and Upgrades**

Variants	Description
Akash Mk1	1. Range: **25–30 km** 2. This is the **original version**. 3. It uses **command guidance and a ramjet engine.** 4. It is already in service.
Akash Prime	**1. Range: 30 km** 2. It has a new **radio frequency seeker** that improves accuracy. 3. It works well at high altitudes, even above **15,000 feet.** 4. It is being tested and also partly in service.
Akash-NG (Next Generation)	1. Range: **70–80 km** 2. It has a **new engine** and is **lighter and faster**. 3. It uses an **Active Electronically Scanned Array (AESA) Multi-Function Radar (MFR),** and has **360-degree coverage**. 4. It is **still under development**.

Implications

1. **Strengthens Border Defence**: It improves India's defence in **mountainous border areas** like **Ladakh**.
2. **Made in India Success**: It shows the power of **Indian-made defence technology**.
3. **Better Accuracy**: The new **RF (Radio Frequency) seeker** allows for **more accurate targeting**.
4. **All-Weather and High-Altitude Use**: The missile performs well in **extreme weather and terrain**.
5. **Military Feedback-Based Design**: Improvements were made based on the **needs of the armed forces**.
6. **Global Interest**: Other countries are now **looking at India's missile systems** for possible use.

Challenges and Way Forward

Challenges	Way Forward
1. Harsh climate and thin air affect performance	More frequent **high-altitude testing and refinement**
2. Need for faster production and deployment	**Speed up manufacturing and induction** into defence forces
3. Growing threats from advanced enemy weapons	Invest in **next-generation technology** and **AI-based upgrades**
4. Risk of electronic jamming from enemies	Improve **anti-jamming** and **Electronic Counter-Countermeasures (ECCM)** Systems.
5. Need for real-time multi-target tracking	Strengthen **radar and tracking networks**

5. INS Nistar Commissioned

Why in the News?

1. In July, **2025**, the Indian Navy **formally commissioned INS Nistar** at the Naval Dockyard in **Visakhapatnam**.
2. This event marks a **significant milestone** in India's naval modernization, aligning with broader efforts to strengthen **maritime infrastructure.**
3. The commissioning comes at a time when India is aiming to **expand its strategic and humanitarian capabilities** in the Indian Ocean Region (IOR).
4. INS Nistar's induction is part of a **larger plan to enhance the Navy's underwater rescue preparedness** following recent global incidents involving submarine accidents.

Key Highlights

1. **Historical Background**
   a. India's need for a **dedicated submarine rescue capability** became apparent after past global incidents and recent deep-sea emergencies. Example: **Kursk submarine disaster (Russia, 2000)**
   b. Traditionally, the Indian Navy lacked indigenous platforms for **deep-sea rescue**, relying instead on foreign assistance or limited in-house capability.

c. Recognizing this gap, the Navy procured **two Deep Submergence Rescue Vehicles (DSRVs)** from the UK in 2018-19.
d. The **original INS Nistar**, a submarine rescue vessel acquired from the USSR in 1971, served the Navy until the 1980s.
e. The new INS Nistar revives this legacy with modern, **indigenous capabilities**.

2. **About INS Nistar**
   a. A **118-meter-long Diving Support Vessel (DSV)**.
   b. Built by **Hindustan Shipyard Ltd. (HSL)**.
   c. First of two such vessels; the second is **INS Nipun.**
   d. Part of India's plan to achieve **self-reliance in underwater operations**.
3. **Core Capabilities**
   a. Diving Support: Equipped with **state-of-the-art diving systems**. Can perform operations at **depths up to 300 meters**. Supports **complex saturation diving**, allowing divers to stay under pressure for prolonged periods.
   b. Submarine Rescue Operations: INS Nistar Acts as a "**Mother Ship**" for **Deep Submergence Rescue Vehicles (DSRVs)** and **Submarine rescue bell systems**. It supports the recovery of trapped submariners from over **1000 meters** below sea level.
4. **Additional Features**
   a. Houses a **helipad**, **hyperbaric life support systems**, and **remote-operated vehicles** (ROVs).
   b. Carries **advanced sonar systems** for **location detection** of submarines and wreckage.

Strategic Importance

1. **Enhances India's Capability in the Indian Ocean Region (IOR)**
   a. Supports India's role as a **net security provider** in the IOR.
   b. Increases India's capacity to **respond quickly to submarine emergencies** in the region.
2. **Strengthens Humanitarian Assistance and Disaster Relief (HADR)**
   a. Can be deployed for **underwater search-and-rescue**, including aircraft wreckage or maritime disasters.
   b. Useful in **multinational cooperative missions**, enhancing India's global image.
3. **Promotes Strategic Deterrence and Maritime Strength**
   a. Having a reliable submarine rescue system makes **submarine crews feel safer**, so they can operate more confidently.
   b. This is important for **nuclear submarines**, which are a key part of India's **nuclear defense strategy**.
   c. It helps protect these submarines, ensuring India can **respond even after a nuclear attack** (second-strike capability).
4. **Reduces Dependence on Foreign Technology and Support**
   a. Prior to INS Nistar, India lacked an indigenous platform and had to **depend on other countries** for submarine rescue operations.
   b. Promotes **self-reliance in defense technology**, aligned with Aatmanirbhar Bharat.
5. **Fulfills International Obligations and Enhances Naval Diplomacy**
   a. India can now **assist neighboring and friendly navies** in submarine emergencies.
   b. Improves India's credentials as a responsible maritime power and builds **strategic goodwill**.

Challenges and Way Forward

Challenges	Way Forward
High cost of building and maintaining deep-sea vessels	Encourage **long-term budgetary support** for indigenous defense manufacturing
Need for **specialized trained** divers and operators	**Increase recruitment and training** in naval diving and rescue operations
Limited experience in saturation diving and rescue missions	**Collaborate with international navies** for knowledge-sharing and joint exercises
Maintenance and **technological upgrades** of **complex** systems	**Regular audits, software/ hardware updates, and local tech development incentives**

Click Here for INDEX

ECONOMY

1. Role of MSME Sector

Why in the News?

1. **MSME Day** is observed every year on **27th June** to celebrate these enterprises, highlight their **importance**, and raise awareness about their **contribution**, **growth**, and **sustainability**.
2. **MSMEs** are the **cornerstone** of India's **economic resilience** and **self-reliance**.
3. They show the **entrepreneurial spirit** of India, being **dynamic**, **innovative**, and strongly connected to **local communities**.

Business Line MSME Growth Conclave - Coimbatore 2025

1. The **conclave** is being held to **celebrate the work of MSMEs**.
2. This will be the **4th edition** of the event.
3. It will feature **two panel discussions**:
   a. **"MSME: Delivering a Big Bang"**, a session focused on **defense supplies**.
   b. **"MSME: Navigating Global Trade Disruptions"**, which will highlight **supply chain resilience**.

Importance of MSMEs

1. **Role in Atma-Nirbhar Bharat (self-reliant India):** MSMEs drive **self-reliance** by creating **jobs**, boosting **manufacturing** and **exports**, and strengthening India's position **in global innovation** and **services**.
2. **Contribution to Economic growth**
   a. With over **6.3 crore MSME's (Ministry of MSME data)** employing **25+ crore people**, they contribute around **30% to GDP, 35% of manufacturing output, and 40–45% of exports.**
   b. They promote **inclusive growth**, entrepreneurship, **innovation**, and **competitiveness**.
3. **Diversified landscape**
   a. MSMEs now **span sectors** like IT, pharma, renewable energy, and startups, **beyond traditional industries.**
   b. Their **wide regional presence** supports **balanced growth**, **job creation**, **local supply chains**, and key government missions like **Start Up India**, **Digital India,** and **Skill India**.
4. **Integration with digital platforms:** MSMEs are adopting platforms like **Udyam Registration** and **ONDC** (Open Network for Digital Commerce) to boost **formalization**, **transparency**, access to **markets** and **government support**.
5. **Better quality standards:** Schemes like **Champion Portal** and **ZED Certification 2.0** help MSMEs improve quality, access support, and adopt eco-friendly practices.
6. **A catalyst to India's global rise:** MSMEs drive India's rise as a **major economy** through their **agility**, supporting **manufacturing growth**, **export diversification**, and **tech innovation**.
7. **Helps realize demographic advantage:** As per the **RBI**, this sector is helping to **skill** and **employ India's young workforce**, which is a key **demographic advantage** to maintain **high economic growth** over the next **20 years**.

Government Initiatives

1. Schemes like **Production Linked Incentives (PLI)**, **cluster development programmes**, and infrastructure plans such as **PM Gati Shakti** are helping improve the **global competitiveness** of MSMEs.
2. The **Udyam Assist Platform (UAP)** now allows **informal micro enterprises** to be **formally recognized** and included in official systems.
3. This process of **formalisation** is making it easier for these enterprises to access **finance**, **technology**, and **government support** by bringing them into the **institutional framework**.

Role of Banks

1. India's **banking ecosystem** has become a strong **growth enabler** for MSMEs by promoting **financial inclusion** and supporting **entrepreneurship** across the country.

2. As of **February 2025**, **bank credit** to the MSME sector reached **₹28 lakh crore**, rising from **₹24.4 lakh crore** in **February 2024**, showing strong **year-on-year growth**, as per **RBI data**.
3. **Public and private sector banks**, along with **NBFCs**, have actively supported MSMEs through key schemes like:
   a. **Credit Guarantee Fund Trust for Micro and Small Enterprises (CGTMSE)**
   b. **Emergency Credit Line Guarantee Scheme (ECLGS)**
4. These schemes have helped **increase credit flow** and **lower borrowing risks**.
5. **ECLGS alone** provided **₹3.6 lakh crore** worth of guarantees, supporting over **1.1 crore MSMEs** during and after the **pandemic**.
6. Under the **Pradhan Mantri MUDRA Yojana**, **collateral-free loans** continue to offer formal credit to **millions of micro-enterprises**.
7. Banks are also using **digital tools** like **cash flow-based assessments** and the **Account Aggregator (AA) Framework** to make **loan approvals faster** and **more accurate**.
8. With strong **institutional support** and **tech-driven processes**, India's **financial sector** remains key to unlocking the full potential of its **MSME sector**.

MSME and Women

1. **Low Turnover Despite High Participation**: Women own about 20% of registered MSMEs but contribute only 10% of the total turnover, highlighting a gap in scale and profitability.
2. **Credit and Investment Disparities**: Women receive just 11–15% of total MSME investments and face a 35% credit gap—much higher than the 20% gap for men.
3. **Unequal Loan Distribution**: Under **Pradhan Mantri MUDRA Yojana (PMMY)**, women hold 64% of loan accounts but receive only 41% of the total funds, indicating a mismatch between access and actual financial support.
4. **Rise of Informal Women-Led Enterprises**: In 2024, 70.5% of businesses registered on the Udyam Assist Portal were women-led, contributing over 70.8% of new jobs in the informal MSME sector.
5. **Way Forward for Empowerment**:
   a. Launch **collateral-free credit schemes** and accept group guarantees.
   b. Ensure **fair loan distribution** and set up women-only help desks in banks.
   c. Promote **financial literacy** and train bank staff to support women entrepreneurs.
   d. Use **digital platforms** like Udyam Assist to formalize women-led businesses.

MSME and Union Budget 2025-26

1. The **Union Budget 2025-26** described **four engines of development.** Those were: **Agriculture**, **MSME**, **Investment** and **Exports**.
2. The emphasis on MSME shows the **increasing importance** of this sector.

Changes introduced in the Budget

1. **Revision in classification criteria for MSMEs**

Rupees (in crore)	Investment		Turnover	
	Current	Revised	Current	Revised
Micro Enterprises	1	2.5	5	10
Small Enterprises	10	25	50	100
Medium Enterprises	50	125	250	500

Polity

Enhancement of credit availability with guarantee cover

Rupees (in crore)	Credit Guarantee Cover	
	Current	Revised
MSEs	5	10
Startups	10	20
Exporter MSMEs	For term loans up to 20 crore rupees	

I.R.

Security

Credit cards for micro enterprises

a. Special **customized credit cards** with a limit of **₹5 lakh** for micro units on the **Udyam Portal**.

b. 10 lakh cards to be issued in the **first year**.

Economy

1. **New Fund of Funds for Startups**
   a. A fresh Fund of Funds will be launched with broader scope and **₹10,000 contribution** per fund.

Science

2. **New Scheme for First-Time Entrepreneurs**
   a. For **5 lakh first-time entrepreneurs** (including women, SCs, STs).
   b. Will offer loans up to **₹2 crore** over **5 years**.
3. **National Manufacturing Mission: "Make in India"**
   a. Will support **small, medium, and large industries** with policy support, execution plans, and governance.
   b. Push for **Clean Tech Manufacturing** in solar cells, batteries, turbines, and grid-scale systems.

Click Here for INDEX

Geography

Society

Challenges and Way Forward

Challenges	Way Forward
Access to Formal Credit: Many MSME still struggle to access institutional finance.	**Expand digital lending models**; promote usage of MUDRA, CGTMSE and credit cards for micro units.
Low Tech Adoption: Many MSMEs are slow in adopting modern technologies and automation.	Promote schemes like **ZED 2.0** and increase **awareness about tech adoption through cluster-based programs**.
Informality and Lack of Compliance: Many MSMEs remain outside the formal economy.	Encourage **Udyam Registration, promote tax literacy,** and simplify regulatory compliance norms.
Global Trade Disruptions: MSMEs exposed to international supply chain risks post-pandemic.	Build **resilient supply chains**; support MSMEs through trade facilitation cells.
Digital Divide: Small rural MSMEs lag in digital literacy and e-commerce readiness.	**Leverage ONDC, provide digital skills**, and offer subsidized tech access in rural clusters.
Environmental Sustainability: Most MSMEs are yet to adopt green and sustainable practices.	**Incentivize clean tech,** provide access to green finance and integrate ESG compliance in government schemes.

History

Ethics

P.i.N.

2. Employment-Linked Incentive Scheme

Why in the News?

1. The **Employment-Linked Incentive (ELI) Scheme** was announced in the **Union Budget 2024-25.**
2. It was **presented** in **July 2024** with an **outlay** of **Rs. 99,446 crore.**
3. It aims to create **3.5 crore jobs** over a period of **two years.**
4. In **July 2025**, it was **approved** by the **Union Cabinet**.
5. The ELI scheme is part of the **Prime Minister's package** to promote employment, skilling, and formal job creation.

Key Highlights

1. **About ELI Scheme**
   a. It aims to **boost employment generation**, especially in the manufacturing sector.
   b. It helps to **increase** the **formalization** of the workforce that is more people working in the formal sector.

c. It focuses on **encouraging private sector participation** in hiring, especially the first time job seekers, and also **promotes skill development** and **job retention**.

d. It also helps to **enhance social security** across all sectors.

e. It is implemented by the **Ministry of Labour and Employment** with **Employees' Provident Fund Organisation (EPFO)** as the **nodal agency**.

2. Structure of the Scheme

a. The scheme is divided into **2 parts**

Part A - For First Time Employees	Part B - For Sustained Employment
1. A **wage subsidy** will be provided by the government up to one month's wage. 2. The first time employees who are registered with **EPFO** will get one month **Employees' Provident Fund (EPF) wages** up to **Rs.15,000** in **two installments**. 3. **Eligibility:** Employees with salary **up to Rs. 1 lakh.** 4. **First installment** will be payable after completion of six months in the job. 5. **Second installment** will be payable after 12 months of service and completion of the **financial literacy programme** by the employee.	1. It will **incentivise** the **employers** to create additional employment. 2. The employers will get **benefits** for employees with a **salary up to Rs. 1 lakh.** 3. The employers will be **incentivised** up to **Rs. 3000 per month** for each **additional employee** with sustained employment of at least six months. 4. This is valid for **two years** which can be extended to **four years for the manufacturing sector.** 5. **Slabs**: a. **Incentive** of **Rs.1000** for employees with **salary** up to **Rs.10,000.** b. **Incentive** of **Rs.2000** for employees with **salary** range of **Rs.10,000 - Rs.20,000.** c. **Incentive** of **Rs.3000** for employees with **salary** range of **Rs.20,000 - Rs.1 lakh.** 6. All payments will be made to the **Pan-linked accounts** of the employers. 6. Also, to **encourage savings**, a part of the incentive will be kept in the savings instrument of the deposit account which can be withdrawn after a fixed period of time 7. All payments will be made through **Direct Benefit Transfer** (DBT).

Additional Provisions

a. Establishments which are **registered with the EPFO** are required to:

i. **Hire** at least **2 additional employees** (if it already employs **less than 50** people)

ii. **Hire** at least **5 additional employees** (if it already has **more than 50** employees)

b. **Duration** of the scheme: **1 August 2025 to 31 July 2027**

Impact of the Scheme on the Economy

1. **Boost to Formal Employment**: Encourages job creation and formalisation, especially in MSMEs and manufacturing. It will benefit sectors where **EPFO coverage is limited**.
2. **Youth Empowerment**: Supports first-time workers with social security and wage stability. It addresses **youth unemployment** through structured support.
3. **Stimulus to Manufacturing**: Offers long-term incentives, supports PLI goals, and helps labour-intensive industries grow.
4. **Ease of Doing Business**: Uses transparent (**PAN-linked and DBT** systems), low-compliance systems with predictable incentives to reduce leakages.
5. **Multiplier Effect**: Increases income, consumption, tax compliance, and supports sectors like housing and education.

Challenges and Way Forward

Challenges	Way Forward
Implementation challenges in **small industries**	Awareness campaigns and capacity building
Potential for **misuse or ghost employees**	Strict **EPFO audit mechanisms** and cross-verification
Uneven uptake across **states/sectors**	State-level incentives and **sectoral flexibility**
Short time window for job creation (2 years)	Possible **extension** based on performance
Trade unions consider the scheme as **deceptive**, saying it gives **public money to employers.**	Improve transparency and **consult the stakeholders involved.**

3. Goods and Services Tax (GST)

Why in the News?

1. In **July 2025**, the **eighth anniversary** of the **Goods and Services Tax (GST)** in India was observed, coinciding with one of the **poorest GST collection months**.
2. GST collections for **June 2025** stood at **₹1.85 lakh crore**, the **lowest in four months**, highlighting serious concerns about the health of India's indirect tax system.
3. The slowdown in collections has reignited the **demand for structural reforms** in the GST regime, including **rate rationalisation** and **expansion of the tax base.**

Key Highlights

1. **Sluggish Growth in GST Collections**
   a. The collections in **June 2025** were only **6.2% higher than June 2024**, marking the **slowest annual growth** in four years.
   b. Once refunds were accounted for, the **net revenue growth** stood at a mere **3.3%**.
   c. This trend reflects **stagnation** in both consumption and revenue mobilisation.
2. **Weakness in Domestic Economic Activity**
   a. Revenue from domestic transactions (excluding imports) grew by only **4.6% year-on-year.**
   b. This growth barely exceeded the **average inflation rate**, indicating almost no real growth in domestic consumption.
   c. This shows that the **economy's internal demand is still weak**, despite headline growth figures.
3. **Structural Shortcomings in GST System**
   a. A drop in GST collections also points to **deep-rooted inefficiencies** in the tax system, beyond just economic cycles.
   b. Despite eight years since implementation, GST still suffers from a **complex rate structure** and a limited tax base.
   c. Commonly used items like fuel and alcohol remain outside the GST ambit due to state resistance.
4. **States' Reluctance to Broaden the GST Base**
   a. States are unwilling to bring **fuels and alcohol under GST**, as they are major independent revenue sources.
   b. There is **resistance to reforms** that may **reduce states' fiscal autonomy.**
   c. This has created a **persistent Centre-State trust deficit**, affecting **cooperative federalism**.
5. **Issues Surrounding Cess and Rate Structure**
   a. The **GST Compensation Cess**, originally introduced to cover short-term state revenue losses, has been **extended until 2026**.
   b. With its initial purpose fulfilled, the continued imposition of this cess raises questions.
   c. The Centre must resist the temptation to merge this cess into the broader GST, as it **undermines transparency and trust.**

About Goods and Services Tax (GST)

1. **Introduction to GST**
   a. GST is a **comprehensive, multi-stage, destination-based indirect tax** levied on the supply of goods and services.
   b. It replaces a **complex web of central and state indirect taxes** and aims to create a **unified national market**.
   c. Though collected at each stage of value addition, it allows for **full input tax credit**, ensuring tax is ultimately borne by the final consumer.

2. **Historical Evolution of GST**
   a. **2003**: Kelkar Task Force recommends VAT-based taxation.
   b. **2006**: Union Budget announces intention to implement GST by April 2010.
   c. **2014**: Introduction of the 122nd Constitutional Amendment Bill.
   d. **2016**: Passage of the Bill as the **101st Constitutional Amendment Act**.
   e. **1st July 2017**: Formal launch of GST across India.
3. **Constitutional and Legal Framework**
   a. **Article 246A**: Empowers both Parliament and State Legislatures to legislate on GST.
   b. **Article 269A**: Governs the levy and distribution of **Integrated GST (IGST)**.
   c. **Article 279A**: Establishes the **GST Council**.
   d. **GST laws passed in 2017:**
      i. **Central GST (CGST) Act:** Governs levy and collection of GST by the Central Government on intra-state supplies.
      ii. **State GST (SGST) Act:** Enacted by each State to govern levy and collection of GST by the respective State Government on intra-state supplies.
      iii. **Union Territory GST (UTGST) Act:** Applies to Union Territories without legislatures (e.g., Chandigarh, Lakshadweep), enabling them to collect GST.
      iv. **Integrated GST (IGST) Act:** Governs GST on inter-state supplies of goods and services, imports and exports, collected by the Centre and shared.
      v. **GST (Compensation to States) Act:** Provides for compensation to States for revenue losses arising from GST implementation, funded by Compensation Cess.
4. **Key Features of GST**
   a. **Dual GST Model**: Centre and States levy CGST & SGST on intra-state supplies; IGST on inter-state supplies.
   b. **Destination-Based Tax**: Tax is collected by the state where the goods/services are consumed.
   c. **Supply-Based Taxation**: GST is levied on "supply" instead of manufacture, sale, or provision.
   d. **Input Tax Credit (ITC)**: Eliminates **cascading effect** (by crediting taxes paid at earlier stages. **Cascading effect** refers to **"tax on tax"** that is, when **tax is levied** on a product at **every stage** of the supply chain **without credit for the tax paid at the earlier stage**.
   e. **Online Compliance**: All registrations, payments, and returns are filed through the **GSTN portal**.
   f. **Threshold Limits**:
      i. **Threshold limit** is the **minimum turnover** below which a business is **not required to register** under GST.
      ii. It implies that **small businesses** are **exempt from GST** compliance to reduce their burden.
      iii. The limit is: ₹40 lakh for goods suppliers (₹20 lakh for special category states) and ₹20 lakh for service providers (₹10 lakh for special category states).
5. **Components of GST**
   a. **CGST**: Collected by the Centre on intra-state transactions.
   b. **SGST/UTGST**: Collected by the State/UT on intra-state transactions.
   c. **IGST**: Collected by the Centre on inter-state and import/export transactions and distributed accordingly.
6. **Taxes Subsumed Under GST**
   a. **Central Taxes:** Central Excise Duty, Service Tax, Additional Duties of Customs (CVD & SAD), Central Sales Tax, surcharges, and cesses.
   b. **State Taxes**: VAT, Entry Tax, Luxury Tax, Entertainment Tax, Purchase Tax, State Cesses & Surcharges.
   c. **Excluded from GST**: Alcohol for human consumption, petroleum products (until future decision), electricity duty, stamp duty, and vehicle tax.

Click Here for INDEX

Polity
I.R.
Security
Economy
Science
Geography
Society
History
Ethics
P.i.N.

7. **Tax Rate Structure**
   a. **Multiple Tax Slabs**: 0%, 5%, 12%, 18%, and 28%.
   b. **Special Rates**: 0.25% on precious stones, 3% on gold, 1.5% on affordable housing, etc.
   c. **Compensation Cess**: Levied over the 28% slab for specific luxury and sin goods.
8. **GST Compensation Cess**
   a. Introduced to **compensate States** for revenue loss due to GST implementation.
   b. Guaranteed **14% annual revenue growth** over **2015–16** levels for **5 years** (till **June 2022**).
   c. Levied on goods like tobacco, pan masala, coal, aerated drinks, and luxury vehicles.
   d. Proceeds go into the **GST Compensation Fund**.
   e. Extended till **March 2026** to repay pandemic-time borrowings.
   f. **Criticism**:
      i. Centre controls cess proceeds (not shared), creating **Centre-State trust issues**.
      ii. Its extension beyond original scope raises **cooperative federalism concerns**.

Click Here for INDEX

9. **GST Council**
   a. Constitutional body under **Article 279A**.
   b. **Chairperson**: Union Finance Minister.
   c. **Members**: Ministers of Finance/Taxation from each state/UT.
   d. **Decision Voting**: Centre: 1/3rd weight, States: 2/3rd combined and decisions need 75% approval.
10. **GST Network (GSTN)**
    a. IT backbone for GST implementation.
    b. A non-profit company managing registration, returns, payments, refunds.
    c. Shareholding: Centre 24.5%, States 24.5%, Private stakeholders 51%.
11. **Compliance and Processes**
    a. **Invoice Matching** and **e-Invoicing** to reduce fraud.
    b. **E-Way Bill** for goods transport > ₹50,000.
    c. **Quarterly Return Filing and Monthly Payment Scheme (QRMP) Scheme** for quarterly returns by small taxpayers (turnover < ₹5 crore).
    d. **Reverse Charge Mechanism (RCM)**: Liability to pay tax rests with the recipient, not supplier.
12. **Benefits of GST**
    a. **Unified National Market**: Removal of inter-state barriers.
    b. **Ease of Doing Business**: Uniform rates and seamless **Input Tax Credit (ITC).**
    c. **Transparency**: Reduced corruption and tax evasion through digital trail.
    d. **Formalisation of Economy**: Encourages businesses to come into the tax net.
13. **Challenges in GST Implementation**
    a. **Exclusion of Key Items**: Petroleum and alcohol remain outside GST scope.
    b. **Complex Rate Structure**: Multiple slabs, exemptions, and cess lead to classification disputes.
    c. **Inverted Duty Structure**: It occurs when **GST on inputs is higher than GST on final products**. This leads to **accumulation of ITC**, which businesses must **claim as refunds**.
       i. Example: GST on raw material = 18%; GST on finished product = 12%.
       ii. Results in **working capital blockages**, refund delays, and compliance burdens.
    d. **Compliance Burden**: High frequency of returns, portal glitches, and lack of awareness.
    e. **Federal Tensions**: Revenue shortfalls and compensation issues have strained Centre-State relations.
14. **GST Reforms and GST 2.0**
    a. **Public Accounts Committee (PAC) Recommendations**: Shift to **GST 2.0** for better state autonomy. It includes real-time monitoring, biometric verification, and audit integration.
    b. **State Empowerment Proposals**: Assign entire GST revenue or petroleum excise to States for greater fiscal space.
    c. **Way Forward**: **Rationalise** tax slabs and include petroleum and alcohol in GST. Also, **strengthen GST Council decision-making** and dispute resolution.

Impact on Indian Economy

1. **Decline in Consumer Demand and Economic Activity**
   a. GST is a **consumption-based tax**, and low collections signal declining consumer spending.
   b. This decline, especially in urban areas, can **dampen overall economic momentum**.
   c. It reflects underwhelming post-pandemic recovery in sectors like retail and services.
2. **Stress on Fiscal Federalism and State Finances**
   a. States are under pressure due to **declining tax shares** and limited revenue options outside GST.
   b. Continued dependence on cess, which is not shared with states, has widened the Centre-State trust gap.
   c. This can **hinder efficient implementation** of welfare and development schemes at the state level.
3. **Delay in Achieving the Original GST Vision**
   a. The idea of **"one nation, one tax"** remains partially fulfilled as important items like fuel remain outside GST.
   b. Multiple tax slabs and exemptions continue to complicate compliance.
   c. Public perception of GST as a **burdensome** and **incomplete reform** is growing.
4. **Reduced Fiscal Space and Spending Ability**
   a. Slower tax collection reduces the government's ability to finance development and welfare programmes.
   b. This may lead to **higher borrowing**, **expenditure cuts**, or **reallocation** from essential sectors.
   c. It also affects the **fiscal deficit** and long-term economic sustainability.
5. **Taxpayer Confusion and Lower Compliance**
   a. A **complex** and **inconsistent tax system** can discourage compliance, especially among small businesses.
   b. Tax morale suffers when there is uncertainty and a lack of transparency in cess collection and rate changes.
   c. This **undermines** the broader **goal of formalising** the economy.

Challenges and Way Forward

Challenge	Way Forward
Sluggish and **uneven** GST revenue growth	**Rationalise GST rates** and **broaden** the **tax base** by including items like fuels and alcohol in a phased manner.
Excessive reliance on cess, especially Compensation Cess	**Phase out non-essential cesses** and integrate them transparently into the GST structure.
Lack of trust and coordination between Centre and States	**Promote cooperative federalism** through fair revenue sharing and inclusive decision-making in the GST Council.
Weak demand, especially in urban areas	**Implement demand-boosting measures** and simplify GST to stimulate consumption and business activity.
Persistent structural inefficiencies in GST	**Undertake time-bound reforms** such as reducing the number of slabs, improving compliance systems, and strengthening IT infrastructure.

4. India's Gig Workers

Why in the News?

1. The **Union Budget 2025** introduced several measures to formally **recognise gig and platform workers**, extending selected **social protection schemes** to this rapidly growing workforce.
2. However, the **Periodic Labour Force Survey (PLFS) 2025** has not been revised to reflect the unique nature of gig work, leaving significant gaps in official labour statistics.
3. As per **NITI Aayog's 2022 report** titled "India's Booming Gig and Platform Economy", the gig workforce is projected to grow to **23.5 million by 2029-30**.
4. Despite such projections and legal recognition under the **Code on Social Security, 2020**, the PLFS continues to categorise gig workers under **ambiguous classifications** like self-employed, own-account workers, or casual labour.

5. This **statistical invisibility** prevents an accurate understanding of their employment conditions and undermines policy planning and welfare delivery for the sector.

Key Highlights

1. **Legal Framework for Gig and Platform Workers**
   a. **Definition under Code on Social Security, 2020**
      i. **Gig Worker:** Defined in **Section 2(35)** as someone earning outside a traditional employer-employee relationship.
      ii. **Platform Work:** Involves using online platforms to solve problems or provide services without traditional employment ties.
      iii. While distinguishing gig work from formal/ informal categories, the law **does not adequately define** the specific nature of gig work
   b. **Social Security Provisions**
      i. **Clause 141:** Mandates the creation of a **Social Security Fund** for unorganised, gig, and platform workers.
      ii. **Section 6:** Establishes a **National Social Security Board** to design and oversee welfare schemes for gig and platform workers.
2. **Limitations of PLFS in Capturing Gig Work**
   a. **Absence of Specific Classification**: PLFS clubs gig workers under broad categories like self-employed, own-account workers, and casual labour, erasing the unique attributes of gig work.
   b. **Ignored Realities**:
      i. Features like working across platforms, absence of contracts, task-based work, and algorithmic control are not reflected.
      ii. **"No written job contract"** category fails to capture the **hybrid nature** of gig employment.
   c. **Lack of Methodological Updates**:
      i. The **Ministry of Statistics** acknowledged no updates were made to specifically capture gig work in PLFS.
      ii. PLFS includes gig work under "economic activity" but fails to distinguish the **digital, non-linear, and insecure** nature of such jobs.
3. **Consequences of Misclassification**
   a. **Exclusion Despite Recognition**:
      i. Workers are technically included but practically **excluded from data visibility and targeted welfare** due to poor classification.
   b. **Data Deficiency Impacts**:
      i. **Inaccurate employment trends** and job creation/loss estimates.
      ii. **Misguided policy decisions** and weak welfare delivery.
      iii. Boards relying on PLFS get **incomplete and flattened insights**, affecting evidence-based policymaking.
   c. **Invisible Employment Realities**:
      i. A gig worker juggling Swiggy and Zomato is misrepresented as **"self-employed,"** ignoring income instability and absence of safety nets.
4. **Governance and Policy Gaps**
   a. **Disconnect Between Initiatives and Data**:
      i. Initiatives like **e-Shram registration, digital ID issuance**, and **Ayushman Bharat** show government intent to support gig workers.
      ii. However, without **statistical reform**, these initiatives risk **uneven delivery and limited impact**.
   b. **PLFS 2025 Revisions—What Improved and What Didn't**:
      i. **Improvements:** Larger sample size, monthly estimates, better rural coverage.
      ii. **Persistent Gap:** No revision in classification codes to identify or track gig work specifically.
5. **Need for Statistical Reform**
   a. **Importance of Recognition with Representation**:
      i. True inclusion requires gig workers to be **distinctly captured in official labour data**, reflecting their work conditions.
   b. **Suggested Reforms**:
      i. Update PLFS classification codes.
      ii. Introduce dedicated **survey modules** for gig and platform work.
      iii. Incorporate indicators like algorithm-based control, multi-app engagement, absence of contracts, and social security access.

Challenges and Way Forward

Challenges	Way Forward
Gig work is **wrongly clubbed** under general categories	Add a **separate category** for gig and platform workers in PLFS
Digital and hybrid **job patterns** are **ignored**	**Redesign survey modules** to capture multi-platform, task-based work
Field staff **lacks awareness** about gig work complexities	**Train enumerators** to accurately identify digital labour arrangements
Fragmented data leads to under-informed decisions	Integrate PLFS with **e-Shram, Aadhaar**, and other government databases
Welfare decisions lack nuanced data	Include gig worker representatives and economists in framing data categories

5. Cat Bonds

Why in the News?

1. In India, most people have life insurance, but disaster insurance remains uncommon.
2. This leaves a large part of the population **financially unprotected** during floods, earthquakes, and other natural disasters.
3. With **rising climate-related disasters**, traditional insurance companies are struggling to cover increasing losses, making it harder for people to get affordable disaster coverage.
4. Experts are now exploring **catastrophe bonds (cat bonds)** as a new tool to finance disaster response, and India may take the lead in creating a **South Asian cat bond platform**.

Origin of Cat Bonds

1. **Cat bonds** were first developed in the **late 1990s** in the **United States**, after powerful hurricanes caused massive losses to insurance companies.
2. To reduce their risk, re-insurers (companies that insure insurance companies) began **transferring disaster risk to financial markets** using cat bonds.
3. These bonds allowed risk to be shared with **global investors**, rather than being carried by insurers alone.
4. Since then, **over $180 billion** worth of cat bonds have been issued globally, with around **$50 billion still active today**.

Key Highlights

1. **What Are Cat Bonds?**
   a. Catastrophe bonds (or cat bonds) are a special type of **insurance-cum-investment product**.
   b. They allow governments or insurers to **transfer the financial risk** of natural disasters like cyclones, floods, or earthquakes to investors.
   c. If a disaster happens, the investor loses part or all of the money, which is then used for **relief and rebuilding**.
   d. If no disaster occurs, the investor receives **interest (returns)** on their money.
   e. This helps unlock **large global capital** for use in **post-disaster recovery**, reducing pressure on public budgets.
   f. Risk is **shared globally**, making disaster losses more manageable.
2. **How Do They Work?**
   a. A government or company issues the cat bond and sets a **trigger condition** (e.g. an earthquake of 6.5 magnitude or above).
   b. Investors buy the bond and earn returns if no such disaster occurs.
   c. If the trigger is met, the money is **used for emergency aid**, and investors lose their capital.
   d. Institutions like the **World Bank** or **Asian Development Bank** help countries **structure and issue** these bonds.
3. **Why Are Cat Bonds Attractive to Investors?**
   a. They offer **higher returns** compared to normal bonds because they carry more risk.
   b. The risk of natural disasters is **not connected to financial markets**, making them useful for **diversifying investment portfolios**.
   c. Large global funds like **pension funds** and **hedge funds** invest in them.
   d. Nobel laureate Harry Markowitz called such diversification "**the only free lunch in finance**."

Polity I.R. Security Economy Science Click Here for INDEX Geography Society History Ethics P.i.N.

4. **Why Should India Consider Cat Bonds?**
   a. India faces frequent and severe disasters, from **cyclones** and **earthquakes** to **floods** and **tsunamis**.
   b. Many people and assets remain **uninsured**, making losses worse.
   c. India already spends around **₹1.8 billion per year** on disaster risk reduction. Cat bonds can **reduce this burden**.
   d. A **South Asian cat bond**, covering India and countries like **Nepal, Bhutan, Sri Lanka, Maldives, Myanmar**, could spread risk regionally.
   e. India's **stable economy and risk profile** make it a good candidate to lead such an effort.
5. **How Do Cat Bonds Help During Climate Disasters?**
   a. Climate change is causing more frequent and intense disasters.
   b. Regular insurance is becoming **too costly or unavailable** in such risky times.
   c. Cat bonds provide a **predictable and fast source of funding** when disaster strikes.
   d. They help governments avoid sudden borrowing or reliance on **slow-moving aid**.

Click Here for INDEX

Implications for India

1. **Boosts Disaster Preparedness:** Cat bonds offer quick access to funds, enabling faster rescue, relief, and recovery.
2. **Reduces Fiscal Burden:** They lower dependence on taxpayer money or emergency loans, ensuring better financial planning.
3. **Promotes Disaster Insurance:** Encourages insurance adoption among citizens and businesses, helping close the protection gap.
4. **Attracts Global Investment:** Invites foreign capital into disaster resilience, enhancing trust in India's systems.
5. **Drives Financial Innovation:** Introduces modern risk-financing tools, deepening capital markets and fostering economic resilience.
6. **Strengthens Regional Cooperation:** Can lead a South Asian cat bond initiative to manage shared risks and boost regional safety.
7. **Supports Climate Adaptation:** Provides reliable climate finance during extreme events, aiding India's climate resilience.
8. **Builds Investor Confidence:** Signals India's readiness for sophisticated financial tools and responsible disaster planning.

Challenges and Way Forward

Challenges	Way Forward
Basis Risk: Bond may not pay if the disaster is slightly below the trigger limit (e.g., 6.4 quake instead of 6.5).	Use more **accurate disaster models** and **past data** to set fair trigger conditions.
High Structuring Cost: Setting up bonds with intermediaries like the World Bank can be **costly**.	**Share costs** across South Asian countries and reuse **existing risk frameworks**.
Low Awareness: Many Indian investors and officials may not understand cat bonds.	Conduct **training programs** and public education to raise awareness and build confidence.
No Legal Framework: India currently lacks specific laws or policies on cat bonds.	The government should create a **national disaster finance policy** that includes cat bonds.
Trust and Transparency Issues: Investors may worry about **misuse of funds** or unclear payout terms.	Ensure **clear rules, open reporting**, and independent monitoring to build trust.

6. Gini Coefficient: Misreading India's Inequality

Why in the News?

1. In **July 2025**, the Indian government claimed that India is not only the **world's fourth-largest economy** but also one of the **most equal societies**.
2. This claim was based on the **World Bank's Poverty and Equity Brief**, which measured India's **Gini Coefficient** at **25.5**.
3. According to this measure, India ranked as the **fourth most equal country**, after the **Slovak Republic, Slovenia, and Belarus**.

4. However, this conclusion is based only on **consumption-based Gini Index**, which experts say presents a **misleading and incomplete picture** of actual inequality in India.

Gini Coefficient

1. The **Gini Coefficient** is named after **Corrado Gini**, an Italian statistician.
2. It measures inequality on a scale of **0 to 1** (or **0% to 100%**):
   a. **0** means **perfect equality** (everyone has the same income or wealth).
   b. **1** means **perfect inequality** (one person has everything, others have nothing).
3. A **higher Gini value** indicates **greater inequality**.
4. It is commonly used in **economics and social studies** to assess how **fairly income or resources are shared** in a society.

Key Highlights

1. **Consumption based Gini Index**
   a. The **Gini Index** based on consumption does **not reflect true income or wealth inequality**.
   b. **Consumption levels remain more stable** and appear equal, even if incomes differ widely.
   c. When incomes rise, people tend to **save more**, but this is **not reflected** in consumption data.
   d. Therefore, this method often **understates the real level of inequality** and leads to **inaccurate comparisons with other countries**.
2. **Income and Wealth Data**
   a. As per the **World Inequality Database**: **Income-based inequality** rose sharply: the Gini index increased from **52 in 2004 to 62 in 2023**.
   b. According to **2023–24 wage data**: The **top 10% of earners make 13 times more** than the **bottom 10%**.
   c. However, the government's statement **ignored this income and wealth data**, which paints a more **realistic and concerning picture** of inequality.
3. **Limitations of Survey Data**
   a. While inequality between the **top 10% and bottom 10% is increasing**, surveys often **fail to capture this**.
   b. Two major reasons for this:
      i. **Rich households often refuse to participate** in surveys.
      ii. **Random sampling** rarely includes very rich individuals, so their incomes are **underrepresented**.
   c. If **90% of the population** appears relatively equal and the inequality lies within the **top 1%**, then missing this group **skews the data** (make data look more equal than it actually is).
   d. This leads to inaccurate inequality measurement.
   e. This data gap can also be seen in other countries like the US, UK, etc.
4. **Problems with the Gini Index**
   a. The Gini Index does **not capture all dimensions** of inequality.
   b. It is **not sensitive to the extremes** (top 1% or bottom 1%), where inequality is often most severe.
   c. It is **too sensitive to changes in the middle**, which can make inequality **appear lower** than it actually is.
   d. Thus, relying only on the Gini Index, especially **consumption-based Gini**, gives an **incomplete and often misleading picture**.

Implications for India

1. **Flawed Policy Design:** Underestimating inequality can lead to poorly targeted welfare schemes and reduced focus on redistribution.
2. **Weakens Social Equity:** Inaccurate data masks real disparities, undermining inclusive growth.
3. **Damages Global Credibility:** Flawed metrics reduce India's trustworthiness in global forums and hurt its image as a data-reliant democracy.
4. **Misguided Tax and Spending Decisions:** Perceived low inequality may stall progressive taxation and misdirect public spending.
5. **Delays Structural Reforms:** False equality can slow reforms in labor, education, and healthcare, leaving key inequalities unaddressed.

Other Measures of Inequality

1. **Lorenz Curve**
   a. It is a **graphical representation** of income or wealth distribution.

Click Here for INDEX

b. The **x-axis** shows cumulative population (from poorest to richest), and the **y-axis** shows cumulative income.
c. A **perfect equality line** is a 45-degree diagonal — the further the actual curve lies below it, the **greater the inequality**.
d. It helps **visualize inequality**, often used along with the Gini Coefficient.

2. **Theil Index**
a. It is based on **information theory** and measures inequality using mathematical formulas.
b. A **higher value** means greater inequality; value is **zero in perfect equality**.
c. It can be **broken down into within-group and between-group inequality**, useful for comparing regions or social groups.
d. It gives **more weight to income differences at the top**, unlike Gini.

3. **Atkinson Index**
a. It measures inequality while considering **societal attitudes towards inequality**.
b. A key feature is the **inequality aversion parameter** – the higher this value, the more sensitive the index is to inequality at the lower end.
c. Helps answer: "How much total income would a society be willing to give up to achieve equality?"
d. Useful for **policy evaluation**, especially in poverty-related programs.

4. **Palma Ratio**
a. It compares the **income share of the richest 10%** to the **poorest 40%**.
b. Based on the idea that the middle 50% tends to have a stable income share across countries.
c. A **higher Palma Ratio** indicates more concentration of income among the rich.
d. Simpler and more intuitive than the Gini Index.

5. **Income Quintile Share Ratio (QSR)**
a. It compares the **average income of the top 20% (richest quintile)** to the **bottom 20% (poorest quintile)**.
b. Shows how many times richer the top group is than the bottom group.
c. Commonly used by **World Bank and UNDP** in inequality reports.
d. A **higher QSR** means **greater income inequality**.

6. **Multidimensional Inequality Framework (MIF)**
a. Goes beyond income; looks at **inequality across multiple dimensions**: health, education, housing, security, etc.
b. Focuses on **outcomes, treatment, and opportunity inequality**.
c. Useful in measuring **social justice**, especially in welfare programs and SDG monitoring.

Click Here for INDEX

Challenges and Way Forward

Challenges	Way Forward
1. Incomplete Data from Rich Households: Wealthy citizens **refuse or avoid** participating in surveys.	Improve **survey design** with oversampling of high-income brackets; use **tax and administrative data**.
2. Overdependence on Consumption Gini: It hides **real income and wealth disparities**.	Use **multiple metrics**: income share, wealth inequality, Palma ratio, etc.
3. Random Sampling Limitations: Richest 1% often **missed in samples**, skewing results.	Blend **survey and non-survey sources** for holistic data.
4. Political Disincentives: Acknowledging inequality may **weaken government narratives**.	Build **independent statistical institutions** to ensure credibility and transparency.
5. Lack of Public Awareness: Citizens may not demand better metrics if unaware of flaws.	Conduct **public education** on how inequality is measured and why it matters.

7. Corporate Investment Lags

Why in the News?

1. As per the **Ministry of Statistics and Programme Implementation (MoSPI)**, India's **Index of Industrial Production (IIP)** slowed to a **nine-month low of 1.2%** (June 2025), indicating sluggish industrial activity.

2. Despite favourable corporate financial conditions and policy support (e.g., tax cuts, capital expenditure or capex push, lower interest rates), **private sector investment has remained weak** post-COVID-19.
3. The Economic Survey 2024-25 noted that while company profits are high, **job creation and salary growth are not improving**, and **investment in manufacturing has been slow**.

Index of Industrial Production (IIP)

1. **Definition:** A statistical tool that measures short-term changes in the volume of production in Indian industries.
2. **Purpose:** Tracks industrial growth or contraction over a specific period; serves as a vital economic indicator.
3. **Publishing Authority:** Released monthly by the **Central Statistics Office** (CSO) under the **Ministry of Statistics and Programme Implementation** (MoSPI).
4. **Current Base Year:** 2011–12
5. **Sectoral Composition of IIP: Manufacturing** (around 78%), **Mining** (around 14%) and **Electricity** (around 8%)
6. **Eight Core Industries** (weight around **40% in IIP**): Refinery Products, Electricity, Steel, Coal, Crude Oil, Natural Gas, Cement and Fertilizers.

Key Highlights

1. **Investment Depends on Demand**
   a. Investment means spending on new factories, equipment, or projects.
   b. Companies **will only invest if they think people will buy** the goods they produce.
   c. So, **investment is not autonomous (not independent)**.
   d. It depends on **how much demand they expect** in the future.
   e. If people are not buying much (due to low income, fewer jobs), companies don't see the point of expanding.
   f. This discourages **corporate investment**.
2. **What the Government Has Tried**
   a. In 2019, corporate tax was cut from **30% to 22%** to give companies more money to invest.
   b. The government also increased **capital expenditure** (spending on roads, railways, ports, etc).
   c. RBI also **reduced interest rates** to make it cheaper for companies to borrow money.
   d. But still, private companies are **not investing as expected**.
3. **Important Debate Among Economists: Two economists**, Baranovsky and Luxemburg, had different views:
   a. Baranovsky: Investment can happen without worrying about current demand. If all companies invest, they will create demand for each other's goods.
   b. Luxemburg: Companies take decisions **individually**, not together. A single company won't invest unless it sees its own product in demand.
   c. So, unless **people start buying more**, firms will **not invest**, even if profits are high.
4. **What Really Drives Investment?**
   a. Another economist, **Kalecki**, said: Companies can choose to invest, but they **cannot choose to make profits**.
   b. This means that **investment can create profit**, but only **if demand exists**.
   c. Many people think investment itself can bring growth, but **in times of low demand**, this idea doesn't work.
   d. Stimulus (external push) is needed to start this cycle, through government spending or exports.
5. **Current Misinterpretation of Profit-Investment Relationship**
   a. The government assumed **higher profits → higher investment**, which is misleading.
   b. In reality, **revival in demand** must precede investment.
   c. Investment **follows** recovery, it **cannot initiate** it.
6. **Why Capex Has Not Worked Well?**
   a. Gestation delays: Big infrastructure projects (like ports) take time to finish, so the **benefits are delayed**.

b. **Import Leakage:** Some of the money spent on capex goes to **imports (foreign goods)**, so it doesn't help the Indian economy much.

c. **Low labour intensity**: Many projects use **heavy machines** and **hire fewer workers**, so they **don't increase income or demand** in the short term.

Implications for the Indian Economy

1. **Sluggish Manufacturing Growth**
   a. Investment in machinery and technology is slow.
   b. So, **India's goal to increase manufacturing's share in GDP is delayed**.
   c. This also hampers India's overall **global competitiveness.**
2. **Stagnant Formal Employment Creation**
   a. Despite high profitability, **hiring and wage growth has not kept pace**.
   b. Formal, high-quality job creation is **less than expected**.
3. **Ineffective Policy Transmission**
   a. Tax cuts and interest rate reductions have not translated into **meaningful private investment**.
   b. Indicates a **disconnect between corporate performance and investment behaviour**.
4. **Crowding-in Still Weak**
   a. Capex hasn't sufficiently **crowded in private investment**.
   b. Infrastructure benefits may be long-term but **short-term demand remains muted**.
5. **Dependence on External and Government Demand**
   a. With **global demand weakening** (e.g., US tariff regimes), **public spending** becomes the only effective external stimulus.
   b. This makes **fiscal policy the main lever** for economic recovery.

Click Here for INDEX

Challenges and Way Forward

Challenges	Way Forward
1. **Low aggregate demand** due to wage stagnation and employment slowdown	Enhance **direct income support** and employment schemes to boost consumption
2. **Policy misalignment** assuming profit drives investment	Recognize **demand-side constraints and shift** focus to demand stimulation
3. **Capex leakage via imports**	Promote **local procurement policies** and domestic value chains
4. **Low employment elasticity of capex**	Prioritize **labour-intensive infrastructure and MSME support**
5. **Delayed crowd-in effects**	Complement **capex with short-term consumption boosters** (e.g., urban job schemes, tax rebates)

8. PM Dhan Dhanya Krishi Yojana

Why in the News?

1. The **Union Cabinet** approved the **PM Dhan Dhanya Krishi Yojana** in **July 2025**.
2. The scheme aims to **improve agricultural productivity** across the country.
3. It also encourages **sustainable agricultural practices** among the farmers.

Key Highlights

1. **Background**
   a. The **PM Dhan Dhanya Krishi Yojana** was first announced in the **Union Budget 2025–26**.
   b. It is inspired by the **success of the Aspirational District Programme**.
   c. The scheme will **bring together 36 existing schemes** from **11 different Ministries**.
   d. It will be **implemented in 100 districts across the country**.
   e. The scheme has a **total yearly budget of ₹24,000 crore** for **six years starting 2025–26**, aiming to **benefit 1.7 crore farmers**.
2. The program has **five objectives:**
   a. **Increase agricultural productivity** to help farmers grow more crops.
   b. **Promote crop diversification** and encourage **eco-friendly, sustainable farming methods**.
   c. **Improve post-harvest storage** at the **panchayat and block levels** to reduce crop losses.
   d. **Upgrade irrigation facilities** to ensure better water supply for farming.
   e. **Ensure easy access to both short-term and long-term credit** for farmers.

3. **Parameters for selecting a District**
   a. **3 parameters:** Low productivity, Moderate crop intensity and Below-average credit parameters.
   b. **The number of districts in each state/ Union Territory will be based on: Share of net cropped area** (the total area actually used for crops) and Number of **operational holdings** (farms or plots actively used for agriculture).
   c. **At least one district** will be selected from **each state and Union Territory**.
4. **Ranking of Districts**
   a. **Districts covered** under the scheme will be **ranked based on their performance**.
   b. The scheme's progress in each selected district will be **monitored every month** using **117 Key Performance Indicators (KPIs)**.
   c. A **dedicated portal or dashboard** will be created to track and display this progress.
   d. **NITI Aayog** will provide **overall guidance and help build capacity** for the successful implementation of the scheme.
5. **Implementation on Ground**
   a. A **master plan** will be created for each district under the scheme, known as the **District Agriculture and Allied Activities Plan**.
   b. This plan will be prepared by the **District Dhan Dhaanya Samiti**, headed by the **District Collector**, and will include **progressive farmers as members**.
   c. The plans will focus on **key national goals** such as: Crop diversification, water and soil conservation, self-sufficiency in agriculture and allied sectors and expansion of natural and organic farming
   d. Plans will be prepared through **extensive consultations** and by studying **cropping patterns and allied activities suited to the agro-climatic conditions** of each district.
   e. **Committees at the district, state, and national levels** will oversee the effective implementation of the scheme.
   f. **Central Nodal Officers (CNOs)** will be appointed to **visit fields, conduct reviews, and monitor progress**.
   g. Each district will be supported by **central and state agricultural universities** as **technical knowledge partners**.
6. **Expected results of the scheme**
   a. **Increase in agricultural productivity** across targeted districts.
   b. **More value addition** in agriculture and allied sectors, like dairy, fisheries, etc.
   c. **Creation of local livelihoods**, especially in rural areas.
   d. **Boost in domestic production**, moving towards **self-reliance (Atmanirbhar Bharat)**.
   e. As the **performance of these 100 districts improves**, it will lead to **overall improvement in national agricultural indicators**.

Impacts on Economy

1. **Improved Resource Efficiency:** Targeted irrigation and planning boost productivity and reduce monsoon reliance.
2. **Rural Income Stabilisation:** Better post-harvest systems and credit access raise farmers' earnings and resilience.
3. **Enhanced Market Competitiveness:** Diversification and value-addition improve export potential and meet market demand.
4. **Boost to Allied Sectors:** Integrated strategies support fisheries, dairy, and rural enterprises through strong linkages.
5. **Agri Governance Reform:** Data-driven monitoring fosters accountability and performance-oriented policy-making.

Challenges and Way Forward

Challenges	Way Forward
Misaligned district selection criteria (e.g., low credit disbursement used)	Use more meaningful indicators like **net agricultural income per hectare for district selection**
Over-reliance on **external credit** for farming sustainability	Promote **income diversification** via allied sectors and **reduce credit-dependency** through value-added farming

Farmer resistance to change and lack of awareness	Strengthen **local extension services** and **incentivise adoption** of **sustainable, resilient practices**

9. Digital India Scheme

Why in the News?

1. The **Digital India programme** completed **10 years** in July 2025.
2. Prime Minister Narendra Modi said that this scheme has become a **people's movement** rather than just a government scheme.
3. He highlighted how digital infrastructure has reduced leakages, bridged the digital divide, and enhanced service delivery.

Key Highlights of the Article

1. About the Mission

- **a. Launched:** July 1, 2015
- **b. Nodal Ministry:** Ministry of Electronics and Information Technology (MeitY)
- **c. Aim:** Transform India into a digitally empowered society and a knowledge economy.
- **d. Nature:** Umbrella programme integrating services across ministries and departments.

2. 3 Vision Areas

- **a. Digital Infrastructure as a Utility to Every Citizen:**
  - i. Provide high-speed internet, digital ID, mobile, and bank access to all.
  - ii. This will help to eliminate the gap between the **"haves and have-nots."**
- **b. Governance and Services on Demand:**
  - i. Make government services easily available online and in real time.
  - ii. It will help to **increase transparency**, and reduce dependence on intermediaries.
- **c. Digital Empowerment of Citizens:**
  - i. Promote **digital literacy** and ensure access to digital tools and resources for all.
  - ii. This will help to reduce the **digital divide** and bring government services closer to citizens.

3. Achievements of Digital India

Sector	Key Achievements
Digital Economy	1. The digital sector contributed **11.74% to India's GDP** in the financial year **2022–23** which is projected to reach **13.42% by 2024–25**. 2. India ranks **third globally** in digitalisation of the economy (State of India's Digital Economy Report 2024).
Connectivity and Infrastructure	1. Total internet connections increased from **25 crore in 2014** to **97 crore in 2024**. 2. Under the BharatNet programme, **2.18 lakh Gram Panchayats** have been connected with high-speed broadband. 3. India's **5G rollout** reached **99.6% of districts** and around 4.8 lakh base stations were installed in just last 2 years.
Digital Finance and Financial Inclusion	1. In April 2025 alone, the Unified Payments Interface (UPI) handled **1,867.7 crore transactions** worth **₹24.77 lakh crore**. 2. Aadhaar-enabled Direct Benefit Transfer (DBT) has eliminated fake beneficiaries and resulted in savings of **₹3.48 lakh crore**. 3. Total DBT transfers have crossed **₹44 lakh crore** as of May 2025.
E-Governance Platforms	1. The UMANG (Unified Mobile Application for New-Age Governance) platform offers **more than 2,300 government services** in **23 Indian languages**, with over **597 crore transactions recorded**. 2. The DigiLocker platform has over **54 crore registered users**, allowing citizens to store official documents digitally.

Strategic Technology Initiatives	1. The **India Artificial Intelligence (IndiaAI) Mission** aims to build a strong and inclusive AI ecosystem. 2. Under the India Semiconductor Mission, **six major projects** have been approved. 3. India is hosting **SEMICON India 2025**, a global initiative to strengthen chip manufacturing and innovation.
Digital Literacy and Capacity Building	1. Under Mission Karmayogi, **1.21 crore civil servants** have been trained through the **Integrated Government Online Training (iGOT)** platform. 2. The Bhashini platform supports **more than 35 Indian languages** and has recorded **8.5 lakh mobile application downloads**, promoting digital inclusion.

Impact on the Indian Economy and Society

1. **Better Governance and Transparency**
   a. Government services are now tracked in real-time through online dashboards.
   b. Direct money transfers (DBT) have made the system cleaner and faster.
   c. It has **reduced corruption** and made government schemes more efficient.
2. **Financial Inclusion**
   a. The **Jan Dhan-Aadhaar-Mobile (JAM)** system helped millions open bank accounts.
   b. People now use less cash and more digital payments.
   c. Rural areas and women now have **better access to banking**.
3. **Rural Empowerment**
   a. High-speed internet and digital centres reached villages.
   b. People in remote areas can now access education, health, and farming help in online mode also.
   c. Apps like **UPI and online marketplaces** helped small village businesses grow.
4. **Boost to the Economy**
   a. Digital tools helped new businesses, tech startups, and gig workers grow.
   b. One-stop platforms made doing business easier and reduced paperwork.
   c. Small businesses (MSMEs) and youth gained new skills and job opportunities.
5. **Improved Global Reputation**
   a. India became a global example in building **digital public systems.**
   b. Platforms like **CoWIN** (for vaccines), **UPI** (for payments), and **DigiLocker** (for documents) are now praised worldwide.
   c. It improved **India's global image** in technology and governance.
6. **Transformative Initiatives**
   a. Saksham Anganwadi Initiative
      i. Over 2 lakh Anganwadi centres have been upgraded.
      ii. Equipped with digital devices, improved infrastructure, and training for Anganwadi workers.
      iii. Services registered on Poshan Tracker, improving service delivery.
   b. Poshan Tracker
      i. Digital platform bridging rural-urban service gap.
      ii. Recognised for **PM's Award for Excellence in Public Administration (2025)**.
      iii. Supports initiatives like **Poshan Bhi, Padhai Bhi** for early childhood education.
   c. She-Box Portal
      i. Single-window complaint mechanism under Sexual Harassment of Women at Workplace Act (2013).
      ii. Enables **online redressal** and tracking of complaints.
   d. Facial Recognition in Nutrition Programme
      i. Aims to **reduce leakages** by identifying genuine beneficiaries.

Click Here for INDEX

e. **Mission Shakti Dashboard & Mobile App**
   i. Provides **integrated support** and connects women to one-stop centres.
   ii. Ensures access to safety, justice, and empowerment.

f. **Pradhan Mantri Matru Vandana Yojana (PMMVY)**
   i. **Direct cash transfer** scheme supporting pregnant and lactating mothers.
   ii. Over 4 crore beneficiaries.
   iii. Fully digital, Aadhaar-based, paperless system.

Challenges and Way Forward

Challenges	Way Forward
Digital divide between urban and rural areas	Invest in **rural infrastructure** and last-mile connectivity
Low digital literacy among older and marginalised groups	**Strengthen digital literacy** through community-level training
Cybersecurity and **data privacy** concerns	**Enact robust data protection** and cybersecurity laws
Dependence on smartphone/internet penetration	**Promote low-cost devices** and public digital access points
Limited access for the disabled	**Ensure universal design** and inclusive platforms

Click Here for INDEX

10. Employment Crisis in India

Why in the News?

1. There's a **visible shift in employment patterns post-pandemic**, with informal and gig work rising.
2. Alarming rise in educated yet unemployed youth in India, as reported by the **International Labour Organization (ILO).**
3. A growing disconnect is there between what is taught in institutions and what employers demand.

Key Highlights:

1. **Post-Pandemic Employment Trends**
   a. EPFO (Employees' Provident Fund Organisation) data shows a **decline in formal employment** post-COVID.
   b. Though recovery has started by March 2023, a significant portion of young people are still unemployed.
   c. The **18–25 age group** dominates new job enrollments, reflecting entry-level job-seekers in the workforce.
2. **Rising Informal Sector and Gig Economy**
   a. **90% of jobs in India** are now in the informal sector (no fixed contracts or job security).
   b. Gig work (freelance/short-term tasks) is increasing but lacks social protection and stability.
   c. **Gig Economy** refers to a labor market where **short-term, flexible jobs** are common, and workers are typically **hired on a task-by-task basis** rather than being employed on a long-term or permanent basis.
3. **Youth Unemployment**
   a. The **International Labour Organisation (ILO)** states 83% of Indian youth are not in regular education or employment.
   b. Educated youth face high unemployment because they lack industry-ready skills.
4. **Skill Gap Crisis**
   a. Basic **digital and soft skills** are missing in a large section of youth.
   b. Employers demand **critical thinking, communication, and adaptability**, which are not taught in traditional education.
5. **Economic Forecast**
   a. By **2030**, India will need to generate around **78 million new jobs**.
   b. If not addressed, nearly **40% of India's youth** may continue to remain unemployed.

Key Government Schemes and Initiatives

1. **Pradhan Mantri Kaushal Vikas Yojana (PMKVY)**
   a. **Objective:** To train youth in industry-relevant skills.
   b. **Features:** Short-term skill development courses; certification and placement assistance and focus on both rural and urban youth.

2. **National Apprenticeship Promotion Scheme (NAPS)**
   a. **Objective:** Promote apprenticeship training by providing financial support to industries.
   b. **Why it matters:** Apprenticeship is a bridge between education and employment; helps in gaining hands-on experience.
3. **Skill India Mission**
   a. **Launched:** 2015
   b. **Goal:** To train over 40 crore people in different skills by 2022 (extended forward).
   c. **Focus:** Improving employability through vocational and technical skills.
4. **Deen Dayal Upadhyaya Grameen Kaushalya Yojana (DDU-GKY)**
   a. **Target Group:** Rural youth (15–35 years) from poor families.
   b. **Aim:** Skill development with a strong focus on job placement.
   c. **Special Feature:** Mandatory 70% placement after training.
5. **National Career Service (NCS)**
   a. **Platform:** Digital platform that connects job-seekers with employers.
   b. **Also Provides:** Career counselling, job fairs, skill training, and vocational guidance.
6. **Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA)**
   a. **Type:** Wage employment scheme.
   b. **Guaranteed Employment:** 100 days of wage employment in a year to rural households.
   c. **Significance:** Provides livelihood support in rural areas, especially for unskilled labor.
7. **Stand Up India Scheme**
   a. **Focus:** Promotes entrepreneurship among SC/ST and women.
   b. **Support:** Bank loans between ₹10 lakh to ₹1 crore to set up new enterprises.
8. **Startup India and Atal Innovation Mission**
   a. **Goal:** Encourage youth entrepreneurship, innovation, and job creation through startups.
   b. **Support:** Funding, mentoring, tax benefits, and incubation support.
9. **Unnat Bharat Abhiyan**
   a. **Objective:** Link higher education institutions with rural development.
   b. **Significance:** Encourages students to work on real-world rural employment and livelihood challenges.
10. **Pradhan Mantri Digital Saksharta Abhiyan (PMGDISHA)**
    a. **Goal:** Make at least one person in every household digitally literate.
    b. **Importance:** Bridges the digital divide, essential for digital employment opportunities.

Challenges and Way Forward:

Challenges	Way Forward
Mismatch between **education** and **industry needs**	**Curriculum reform**: align syllabus with practical, job-oriented skills
High share of **informal jobs** lacking security and benefits	Strengthen **social security schemes** and **formal job opportunities**
Lack of digital, communication, and problem-solving skills in graduates	Increase access to **vocational** education, **coding**, **language training**, and **internship** programs
Absence of proper career guidance and job placement systems in institutions	Set up career centres and **placement cells** across all higher education institutions
Regional imbalance in employment opportunities	**Create job hubs in Tier-2 and Tier-3 cities** through investment and industrial corridors
Poor implementation of employment policies	Ensure **better coordination** between Centre and State departments for labour and education

Polity

SCIENCE AND TECHNOLOGY

I.R.

1. Shubhanshu Shukla on ISS

Why in the News?

1. Group Captain Shubhanshu Shukla of the Indian Air Force made history in **June, 2025.**

Security

2. He became the **first Indian to enter the International Space Station (ISS)**.
3. He went into space as part of **Axiom Mission 4 (Ax-4)**, along with three other astronauts.

Economy

Key Highlights

1. Group Captain Shukla flew to space in a **Dragon crew capsule**.
2. The spacecraft took off from **Florida, USA** on **June 25, 2025**.

Science

3. It reached and **docked with the ISS at 4:01 p.m. IST** on **June 26.**
4. He was the **mission pilot** on this flight.
5. The crew (4 astronauts) stayed in the ISS for **two weeks**.
6. They did **scientific experiments**, including **eight from ISRO**.

Geography

7. Another Indian astronaut, **Prasanth Nair**, was part of the back-up crew.
8. ISRO paid over **₹500 crore** to be part of this mission.

Society

About Axiom Mission 4

1. **What is Axiom Mission 4 (Ax-4)?**
   a. Axiom 4 is the fourth private astronaut mission to the International Space Station (ISS), organized by **Axiom Space** alongside NASA and launched using SpaceX's Falcon 9 Crew Dragon.

History

2. **Significance for India:**
   a. Work planned for about **60 experiments** in total, with several led by **ISRO** focused on **microgravity, biology, crop science, microbial adaptation, muscle and cognitive health**, and **tardigrade research**.

Ethics

   b. This mission is a **step towards Gaganyaan**, India's own human spaceflight mission.

P.i.N.

   c. It helps **India gain experience** in sending astronauts to space.
   d. It also shows **international cooperation**, especially with the USA.
   e. This success will help **build confidence** for future Indian space missions.
3. **Global Context**
   a. **A first-of-its-kind collaboration: India, Poland, and Hungary's first ISS missions** via a commercial private flight.
   b. Builds global space cooperation, strengthens **India–USA ties,** and complements **India's Artemis-Accords efforts.**
   c. The **Artemis Accords** are a **set of principles** and **rules** created by **NASA and the U.S. government** to guide peaceful and cooperative exploration of the **Moon, Mars, and beyond.**

Challenges and Way Forward

Challenges	Way Forward
1. Technological Dependence on Foreign Agencies.	**Strengthen domestic capabilities** through Gaganyaan, HAL, ISRO–DRDO synergy, and indigenous tech R&D.
2. High Cost of Participation in Commercial Missions.	Develop **cost-effective indigenous missions**, negotiate better partnerships, seek PPP models.
3. Limited Astronaut Training Infrastructure	Expand **astronaut training** capabilities within India (e.g. at ISRO's Gaganyaan training centre).
4. Risks Associated with Human Spaceflight (safety, life support, re-entry).	**Invest** in robust safety systems, simulation-based training, and emergency handling protocols.

5. Coordination Issues in International Collaborations.	Develop a **dedicated international collaboration cell** at ISRO to streamline negotiations and logistics.
6. Space Medicine and Psychological Research Gaps.	**Fund space medicine, cognitive health studies,** and **collaborations with AIIMS** and other institutions.
7. Sustaining Long-Term Human Spaceflight Programs.	Create a **National Human Spaceflight Roadmap** with clear targets post-Gaganyaan (e.g. space stations).
8. Limited Industry Involvement in Space Hardware.	Encourage **private sector participation** via IN-SPACe and liberalised FDI in the space sector.

2. Semaglutide and Tirzepatide

Why in the News?

1. Danish pharmaceutical company **Novo Nordisk** launched its popular **weight-loss injection, semaglutide**, in India.
2. This comes a few months after **Eli Lilly's Tirzepatide** was introduced in the Indian market.

What is Incretin?

1. Incretins are a **group of hormones** made by the **gut (intestine)** that help **regulate blood sugar levels** after eating.
2. **Major Incretin Hormones:**
   a. GLP-1 (Glucagon-Like Peptide-1)
   b. GIP (Gastric Inhibitory Polypeptide or Glucose-dependent Insulinotropic Polypeptide)

Key Highlights

1. **Semaglutide**: Weekly injection; Approved for obesity in **2021** reduces heart attacks by 20%.
2. **Tirzepatide**: Acts on both **GLP-1 and GIP**; even more effective in weight loss; approved for sleep apnoea.
3. These medicines help people lose **15% to 20% of their body weight**.
4. This amount of weight loss is similar to what people achieve after **bariatric (weight-loss) surgery**.
5. These drugs are not only for weight loss but are also helpful for other **health problems**.

GLP-1 and GIP

GLP-1 (Glucagon-Like Peptide-1)

1. **Made** in the **small intestine**.
2. **Main functions**:
   a. **Stimulates insulin release** from the pancreas (helps lower blood sugar).
   b. **Suppresses glucagon** (a hormone that increases blood sugar).
   c. **Slows stomach emptying**, leading to slower glucose absorption.
   d. **Reduces appetite** by signaling the brain to feel full.
3. **Used in**: Type-2 Diabetes and obesity treatment (e.g., **semaglutide**, **liraglutide**).

GIP (Gastric Inhibitory Polypeptide or Glucose-Dependent Insulinotropic Polypeptide)

1. **Made** in the **small intestine**.
2. **Main functions**:
   a. Enhances **insulin secretion** in response to food.
   b. May help regulate **fat metabolism**.
   c. When combined with GLP-1 action (as in **Tirzepatide**), it enhances weight loss and glucose control.
3. **Research ongoing** to fully understand its role in appetite and metabolism.

Relation Between Glp-1, Gip, Semaglutide and Tirzepatide

Component	Type	Function	Role in Drugs
GLP-1	Natural incretin hormone	Boosts insulin, lowers glucagon- Slows stomach emptying- Reduces appetite	Mimicked by semaglutide and tirzepatide
GIP	Natural incretin hormone	Increases insulin secretion- may improve fat metabolism	Mimicked by tirzepatide

Click Here for INDEX

Semaglutide	Synthetic drug (GLP-1 receptor agonist)	Acts like GLP-1 only- Used to treat type-2 diabetes and obesity	Mimics only GLP-1
Tirzepatide	Synthetic dual agonist	Mimics both GLP-1 and GIP- More effective in weight loss and sugar control	Mimics GLP-1 + GIP

Challenges and Way Forward

Challenges	Way Forward
1. High **cost** of GLP-1 and GIP-based drugs, limiting access in low-income populations.	Encourage **generic versions** and **price controls** for equitable access.
2. Long-term **safety** and **side effects** are still being studied.	Continue **post-marketing surveillance** and long-term studies.
3. Overdependence on medication for weight loss may ignore root causes like lifestyle.	Integrate with **diet, counselling, and physical activity** programs.
4. Limited **public awareness** and healthcare provider knowledge in rural areas.	Invest in **medical education** and **awareness campaigns**.
5. Risk of **misuse or overuse** for cosmetic purposes rather than health needs.	Strict **regulatory guidelines** and **prescription protocols** needed.
6. Current drugs are **injectable**, posing inconvenience.	Fast-track development and approval of **oral formulations**.

Click Here for INDEX

3. India's AI Future Needs Strategy First

Why in the News?

1. India has expressed its **ambition** to become a **global leader** in **Artificial Intelligence** (AI) **governance**.
2. As the **world's largest democracy** with strong technological capabilities, it is well-placed to promote an **inclusive** and **human-centric AI framework**.
3. However, this vision may be **weakened** by the **lack** of a **comprehensive** and **democratically** grounded **national AI strategy**.

About Artificial Intelligence (AI)

1. **Definition**
   a. AI is the **ability** of **machines** or computer programs to **perform tasks** that usually require human intelligence.
   b. These tasks include **decision-making**, **problem-solving**, **speech recognition**, and **learning** from **experience**.
2. **Types of AI**
   a. **Narrow AI**: Designed to perform one specific task (**Example:** chatbots, face recognition).
   b. **General AI**: A future concept where machines could think and reason like humans across tasks.
   c. **Generative AI**: A subset of AI that can create new content like text, images, music, and videos. **Examples** include **ChatGPT and DALL·E.** It works using machine learning models trained on large datasets.
3. **Key Technologies**
   a. **Machine Learning (ML)**: Systems learn patterns from data to make predictions.
   b. **Deep Learning**: A type of ML using neural networks that mimic the human brain.
   c. **Natural Language Processing (NLP)**: Helps machines understand and generate human language.
4. **Ethical and Legal Dimensions**
   a. **Bias and Fairness**: AI systems can be biased if trained on unfair or incomplete data. This can lead to discrimination in areas like hiring or law enforcement.
   b. **Privacy and Surveillance**: AI often depends on large amounts of personal data, raising concerns about privacy and misuse. Surveillance tools powered by AI can lead to tracking without consent.
   c. **Legal and Regulatory Issues**: Globally, countries are working to build frameworks to regulate AI. The **European Union's AI Act** is one example of strict regulation to ensure ethical use.

5. **International Cooperation**:
   a. Bodies like **UNESCO** and the **Global Partnership on AI (GPAI)** promote shared ethical standards.
   b. India actively participates, advocating for the interests of the **Global South.**

Key Highlights - Current Scenario

1. In India's AI landscape, **critical issues** related to **national priorities**, **core governance values**, and **institutional frameworks** remain unaddressed.
2. India's ongoing AI efforts are primarily driven by the **IndiaAI Mission**, which operates under the **Ministry of Electronics and Information Technology** as an independent unit.
3. However, this mission cannot replace the need for a **comprehensive national AI strategy.**

AI in India: Sectoral Overview

Sector	Current AI Application	Challenges	Solution
National Security and Strategic Autonomy	AI is being used in **defence**, **intelligence**, and **critical systems**. It's also being used in **military conflicts** and **financial systems**.	Strategic **dependencies on foreign technologies** and **lack of coordinated indigenous strategy**	The government should create a **full AI strategy** focused on national security to maintain strategic autonomy.
Data Governance and Innovation Ecosystems	**Public data platforms** are being built to power AI, as data is like fuel for AI.	There's **no clear system for data use** (lack of transparent data governance), big companies may dominate, and people may lose trust.	Make **transparent rules** for data use through public debate, and ensure everyone has fair access to data to ensure accountability.
Employment and Labour Market Disruption	AI is **replacing jobs in IT** and other sectors. The IMF says 26% of India's workforce is exposed to generative AI, and 12% could lose jobs. In 2024, TCS, Infosys, and Wipro cut 65,000 jobs.	Not enough focus on how to help people move to new jobs and ensure **social protection** for them. Experts from labour and society are not involved in planning.	**Include labour experts and civil society** in planning. Do national studies to understand AI's impact on jobs, and support job transitions.
Environment and Energy	AI **uses a lot of electricity and water**. Cities like Bengaluru and Hyderabad (big tech hubs) are running low on groundwater. By 2030, global data centre power use may double (International Energy Agency).	Policy discussions on AI in India have **scarcely addressed the energy and environmental implications of scaling AI.**	**Include energy use and sustainability in AI policies**. Balance infrastructure growth with environmental sustainability.
Education and Societal Equity	AI is **changing** what **skills** are valued and how people learn and grow economically.	**Inequalities** may grow, if the decisions are left just to market forces and tech experts.	Start **national discussions** with teachers, civil society, and lawmakers to make sure the shift is fair for all.

Polity
I.R.
Security

Healthcare, Welfare and Policing	AI is used in **diagnosing diseases**, choosing policy beneficiaries, and policing.	AI can be **biased or unfair**, and lack of transparency can reduce public trust.	Create **clear regulatory frameworks** and ensure transparency and citizen trust in AI governance
Global Leadership and Governance Strategy	India has taken a lead for the Global South in global AI forums, like the **Global Partnership on AI.**	But **without a clear, transparent and democratic national AI policy**, India's influence will be limited.	India needs to create a **national AI strategy** through public debate which focuses on proactive, strategic, and coordinated governance. Only then can India lead globally and use AI for public good effectively.

Way forward

Economy

1. **First**, India should release a **Cabinet-approved national AI strategy** and formally present it in **Parliament**.
2. **Second**, a dedicated **Parliamentary Standing Committee** on **AI and Emerging Technologies** must be established to **monitor government actions**, assess ethical concerns, and ensure regular public consultations.
3. **Third**, a **national study** should be commissioned to assess the **impact of AI** on employment, especially in entry-level white-collar jobs, using detailed data across different sectors, age groups, and regions.

Science

Click Here for INDEX

4. Plastics and Health

Geography

Why in the News?

1. Plastics are now being found **inside the human body**, including in **blood, lungs, heart, placenta,** and even reproductive organs like **ovaries and testicles.**
2. A recent **2024 study** in India showed that **89% of people** tested had microplastics in their blood.
3. These plastics carry **harmful chemicals** that can affect **hormones, fertility,** and **increase the risk of cancer.** With India producing the **highest amount of plastic waste** in the world, this growing health crisis has raised serious concerns and is making headlines.

Society
History
Ethics

Microplastics

1. **Microplastics** are very small plastic pieces that are **less than 5 millimeters** in size.
2. They come from larger plastic items that break down over time or are made small on purpose.

P.i.N.

3. **Types of Microplastics**
   a. **Primary microplastics**
      i. These are tiny plastics made for specific products like:
         1. Face scrubs
         2. Toothpaste
         3. Industrial cleaners
   b. **Secondary microplastics**
      i. These form when larger plastic items (like bags, bottles, or clothes) break down in the environment due to **sunlight, wind,** and **water.**
4. **They enter our body through**
   a. Food (like seafood and salt)
   b. Drinking Water
   c. Air we Breathe

Impacts of Microplastics on Human Health

1. **Hormonal Disruption (Endocrine Disruption):**
   a. Microplastics contain harmful chemicals called **Endocrine-Disrupting Chemicals (EDCs)** like BPA, phthalates, and PFAS. These chemicals:
      i. **Mimic or block natural hormones** such as estrogen, testosterone, thyroid hormones, and cortisol.
      ii. **Cause hormone imbalance**, affecting growth, development, and metabolism.
2. **Reproductive Problems:**
   a. **In Men:**
      i. Lower sperm count
      ii. Poor sperm movement and shape

iii. Damaged testicular tissue
iv. Reduced testosterone
v. Higher levels of luteinizing hormone (LH), indicating imbalance

b. In Women:

i. Microplastics found in **egg fluid (follicular fluid)**
ii. Lower egg quality
iii. Irregular menstrual cycles
iv. Low estrogen (estradiol) levels
v. Higher chances of **PCOS**, **endometriosis**, and **miscarriages**

3. **Cancer Risk:**
   a. BPA and phthalates are linked to **breast, prostate, uterine**, and **testicular cancers**.
   b. Indian women with high levels of DEHP in their urine have nearly **three times** the risk of breast cancer.
4. **Metabolic and Lifestyle Diseases:**
   a. Plastic chemicals act like **cortisol**, the stress hormone.
   b. They disturb **insulin function**, leading to:
      i. Weight gain
      ii. Type 2 diabetes
      iii. Metabolic syndrome
5. **Heart and Thyroid Disorders:** PFAS chemicals are linked to high blood pressure, Heart disease and Thyroid problems.
6. **Effects on Children and Pregnant Women:**
   a. Early puberty
   b. Learning problems
   c. Obesity
   d. Breathing issues
   e. Harm to brain development and organ growth in unborn babies

Challenges and Way Forward

Challenges	Way Forward
1. Microplastics and **harmful chemicals** are entering the **human body** unnoticed.	Start biomonitoring programs to test **blood, urine,** and **breast milk** for chemical exposure.
2. Poor enforcement of **Plastic Waste Management Rules** in India.	Strictly implement and update laws to control plastic use and waste.
3. **Lack of awareness** about **plastic-related health risks.**	Educate people about the **dangers of heating food in plastic and using plastic containers.**
4. Unsafe plastic use in daily items like **bottles, toys, and food wrappers.**	Promote safer alternatives like **glass, stainless steel,** and **non-toxic materials.**
5. No filters in **water treatment plants to remove microplastics.**	Upgrade **water treatment systems** with microplastic filters.
6. Rising health issues like **cancer, infertility, and hormonal diseases.**	Conduct **long-term health studies** to track the impact of plastic chemicals.
7. Poor communities are **more exposed** due to waste burning and informal recycling.	**Protect vulnerable groups** and improve working conditions in waste management.

5. BHARAT Study

Why in the News?

1. The **Indian Institute of Science (IISc)**, Bengaluru, has launched the **BHARAT study** to understand how **Indians age** and what makes ageing **healthy or unhealthy**.
2. The goal is to create a scientific database of **biomarkers** (biological signs like blood proteins or gene changes) that define **aging in Indians**, which can later guide **diagnosis and treatment**.

Key Highlights

1. **Understanding Ageing**
   a. Ageing does not happen the same way for everyone.
   b. It is influenced by **genes**, **lifestyle** (like food and exercise), **environment**, and **social conditions**.
   c. Someone's **biological age** may not match their **chronological age** (actual number of years lived).

Polity I.R. Security Economy Science Geography Society History Ethics P.i.N.

2. **The BHARAT Study**
   a. Stands for "**BioMarkers for Healthy Ageing in Indians – Resilience, Adversity, and Transitions**".
   b. Aims to build an **Indian-specific database** of **ageing markers**.
   c. Will identify what is considered **"normal" ageing in Indians**, rather than using **Western references**.
3. **Current Limitations in Healthcare**
   a. Many **medicines** and **diagnostic tests** are based on **Western data**, which may not suit **Indians**.
   b. For example, levels of certain **vitamins** or **inflammatory markers** (like **CRP – C-reactive protein**) may naturally differ in **Indians**.
4. **Technology and AI in Research**
   a. **Artificial Intelligence (AI)** and **machine learning** will be used to analyze complex **health data**.
   b. This will help find **early signs of diseases** like **liver damage**, even before symptoms appear.

Click Here for INDEX

Impact on India

1. **Better Health Standards for Indians**
   a. More accurate understanding of what is **normal or risky** in **Indian bodies**.
   b. Reduces dependence on **Western health benchmarks**.
2. **Early Detection and Prevention of Diseases**
   a. Helps identify **warning signs** of diseases early.
   b. Enables **timely treatment** and better **health outcomes**, especially in **older adults**.
3. **Improved Public Health Policies**
   a. Data from **BHARAT** will help the **government** make policies suited to **Indian conditions**.
   b. Can lead to **focused healthcare efforts** for the **ageing population**.
4. **Boost to Research and Innovation**
   a. Encourages **high-quality Indian medical research**.
   b. Builds **scientific resources** for future **health crises** and **public health planning**.
5. **Customized Treatments**
   a. Helps doctors recommend **personalized medicine** based on **Indian-specific biomarkers**.
   b. Improves **efficiency** and **safety** of **medical treatments**.

Challenges and Way Forward

Challenges	Way Forward
India's **genetic**, **social**, and **economic diversity** makes it hard to create **common health standards**	Collect samples from across the country to ensure **national representation**
Difficulty in collecting samples from **healthy older adults**	Offer **incentives** and build **trust** to encourage **participation**
Lack of **Indian-specific health data** leads to **misdiagnosis** or **wrong treatments**	Build large, long-term **health databases** like **BHARAT**
Advanced tools like **AI** are needed but require **technical expertise**	Invest in **AI research** and train Indian **scientists** and **doctors**
Need for **long-term funding** and **collaboration**	Combine **government**, **private**, and **philanthropic** (charity-based) funding to ensure **continuity**

6. Deepfakes and the Law

Why in the News?

1. Denmark is proposing changes to its **copyright law** to tackle the growing threat of **deepfake content**, especially targeting misuse of personal images, voice, and appearance.
2. The amendment will make it **illegal to share deepfake content** of another person without their consent, giving people more **control over their digital identity**.
3. The move is seen as a possible model for other countries, especially during **Denmark's presidency of the European Union**.

Key Highlights

1. **Rise of Deepfakes**: AI-generated fake videos, images, or voices are increasingly realistic, enabling misuse for misinformation or reputational harm.

2. **Legal Proposal**: Denmark's amended copyright law gives individuals control over their voice, facial features, and likeness, allowing them to claim **compensation for misuse.**
3. **Three Core Protections**:
   a. **Imitation protection:** Bans public sharing of realistic digital replicas of a person's face or voice.
   b. **Performance protection**: Covers gestures or body language not currently protected by copyright.
   c. **Artist protection**: Shields performers from AI mimicry of their work.
4. **Key Features**:
   a. Targets only realistic deepfakes; stylised/fake content allowed.
   b. Rights extend 50 years after death.
   c. Consent is mandatory for sharing; can be withdrawn anytime.
5. **Scope and Limitations**:
   a. Applies to public content, not private use.
   b. Creation isn't banned, but distribution without consent is punishable.
   c. Courts will weigh protection vs. free expression under EU law.
   d. Cross-border enforcement remains a challenge.

Implications for Society and Policy Globally

1. **Empowers Individuals**
   a. Gives people more control over their **digital identity.**
   b. Helps protect them from **AI-generated impersonation**.
2. **Fills Legal Gaps**
   a. Traditional copyright laws protect artistic content, but **do not cover personal likeness**.
   b. This bill addresses that gap.
3. **Could Influence Global Laws**
   a. Denmark's law might become a **model for other countries.**
   b. It is helpful for especially those struggling with **legal regulation of deepfakes**.
4. **Raises Standards for Platforms**
   a. Online platforms may need to **remove deepfake content** more proactively if people complain.
   b. **Consent verification** may become part of platform policies.
5. **Highlights Balance Between Rights**
   a. Law aims to protect privacy, but must also respect **freedom of expression**, especially for satire or parody.

Implications for India

1. **Need for Personal Digital Rights Law**
   a. India currently lacks **specific laws protecting individual likeness, voice, or facial features** from deepfake misuse.
   b. Denmark's model highlights the need for **individual-centric digital rights**, which are missing in India's existing copyright or IT laws.
2. **Influence on Future Indian Legislation**
   a. India can take cues from Denmark's bill to **frame its own legal framework for AI-generated media**.
   b. It can serve as a **model for revising the IT Act** or **drafting new deepfake-specific regulations**, especially under the **Digital India Act** (under discussion).
3. **Better Protection for Celebrities and Public Figures**
   a. Role of Indian courts in preventing deepfake impersonation cases is crucial.
   b. A clear law like Denmark's would make it **easier to prosecute and prevent such misuse proactively**, not just reactively.
4. **Curbing Misinformation in Elections**
   a. Deepfakes can be misused in **political campaigns** to spread fake speeches or visuals.
   b. A law ensuring **prior consent** and allowing swift takedowns could **prevent election-related manipulation**.
5. **Strengthens Trust in Digital Ecosystem**
   a. As India moves toward a **digitally governed society**, protecting people from identity misuse will **strengthen public trust** in online platforms and AI.

Click Here for INDEX

Polity
I.R.
Security
Economy
Science
Geography
Society
History
Ethics
P.i.N.

Challenges and Way Forward

Challenges	Way Forward
1. Difficult to detect realistic deepfakes	Invest in AI tools that can **automatically detect manipulations**
2. Enforcement across global platforms	Promote **international cooperation** on deepfake laws
3. Consent disputes	Create **digital consent registries** or watermarked permissions
4. Risk of misuse of law	Build **clear legal definitions** for what is considered "realistic"
5. Balancing with freedom of expression	Consult artists, journalists, and legal experts to **fine-tune exceptions**

7. Giant Black Hole Merger

Why in the News?

1. In **July 2025**, scientists from the international **LIGO-Virgo-KAGRA** collaboration announced the detection of an **unusually massive black hole merger**, termed **GW231123**.
2. This event was recorded through **gravitational waves** detected in **November, 2023**.
3. It marks one of the most significant black hole mergers ever observed due to the **extraordinarily large size** of the black holes involved.

Key Highlights

1. **Basics of Black Hole Mergers**
   a. Black hole mergers occur when two **black holes spiral closer** due to the emission of **gravitational waves**, eventually fusing into a single, **larger black hole.**
   b. These mergers release **immense energy**, which travels as ripples through **spacetime**, known as **gravitational waves**.
2. **The Discovery of GW231123**
   a. This event involved two massive black holes: one **137 times** and the other **103 times** the mass of the Sun.
   b. After merging, they formed a black hole approximately **225 times** the Sun's mass.
   c. This is **far larger** than previous black holes detected via gravitational waves (typically in the 60-80 solar mass range).
3. **Scientific Significance**
   a. The discovery challenges existing **astrophysical models**, as such large black holes are not expected to form from collapsing stars alone.
   b. Both black holes involved were found to be **spinning very rapidly**, which adds complexity to the existing theories of black hole formation and evolution.
4. **Gravitational Waves: A New Window to the Universe**
   a. First directly observed in **2015**, gravitational waves have allowed scientists to detect **invisible cosmic events**.
   b. Traditional telescopes cannot detect black holes, but gravitational wave detectors like **LIGO (USA)**, **Virgo (Italy)**, and **KAGRA (Japan)** can sense these spacetime ripples.
   c. These waves travel across vast distances and help probe cosmic mysteries, such as the death of stars, the nature of spacetime, and cosmic collisions.
5. **India's Role in Global Gravitational Wave Research**
   a. India is constructing its own observatory, **LIGO-India**, in **Hingoli district, Maharashtra**.
   b. The project is expected to be completed by **April 2030**, with government funding of **₹2,600 crore**.
   c. Once operational, it will enhance global detection capabilities and provide a significant boost to **India's scientific infrastructure**.

Implications for Science and Technology

1. **Advancement in Fundamental Physics**
   a. Confirms key predictions of **Einstein's General Theory of Relativity**, especially about how gravity works under extreme conditions.
   b. Opens up further research on black hole spins, masses, and collision dynamics.
2. **Refining Models of Stellar Evolution**
   a. Challenges **existing assumptions** about how **black holes are formed**, especially for those in the **100–150 solar mass range**, which were previously thought to be **rare or unlikely to form.**

b. It suggests that b**lack holes can grow** by **merging** with **other smaller black holes** over time, and not just by forming from the **collapse of massive stars.**

3. **Enhanced Use of Gravitational Wave Astronomy**
   a. It supports the growth of **multi-messenger astronomy**, where scientists study cosmic events using both **gravitational waves and light (like X-rays or radio waves)** to get a more complete picture of the universe.
   b. Gravitational wave observatories are becoming essential tools for **deep space exploration**.
4. **Boost to International Scientific Collaboration**
   a. Events like this involve coordination between **global observatories**, boosting **shared knowledge and technological cooperation.**
   b. India's involvement through **LIGO-India** will help improve the accuracy of locating **cosmic events** by adding an important point in the **global network of detectors.**
5. **Technological Spin-offs and Innovation**
   a. The need for high precision instruments for gravitational wave detection drives innovation in **lasers, cryogenics, vacuum technology, and seismic isolation systems**.
   b. Potential future benefits in **defense, navigation, and advanced engineering applications**.

Challenges and Way Forward

Challenges	Way Forward
Extreme Technical Complexity: Building and operating detectors like LIGO require precision instruments and advanced calibration.	**Strengthen R&D** in applied physics and collaborate with international experts for knowledge transfer.
Limited Public Awareness and Funding Fluctuations	Conduct public outreach, science communication, and ensure **stable policy and financial support**.
India's Delayed Entry in the Field: LIGO-India is behind schedule; expected to be operational by 2030.	**Speed up construction** with inter-agency coordination and local industry support.
Astrophysical Uncertainties: Black hole properties like spin and origin are still not well understood.	Encourage **academic-industry partnerships** for simulation, data modeling, and AI in astrophysics.
Uneven Global Coverage of Observatories	**Expand the network of detectors** for better triangulation and accuracy in locating events.

8. Regulating Biostimulants

Why in the News?

1. The **Union Agriculture Minister** has asked States to **verify biostimulants being sold in the market** to prevent unregulated products.
2. The Central government wants strict enforcement under the **Fertiliser Control Order** (FCO), **1985**, which **now includes biostimulants**.
3. It highlights the broader issue of agri-input regulation, especially with the rise of new, non-traditional inputs in farming.

Key Highlights:

1. **What Are Biostimulants?**
   a. Biostimulants are **natural or synthetic substances** (excluding fertilizers or pesticides) that stimulate **plant physiological processes**, improving:
      i. Nutrient uptake and efficiency
      ii. Stress tolerance (drought, heat, salinity)
      iii. Crop quality and yield
   b. They include **Seaweed extracts, Protein hydrolysates, Humic substances, Microbial preparations, Organic acids, Inorganic compounds (like silicon).**
2. **Why the Sudden Government Scrutiny?**
   a. **Concerns:**
      i. **30,000+ unregulated products** are currently sold as biostimulants in India.
      ii. There is **no mandatory registration**, leading to **quality concerns**, farmer exploitation, and false claims.

Click Here for INDEX

iii. Complaints that **biostimulants are sold as fertilizers** (e.g., mimicking Diammonium Phosphate (DAP)) without adhering to regulatory norms.

b. Government's Response:

i. **Coordination between State & Centre**, especially through the Agriculture Commissioner's office.

ii. Only those that comply with norms under the **FCO (Fertiliser Control Order), 1985** should be allowed.

iii. **Centralised evaluation** of claims through scientific trials and toxicity studies.

iv. **Stricter labelling norms** for companies.

3. What Does the Fertiliser Control Order (FCO) Say?

a. Inclusion of Biostimulants in FCO:

i. In 2021, the FCO was amended to regulate biostimulants.

ii. All biostimulants must now:

1. Be **registered** with the Central/State Controller of Fertilizers.
2. Pass **toxicity and heavy metal content tests**.
3. Declare **chemical composition** and submit **efficacy trials** from government-recognized institutes.

4. How Do They Differ from Fertilizers & Pesticides?

Criteria	Biostimulants	Fertilizers	Pesticides
Function	Boost natural plant processes	Supply essential nutrients	Kill pests, weeds, fungi, etc.
Regulation (India)	Under FCO (since 2021)	Under FCO	Under Insecticides Act, 1968
Example	Seaweed extract, amino acids	Urea, DAP	Chlorpyrifos, Glyphosate

Click Here for INDEX

Market & Economic Significance

1. **India's biostimulant market is expanding fast** due to rising demand for sustainable and chemical-free farming inputs.
2. The market is expected to be worth **$11 billion by 2032**.
3. **Prices range widely**, from **₹5,000 to ₹1,00,000 per litre**, depending on brand and composition.
4. **Heavy marketing** is being done to promote these products, especially among small and marginal farmers.
5. The lack of regulation can lead to **farmer exploitation, crop damage**, and economic losses.
6. Proper regulation can boost **export potential**, ensure **farmer confidence**, and support the growth of a **scientifically backed agri-input industry**.

Challenges and Way Forward:

Challenges	Way Forward
Presence of **30,000+ unregulated products** in the market	Strict enforcement of **registration under FCO (1985)** and removal of non-compliant products
Lack of **scientific validation and field trials** for many biostimulants	Make **efficacy trials and toxicity testing** mandatory through accredited institutions
Misleading labels and exaggerated claims by some manufacturers	Enforce **standardized labelling norms** with verified composition and approved usage claims
Farmer confusion due to lack of awareness about genuine products	Launch **farmer awareness campaigns** through Krishi Vigyan Kendras and extension services
States following **different regulatory approaches**	Ensure **uniform national framework** and coordination between Centre and States
Overlap with fertilizers and pesticides, leading to misuse	Clearly **define product categories** and regulate under respective legal frameworks
Risk of **economic loss and crop damage** from substandard products	Promote **certification systems**, encourage **responsible manufacturing**, and penalize violators

9. NISAR: First NASA-ISRO Joint Satellite

Why in the News?

1. **NISAR**, the first joint Earth observation satellite developed by **NASA (USA) and ISRO (India)**, is **scheduled for launch in July, 2025**.
2. The mission has been developed by NASA's **Jet Propulsion Laboratory (JPL)** and ISRO together for **over 10 years.**
3. The announcement highlights **India's expanding global role in space science** and comes at a time when **geopolitical collaborations in space technology** are gaining strategic importance.

Key Highlights

1. **About the Mission**
   a. It will be launched from the **Satish Dhawan Space Centre**, Sriharikota.
   b. It will be launched using the **GSLV-F16 rocket**.
   c. The satellite will be placed into a **743-km sun-synchronous orbit** with an **inclination of 98.4 degrees**.
2. **Technical Details of the Satellite**
   a. The satellite, named **NISAR**, will weigh approximately **2,392 kg**.
   b. It is an **Earth observation satellite**.
   c. It is the **first satellite** to use a **dual-frequency** Synthetic Aperture Radar **(SAR)**: **NASA's L-band and ISRO's S-band.**
   d. Dual-frequency Synthetic Aperture Radar (SAR) is a type of radar system that uses **two different frequency bands** to observe and image the Earth's surface with **high resolution**, **regardless of weather or lighting conditions**.
   e. The radar system uses:
      i. A **12-meter unfurlable mesh reflector antenna** (developed by NASA).
      ii. This antenna is **integrated into ISRO's modified I3K satellite bus**.
3. **Imaging Capability and Technology**
   a. NISAR will cover a **width of 242 km** with **high spatial resolution**.
   b. It uses **SweepSAR technology** for the first time.
   c. It will scan the **entire globe**, capturing:
      i. All-weather, day and night data.
      ii. Data at **12-day intervals**.

Sun-synchronous Orbit

1. It is a particular type of **Polar Orbit**, travelling over the polar regions.
2. A typical Sun-synchronous satellite completes 14 orbits a day, and each successive orbit is shifted over the Earth's surface by around 2875 km at the equator.
3. **Features**:
   a. Satellites in this orbit are synchronous with the Sun, i.e. they are always in the 'fixed' position relative to the Sun.
   b. Hence, in this orbit, the satellite always visits the **same spot at the same local time**. **For example,** passing Paris every day at exactly the same time in the afternoon.
   c. It has **constant sun illumination** through inclination and altitude.
4. **Altitude**: A satellite in a Sun-synchronous orbit would often be at an altitude of between **600 to 800 km.**

About SweepSAR technology

1. **SweepSAR** (Sweeping Synthetic Aperture Radar) is an **advanced radar imaging technology** that allows satellites to cover **very wide areas** of the Earth's surface **quickly and with high resolution**.
2. **How It Works:**
   a. Traditional SAR uses a **fixed antenna** to send and receive radar signals.
   b. SweepSAR, on the other hand, uses **multiple receiver channels** and **a sweeping motion** of the radar beam across a wide area.
   c. This allows it to **collect data over a wider swath** without losing image quality.

About GSLV (Geosynchronous Satellite Launch Vehicle)

1. **GSLV** is a **launch vehicle** (rocket) developed by **ISRO** (Indian Space Research Organisation).
2. It is used to **launch heavier satellites** (usually communication or Earth observation satellites) into **geosynchronous transfer orbit (GTO)** and sometimes into **low Earth or sun-synchronous orbits**.

Polity I.R. Security Economy Science Geography Society History Ethics P.i.N.

3. **Key Features**
   a. **Payload Capacity:**
      i. **GTO** (Geosynchronous Transfer Orbits): **2,250 kg**
      ii. **SSO** (Sun-Synchronous Orbits): **3,000 kg**
      iii. **LEO** (Low Earth Orbits): **6,000 kg**
   b. **Stages:** It is a **three-stage rocket:** Solid fuel first stage, Liquid fuel second stage and Cryogenic upper stage (uses super-cooled liquid gases)
   c. **Cryogenic Technology:** GSLV uses indigenously developed cryogenic engine (in Mark II variant)
   d. **Usage:** Launch of INSAT, GSAT, and Earth observation satellites
4. **Versions of GSLV**
   a. **GSLV Mk I & II** – Used earlier; Mk II has an indigenous cryogenic engine.
   b. **GSLV Mk III** (also called **LVM-3**) – India's **heaviest and most powerful** rocket; used for **Chandrayaan-2** and **Gaganyaan** missions.

Applications of NISAR

Click Here for INDEX

Field	Use Case
Geology & Tectonics	Detects ground deformation, landslides, and earthquake zones
Climate Monitoring	Ice sheet movement, glacier melt studies
Agriculture	Vegetation health monitoring, crop mapping
Disaster Management	Flood mapping, soil moisture analysis, response to disasters
Water Resources	Monitoring surface water changes
Coastal Studies	Shoreline change detection, ship movement tracking
Atmospheric Science	Storm characterization, moisture tracking

Challenges and Way Forward

Challenges	Way Forward
High cost and complexity of joint international missions	Foster **long-term bilateral agreements** and cost-sharing mechanisms
Technological integration between different space agencies	Strengthen **collaborative R&D** and increase interoperability of hardware/software
Satellite deployment risks and launch delays	Ensure **robust pre-launch testing and backup systems**
Data management and analysis for large volumes of Earth data	**Invest** in **big data infrastructure** and **skilled manpower** in remote sensing
Policy and data-sharing frameworks between nations	Frame **transparent and secure international data-sharing protocols**

10. AdFalciVax: India's Dual Malaria Shield

Why in the News?

1. **ICMR announces AdFalciVax**, a new malaria vaccine candidate showing **over 90% protection in mice**.
2. Set to enter **human trials and commercial development** soon.
3. Uses **dual-target proteins** to block infection in individuals and reduce community transmission.
4. Offers hope amid limited efficacy (~75%) and short-term protection of current WHO-approved vaccines (RTS,S and R21).
5. Significant step in the fight against malaria, which still causes **~4 lakh deaths globally each year**.

Key Highlights

1. **Vaccine Composition and Type**
   a. AdFalciVax is a **chimeric recombinant vaccine**, meaning it combines different parts of genes from the malaria parasite Plasmodium falciparum to generate a strong immune response.
   b. It uses **two main proteins**:
      i. **Circumsporozoite Protein (CSP)**: Targets liver and sporozoite stages to **prevent infection** in the vaccinated person.
      ii. **Pro6C Protein**: Fused from Pfs230 and Pfs48/45 to **interrupt malaria transmission** in mosquitoes, thus protecting the community.

2. **Comparison with Existing Vaccines**
   a. Existing vaccines like **RTS,S and R21** only target the CSP protein and **lack full-length CSP** segments, reducing the strength of immune response.
   b. AdFalciVax uses **full-length CSP**, potentially offering **better protection** and **longer-lasting immunity**.
3. **Initial Efficacy and Immune Response**
   a. In animal testing (mice), AdFalciVax showed **>90% protection**.
   b. It triggered immunity that lasted for **three months in mice**, roughly equivalent to **10 years in humans**.
   c. This suggests that **fewer booster doses may be needed** compared to existing vaccines.
4. **Adjuvant and Storage Advantage**
   a. The vaccine uses **alum** as an adjuvant (a substance that enhances immune response).
   b. Alum is **safer** than AS01 or Matrix-M (used in other vaccines), with **low risk of chronic inflammation**.
   c. Alum-based vaccines can stay stable at room temperature for 9 months, reducing the need for cold-chain logistics.
5. **ICMR's Terms for Private Partnership**
   a. ICMR is seeking **private collaboration** for clinical trials and commercial production.
   b. Technology sharing will happen, but **intellectual property (IP) will remain with ICMR**.
   c. ICMR will earn **2% royalty** on sales; data and research credits will be **jointly shared** between ICMR and the partner company.

Implications for the Economy and Public Health

1. **Boost to India's Biotech Innovation**
   a. Strengthens India's position in **vaccine research and development**, especially against tropical diseases.
   b. Encourages **public-private partnerships** for health innovation.
2. **Potential Global Market Opportunity**
   a. Malaria-endemic regions, especially in **Africa and Southeast Asia**, represent a huge demand base.
   b. India could become a **global supplier** of next-generation malaria vaccines.
3. **Reduction in Health Burden**
   a. If successful in humans, AdFalciVax could significantly **cut down malaria-related hospitalizations, deaths, and economic losses**.
   b. May support WHO's **"Malaria Eradication Roadmap"** goals.
4. **Improved Access and Distribution**
   a. Room-temperature storage reduces dependence on cold-chain infrastructure, enabling better **rural and remote area reach**.
   b. Cost-effectiveness through **domestic production** could enhance affordability.
5. **Policy and Regulatory Push**
   a. Will require **fast-track clearances, robust regulatory monitoring**, and **supportive licensing frameworks**.
   b. May lead to **greater investments in neglected tropical diseases**.

Challenges and Way Forward

Challenges	Way Forward
Vaccine efficacy not yet proven in humans	Conduct **rigorous human clinical trials** under ICMR and ethical standards
Ineffective against Plasmodium vivax, dominant in India	Initiate **parallel research for vivax-specific vaccines** or multivalent options
Cold-chain dependency for some vaccines still affects remote delivery	Leverage AdFalciVax's **room-temperature stability** for universal access
Dependence on private companies for scale-up	Ensure **transparent licensing** and fair pricing through **government regulation**
Disparity in global recognition and deployment	Collaborate with WHO, GAVI, and other bodies to include AdFalciVax in **global vaccine lists**

Polity

GEOGRAPHY AND ENVIRONMENT

I.R.

1. India Climbs SDG Ranks

Why in the News?

1. India has been ranked among the **top 100 countries** for the first time in the **Sustainable Development Report 2025.**
2. This report is published by the **Sustainable Development Solutions Network (SDSN).**
3. However, concerns remain over its performance in **governance and institutional quality**.

Security

Economy

Key Highlights

1. The **SDG Index ranks** countries based on progress toward **all 17 SDGs** using **official** and **comparable data sources**.
2. India ranked **99th out of 167** countries in the **SDG Index 2025.**
3. It is an **improvement** from **109th** rank out of **166** countries in **2024**.
4. India achieved progress in **12 out of 17 SDGs**.
5. It showcased improvements in poverty reduction, health, education, and clean energy access.
6. However, performance remains weak in **governance-related indicators**, such as press freedom, judicial independence, and political stability.
7. **SDG 16 (Peace, Justice and Strong Institutions)** is a key concern area.
8. India has shown **poverty reduction and basic services expansion** but needs to improve **institutional capacities** to sustain long-term gains.

Science

Click Here for INDEX

Geography

Society

History

About SDGs

1. The **Sustainable Development Goals (SDGs)** are a set of **17 global goals.**
2. Adopted by **all UN Member States in 2015** as part of the **2030 Agenda for Sustainable Development**.
3. They are a universal call to action to **end poverty, protect the planet, and ensure peace and prosperity for all** by 2030.
4. **Aim of SDGs:** Sustainable and Equitable future

Ethics

P.i.N.

5. **List of 17 SDGs:**

Goal	SDG Goal	What it Means
1	**No Poverty**	End extreme poverty everywhere.
2	**Zero Hunger**	End hunger and ensure everyone has access to nutritious food.
3	**Good Health and Well-being**	Ensure healthy lives and promote well-being for all.
4	**Quality Education**	Provide inclusive and quality education for all.
5	**Gender Equality**	Achieve equality for women and girls.
6	**Clean Water and Sanitation**	Ensure clean water and proper sanitation for all.
7	**Affordable and Clean Energy**	Access to reliable, modern, and clean energy.
8	**Decent Work and Economic Growth**	Promote jobs and economic growth that benefits everyone.
9	**Industry, Innovation, and Infrastructure**	Build resilient infrastructure and promote innovation.
10	**Reduced Inequalities**	Reduce inequality within and among countries.
11	**Sustainable Cities and Communities**	Make cities safe, inclusive, and environmentally friendly.
12	**Responsible Consumption and Production**	Use resources wisely and reduce waste.
13	**Climate Action**	Take urgent steps to combat climate change.
14	**Life Below Water**	Protect oceans, seas, and marine life.
15	**Life on Land**	Protect forests, wildlife, and ecosystems on land.

16	**Peace, Justice, and Strong Institutions**	Promote justice, peace, and effective institutions.
17	**Partnerships for the Goals**	Work together globally to achieve all the goals.

Significance of SDGs

1. **Global Vision for Development:** SDGs provide a **unified framework** for countries to work toward common goals, ensuring global progress and cooperation.
2. **Balance of Economic, Social, and Environmental Goals:** Ensure **inclusive economic growth** while protecting society and nature.
3. **Guidance for Policy and Planning:** Help governments and organizations **align policies with global development priorities**.
4. **Encourages Global Partnerships:** SDG 17 stresses **international cooperation**, sharing resources, knowledge, and technologies.
5. **Measure of Progress:** Provide **clear indicators** to track development and hold governments accountable.
6. **Subnational Planning**: SDGs serve as a framework for **state-level performance monitoring** in India, helping **NITI Aayog** align development efforts.

Challenges And Way Forward

Challenges	Way Forward
Weak performance in **SDG 16** (institutional strength, governance)	**Strengthen rule of law**, enhance press freedom, protect judicial independence
Regional disparities in SDG performance	**Focused development** in backward regions; targeted schemes for lagging states
Lack of transparency and accountability in governance	Promote **open data, citizen participation, and independent oversight mechanisms**
High **income and wealth inequality**	**Strengthen redistributive policies**, better taxation, and targeted social protection programs
Poor quality of basic public services in some areas	**Invest in health, education,** and **social infrastructure** in underserved regions
Slow institutional reforms	**Speed up administrative and legal reforms** to improve efficiency and trust in public institutions

2. India is Expected To Receive Higher than Average Rainfall

Why in the News?

1. The India Meteorological Department (IMD) has said that **monsoon rainfall in July will be above normal**.
2. It is expected that monsoon rainfall will be **about 6% more** than the usual rainfall of **28 cm**.
3. This is important because **July is the most important month for farming** in India.
4. Some States may receive **very heavy rainfall**, and people need to be careful, especially near rivers.

About Monsoons

1. Definition:
   a. The **monsoon** is a **seasonal wind system** that brings **heavy rainfall**, especially in tropical and subtropical regions like India.
   b. It occurs due to the **differential heating of land and sea**.
2. Factors Affecting Monsoon:
   a. Differential Heating of Land and Sea: Land heats faster than the ocean, creating pressure difference.
   b. El Niño and La Niña: Ocean conditions in the Pacific Ocean can increase or decrease rainfall.
   c. Jet Streams: High-altitude winds that influence monsoon arrival and strength.
   d. Himalayas: Act as a barrier, forcing moist air to rise and cause rain.
   e. Indian Ocean Dipole (IOD): Affects sea surface temperatures and moisture supply.
   f. Topography: Hills and mountains increase rainfall in windward regions.
3. Types of Monsoon:
   a. Southwest Monsoon (June–Sept): Brings **heavy rain** to most of India.

Polity I.R. Security Economy Science Click Here for INDEX Geography Society History Ethics P.i.N.

b. **Northeast Monsoon** (Oct–Dec): Brings rain mainly to **southeast India**, especially **Tamil Nadu**.

Key Highlights of the Monsoon Forecast

1. **Above Normal Rainfall in July:** July, the most crucial month for agriculture, is expected to receive above-normal rainfall. IMD predicts around **6% more rainfall** than the normal 28 cm for the month.
2. **Overall Monsoon (June–September):** The India Meteorological Department (IMD) has maintained its earlier forecast of the **monsoon being 6% above normal** for the entire season.
3. **Regions of Concern:** Excess rain expected in East MP, Chhattisgarh, Odisha, Vidarbha, and Telangana. Chhattisgarh, Odisha, and Telangana are on flood watch.
4. **Impact on River Basins:** Heavy rains likely in Krishna, Godavari, and Mahanadi catchments, especially upper and lower Mahanadi regions.
5. **Advisory by IMD:** Authorities should **monitor rainfall closely**, especially in the **river catchment areas**, to prevent possible flooding or water management issues.
6. **Early Completion of Monsoon Coverage:**
   a. On **June 29**, the **monsoon covered the entire country**, which is **9 days earlier** than the usual date of **July 8**.
   b. This is only the **13th time since 1960** that full coverage occurred in June.
   c. In 6 out of those 12 previous instances, **overall monsoon rainfall was above normal**.
7. **Monsoon Onset and June Performance:**
   a. Monsoon **reached Kerala early**, by about a week before the usual **June 1** date.
   b. However, it **stalled soon after onset**, and resumed significantly only **after June 16**.
   c. **June rainfall** overall has been **8.9% above normal** so far.
8. **Regional Rainfall Distribution (June):**
   a. **Northwest India:** Received **42% more** rain than normal.
   b. **Central India:** Received **24.8% more** than normal.
   c. **South India:** Facing a **rainfall deficit of about 3%**.
   d. **Eastern and Northeastern India:** Lagging behind in rainfall.
9. The **absence of El Niño** is a key factor behind **expected strong rainfall** in the coming weeks.
10. **Forecast and Preparedness Advisory: Heavy rains are expected in July**, especially over **central India**.
    a. IMD will continue to issue: **Short-term forecasts and extended range forecasts** (up to 2 weeks in advance)
    b. **Precautionary measures are advised** for all regions likely to be affected.

El Niño, La Niña and ENSO

1. **What is ENSO?**
   a. **ENSO** stands for **El Niño–Southern Oscillation**.
   b. It is a **natural climate pattern** that occurs in the **tropical Pacific Ocean**.
   c. ENSO includes changes in ocean temperatures and atmospheric pressure, which **affect global weather**, especially the **Indian monsoon**.
2. **ENSO has three phases:**
   a. **El Niño**: Warming of sea surface temperatures in the central and eastern Pacific.
   b. **La Niña**: Cooling of sea surface temperatures in the same region.
   c. **Neutral**: Sea temperatures are near normal; no El Niño or La Niña conditions.
3. **El Niño**
   a. It is a spanish word for "The Little Boy", refers to **warm ocean waters.**
   b. **It b**egins off the **coast of Peru and Ecuador** in the eastern Pacific Ocean
   c. **Sea Temperature** rises **0.5°C or more above normal**, sustained for **3 months or more.**
   d. **Wind Pattern: Trade winds weaken**, reducing upwelling (cold water rising to surface).
   e. It impacts India as it **weakens monsoon** and leads to **hotter summers**, causing **droughts** in many parts of India
   f. Duration ranges between 9 to 12 months, sometimes longer.
   g. **Recent Example: 2023–24** had a strong El Niño event

4. **La Niña**:
   a. Spanish for "The Little Girl" – refers to **cold ocean waters**
   b. Location: Cooling of waters in **central and eastern tropical Pacific.**
   c. **Sea Temperature** drops **0.5°C or more below normal**, for **3 months or more.**
   d. **Trade winds strengthen**, causing more upwelling
   e. Leads to **strong monsoons, higher rainfall** and **cooler temperatures** in **India.**
   f. Recent Example: **2020–2022** saw a rare **three-year La Niña** event.
5. **How does the ENSO Cycle work?**
6. **Normal Condition:** Trade winds blow westward, warm water piles up near Indonesia, cold water rises near South America.
   a. **El Nino begins:** Trade winds weaken, warm water shifts eastward, cold upwelling reduces.
   b. **El Nino Peak:** Central and eastern Pacific becomes unusually warm, and rainfall shifts eastward.
   c. **El Nino fades:** Trade winds begin to recover, warm water starts to move back west.
   d. La Nina Begins: Trade winds become stronger than normal, cold water surfaces in the eastern Pacific.
   e. **La Nina Peak:** Very strong upwelling, more clouds and rain over India, Indonesia, and Australia.
   f. **Neutral Conditions Return:** Ocean temperatures and wind patterns return to normal levels.

Significances

1. **Agricultural Benefits**
   a. **Timely Sowing**: Early monsoon supports on-time kharif sowing.
   b. **Better Yields**: Adequate rain improves soil moisture and productivity.
   c. **Less Irrigation Stress**: Reduces dependence on groundwater and irrigation.
2. **Economic Impact**
   a. **Rural Boost**: Strengthens farm incomes, jobs, and rural demand.
   b. **Inflation Control**: Stable food output keeps prices in check.
   c. **GDP Growth**: Supports overall economic and macro stability.
3. **Water Resource Gains**
   a. **Reservoir Refill**: Enhances water availability for farming, drinking, and power.
   b. **Hydropower Rise**: More water flow increases renewable energy generation.
4. **Disaster Preparedness**
   a. **Flood Risk**: High rainfall in river basins raises flood concerns.
   b. **Need for Readiness**: IMD alerts help manage flood-prone regions.
5. **Climatic Insights:** No El Niño improves monsoon reliability and aids long-term climate planning.
6. **Policy Implications**
   a. **Scheme Support**: Strengthens outcomes of PMFBY, PM-KISAN, and irrigation initiatives.
   b. **Balanced Planning**: South and northeast India may need special support due to rain deficits.

Challenges and Way Forward

Challenges	Way Forward
1. Flood Risk in River Basins: Excess rain in Krishna, Godavari, and Mahanadi catchments may cause flooding.	**Strengthen flood forecasting systems** and ensure real-time monitoring of river flows.
2. Regional Rainfall Imbalance: South and Northeast India face rainfall deficits.	Promote contingency crop plans and ensure **drought-resilient seeds and water management.**
3. Soil Erosion and Crop Damage: Heavy rains can damage young crops and erode fertile topsoil.	Encourage **soil conservation techniques and timely crop insurance** coverage under PMFBY.
4. Urban Flooding and Drainage Issues: Cities may witness water logging due to poor drainage infrastructure.	Improve **urban drainage systems and integrate climate-resilient urban planning**.

Polity

5. Water Management Imbalance: Uneven rainfall may lead to overfilling of some dams and dryness in others.	Adopt **basin-wise water management and promote interlinking of rivers** where feasible.

I.R.

6. Pest and Disease Outbreaks: Warm, wet conditions can increase crop diseases and pests.	Strengthen agricultural extension services and promote **integrated pest management**.

Security

3. EU's 2040 Climate Plan and Carbon Credits

Why in the News?

Economy

1. The **European Union (EU)** announced a **new climate plan** for **2040.**
2. The EU will allow countries to use **carbon credits** from other nations to meet part of their **climate goals**.
3. This decision has **sparked discussions** because it's a change from how the EU handled **climate targets** before.
4. Some people support it, while others, like **scientists** and **environmental groups**, are worried.

Science

Click Here for INDEX

What is a Carbon Credit?

1. A **carbon credit** is a permit that allows the holder to emit **one metric ton of carbon dioxide (CO_2)** or other **greenhouse gases**.
2. It is part of a system to **reduce global emissions** by setting a limit and allowing trading of unused emissions.
3. **If one entity reduces emissions more than required,** it can **sell the extra reduction as a carbon credit**.
4. This system encourages cleaner practices while offering flexibility.

Geography

Background and Chronology of Carbon Credits

Society

Year	Event / Development
1992	**United Nations Framework Convention on Climate Change (UNFCCC)** signed at Rio Summit.
1997	**Kyoto Protocol** adopted. Introduced the concept of **carbon trading** and **carbon credits** under international law.
2005	The Kyoto Protocol came into **force**. Countries with emission targets could buy/sell carbon credits under **Clean Development Mechanism (CDM)**.
2008–2012	**First commitment period** of the Kyoto Protocol. Many developed countries began using carbon credits to meet targets.
2009–2010	**Voluntary carbon markets** began growing, allowing businesses and individuals to offset emissions.
2015	**Paris Agreement** adopted. Shifted focus to all countries taking action, though without binding targets like Kyoto.
2021	At **COP26 (Glasgow)**, rules for **international carbon markets** were finalized under **Article 6** of the Paris Agreement.
2025	The **European Union proposed** using carbon credits (up to 3%) for its 2040 climate target, marking a major shift in its policy.

History

Key Highlights

1. **New Climate Target**: The **EU wants to cut greenhouse gas emissions** by **90% by 2040,** compared to **1990 levels.** This is a step toward becoming **carbon neutral by 2050.**
2. **Carbon Credits Allowed**: Starting in **2036,** countries can use **carbon credits** from developing nations to cover up to **3%** of their **emissions reduction goal.**
3. **More Flexibility**: Countries can choose which sectors, like **transport or industry,** will cut emissions the most. If forests don't absorb enough **CO2,** countries can focus on other areas.
4. **UN-Backed Market:** The **carbon credit system** will operate through a **United Nations-backed carbon market.**
5. **Strict Regulations Coming:** The EU will set **strict quality criteria** and **rules** for using these credits by next year (i.e., 2026).

Ethics

P.i.N.

6. **Type of Projects:** Carbon credits may be earned from projects like **forest restoration** in developing countries.
7. **Global Investment Interest:** The proposal is expected to **create investment certainty** and attract strong interest from the **Global South.**

Significance

1. **International Cooperation:** This allows EU countries to work with developing nations to fight climate change together.
2. **Financial Support for Developing Nations:** Countries in Africa, Asia, and South America can receive money for green projects.
3. **Flexibility for EU Industries:** European industries under pressure due to economic issues can now find easier and cheaper ways to meet climate targets.
4. **Global Emission Cuts:** Even if not all the reductions happen inside Europe, they still help reduce total global emissions.

Challenges and Way Forward

Challenges	Way Forward
1. Some carbon credits in the past did not deliver real environmental benefits.	Set **strict rules** to ensure credits are high-quality, verifiable, and truly reduce emissions.
2. Using foreign credits may reduce investment in the EU's own clean technologies.	Focus on both **international credits and local green projects** to maintain balance.
3. Environmental groups say it's like "outsourcing" climate responsibility.	Increase **transparency** to show how credits support global climate goals without harming EU efforts.
4. Natural carbon sinks, like forests, may not work as expected due to climate change.	**Invest in research** to improve carbon sinks and explore new technologies for carbon removal.
5. Some EU countries resist strict climate rules due to high costs.	Provide **financial support and incentives** to help countries meet climate targets.

4. Melting Glaciers and Volcanoes: Uncovering the Hidden Risks of Climate Change

Why in the News?

1. A new scientific study has found a **link between melting glaciers** and **increased volcanic activity.**
2. The research highlights how **climate change** is not only **raising temperatures** but also **increasing geological risks.**
3. The study was presented at the **2025 Goldschmidt Conference**, the largest international geochemistry conference.
4. **West Antarctica, North America, New Zealand,** and parts of **Russia** have been identified as high-risk zones for future eruptions.
5. The study is especially **relevant** now as **rapid polar and glacial ice melting** continues in the backdrop of record-breaking global temperatures in recent years.

Key Highlights

1. **Scientific Evidence from Chile**
   a. Researchers studied **Chile's Mocho-Choshuenco volcano**.
   b. They found that between **26,000 and 18,000 years ago**, thick ice suppressed volcanic activity.
   c. A **large underground magma reservoir** was found to have formed due to pressure suppression.
   d. Once the ice melted around **13,000 years ago (deglaciation)**, explosive eruptions occurred.
2. **Link Between Melting Glaciers and Volcanoes**
   a. Melting glaciers **reduce surface pressure** on underground magma chambers.
   b. This reduction causes **gases** and **magma** to **expand**, **triggering** more **explosive volcanic eruptions.**
   c. The idea was first proposed in the **1970s** and is now supported by fresh evidence.
   d. Similar phenomena were observed in **Iceland** after the **last Ice Age.**
3. **Geographic Hotspots at Risk**
   a. West Antarctica is the most vulnerable, with over 100 volcanoes buried under thick ice.

Polity I.R. Security Economy Science Click Here for INDEX Geography Society History Ethics P.i.N.

b. Parts of **North America, Russia, and New Zealand** are also likely to see increased volcanic activity.
c. The continued melting of ice due to global warming elevates these risks in coming decades.
d. Even regions currently considered **geologically stable** may become **volatile** due to ice loss.

4. **Climate Feedback Loop**
a. Volcanic eruptions release **ash and sulphur dioxide**, which can temporarily cool the Earth.
b. Sulphur dioxide forms **aerosols** that reflect sunlight, staying in the **stratosphere** for years.
c. However, **prolonged eruptions** can emit **greenhouse gases** like carbon dioxide and methane.
d. This means that while **volcanic eruptions** can cause **short-term cooling** due to aerosol reflection, this can sometimes mask the **longer-term warming** caused by greenhouse gas emissions.
e. This can create a **vicious cycle** where warming causes eruptions, which in turn cause more warming.

5. **Role of Precipitation**
a. Both temperature and rainfall changes have geological impacts.
b. Climate change also alters precipitation patterns.
c. Increased precipitation can seep underground and interact with magma chambers.
d. This interaction can also **contribute** to **triggering eruptions**.

Click Here for INDEX

Implications for India

1. **Regional Geohazard Preparedness**
a. The **Himalayan region** contains **dormant** and **active** volcanoes such as **Barren Island**.
b. Melting glaciers in the Himalayas could reduce pressure and activate seismic or volcanic zones.
c. This calls for enhanced **geological monitoring** in glacial zones.
d. India needs to invest in **early warning systems and disaster preparedness.**

2. **Environmental and Climatic Effects**
a. If increased eruptions occur globally, aerosol release could impact **Indian monsoons.**
b. Stratospheric aerosols can delay or weaken rainfall patterns.
c. This would directly impact **Indian agriculture** and water resources.
d. India's climate modelling must include volcanic scenarios.

3. **Scientific Research and Collaboration**
a. India must strengthen its **glacier-volcano interaction studies,** especially in the Himalayas.
b. Collaborations with **international geochemical** and **climate research** bodies should be expanded.
c. Indigenous scientific institutions like ISRO, IMD, and GSI must integrate geological and climate data.
d. Promoting academic research on **paleo volcanism** in the Indian subcontinent is essential.

4. **Infrastructure and Development Planning**
a. Melting glaciers and potential eruptions in high-altitude zones could **disrupt infrastructure**.
b. Hydroelectric dams, roads, and tunnels in the Himalayas must account for new geological risks.
c. Environmental Impact Assessments (EIAs) need to include climate-geological feedback.
d. Risk-resilient infrastructure is essential for long-term sustainability.

5. **Policy and Climate Action**
a. India must integrate **geological impacts** into its climate adaptation policies.
b. Updated risk mapping and land use planning in vulnerable areas are needed.
c. India's National Disaster Management Plan should include volcano-related hazards.
d. Mitigation efforts must go hand-in-hand with **global carbon emission reduction.**

Challenges and Way Forward

Challenges	Way Forward
Limited data on glacier-volcano interactions in India	**Invest** in **glacier-volcano studies** in Himalayan belt
Lack of geological focus in climate policy	**Integrate geohazards** into climate adaptation frameworks

Inadequate early warning systems for volcanic hazards	**Develop and deploy real-time** volcanic and seismic **monitoring** in glacial zones
Vulnerable infrastructure in sensitive regions	**Promote** risk-resilient and environment-friendly **infrastructure planning**
Low public awareness about such risks	Conduct **public awareness** and **capacity building programs** in vulnerable regions

5. Rising Wildfires in Europe

Why in the News?

1. **Wildfires** are spreading fast across Europe in **2025**.
2. By early July, over **227,000 hectares of land** had already burned.
3. This is **more than double the average** for this time of year over the **past 20 years.**
4. The fires are affecting many countries, especially in the **Mediterranean region.**
5. **Hot weather, dry land,** and **strong winds** are making the situation worse.

What is a Wildfire?

1. A **wildfire is a large, uncontrolled fire** that spreads quickly through vegetation such as **forests, grasslands, or shrublands.**
2. It usually starts in **natural areas** and can burn for **days or even weeks** if not controlled.
3. **Causes of Wildfire**:
   a. **Natural causes, like lightning strikes.**
   b. **Human activities, such as:** campfires left unattended, burning waste, cigarettes thrown on dry grass or sparks from power lines or vehicles.

Key Highlights

1. **More Fires Than Last Year:**
   a. There have been **1,118 wildfires** this year, compared to **716** by the same time last year.
   b. However, it is still below the **worst fire years like 2003 and 2017,** when **over 1.1 million hectares burned.**
2. **Affected Countries: Spain, France, Greece, Syria,** and other areas in the **Mediterranean** are facing many fires.
3. **Human Impact**: Thousands of people have been evacuated from **Greek islands** like **Evia and Crete.**
4. **Environmental Damage**: **Syria** lost over **3%** of its forest cover. Fires reached near **Marseille in France.**
5. **Outlook for the Rest of the Summer:**
   a. August is expected to be **warmer than usual across Europe.**
   b. Fire danger will remain **high in southern and eastern Europe.**
   c. While southern Europe may get **normal rainfall, other regions will likely be drier than normal, raising fire risk.**
6. **Reasons Behind the Fires:**
   a. The **Mediterranean has hot, dry summers** that make it prone to wildfires.
   b. Dry vegetation and strong winds help fires spread quickly and become uncontrollable.
   c. Climate change is making summers **hotter and drier**, increasing **wildfire risk,** as confirmed by the **Intergovernmental Panel on Climate Change (IPCC).**
   d. Fire seasons are starting earlier and becoming more intense due to **global warming.**
   e. Human-made greenhouse gas emissions have warmed the planet by around **1.3°C since pre-industrial times.**
   f. Europe has warmed at twice the global average since the **1980s,** making it more vulnerable.
   g. Hotter background temperatures mean that heatwaves become more extreme and frequent.
7. **Impacts of Rising Wildfires in Europe:**
   a. Mass Evacuations and Loss of Livelihoods: Mass evacuations in places like Evia and Crete disrupt lives and damage local economies. **Farming losses** hurt **income** and **food supply chains**.
   b. Irreversible Ecosystem Loss: Fires cause permanent forest loss, as seen in Syria, affecting biodiversity and natural habitats.

Click Here for INDEX

c. **Air Quality Decline and Public Health Hazard:** Wildfires emit PM2.5, worsening air quality and increasing respiratory illnesses, especially in nearby urban areas.

d. **Carbon Emissions and Climate Worsening:** Wildfires release CO_2 and destroy carbon sinks, undermining climate goals and intensifying global warming.

India-Specific Lessons from Europe's Wildfire Crisis

1. **Strengthen Early Warning Systems:** Leverage and upgrade tools like Forest Fire Alert Systems (FFAS) with real-time weather data for accurate, location-specific alerts.
2. **Prioritize Prevention Over Response:** Shift focus to preventive measures like controlled burns, fire breaks, and biomass clearance—especially in fire-prone regions such as Central India and the Western Ghats.
3. **Empower Local Communities:** Train and incentivize forest dwellers, tribals, and eco-development committees to monitor forests and act as first responders.
4. **Restore Fire-Resilient Ecosystems;** Protect and regenerate natural buffers like wetlands, peatlands, grasslands, and sacred groves to reduce fire spread and severity.
5. **Integrate Fire Management into Climate Policy:** Anticipate climate-driven changes in fire patterns, particularly in the Himalayas and dry deciduous zones, and embed fire strategies in State Action Plans on Climate Change (SAPCCs).

Click Here for INDEX

Challenges and Way forward

Challenges	Way Forward
1. Hot, dry Mediterranean summers raise wildfire risk.	Use **weather forecasts and early warning systems** to prepare in advance.
2. Dry vegetation and strong winds help fires spread quickly.	**Clear dry plants and bushes before summer** to reduce fuel for fires
3. Climate change is causing hotter and longer fire seasons.	**Reduce greenhouse gas emissions** through clean energy and climate-friendly policies
4. Fires are starting earlier and becoming more intense	**Improve training and equipment** for fire response teams
5. Rural population is declining, especially in Spain, reducing forest workers	**Create jobs and incentives** to bring people back to rural areas
6. Many efforts are focused only on reacting after fires start	Shift focus to fire prevention, such as **controlled burns and land management**
7. Loss of natural ecosystems makes land drier and more fire-prone	**Restore wetlands, forests, and peatlands** to keep the land moist and healthy

6. Namami Gange Finds its Flow in Yamuna

Why in the News?

1. The newly elected Delhi government has made **cleaning the Yamuna river** a key priority.
2. Since the Yamuna is part of the **Namami Gange Programme (NGP)**, this presents an opportunity for cooperation between the **central and state governments**.
3. The experience can help India create a **strong model for cleaning and rejuvenating all major rivers**.

Background

1. **Namami Gange Programme (NGP)** was launched in **2014** under the Ministry of Jal Shakti as a **flagship programme** for cleaning and rejuvenating the **Ganga river** and its tributaries.
2. It replaced the earlier **Ganga Action Plan** (1986) which focused mostly on pollution control but had limited success.
3. **Key features of NGP**:
   a. Focus on both **reducing pollution** and **ecological rejuvenation**.
   b. Adopted a **river basin approach**, which means the entire river system (including tributaries) is considered.
   c. Implemented in **"Mission Mode"** with fixed targets, strict timelines, and dedicated authorities.

d. **Use of modern technology** like real-time monitoring of water quality.
e. Encouragement of **public participation** and awareness through initiatives like Ganga Grams and Ganga Praharis (volunteers).
f. Focus on **biodiversity conservation**, such as increasing the population of the **Gangetic dolphin**.

4. The NGP is led by the **National Mission for Clean Ganga (NMCG)** and monitored by the **National Ganga Council (NGC)** chaired by the Prime Minister.
5. The **River Ganga (Rejuvenation, Protection and Management) Authorities Order, 2016** created a multi-layered structure involving **central, state, and district-level committees** for better coordination.
6. Yamuna, being a **major tributary of the Ganga**, is also covered under the NGP. However, it faces **severe pollution**, especially in Delhi.

Key Highlights

1. **Shift in Strategy Under NGP**
   a. Earlier efforts focused only on stopping pollution; NGP also focuses on **restoring the health of the river**.
   b. Inspired by successful **river rejuvenation efforts in Europe**, especially the **Rhine river**.
   c. NGP aims to create **long-term and sustainable results**, not just temporary improvements.
2. **Legal and Institutional Structure**
   a. **National Ganga Council (NGC)** is headed by the PM; includes CMs of river basin states.
   b. **NMCG** acts as the executive agency with wide powers and responsibilities.
   c. Empowered **state and district-level Ganga Committees** for local implementation.
3. **Role of Delhi's Yamuna Cleaning Drive**
   a. Delhi contributes **nearly 80%** of the pollution in the Yamuna.
   b. Most of the waste comes from **untreated sewage and poor waste management**.
   c. Cleaning Yamuna needs better **urban governance** and **infrastructure upgrades**.
4. **Yamuna as a Model for Other States**
   a. Delhi's project is led by the **state government**, not just the Centre.
   b. It can show how states can take **ownership** and become active partners in national missions.
   c. The model can help understand how to **motivate other states** and solve similar issues in other rivers.
5. **Inter-State Coordination**
   a. Yamuna flows through multiple states. So, successful cleaning depends on **cooperation between states**.
   b. Delhi's experience can help build a **national framework** for managing shared rivers.

Implications for India

1. **Better Urban Governance for River Health**
   a. Cleaning rivers in cities like Delhi depends on **sewage treatment and waste management**.
   b. Encourages **investment in basic urban infrastructure** like STPs (Sewage Treatment Plants).
   c. Shows that **river pollution is often a city governance issue** more than a rural one.
2. **Improved Centre–State Partnership**
   a. Delhi can act as an example of how **both levels of government can cooperate**.
   b. Leads to better **policy alignment** between local and national authorities.
   c. May create **flexible models** for different rivers and regions.
3. **Replicable Model for River Rejuvenation**
   a. A successful Yamuna project can serve as a **blueprint** for rivers like Krishna, Cauvery, and Godavari.
   b. Encourages **customized local solutions** rather than one-size-fits-all approach.
   c. Builds a **library of best practices** for future river cleaning projects.
4. **Strong Institutional Framework**
   a. Increases understanding of what kind of **institutions, committees, and laws** are needed at every level.
   b. Pushes for **binding agreements** between riparian (river-sharing) states.
   c. Highlights the importance of **financial and administrative independence** of river authorities.
5. **Greater Public Involvement**
   a. Encourages **citizen participation** through community-led awareness drives.

Polity
I.R.
Security
Economy
Science
Click Here for INDEX
Geography
Society
History
Ethics
P.i.N.

b. Increases pressure on local governments to act responsibly.
c. Builds a sense of **collective ownership** over natural resources.

Importance of River Cleaning

1. **Health & Sanitation**: Polluted rivers spread waterborne diseases like cholera and dysentery, affecting millions.
2. **Drinking Water Source**: Rivers like Ganga and Yamuna provide drinking water to crores of people.
3. **Agriculture & Livelihood**: Clean rivers ensure safe irrigation and support the livelihood of fishermen and farmers.
4. **Cultural & Religious Significance**: Rivers are sacred in Indian traditions and festivals (e.g., Ganga Aarti, Chhath Puja).
5. **Biodiversity & Ecology**: Rivers are home to many species like the Ganga dolphin and turtles, which need clean habitats.
6. **Economic Importance**: Clean rivers attract tourism and support river-based transport and industries.

Challenges and Way Forward

Challenges	Way Forward
Low participation of states in NGP	Offer **performance-linked funding** and recognition to proactive states
Poor urban sewage treatment infrastructure	Invest in **modern STPs**, especially in urban clusters like Delhi
Weak coordination between states	Create **binding interstate agreements** for joint river management
Lack of public awareness and engagement	Run **mass awareness campaigns** and involve schools, colleges, and NGOs
Fragmented data and monitoring systems	Build a **central real-time data platform** for river water quality. **AI-based water quality monitoring** or **drone surveillance** for **illegal discharge** can also be used.
Bureaucratic delays and fund mismanagement	Ensure **strict audits and accountability** through digital monitoring tools

7. Lithuania Acts to Save Baltic Seals Amid Climate Crisis

Why in the News?

1. **Lithuania** has begun **rehabilitating Baltic grey seals to protect them from extinction**.
2. **Melting ice sheets** and **warming waters threaten** the seals' **natural habitat**.
3. Once close to extinction, seal populations are now estimated to have **grown to 50,000–60,000**.

Key Highlights:

1. **Threats to Baltic Seals**
   a. **Climate Change**
      i. The **Baltic Sea**, where these seals live, is **freezing less often now** due to **global warming**.
      ii. Normally, seals give birth and raise their pups on ice. But now, with **less sea ice**, they are **forced to breed on land**.
      iii. Breeding on land exposes them to more dangers like **predators, human disturbance, and diseases**.
      iv. This makes their **offspring more vulnerable**, reducing their chances of survival.
   b. **Pollution & Shrinking Fish Stocks**
      i. **Water pollution** from industrial and agricultural activities harms marine life, including seals.
      ii. Seals depend on **fish for food**, but due to **overfishing and environmental degradation**, fish populations are shrinking.
      iii. This leads to **food scarcity**, making it harder for seals to survive in the wild.
   c. **Human Interference**
      i. Activities like **boating, tourism, and coastal development** disturb the natural habitat of seals.
      ii. Young seals left on beaches or sandbanks become easy targets for **dogs or curious humans**.
      iii. Close contact with humans and domestic animals **increases the risk of disease transmission**.

2. **Rehabilitation Efforts**
   a. **Seal Care Facility in Klaipeda**
      i. A **special centre in the Lithuanian port of Klaipeda** has been set up to **rehabilitate orphaned or injured seal pups**.
      ii. These pups are taken in, nurtured, and **cared for until they are strong enough** to return to the sea.
   b. **Low Survival Rate in the Wild**
      i. Once released, the **chances of survival in the wild are low—as little as 5%**, according to local scientists.
      ii. This shows that while rehabilitation is important, **natural habitat preservation is equally essential** for long-term survival.
3. **Historical Context**
   a. **Near Extinction in the 1980s**
      i. In the late 1980s, the Baltic grey seal population dropped to only about 4,000.
      ii. This was due to pollution, hunting, and marine traffic, as well as disturbances during the Soviet and World War periods.
   b. **Conservation Measures**
      i. With international conservation efforts, including:
         1. Bans on seal hunting
         2. Cleaner marine environments
         3. Public awareness campaigns
      ii. The population has started to recover, though it still faces many threats.
4. **Current Population Status**
   a. **Present Numbers**
      i. As of now, **scientists estimate there are between 50,000 and 60,000 grey seals** in the Baltic Sea.
      ii. This is a **significant improvement** compared to the 1980s but still calls for **ongoing protection**.
   b. **Continued Monitoring**
      i. **Scientists continue to observe and study** the seals to track their health, behavior, and environmental risks.
      ii. This helps in **adapting conservation strategies** to ensure the population does not decline again.

Implications for India:

1. **Strengthening Marine Species Conservation**
   a. **India's marine fauna** such as **Olive Ridley turtles**, **dugongs**, **whale sharks**, and **corals** face similar threats from climate change, coastal development, and pollution.
   b. Just as Lithuania is rehabilitating Baltic seals, **India needs targeted rescue and rehabilitation centres** for injured or orphaned marine animals.
2. **Climate Change Adaptation for Wildlife**
   a. Rising sea temperatures, sea-level rise, and changing ocean currents affect **spawning, migration, and breeding** of marine species in Indian waters.
   b. India must **integrate climate resilience into its marine conservation policies**, such as through **climate-smart marine protected areas (MPAs)**.
3. **Regulating Coastal Development and Tourism**
   a. The Lithuanian case shows that **human interference** (tourism, pollution, noise) disrupts marine species' habitats.
   b. In India, **unregulated tourism** in places like Goa, Andaman & Nicobar Islands, and coastal Odisha affects nesting and feeding grounds.
   c. India should adopt **strict eco-tourism guidelines** to balance development with biodiversity protection.
4. **Pollution Control and Sustainable Fisheries**
   a. Like the Baltic Sea, **Indian coastal waters face pollution from industries, plastic waste, and oil spills**.
   b. Shrinking fish stocks impact not only wildlife but also the **livelihoods of coastal fishing communities**.
   c. India must enforce **sustainable fishing practices** and implement stricter **pollution control measures** in estuarine and marine zones.
5. **Community Participation and Awareness**
   a. Lithuania's conservation efforts highlight the role of **scientists, local communities, and government cooperation**.
   b. In India, involving **local fishermen, coastal communities, and NGOs** is crucial for the success of any marine conservation strategy.

Click Here for INDEX

Polity
I.R.
Security
Economy
Science
Geography
Society
History
Ethics
P.i.N.

6. **Scientific Monitoring and Research**
   a. Continuous tracking of Baltic seal populations helps shape policy.
   b. India must invest in **marine biodiversity monitoring systems**, **satellite tagging**, and **data-sharing platforms** to inform decision-making.

Challenges and Way Forward:

Challenges	Way Forward
Melting sea ice due to global warming	**Intensify global climate action and reduce carbon emissions**
Low survival rates of rehabilitated seals (5%)	**Enhance rehabilitation techniques** and **post-release monitoring**
Threats from human activities and diseases	Implement **stricter eco-tourism regulations** and awareness programs
Shrinking food sources due to **overfishing and pollution**	**Strengthen marine protection laws** and **fish stock recovery plans**

Click Here for INDEX

8. Seismic Resilience in India

Why in the News?

1. In **July 2025**, a **4.4 magnitude earthquake struck Delhi**, exposing structural vulnerabilities, especially in older buildings built before 2000.
2. This tremor is part of a broader pattern of **tectonic unrest across Asia**, including major quakes in **Myanmar (7.7), Thailand, Greece, and Tibet**.
3. Alongside natural tectonic risks, **human-induced seismicity** — from groundwater extraction, dam loading, and climate-related shifts — is emerging as a parallel threat.
4. These developments have triggered **urgent concerns about India's seismic resilience**, especially in high-risk regions like the **Himalayas, Northeast India, Delhi-NCR**, and **western Ghats**.

Key Highlights

1. **India's Natural Tectonic Risk**
   a. **Indian Plate** collides with **Eurasian Plate** (4–5 cm/year) → high **tectonic stress**.
   b. Risk of the **Great Himalayan Earthquake** (>8 magnitude) affecting **300 million plus** people.
   c. India is divided into **Seismic Zones II–V**; **Zone V = highest risk**.
   d. Danger-prone regions include:
      i. **Delhi-NCR** (liquefaction-prone soils, high-rise density)
      ii. **Northeast India**
      iii. **Andaman & Nicobar Islands**
      iv. **Sikkim**, and areas adjoining **Myanmar & Tibet**
2. **Urbanization and Poor Preparedness**
   a. Delhi's **large population** and over **5,000 high-rises** face high earthquake risk.
   b. Many old buildings lack **seismic safety**; East Delhi's **soft soil worsens** collapse chances.
   c. Despite tools like the **IndiaQuake app**, awareness and rule enforcement remain weak.
3. **Human-Induced Earthquakes: An Overlooked Danger**
   a. Activities like **groundwater extraction, reservoir-induced seismicity, mining, and oil/gas drilling** have triggered over **700 quakes globally (in 150 years)**.
   b. **Indian Evidence:**
      i. **Delhi-NCR (2003–2012):** Groundwater depletion linked to increased seismicity.
      ii. **1967 Koyna Earthquake (6.3):** First known reservoir-induced quake in India.
      iii. **Mullaperiyar Dam (Kerala):** Rising seismic activity due to hydrological stress.
   c. Human activity **loads/unloads stress** on faults, causing reactivation.
4. **Climate Change: A New Trigger**
   a. Climate-driven changes like **glacier melting**, **heavy rainfall**, and **prolonged droughts** contribute to altered crustal loads, reduced lubrication along fault lines and stress accumulation and release.
   b. **Examples: California (2014):** Earthquake linked to drought-induced fault stress. **Western Ghats (India):** Recent tremors linked to high monsoon rainfall.
5. **Learning from Other Countries**
   a. **Thailand:** Adopted **high-strength concrete (30–40 MPa)** and **ductile detailing**.

b. **U.S.:** Regulates dam operations to control seismic risk.

Implications

1. **Retrofitting Gaps**: Over 80% of Delhi's buildings (esp. pre-2000) lack seismic safety; similar urgency in Guwahati, Bhuj, Shimla, and Himalayan belts.
2. **Community Preparedness**: Disasters like Bhuj (2001) and Nepal (2015) show the need for evacuation drills, go-bags, and home safety checks.
3. **Investment Needs**: ₹50,000 crore/year required for retrofitting the cities; inaction risks major economic loss in hubs like Delhi & Mumbai.
4. **Seismic Monitoring**: Real-time tracking essential in river basins and infra-heavy zones; regulate groundwater use in Delhi-NCR to reduce stress.
5. **Regional Strategies**: Planning must match local geology; flexible buildings in Northeast, strong bases in Kutch, slope support in Himalayas.

Challenges and Way Forward

Challenges	Way Forward
Weak enforcement of seismic codes (IS 1893:2016)	Strict legal enforcement; **real-time audit** of construction projects
High cost of retrofitting and **lack of funding**	Government subsidies, tax incentives, **PPP (Public-Private Partnership) models**
Limited public and administrative awareness	**Safety drills, educational campaigns, media-based outreach**
Urban expansion in hazard-prone zones	Risk-sensitive land use planning and **construction bans** in unsafe zones
Poorly monitored groundwater and reservoir activities	Scientific regulation of water usage; **seismic audits** for large water projects
Lack of climate-resilient infrastructure policies	Integrate seismic + climate risk in infrastructure development norms
Absence of localized disaster response systems	**Build local teams**; improve early-warning apps like IndiaQuake

9. ICJ Calls for Climate Action as India Meets Key Goals

Polity I.R. Security Economy Science Geography Society History Ethics P.i.N.

Why in the News?

1. The **International Court of Justice (ICJ)** delivered a **landmark ruling** on climate change in July 2025.
2. It declared that countries have a **legal obligation** to take action to reduce **greenhouse gas emissions**.
3. Though the ICJ's ruling is **advisory** (not legally binding), it can increase pressure on countries and **support climate litigation** by vulnerable states.
4. This comes at a time when India is already **on track to meet** its international climate targets set under the **Paris Agreement (2015)**.

Key Highlights

1. **Climate Action as a Legal Duty**
   a. ICJ ruled that **reducing emissions** is a **legal obligation**, not a policy choice.
   b. Failure to act on climate change constitutes an **"internationally wrongful act"** under customary international law.
2. **Basis in Multiple International Treaties:** The court interpreted a **wide range of treaties** including:
   a. UNCLOS (UN Convention on the Law of the Sea), 1982
   b. Convention on Biological Diversity (**CBD**), 1992
   c. UN Framework Convention on Climate Change (**UNFCCC**), 1994
   d. UN Convention to Combat Desertification **(UNCCD)**, 1994
   e. Montreal Protocol, 1987 (Ozone layer protection)
   f. Kyoto Protocol, 1997
   g. Paris Agreement, 2015
3. **Differentiated Responsibilities**
   a. Countries listed in **Annex I of the UNFCCC** (developed and industrialized nations) must lead in **reducing emissions**.
   b. They must also **facilitate finance** and **technology transfers** to developing nations under the **principles of equity and common but differentiated responsibilities**.

Click Here for INDEX

Polity I.R. Security Economy Science Geography Society History Ethics P.i.N.

4. **Liability for Corporate Actions**
   a. ICJ ruled that a country could be held **liable** for the **actions of private businesses**, if it fails to regulate or monitor them.
   b. The standard of "**due diligence**" is applied, a country must enact sufficient legislative or regulatory safeguards.
5. **Recognition of Loss and Damage**
   a. Countries adversely impacted by climate change ("**injured states**") are entitled to full reparation, not just aid.
   b. This strengthens the **Loss and Damage mechanism** (institutionalized in **COP27 at Sharm el-Sheikh, Egypt, 2022**), giving it stronger legal teeth.

About the Key Treaties

UNCLOS

1. An **international treaty** defining **ocean rights** and **responsibilities**, replacing the **1958 Geneva Conventions**.
2. **Sets zones:** Territorial Sea, Contiguous Zone, **EEZ** (up to 200 nautical miles), Continental Shelf, and High Seas.
3. Grants coastal states control over resources in their EEZs.
4. Regulates marine research, seabed mining, and environmental protection.

Click Here for INDEX

Convention on Biological Diversity

1. A **legally binding treaty** adopted at the **1992 Rio Earth Summit**.
2. **Core Objectives:** Conserve biodiversity (genes, species, ecosystems), ensure sustainable use and share benefits from genetic resources fairly.
3. **Conference of Parties (COP)**: Main decision-making body, meets every two years
4. Protocols:
   a. Cartagena (2000): Controls cross-border Living Modified Organisms (LMOs)
   b. Nagoya (2010): Regulates access and benefit-sharing
5. Secretariat: Based in Montreal, Canada
6. Most comprehensive global biodiversity agreement

UNFCCC

1. It is a global environmental agreement adopted at the **1992 Rio Earth Summit.**
2. It provides a framework for **international cooperation** to combat **climate change** by limiting greenhouse gas emissions.
3. As per **Article 2**, its goal is to **stabilize greenhouse gas concentrations** at levels that prevent dangerous human interference with the climate system, while ensuring ecosystem adaptation, food security, and sustainable development.
4. The **Conference of the Parties (COP)** is the **decision-making body** where all signatory countries meet **annually** to review implementation and negotiate further commitments.
5. While the UNFCCC sets the overall direction, it does **not** impose **binding emission reduction targets**, those are negotiated in subsequent agreements like the **Kyoto Protocol (1997) and Paris Agreement (2015).**

UN Convention to Combat Desertification (UNCCD)

1. It is the **only internationally binding agreement** that addresses **desertification**, land degradation, and drought.
2. **Core Objectives**:
   a. Prevent and reverse **desertification** and **land degradation**
   b. Mitigate **drought** impacts
   c. Promote **sustainable land management** for poverty reduction and environmental sustainability
3. It promotes **national action plans** supported by international cooperation, and is grounded in the principles of **participation, partnership, and decentralisation**, ensuring community involvement and good governance.

Montreal Protocol

1. It regulates nearly **100 ozone-depleting substances (ODS)** such as CFCs, HCFCs, and halons used in items like refrigerators and aerosols.
2. It is universally ratified and sits under the **Vienna Convention** for the Protection of the Ozone Layer.
3. The Protocol mandates a step-wise reduction in production and consumption of ODS with different timelines for developed and developing countries.

4. Both groups have **binding, time-targeted, and measurable commitments**.
5. The **Ozone Secretariat at UNEP, Nairobi**, facilitates implementation.
6. **Kigali Amendment (2016):**
   a. This amendment targets **hydrofluorocarbons** (HFCs), greenhouse gases that replace ODS but contribute to climate change.
   b. It aims for an **80–85% reduction in HFCs** by **2045**.
   c. Full implementation could **prevent** up to **0.5°C of global warming by 2100**.

Kyoto Protocol

1. It is the **first international treaty** with **legally binding targets** for developed countries to reduce greenhouse gas (GHG) emissions.
2. **Principle of Common But Differentiated Responsibilities (CBDR):** The protocol applies binding emission reduction targets only to developed countries, recognizing their historical responsibility for climate change since the Industrial Revolution.
   a. Developed countries (e.g., US, UK, Japan) must take stronger action.
   b. Developing countries (e.g., India, China) have non-binding, voluntary commitments.
3. **Goal:** Cut global GHG emissions by **5% below 1990 levels** by 2012
4. **India ratified** it in **2002.**
5. The **USA never ratified** the treaty; **Canada withdrew** in **2012**.

Paris Agreement (2015)

1. Adopted at **COP 21 in Paris in 2015**, it is a **legally binding agreement** aiming to combat climate change by keeping global temperature rise **well below 2°C** above **pre-industrial levels**, with efforts to **limit it to 1.5°C.**
2. **Nationally Determined Contributions (NDCs):** All parties are required to submit NDCs **every 5 years**, detailing national plans to reduce greenhouse gas emissions and build resilience to climate impacts.
3. NDCs are **self-determined**, **non-binding**, but progress is subject to transparency and review mechanisms.
4. With near-universal participation, the agreement promotes **equity**, **climate finance**, **technology transfer**, and **capacity building**, especially to support developing and vulnerable countries in achieving their climate goals.

India and Its Climate Goals

1. **Achieved 50% Non-Fossil Electricity Capacity Target (June 2025)**
   a. **Installed power generation capacity**: 484.82 GW
   b. **Non-fossil fuel sources**: 242.78 GW (>50%), includes: large hydropower, nuclear power and renewables (wind, solar, biomass).
   c. In 2024 alone, **30 GW** of renewable energy was added, of which **24 GW was solar**, marking India's **highest-ever annual addition**.
2. **Carbon Sink Target Likely Met Ahead of Schedule**
   a. Target: Add **2.5–3 billion tonnes** CO_2 equivalent carbon sink (from 2005 baseline) by 2030.
   b. By 2021, **2.29 billion tonnes** had already been created.
   c. The **India State of Forest Report (ISFR)** indicates an average annual increase of **~150 million tonnes** in carbon stock between 2017–2021.
   d. If trend continued till 2023, India would have likely crossed the **lower-end of the target** already.
3. **Emissions Intensity Target Well on Track**
   a. **Target:** Reduce emissions intensity (emissions per unit of GDP) by **45% from 2005 levels** by 2030.
   b. By 2020, India had achieved **36% reduction** (source: India's Third Biennial Update Report to UNFCCC, 2021).
   c. Though post-2020 data is limited, trend analysis suggests that the **2030 target is achievable without major policy shifts**.
4. **Electricity vs Total Energy Consumption**
   a. Electricity accounts for **only 22%** of India's total energy consumption.
   b. The remaining **78%** comes from direct fossil fuel burning, **coal, oil, and natural gas**, especially in transport and industry.

Click Here for INDEX

c. As of May 2025, **non-fossil fuels contributed 28%** of electricity generation (not capacity), translating to **only ~6% of total energy consumption from clean sources**.

d. This aligns with the **global average**, but reveals the limits of electricity-centric progress.

5. **Future Capacity and Expansion Plans**

a. India aims for **500 GW of non-fossil fuel capacity** by 2030.

b. **10 new nuclear reactors** are under construction, expected to double nuclear capacity to **~17 GW**.

c. Development of **Bharat Small Modular Reactors (SMRs)** is ongoing but unlikely to be operational by 2030.

d. Renewable sources will continue to contribute **the majority of new capacity** additions.

Implications of the ICJ Ruling and India's Progress

1. **Strengthened Legal Framework for Climate Justice**

a. The ICJ's interpretation may now be used by **domestic and international courts** to demand action or award compensation.

b. It legitimizes the idea that **climate inaction can carry legal penalties**, creating an **international accountability mechanism**.

2. **New Momentum for Climate Litigation**

a. **Vanuatu and other Pacific Island nations** have supported the ruling to push for **climate reparations**.

b. Courts in countries like **Germany, Netherlands, and Australia** have already held governments liable for climate inaction.

c. This ruling will **support similar litigation globally**.

3. **Increased Pressure on Developed Nations**

a. Developed countries have **repeatedly missed climate finance and emissions targets**:

i. **Kyoto Protocol** (non-compliance by Canada, Japan, USA).

ii. **Paris Agreement** (US withdrawal in 2020, rejoined in 2021).

b. ICJ ruling could now lead to **real legal scrutiny** and **compensation claims** from vulnerable nations.

4. **India's Rising Global Credibility**

a. By meeting its targets early, India can **lead by example** in climate negotiations.

b. India's position as a **responsible global actor** enhances its demand for **technology access and climate finance**, as per **Article 9 and 10 of the Paris Agreement**.

5. **Disputes Over Sufficiency and Compliance**

a. ICJ held that mere token actions don't count — the **scale of climate action is subject to scrutiny**.

b. This **conflicts** with the **Paris Agreement's voluntary, nationally determined contributions (NDCs)**, which have **no penalty for insufficiency**.

c. This may lead to **future legal and diplomatic confrontations** over the measurement of climate ambition.

Challenges and Way Forward

Challenges	Way Forward
Advisory Nature of ICJ Ruling	Countries must incorporate the ICJ's opinion into **domestic laws**, and **multilateral institutions** should explore enforcement mechanisms.
Climate Finance Gap	Developed countries must fulfill their promise of **$100 billion/year**, and make **Loss and Damage Fund** operational with **grant-based support**.
Limited Impact of Installed Capacity	Focus on improving **actual clean electricity generation**, including **storage solutions**, and reducing **direct fossil fuel use** in sectors like transport and industry.
Inequality in Climate Impact and Action	Adopt a **climate equity index** to assess fair contributions and support, accounting for **historical emissions**, **development needs**, and **vulnerability**.

10. M.S. Swaminathan and the Global Rise of Mangrove Conservation

Why in the News?

1. **World Mangrove Day (July 26)** highlights the global attention mangroves now receive for their ecological and climate-related benefits.
2. **M.S. Swaminathan's legacy** in making mangroves central to climate and coastal management is being revisited for his pioneering work since the late 1980s.
3. **India State of Forest Report (ISFR) 2023** shows a rise in mangrove cover, indicating the long-term impact of **scientific and policy initiatives** in which Swaminathan played a key role.

Key Highlights

1. **M.S. Swaminathan's Early Advocacy (1989 Onwards)**
   a. At a **Tokyo climate conference** in **1989**, he warned about sea-level rise, salinisation, and cyclones due to climate change.
   b. Proposed **sustainable mangrove management** as a multi-pronged solution based on ecology, economy, and equity.
   c. Suggested **genetic research** to transfer salinity-tolerant genes from mangroves to crops like rice.
2. **Formation of Global Institutions and Charters**
   a. Played a pivotal role in establishing the **International Society for Mangrove Ecosystems (ISME)** in 1990, **Okinawa**.
   b. Drafted the Charter for Mangroves, included in the **World Charter for Nature (UNCED 1992)**, guiding global conservation norms.
   c. ISME published manuals, conducted workshops, and created the **World Mangrove Atlas** to promote knowledge and restoration.
3. **Creation of Global Infrastructure**
   a. Helped develop **GLOMIS (Global Mangrove Database and Information System)** to centralize knowledge on mangrove species and genetic resources.
   b. Provided **scientific input** for the **evaluation** of 23 mangrove sites across 9 countries.
   c. Facilitated creation of **Mangrove Genetic Resource Centres** now managed as **Protected Areas** by respective nations.
4. **Reforming India's Mangrove Management**
   a. Historically, mangrove management in India focused on **clear-felling** since British times, leading to large-scale degradation.
   b. The **M.S. Swaminathan Research Foundation (MSSRF)** showed that poor restoration results were due to **ecological mismanagement**, not local communities.
   c. Developed the **hydro-ecological fishbone canal method** for effective mangrove regeneration in Tamil Nadu, Andhra Pradesh, Odisha, and West Bengal.
5. **Institutional and Policy Influence**
   a. **Pilot-tested joint management systems** that led to the **Joint Mangrove Management Programme** adopted by the **Ministry of Environment and Forests** (2000).
   b. Central and State governments began investing more in restoration post-2000.
   c. **Mangrove protection** gained more attention after their role in mitigating the **1999 Odisha Super Cyclone and 2004 Tsunami** was observed.

Fishbone canal method

1. The **hydro-ecological fishbone canal method** is a technique used to **restore mangrove ecosystems.**
2. It is done by **mimicking natural tidal flow** through a network of channels resembling a **fish skeleton.**
3. This method involves **creating a central feeder channel** with **angled branches.**
4. It helps to **distribute water more evenly** throughout the area, improving conditions for **mangrove growth and biodiversity.**

About Mangroves

1. **Definition**
   a. Mangroves are salt-tolerant trees and shrubs found in **coastal intertidal zones** of **tropical and subtropical regions**.
   b. They grow in **saline or brackish water**, and act as a **natural buffer between land and sea**.

Polity I.R. Security Economy Science Geography Society History Ethics P.i.N.

Click Here for INDEX

2. **Key Characteristics**
   a. **Salt Tolerance:** Special roots and leaves remove or filter salt.
   b. **Aerial Roots:** Helps in breathing in waterlogged soil.
   c. **Prop Roots:** Give strong support against waves and storms.
   d. **Vivipary:** Seeds grow while still on the parent tree. This helps in their survival.
   e. **Carbon sink:** Store 3-4 times more carbon than other forests.
3. **Major Mangrove Forests in India**
   a. **Sundarbans (West Bengal)**: Largest in the world; home to Royal Bengal Tiger.
   b. **Bhitarkanika (Odisha)**: Ramsar site, rich in estuarine crocodiles.
   c. **Pichavaram (Tamil Nadu)**: One of India's largest.
   d. **Godavari-Krishna-Mahanadi Deltas**: Biodiversity-rich zones.
   e. **Gulf of Kutch (Gujarat)**: Unique in an arid region.
   f. **Andaman & Nicobar and Lakshadweep**: Dense, diverse mangrove zones.
4. **Why do Mangroves matter?**
   a. **Coastal Protection:** Reduce cyclone & tsunami damage (e.g. Cyclone Amphan, Odisha 2020).
   b. **Carbon Storage:** Capture large amounts of carbon, key to fighting climate change.
   c. **Biodiversity:** Breeding ground for fish, birds, crabs, etc.
   d. **Livelihoods:** Support fishing, honey, timber, ecotourism.
   e. **Water purification:** Clean pollutants, called **Kidneys of the Planet**.
5. **Threats to Mangroves:**
   a. **Natural Threats:**
      i. Cyclones and Storms: Uproot trees
      ii. Coastal Erosion: Sea level rise damages roots.
      iii. Salinity changes: Affect plant health.
   b. **Human (Anthropogenic) Threats:**
      i. Deforestation
      ii. Pollution
      iii. Urbanisation
      iv. Illegal logging
6. **Conservation Efforts:**
   a. **Global Initiatives:**
      i. **Ramsar Convention (1971):** Protects wetlands
      ii. **UNESCO Man and Biosphere Program:** Supports mangrove conservation under various biosphere reserves.
      iii. **IUCN and Blue Carbon initiative:** To conserve coastal ecosystems to mitigate climate change.
   b. **Indian Initiatives:**
      i. **National Mangrove Committee (1976):** Government advisory for mangrove policy
      ii. **MISHTI (2023):** Increase mangrove cover on coasts and saltpans.
      iii. **SAIME** (Sustainable Aquaculture In Mangrove Ecosystem)
      iv. **Coastal Regulation Zone (CRZ) rules:** Ban harmful activities near coasts.
7. **Way Forward:**
   a. **Awareness**: Educate people about mangroves' value.
   b. **Restoration**: Replant lost mangroves.
   c. **Research**: Study new uses (medicine, phytoremediation).
   d. **Tech Monitoring**: Use drones, AI to track health.
   e. **Community Involvement**: Encourage adoption of mangrove patches.

Implications

1. **Environmental Resilience and Climate Adaptation**
   a. Mangroves serve as **natural buffers** against cyclones, floods, and tsunamis.
   b. They contribute significantly to **carbon sequestration**, helping in climate change mitigation.
2. **Livelihood Support and Biodiversity**
   a. Provide nursery grounds for fish and other marine life, supporting local fisheries.
   b. Sustain communities dependent on **coastal and marine biodiversity**.

3. **Shift in Conservation Paradigm**
   a. Mangroves were **earlier** seen as **wastelands**; **now** recognised as multi-use **coastal ecosystems**.
   b. Restoration is now based on **participatory**, **ecological**, and **scientific principles**, not mere afforestation.
4. **Institutional and Knowledge Infrastructure**
   a. **GLOMIS and ISME** have enhanced global collaboration and data sharing.
   b. India has **improved policy-based restoration**, reflecting a science-backed model of ecological governance.
5. **National Progress in Mangrove Coverage**
   a. According to **ISFR 2023**, India now has **4,991.68 km² of mangrove cover** (**0.15%** of its geographical area).
   b. Between **ISFR 2019 and ISFR 2023**, mangrove cover **increased by 16.68 km²**, showing **positive long-term impact** of sustained interventions.

Challenges and Way Forward

Challenges	Way Forward
Past colonial practices of clear-felling caused **long-term ecological damage**	Promote **hydro-ecological restoration methods** like the fishbone canal model
Misattribution of **degradation** to local communities	**Recognise** and **involve communities** in Joint Mangrove Management
Limited awareness among policymakers and general public	**Expand outreach** using World Mangrove Atlas, educational campaigns
Fragmented data and **research** on mangrove ecosystems	**Strengthen GLOMIS** and **integrate** with national-level biodiversity databases
Coastal infrastructure and **tourism pressures** on mangrove habitats	Enforce **zoning regulations**, and **incentivize eco-tourism models**

11. GLOF Threat in Himalayas

Why in the News?

1. Nepal experienced a catastrophic **Glacial Lake Outburst Flood** (GLOF) in **July 2025**, which destroyed infrastructure including a China-built bridge and hydropower stations.
2. The event highlights increasing GLOF risks across the **Himalayan region**, particularly in **India and Nepal**, due to rising temperatures and glacial melt.
3. It raises urgent questions on the **lack of early warning systems**, especially in **trans-boundary watersheds** like Tibet-Nepal-India.

Key Highlights

1. **GLOF (Glacial Lake Outburst Flood)**
   a. A **Glacial Lake Outburst Flood (GLOF)** is a sudden and powerful flood caused by the **bursting of a glacial lake**.
   b. These lakes are formed when melting glaciers create water bodies at high altitudes, often dammed by loose ice or debris (called moraines).
   c. If the dam breaks; **massive volumes of water rush downstream**, causing destruction to life, infrastructure, and ecosystems.
2. **Recent GLOF Events in Nepal and India**
   a. On July 8, a **supraglacial lake** burst in Tibet caused a flash flood along the **Lende River**, destroying a vital bridge and disrupting Nepal's inland port at Rasuwagadhi.
   b. On the same day, another GLOF occurred in **Mustang district**, while earlier events occurred in **Humla and Solukhumbu**.
   c. In India, the **2023 Sikkim GLOF** destroyed the **Chungthang dam**, and the **2013 Kedarnath disaster** was also triggered by a GLOF.
3. **Nature of GLOF Risks in the Himalayas**
   a. The Indian Himalayan Region has **28,000 glacial lakes**, with over **7,500 in India**.
   b. Two main types: **supraglacial lakes** (on top of glaciers) and **moraine-dammed lakes** (at the snout of glaciers).
   c. Main triggers include **ice avalanches, landslides**, excessive meltwater, and **earthquakes**.
4. **Inadequate Monitoring Infrastructure**
   a. Most glacial lakes lie above **4,500 meters**, accessible only during short summer windows.
   b. There's a **lack of real-time weather/water monitoring stations** in these zones.

c. Remote sensing is used to track changes, but it offers only **post-event data**, not real-time warnings.

5. **Government Response in India**
   a. The National Disaster Management Authority (NDMA) initiated a **proactive risk reduction approach** under the **Committee on Disaster Risk Reduction (CoDRR)**.
   b. A national programme worth **$20 million** was launched to assess and mitigate **195 high-risk glacial lakes**.
   c. **Five-fold objective**: hazard assessment, automated monitoring stations, early warning systems, risk mitigation, and community engagement.
6. **Scientific and Community Initiatives**
   a. Expeditions conducted **bathymetry**, **Electrical Resistivity Tomography (ERT)**, and **Unmanned Aerial Vehicle (UAV) surveys** to assess lake stability.
   b. **Monitoring stations** now send weather and water data every 10 minutes.
   c. **Community engagement** was crucial, especially in remote or sacred sites, to ensure cooperation.
   d. Use of advanced methods like **SAR interferometry** to monitor slope stability is being encouraged.

Click Here for INDEX

Bathymetry:

1. It is the study and measurement of the **depth of water bodies**, such as lakes, rivers, or oceans.
2. It involves **mapping the underwater topography** (like the shape and features of the lake or sea floor) to determine how deep and wide the water body is.

Electrical Resistivity Tomography (ERT):

1. It is a method that **uses electric current to map underground features**.
2. By measuring how the ground resists the current, it **helps detect things like water, ice, or weak zones under moraine dams.**

SAR (Synthetic Aperture Radar) Interferometry:

1. It is a **satellite-based technique** that **detects tiny changes** in the **Earth's surface**, like ground movement or slope shifts.
2. It's useful for **predicting landslides** and **GLOFs**, making it vital for early warning in high-risk areas like the Himalayas.

Implications

1. **Ecological Disruption:** Frequent GLOFs threaten Himalayan biodiversity and disturb river systems through increased siltation and flow changes.
2. **Human Risk and Displacement:** Sudden floods cause loss of life, damage to homes and farmland, and endanger pilgrimage hubs like Kedarnath.
3. **Infrastructure at Risk:** Critical structures like bridges and dams—e.g., Chungthang dam—are highly vulnerable to GLOF impacts.
4. **Cross-Border Gaps:** Absence of transboundary early warning systems hampers regional disaster response, highlighting the need for glacial watershed cooperation.
5. **Policy and Monitoring Gaps:** Monitoring remains largely post-disaster and remote-sensing-based, with limited ground presence in high-altitude zones due to tough terrain and resource limits.

Challenges and Way Forward

Challenges	Way Forward
Lack of early warning systems, especially transboundary	Establish **bilateral early warning protocols** (e.g., Nepal-China, India-Nepal)
Limited access to glacial lakes for real-time surveys	Expand **automated weather/ water stations** and use **remote sensing** tech
Inadequate community involvement	Conduct **awareness campaigns** and engage locals in risk monitoring
Gaps in scientific prediction methods	Integrate **SAR interferometry** and high-resolution data tools in planning
Few Indian tech startups in risk reduction	Incentivize **public-private partnerships** for Himalayan risk tech innovation

SOCIETY AND CULTURE

1. Gender Gap in Math Emerges Early

Why in the News?

1. A **new study conducted in France** has revealed that boys and girls start **school** with the same **mathematical abilities**, but a **gender gap** begins to emerge as early as the **first grade**.
2. This discovery raises **critical concerns** about:
   a. **gender bias** in **early education**
   b. long-term impact on **STEM (Science, Technology, Engineering, Mathematics)** representation.

Key Highlights

1. **Large-Scale Study**: The study assessed **over 26.53 lakh children** over four years (2018-2022) using EvalAide, a national test in France.
2. **Consistency Across Demographics**: The gender gap was observed **regardless of region, school type (private or public), or socioeconomic background**.
3. **Early Performance Patterns**: Boys showed a tendency to cluster at both high and low ends of performance, while girls were more concentrated in the middle.

Causes of Gender Gap in STEM Fields

1. **Societal Stereotypes and Biases**
   a. Deep-rooted beliefs that boys are **naturally better** at science and math.
   b. Girls are often encouraged toward arts or **caregiving professions**.
   c. **Stereotype threat**: Girls may underperform due to fear of confirming negative stereotypes.
2. **Early Gender Conditioning**
   a. From an early age, girls may receive **less encouragement** in math and science.
   b. Toys, books, and activities offered to girls often focus on **nurturing**, **not technical skills.**
3. **Teacher Bias**
   a. Teachers may **unintentionally** favor boys in science/maths discussions.
   b. **Less attention** and **fewer challenging questions** are directed at girls.
4. **Parental Expectations**
   a. Parents may **attribute sons' success** to **intelligence**, but daughters' success to hard work.
   b. Girls may **not** be **encouraged** to pursue engineering or technology fields.
5. **Lack of Role Models**
   a. **Few female** scientists, engineers, or coders are highlighted in textbooks or media.
   b. **Absence of women mentors** in schools and colleges discourages girls from continuing in STEM.
6. **Workplace Discrimination and Hostile Environments:** Women in STEM careers face:
   a. Gender pay gaps
   b. Limited promotions
   c. Sexual harassment or exclusion
   d. These factors contribute to higher dropout rates from STEM jobs.
7. **Limited Access to Opportunities**
   a. In **rural or low-income areas**, girls have less access to **digital tools** and STEM-related extracurriculars.
   b. **Poor infrastructure** and **safety concerns** deter girls from pursuing higher studies in STEM.

Government Initiatives to Reduce Gender Gap in STEM in India

1. **Schemes and Initiatives by DST (Department of Science and Technology)**
   a. **KIRAN (Knowledge Involvement in Research Advancement through Nurturing)**
      i. **Aims to bring back women** who had a break in their careers into research.
      ii. **Offers fellowships**, **training**, and **support** for women scientists and technologists.

Click Here for INDEX

b. **WISE (Women in Science and Engineering)**
   i. Launched in **2023** by **DST**.
   ii. Offers **fellowships** to **women researchers** in STEM disciplines.
   iii. **Promotes R&D** in societal problems through women-led projects.

c. **Vigyan Jyoti Programme**
   i. Targets girls from Class 9–12, especially in underrepresented groups.
   ii. Offers **mentoring**, **lab exposure, motivational talks**, and visits to premier institutions.
   iii. Aims to **increase participation** in IITs, NITs, and STEM careers.

d. **GATI (Gender Advancement for Transforming Institutions)**
   i. Piloted by DST to help institutes create **gender equity action plans**.
   ii. Inspired by the UK's **Athena Swan Charter**.
   iii. **Promotes institutional reforms** in hiring, mentoring, and promotions for women in STEM.

2. **Schemes by Ministry of Education**

a. **Rashtriya Avishkar Abhiyan (RAA)**
   i. **Promotes STEM education** through experimentation and innovation at school level.
   ii. Focuses on **girls' participation** in science clubs, competitions, and labs.

b. **INSPIRE (Innovation in Science Pursuit for Inspired Research)**
   i. **Scholarships and mentorship** for students (including girls) to pursue natural sciences and research.

Challenges and Way Forward

Challenges	Way Forward
Emergence of Bias in Early Years: Subtle gender biases may affect teacher expectations and student confidence.	**Teacher Training**: Equip teachers to **engage boys and girls equally** in class and reinforce **non-gendered encouragement** in STEM.
Lack of Intervention in Primary Education: Primary school teachers, particularly women, may unintentionally reinforce stereotypes.	**Focus on Early Education**: Intervene early by offering **gender-sensitive pedagogy** in math education.
Stereotypes Held by Parents: Parents might associate diligence with girls and natural intellect with boys.	**Awareness Campaigns**: Sensitize parents about **non-biased support** and avoid reinforcing stereotypes.
Confidence Gap: Girls may begin doubting their abilities despite having the same potential.	**Encouragement Through Exposure**: Introduce more **female role models** and offer **equitable exposure** to math-related activities.

2. PARAKH Survey

Why in the News

1. The **Ministry of Education** released findings from the **PARAKH (Performance Assessment, Review, and Analysis of Knowledge for Holistic Development) survey.**
2. It revealed that learning levels in **Class 3 students in 2024** have not yet returned to **pre-Covid levels (2017).**
3. These findings are especially in **foundational subjects** like language and mathematics.

Key Highlights

1. **Learning Recovery Post-Covid**
   a. Class 3 students' learning levels are still **below pre-Covid (2017) levels**.
   b. Despite **some improvement from 2021**, foundational skills in **language and mathematics** have **not fully recovered**.
2. **Survey Background**
   a. Conducted under **PARAKH (Performance Assessment, Review and Analysis of Knowledge for Holistic Development)**.
   b. Part of the **National Education Policy (2020).**
   c. Covered **2.15 lakh students** in **Classes 3, 6, and 9** across **5,297 schools** in **December 2024**.

3. **Comparable Data**
   a. **Only Class 3** data is comparable with **2017 and 2021**, as assessments used a common set of learning outcomes.
4. **NAS (National Achievement Survey) Structure Over the Years**
   a. **2017 NAS**: Assessed Classes **3, 5, and 8**.
   b. **2021 NAS**: Assessed Classes **3, 5, 8, and 10**.
   c. **2024 NAS**: Aligned with **NEP 2020** stages:
      i. **Class 3** – End of Foundational Stage
      ii. **Class 6** – End of Preparatory Stage
      iii. **Class 9** – End of Middle Stage
5. **Language Competency – Class 3**
   a. **Lowest score (60%)** in reading short stories and understanding meaning.
   b. **Higher score (67%)** in using words for day-to-day communication.
6. **Mathematics Performance – Class 3**
   a. **Weakest areas (50%)**:
      i. Understanding geometric shapes.
      ii. Simple money transactions.
   b. **Best performance (69%)**: Identifying patterns, shapes, and numbers.
7. **Class 6 and 9 Outcomes**
   a. National average **below 50%** in all subjects **except language**.
   b. Indicates widespread learning gaps, particularly in core subjects.
8. **Ministry Observation**
   a. **Senior Education Ministry official** stated:
      i. Classes 6 and 9 **underperformed expectations**.
      ii. Learning loss is attributed to students **losing nearly two years** of academic learning due to the **Covid-19 pandemic**.
9. **Implication**
   a. The **disruptions in education** due to the pandemic have had **lingering impacts**.
   b. There is a **need for focused efforts** to bridge the learning gaps in early grades.

Challenges and Way Forward

Challenges	Way Forward
Learning losses due to prolonged school closures during Covid-19	**Targeted remedial learning programmes** in foundational stages
Drop in foundational literacy and numeracy	**Strengthen teacher training and curriculum alignment with NEP 2020**
Gender disparities in performance	Promote **gender-inclusive teaching practices**
Poor performance in Maths and Science in higher classes	Introduce **activity-based and conceptual learning** at early stages
Lack of critical thinking and application skills	Emphasize **competency-based assessments and experiential learning**

3. Palliative Care

Why in the News?

1. There is an **urgent need** to include palliative care as a regular part of India's health-care system.
2. At present, it is **not well-funded**, **rarely used**, and **hard to access**, especially in **rural** and **remote areas**.
3. As more people suffer from **long-term illnesses** like cancer, diabetes, and heart or lung diseases, there is a growing need for **Palliative care**.

Key Highlights

1. **Importance of Palliative Care**
   a. **Palliative care** offers relief from **pain, emotional distress, social, and spiritual suffering**, focusing on quality of life, not just disease eradication.
   b. WHO estimates **40 million people** globally need palliative care annually, with **78%** in low- and middle-income countries.
   c. In India, where an estimated **7 to 10 million** people require palliative care annually, only **1-2%** have access to it.
2. **Current Status in India**
   a. Despite being part of the **National Health Policy 2017,** implementation remains weak.
   b. Only **21 out of 36 states/UTs** have registered palliative care facilities.

Click Here for INDEX

c. India's **doctor-population ratio is 1:834,** better than **WHO's** norm of **1:1000,** but palliative care specialists are very few.

3. **Linking with medical education**
   a. **Need to Train Doctors in Palliative Care**
      i. Doctors, especially in remote areas, need **proper skills and empathy** to care for patients at the end of life.
      ii. Integrating palliative care into the **MBBS curriculum** is essential to ensure all future doctors are prepared.
   b. **Ongoing Efforts**
      i. Projects by the **Indian Council of Medical Research (ICMR)** and **AIIMS** (All India Institute of Medical Sciences) are making gradual progress in including palliative care in **medical training**.
   c. **Utilizing India's Large Health Workforce**
      i. India has **34.33 lakh registered nurses** and **13 lakh allied health-care workers.**
      ii. By **empowering and training** this workforce, the country can bridge the gap and **extend care to rural and underserved regions**.
   d. **Policy Recommendation**
      i. Policymakers should focus on the **long-term benefits** of investing in palliative care:
         1. Improved **patient outcomes**
         2. Reduced **burden on the health-care system**
4. **Integration with Health Policy & Insurance**
   a. **Ayushman Bharat** and other insurance schemes can support access.
   b. **Public-private partnerships** and **NGO** involvement can boost services.
   c. Urgent need for **dedicated funding** and inclusion of palliative care in **tertiary and primary health systems**.
5. **Public Awareness and Cultural Shift**
   a. Public campaigns can **raise awareness** about palliative care, encourage early access, and change perceptions.
   b. Learning from the **U.S. model**, which focuses on end-of-life dignity, insurance support, and patient-centered care.

Click Here for INDEX

Challenges and Way Forward

Challenges	Way Forward
Poor public awareness and **cultural taboos** around palliative care	Launch national-level **public education campaigns** on palliative care benefits.
Shortage of trained palliative care professionals	Integrate palliative care into **MBBS curriculum** and provide **continuous medical education.**
Inadequate government funding and **infrastructure**	Allocate **dedicated funds** for infrastructure and service expansion.
Low coverage by insurance and financial barriers for families	Expand schemes like **Ayushman Bharat** to cover palliative care.
Poor integration in rural and underserved areas	Leverage **telemedicine (**giving medical care through phone or video**)** and partner with **NGOs** to reach remote areas.
Fragmented implementation across states	Ensure **policy uniformity** and set national targets for palliative care access

4. TB Death Audits

Why in the News?

1. Tuberculosis remains the **leading infectious cause** of death in India, demanding renewed attention amid stagnant progress in reducing mortality.
2. Existing efforts have focused largely on case detection and treatment, while the aspect of preventing TB deaths has been underemphasized.
3. Successful **localized initiatives** have demonstrated the potential of **death audit**-based approaches to improve outcomes, prompting calls for national-level adoption.

What are the Key Highlights?

1. **TB Death Burden in India**
   a. India has the **highest** number of TB deaths in the world, with nearly **5 lakh** (500,000) people dying every year from the disease.

b. This is alarming because tuberculosis (TB) is a **curable and preventable** disease when diagnosed and treated properly.
c. What's especially concerning is that the majority of these deaths occur in people aged **25–50**, which is the most **economically productive and socially active age group.**
d. The loss of lives in this age bracket has a significant economic and social impact on families and the nation, **reducing workforce strength** and increasing the **burden on healthcare systems**.

2. **TB Death Audits Proposal**
a. A **death audit** is a **detailed review** of the reasons behind a person's death, especially to understand what went wrong in the system.
b. The proposal suggests using a model similar to the one used for **maternal death audits** in India, known as the **Maternal Death Surveillance and Response (MDSR)** system. This system investigates every maternal death to find out if it was preventable and how health services can be improved.
c. Applying this model to TB means that for every TB death, the health system would:
   i. **Investigate** the exact **cause of death**
   ii. **Identify** if treatment was **delayed, missed,** or **incomplete**
   iii. **Check** if the person had access to **healthcare facilities, nutrition,** and **support services**
   iv. **Identify** systemic issues, such as **gaps in medication supply, follow-up,** or **diagnosis.**
d. These audits aim to **prevent similar deaths in the future** by holding the system accountable and improving the quality of TB care.

3. **Tamil Nadu's TB Death Review Model**
a. Tamil Nadu is one of the first states in India to implement **district-level TB death audits.**
b. In this model, every TB death is reviewed by a **multidisciplinary team** – this means the team includes different kinds of professionals, such as:
   i. Doctors
   ii. TB program officers
   iii. Public health specialists
   iv. Data analysts
c. The review found that **many TB deaths** were **preventable** and **not always due to drug resistance** (i.e., the bacteria becoming immune to TB medicines).
d. Reasons for death included:
   i. Late diagnosis
   ii. Poor treatment adherence (patients not completing their medication)
   iii. Lack of nutritional support
   iv. Missed follow-ups
e. This model has shown **positive results**, and experts believe it **can be used across all Indian states** to reduce TB deaths effectively.

4. **Data Gaps and Community Involvement**
a. One major issue in India's TB control efforts is the **lack of accurate data** on TB deaths.
b. The government uses a system called the **Health Management Information System (HMIS)** to collect and monitor health data from across the country. However, this system:
   i. Misses many TB deaths, especially those that happen outside of hospitals or government-run programs.
   ii. Does not collect social factors or **community-level details** that could help understand why patients don't seek or complete treatment.
c. There is a strong need to involve communities, especially:
   i. Local health workers
   ii. Non-profits and community-based organizations
   iii. Families of patients
d. These groups can provide insights into **local barriers**, such as stigma, poverty, or poor transport, which prevent people from seeking care.

5. **Revisiting National Strategic Plan (NSP)**
a. The **National Strategic Plan (NSP)** is the **official roadmap** of the Government of India to eliminate TB. The current version mainly focuses on **reducing the number of TB cases.**

b. **Experts** now **recommend** that this plan be **revised** to include:
   i. **Reducing TB deaths** as a major priority
   ii. Creating **short-term targets** to reduce mortality, rather than focusing only on long-term elimination
   iii. Giving **more attention to nutrition** (because undernourished people are more vulnerable to TB)
   iv. Ensuring **active case finding** – going into communities to identify TB cases early instead of waiting for patients to come to hospitals
   v. Improving **treatment adherence** through **regular follow-ups, support groups,** and **incentives**

Significance of TB Death Audits:

1. **Tackles India's top infectious killer:** Helps reduce the country's highest burden of TB-related deaths.
2. **Protects the most productive age group:** Saves lives in the 25–50 age bracket, preserving economic productivity and family stability.
3. **Strengthens health systems:** Encourages accountability, better diagnosis, and timely treatment across the healthcare network.
4. **Empowers community participation:** Promotes people-centered approaches by involving patients, families, and local health workers.
5. **Improves data quality:** Generates accurate and real-time data for evidence-based decision-making and resource allocation.
6. **Promotes health equity:** Focuses on underserved populations, especially tribal groups, the poor, and women- often neglected in formal systems.
7. **Influences policy direction:** Encourages shift from incidence-based targets to mortality-reduction goals in TB strategy.

Challenges and Way Forward:

Aspect	Challenges	Way Forward
Public Health	Underreporting of TB deaths and poor-quality data in health systems	Institutionalize death audits with community participation and ensure real-time digital reporting
Equity	Marginalized populations (tribals, poor, women) often lack access to healthcare	Combine TB treatment with nutrition support, social welfare schemes, and targeted outreach programs
Program-matic	Poor coordination between central, state, and district TB control efforts	Include TB death audits in the revised National Strategic Plan and assign clear responsibility at district level
Policy Reform	Current TB policy emphasizes elimination of cases, not reduction of deaths	Shift to a "deaths-first" approach with annual mortality reduction goals and transparent public reporting

5. Swachh Survekshan 2024-25 Awards

Why in the News?

1. The **Swachh Survekshan 2024–25** rankings were announced, with **Ahmedabad** being declared the **cleanest big city** (population over 10 lakh) in India.
2. The rankings were released under the **Swachh Bharat Mission** by the Ministry of Housing and Urban Affairs.
3. President **Droupadi Murmu** presented the awards, highlighting achievements in sanitation, waste management, and urban hygiene.

Key Highlights

1. **Top Performers in Various Population Categories:**
   a. A new "**Swachh Shahar**" or **Clean City** category was launched to reward emerging cities.

Categories	Rank 1	Rank 2	Rank 3
More than 10 lakh population	Ahmedabad	Bhopal	Lucknow
3 lakh -10 lakh population	Mira-Bhayandar	Bilaspur	Jamshedpur
50,000 - 3 lakh population	Dewas	Karhad	Karnal
20,000 - 50,000 population	Panaji	Aska	Kumhari
Less than 20,000 population	Bilha	Chikiti	Shahganj

2. **Super Swachh League**
   a. It was introduced to recognize **consistent high performers** like Indore, Navi Mumbai, Surat, and Vijayawada.

Category	States / UTs
More than 10 lakh population	Indore, Surat, Navi Mumbai Vijaywada
3 lakh -10 lakh population	Noida, Chandigarh, Mysuru, Ujjain, Gandhinagar, Guntur
50,000 - 3 lakh population	New Delhi Municipal Council, Tirupati, Ambikapur, Lonavala
20,000 - 50,000 population	Vita, Sasvad, Deolali Pravara, Dungarpur
Less than 20,000 population	Panchgani, Patan, Panhala, Bishrampur, Budni

3. **Special Awards for Thematic Excellence**
   a. **Prayagraj** was named **Best Ganga Town** for maintaining river cleanliness.
   b. **Secunderabad Cantonment** won the **Best Cantonment Board** title.
   c. Cities like **Visakhapatnam, Jabalpur, and Gorakhpur** were honored as **"Best SafaiMitra Surakshit Shehars"** for protecting the dignity of sanitation workers.
4. **Uttar Pradesh's Outstanding Contribution**
   a. The **UP government**, **Prayagraj Mela Authority**, and **Prayagraj Municipal Corporation** were lauded for handling **waste during Maha Kumbh 2024**, which saw a **footfall of over 66 crore**.
5. **Focus on 3R and People's Participation**
   a. The **Reduce, Reuse, Recycle (3R)** approach was emphasized as the core of waste management.
   b. Over **14 crore people** participated in the survey using platforms like **Swachhata App**, **MyGov**, social media, and **face-to-face interactions** across **4,500+ cities**.
   c. Following the **"One City, One Award"** principle, the top-performing cities in each state were recognized as **"Promising Swachh Shehars"** (Promising Clean Cities).
   d. A total of **34 cities across States and Union Territories** earned this title, showcasing their **notable progress in cleanliness and sanitation excellence**, regardless of city size.
6. **Mentorship and Modernization through New Initiatives**
   a. The **Swachh City Partnership Initiative** was launched.
      i. In this, 78 top-performing cities will **mentor one lower-performing city** from their respective states.
      ii. It follows the **"Each One Clean One"** approach.
   b. **Accelerated Dumpsite Remediation Programme:**
      i. It will start from **August 15, 2025.**
      ii. It aims to **clean legacy waste**, **free up urban land**, and boost **scientific waste processing**.
   c. The revamped survey now includes **10 new parameters** and five population categories, enabling **equal competition** among cities.
   d. The journey of the Swachh Bharat Mission was celebrated with cultural tokens like a **sarangi made from waste**, highlighting India's **waste-to-wealth** spirit.
   e. A new **Results Dashboard** was launched to provide an **interactive view** of rankings and best practices.

Implications

1. **Boost to Urban Sanitation Standards**
   a. Promotes a **competitive spirit** among cities to improve waste management and cleanliness.

b. Sets benchmarks for **sustainable urban development** through regular assessments.

2. **Recognition Drives Better Civic Engagement**
   a. Awards and public rankings **motivate local governments** to perform better.
   b. Citizen participation in ranking promotes **accountability and ownership**.
3. **Improved Public Health and Hygiene**
   a. Cleaner cities reduce the spread of **waterborne and vector-borne diseases**.
   b. Encourages **scientific waste disposal**, thus improving urban living conditions.
4. **Incentivizes Innovation and Inclusivity**
   a. Categories like **"SafaiMitra Surakshit Shehar"** promote **dignity of labour** and worker safety.
   b. Encourages use of **technology platforms** for cleanliness monitoring and citizen feedback.
5. **Strengthens Circular Economy Practices**
   a. Promotes **waste-to-wealth** models through 3R, helping cities adopt **resource-efficient models**.
   b. Aligns urban sanitation with broader goals of **climate action and green economy**.

Challenges and Way Forward

Challenges	Way Forward
Unequal urban capacities among small vs large cities	Build **sanitation infrastructure** and provide **technical support** in smaller towns.
Sustainability of cleanliness efforts	Move from **event-based cleaning to continuous**, year-round maintenance.
Safety of sanitation workers still needs improvement	Enforce **protective gear, training, and dignity measures** under Swachh Bharat Mission guidelines.
Low public awareness in some regions	Expand **behaviour change campaigns and localised IEC** (Information, Education, and Communication) programs.
Inconsistent waste segregation at source	Make **household-level waste separation mandatory** and link with incentives.

6. G.I. Tags

Why in the News?

1. In **June 2025**, the **Italian luxury brand Prada** launched sandals inspired by India's traditional **Kolhapuri chappals**, which carry a **GI** (Geographical Indication) **tag**.
2. This move sparked accusations of "**cultural misappropriation**", with critics arguing that Prada used a traditional Indian design without proper acknowledgment.
3. Cultural misappropriation is when someone **uses parts of another culture**, like clothes, art, or traditions, without showing respect or **giving credit**, often just to **make money** or **look trendy**.

Key Highlights

1. **About Geographical Indication**
   a. A **GI tag** is a special type of protection given to products that come from a **specific place**, and have **unique qualities or a strong reputation** because of that place.
   b. It's a part of **Intellectual Property Rights** (like patents or trademarks).
   c. In India, there are **658 GI-tagged products**, such as **Chanderi sarees** (Madhya Pradesh), **Madhubani paintings** (Bihar), **Pashmina shawls** (J&K), **Kancheepuram silk** (Tamil Nadu), **Darjeeling tea** (West Bengal), etc.
   d. **Unlike trademarks**, GI tags are **owned by the community or producer group**, not by a single person or company. They **can't be sold or licensed**.
2. **Importance of GI Tags**
   a. **Powerful marketing tool:** GI tags act like a **brand name** that tells buyers the product is **authentic and special**. This makes it easier to market.
   b. **Driving rural development:** GI products are often made by **local farmers or artisans**, which helps in **creating jobs and income** in villages.
   c. **Boosting exports:** Products with GI tags are seen as **high-quality**, so they are **more in demand in international markets**.

d. **Enhancing consumer confidence:** Buyers trust GI products because they know the **origin and quality are genuine**.
e. **Preserving 'cultural knowledge' of local communities, farmers and indigenous groups:** GI tags **protect local culture, skills, and traditions** from being copied or misused by outsiders

3. **Legal Protection of GI Tags**
   a. GIs are protected by **international laws** like the **Paris Convention (1883)** and the **TRIPS Agreement (1995)**.
   b. India, as a **signatory** of TRIPS, enacted **Geographical Indications of Goods (Registration and Protection) Act, 1999**, which came into force in **2003**.
   c. The law allows: **Registration** of GI products, **Action** against fake use and **Fines** and **penalties** for misuse.
4. **How to Deal with Misuse?**
   a. If someone **fakes a GI product**, the rightful producers can take **legal action**.
   b. Misuse includes:
      i. **Misleading** the public about the **origin** of the goods, causing unfair competition in the market.
      ii. **Falsely representing** a non-GI tagged good as a GI-tagged good.
   c. But GI tags are **primarily territorial** and **limited** to the country where protection is granted.
   d. At present, **no automatic international GI rights** exist. But several mechanisms exist for **cross-border protection.**
   e. GI tags can be **first secured in the country of origin** and then **other countries** too, for **global protection**.
5. **Similar Cases**
   a. **Basmati Rice (USA, 1997)**: A US firm tried to patent a type of Basmati. India protested and the name "Basmati" couldn't be used.
   b. **Turmeric (USA, 1995)**: A US university got a patent for turmeric's healing use. India proved it was **traditional knowledge**, and the patent was cancelled.
   c. **Neem (Europe, 2000)**: A US firm got a patent for neem's antifungal use. India challenged it successfully, as neem has been used in India for centuries.

Intellectual Property Rights (IPR)

1. **Definition**
   a. IPRs are **legal rights** given to creators over their **innovations, artistic works, symbols, and names**.
   b. These rights ensure **exclusive use** of the creation for a **limited time**.
   c. Recognized under **Article 27 of the Universal Declaration of Human Rights**.
   d. Aimed at protecting **moral and material interests** of creators.
2. **Types of IPR**
   a. **Copyright and Related Rights**
      i. Protects **literary and artistic works** like books, music, films, software, etc.
      ii. Valid for at least **50 years after the author's death**.
   b. **Industrial Property**
      i. **Trademarks**: Distinguish products/services of one firm from another.
      ii. **Geographical Indications (GIs)**: Identify products linked to a **specific region** (e.g., Darjeeling tea).
      iii. **Patents**: Protect inventions and technology.
      iv. **Industrial Designs**: Protect appearance/ design of products.
      v. **Trade Secrets**: Protect confidential business information.
3. **Importance of IPR**
   a. **Encourages innovation** by rewarding creators.
   b. **Boosts economic growth** and job creation.
   c. **Protects the rights** of inventors and artists.
   d. **Promotes creativity and entrepreneurship**.
   e. Supports **FDI, licensing, and technology transfer**.
   f. Enhances **ease of doing business**.

Click Here for INDEX

Polity
I.R.
Security
Economy
Science
Geography
Society
History
Ethics
P.i.N.

TRIPS (Trade-Related Aspects of Intellectual Property Rights) Agreement, 1995

1. **About TRIPS**
   a. It is a **comprehensive multilateral agreement** on Intellectual Property, part of the **WTO system**.
   b. Adopted under the **Marrakesh Agreement (1994)**.
   c. Resulted from the **Uruguay Round of trade negotiations.**
2. **Objectives**
   a. **Standardization of IPR Laws:** Set **minimum standards** of IPR protection for all WTO members.
   b. **Encourage Innovation and Technology Transfer:** Promote **creativity, innovation, and global cooperation** in R&D.
   c. **Adequate Protection of IP Rights:** Ensure creators get fair protection and benefits.
   d. **Support Free Trade:** Ensure IP enforcement does **not restrict trade** between countries.
   e. **Flexibility for Public Interest:** Allows special provisions for issues like **public health, food security**, etc.
3. **Role in International Collaboration**
   a. **Harmonisation of IP Laws:** This helped in creating a **uniform and predictable legal framework** for international trade and innovation.
   b. **Increased Transparency:** It made it mandatory for countries to **publicly share their IP laws and regulations**, which improved **clarity and trust** in the global IP system.
   c. **Encouraged Knowledge Sharing:** TRIPS promotes **technology transfer** from developed to developing countries. Developed nations are **obliged to support developing countries** in building capacity and accessing new technologies.
   d. **Promoted Social and Economic Welfare:** TRIPS aims to **balance rights and responsibilities**, ensuring that IP laws also support broader goals like **development and social welfare**.
   e. **Enabled Flexibility for Public Health:** TRIPS allows **exceptions and flexibilities**, such as **compulsory licensing**, which are useful during **public health emergencies** (e.g., HIV/AIDS drug access in the 1990s)

Click Here for INDEX

Challenges and Way Forward

Challenges	Way Forward
GI protection is **limited** to the country where it's registered	Promote **international registration** of Indian GIs in key export markets.
No global GI law or automatic worldwide protection	Work through **bilateral and multilateral agreements** to improve GI recognition abroad.
Traditional knowledge often **not properly documented**	**Expand the Traditional Knowledge Digital Library (TKDL)** to include more grassroots knowledge.
No easy way for companies to **verify** existing GI tags	Create a **searchable GI database** to help brands identify GI products and avoid misuse.
Local communities are often **unaware** of their GI rights	Conduct **awareness campaigns and training** to empower producer groups about their GI rights.
Misuse or **fake use** of GI tags by outsiders	Strengthen **legal enforcement** at national and international levels to stop unfair use.
Lack of **collaboration** between brands and GI holders	Encourage **partnerships** between companies and local communities for ethical use of GI products.

7. Living Wage Reform

Why in the News?

1. The Indian government is working on transitioning from a **minimum wage** to a **living wage** framework to ensure fair compensation.
2. This move is aimed at improving **women's participation** in the formal labour force and enhancing **workforce inclusion**.

Key Highlights

1. **Issue of Low Wages and Gender Disparity**
   a. Around **54% of blue- and grey-collar women** are unhappy with their pay.
   b. Current minimum wages (**~₹10,000 per month**) are not enough to support basic living standards.

2. **Definition and Push for a 'Living Wage'**
   a. A living wage includes not just survival-level income but what's needed for a **dignified standard of life**.
   b. The **Labour Ministry** is aligning national policy with **ILO (International Labour Organization)** recommendations.
3. **Impact on Women**
   a. Low pay is a **major factor** discouraging women from entering or staying in formal employment.
   b. Around **1 crore women employees** could benefit if the living wage is implemented.
4. **Economic and Business Relevance**
   a. Low wages are **limiting productivity** and economic participation.
   b. Businesses supporting the transition may see benefits in **employee retention and performance**.
5. **Data and Reports**
   a. The **July 2024 study by Aajeevika Bureau and FES** provides the statistical base for this policy shift.
   b. India's **Female Labour Force Participation Rate (FLFPR)** rose to **37%** in 2023, yet remains low compared to global standards.
6. **Constitutional provisions**
   a. **Article 43:** The State shall endeavour to secure, by suitable legislation or economic organisation or in any other way, to all workers, agricultural, industrial or otherwise work, **a living wage**, conditions of work ensuring a decent standard of life and full enjoyment of leisure and social and cultural opportunities.

Difference between Minimum Wages and Living Wages

Aspect	Minimum Wage	Living Wage
Definition	The legally mandated lowest amount an employer can pay a worker	A wage that ensures a decent standard of living, beyond basic survival
Legal Status	Legally enforceable under the Code on Wages, 2019	Not legally binding; mostly advisory or aspirational
Purpose	Prevent worker exploitation and guarantee a basic income	Ensure dignity of life by meeting essential needs (housing, health, education)
Set By	Central/State Governments	Estimated by research bodies (e.g., ILO, Oxfam), not legally mandated
Scope	May vary by region, skill level, sector	Typically universal or standardized for a decent life
Coverage of Needs	Covers only basic subsistence	Covers all essential needs and allows some savings
Wage Level	Often below actual cost of living	Higher than the minimum wage
Impact on Workers	May keep workers above poverty line but not out of deprivation	Reduces poverty, boosts health, productivity, and well-being
Examples	₹178/day (National Floor Level Minimum Wage, GoI)	₹20,000–₹25,000/ month (urban estimate, varies by family size and region)

Implications

1. **For Women's Employment**
   a. Increased wages may attract more women into formal jobs.
   b. Reduces gender disparity in access to decent work and income security.
2. **For Economic Growth**
   a. Enhanced female participation can contribute to **higher GDP growth** and improved demographic dividend utilization.
   b. Supports equitable development and **inclusive workforce participation**.

3. **Social and Household Impact**
   a. A living wage can lead to **better health, nutrition, and education** outcomes within families.
   b. Reduces vulnerability and **economic dependence** among women.
4. **Alignment with Global Standards**
   a. Brings India closer to **international labour commitments**.
   b. Enhances global image and may attract **ethical investments**.
5. **Policy and Administrative Shifts**
   a. Necessitates **new wage-setting mechanisms**, especially in informal sectors.
   b. Encourages development of tools for **monitoring living costs and wage adequacy**.

Challenges and Way Forward

Challenges	Way Forward
Difficulties in **defining** and **standardizing** living wage	Use **ILO methodologies** and region-wise cost benchmarks
Resistance from employers due to cost implications	Offer **fiscal incentives** or **phased implementation** for MSMEs
High **informality** in labour market	Formalize sectors and **ensure minimum documentation** and wage slips
Administrative burden in monitoring	**Digitize wage tracking** and improve labour inspection systems
Gender-specific employment barriers	Implement **supportive policies** like crèches, transport, and flexible work hours

Click Here for INDEX

8. Five Years of National Education Policy 2020

Why in the News?

1. **July 2025** marks **five years** since the **National Education Policy (NEP) 2020** was approved by the Union Cabinet, aiming to revamp India's entire education system, from early childhood to higher education.
2. While some **policy ideas** have begun taking shape, many are delayed due to **Centre-State conflicts**, lack of infrastructure, and pending institutional reforms.
3. States like Tamil Nadu, Kerala, and West Bengal have **resisted key NEP provisions**, and Tamil Nadu has even approached the Supreme Court over fund allocation issues tied to NEP compliance.

Key Highlights

1. **Implementation in School Education**
   a. The **10+2 structure** has been replaced by a **new 5+3+3+4 framework**: Foundational (pre-primary–class 2), Preparatory (classes 3–5), Middle (6–8), and Secondary (9–12).
   b. The **National Curriculum Framework for School Education (NCFSE)** was released in 2023 with clearly defined learning outcomes.
   c. NCERT has issued new textbooks for classes 1–8. Classes 9–12 textbooks are under development.
2. **Foundational Learning and ECCE Initiatives**
   a. The NEP aims for **universal Early Childhood Care and Education (ECCE) by 2030**.
   b. Jaadui Pitara kits have been rolled out for early learning; the **Women and Child Development Ministry** has issued a national ECCE curriculum.
   c. Delhi, Karnataka, and Kerala have begun **enforcing the minimum age of six for class 1**; this led to a fall in enrolments, indicating implementation traction.
   d. The **NIPUN Bharat Mission** (2021) targets universal foundational literacy and numeracy by class 3.
3. **Higher Education Reforms and Flexibility**
   a. The **Academic Bank of Credits (ABC)** and **National Credit Framework (NCrF)** allow students to earn and store credits across institutions, enabling **multiple entry/exit options**.
   b. Students can now earn **certificates after 1 year, diplomas after 2**, and complete **4-year multidisciplinary degrees**.
   c. Similar credit flexibility is being piloted at the **school level** via CBSE's NCrF pilot.

4. **Common Entrance and Global Expansion**
   a. The **Common University Entrance Test (CUET)**, launched in 2022, has streamlined college admissions across central universities.
   b. Indian institutes like **IIT Madras and IIM Ahmedabad** have opened **international campuses**.
   c. **Foreign universities**, including the **University of Southampton**, have entered India via GIFT City under new UGC norms.
5. **Reforms Under Progress**
   a. CBSE will **allow two board exam attempts per year** starting 2026 to reduce exam stress.
   b. **Holistic report cards**, developed by **PARAKH**, aim to assess overall student growth but are not yet in wide use.
   c. Progress on **mother tongue instruction** till class 5 has begun, with CBSE asking schools to implement it from pre-primary onwards.
   d. Rollout of **four-year undergraduate degrees** is uneven due to faculty shortages and infrastructure issues.

Implications

1. **Curricular Innovation and Integration**
   a. The **consolidation of subjects** in school (e.g., social sciences) fosters **interdisciplinary learning** and reduces textbook burden.
   b. Curriculum changes bring India closer to **global competency-based education models**.
2. **Improved Early Childhood Education**
   a. Enforcing a **minimum age for class 1** improves alignment with child development stages.
   b. ECCE standardisation via **Jaadui Pitara** and training reforms ensures stronger **cognitive foundations**.
3. **Student Mobility and Academic Flexibility**
   a. The credit system allows for **inter-institutional learning**, **gap years**, and **re-entry**, making education more **inclusive and learner-centric**.
   b. Promotes **multidisciplinary education**, reducing rigidity in academic choices.
4. **Globalization of Indian Education**
   a. Indian institutions setting up **global campuses** enhances **India's soft power** and brand value in education.
   b. Foreign universities entering India may **boost research collaboration**, raise **standards**, and increase **student choices**.
5. **Centralisation vs Federal Structure**
   a. The standoff between states reflects the **tension between national policy goals and federal autonomy**.
   b. Legal and financial pressures on dissenting states could set a precedent for **Centre-State educational relations**.

Challenges and Way Forward

Challenge	Way Forward
Centre-State Conflicts over NEP mandates (e.g., 3-language policy, PM-SHRI, UG structure)	Encourage **consultative federalism**; involve states in framing regionally adaptable versions of NEP
Pending Institutional Reforms like the Higher Education Commission of India (HECI)	**Fast-track the HECI Bill**; ensure separation of powers in regulation, funding, and academic oversight
Infrastructure Gaps in ECCE and undergraduate institutions	Invest in **faculty training**, **infrastructure development**, and **digital support systems**
Delayed Teacher Education Reforms	Expedite release of the **Teacher Education Framework**; ensure transition from outdated B.Ed formats to **Integrated Teacher Education Programmes (ITEP)**
Partial Implementation of Assessment Reforms like PARAKH and mother tongue usage	Build **state capacity**, offer **teacher training**, and phase-in implementation with regular evaluation

Polity

HISTORY

I.R.

1. Colonial-era land reforms

Why in the News?

1. Dr. Rushikesh Gawade, a **researcher** at IIT Bombay, presented findings at an **international conference in the U.S. (June 2025).**
2. His research shows how **colonial land reforms** disrupted **grazing corridors** in **Maharashtra**, affecting **pastoral livelihoods**.

Security

Economy

Key Highlights

1. **Traditional Grazing System:**
   a. Maharashtra had **shared grazing corridors** used by nomadic and semi-nomadic pastoralists (e.g., Dhangars).
   b. Demarcation of these corridors was **natural and community-based**, using physical features like rivers, hillocks, forest lines, and footpaths known to herders—not bureaucratically mapped
   c. These routes were **unrecorded** but commonly known and accepted across communities.
2. **Colonial Land Reforms:**
   a. The **British implemented the Survey and Settlement Act (1865)**, dividing village lands and recording only **legally owned plots**.
   b. Natural boundaries like hills, rivers, and grazing corridors were ignored or erased from official maps.
3. **Impact:**
   a. Pastures became fragmented and were often **reclassified as private or State-owned lands**, making access illegal.
   b. The **customary rights** of herders were not recognized in the new legal framework.
4. **Example from History:**
   a. In 1823, **Mountstuart Elphinstone** (Governor of Bombay Presidency) called pastoral movement "inconvenient" and suggested fixed routes for sheep herding.
   b. It marked the **beginning of control and exclusion**.

Science

Click Here for INDEX

Geography

Society

History

Ethics

P.i.N.

Challenges and Way Forward

Challenges	Way Forward
Colonial laws still shape present land records	**Update land records** to include customary and traditional usage rights
No legal recognition of **commons and pastoral routes**	Recognize **pastoral commons** in legal and planning frameworks
Loss of livelihood and mobility for nomadic communities	Restore traditional access or create **new mobility-friendly grazing zones**
Fragmentation due to privatization or state control of lands	Promote **inclusive land reforms** accounting for ecological and pastoral needs

2. Keeladi Controversy

Why in the News?

1. **Keeladi has gained national attention** as it is seen by many in Tamil Nadu as strong evidence of an **advanced ancient Tamil civilisation**.
2. In **January 2023**, archaeologist **Amarnath Ramakrishna** submitted a report on the **Keeladi excavations**, highlighting findings from the **Sangam-era**.
3. Recently, the **Archeological Survey of India (ASI)** asked him to revise his report, questioning the **dating and interpretation** of some findings.
4. This move has sparked controversy, with **political parties in Tamil Nadu** accusing the Centre of trying to **undermine Tamil heritage**.

Key Highlights

1. **About Keeladi Excavation**
   a. **Amarnath Ramakrishna**, who was then the **Superintending Archaeologist of the ASI**,

began excavations at the **Pallichanthai Tidal site** in **Keeladi**, which was originally a 100-acre coconut grove.

b. He had shortlisted more than **100 sites along the Vaigai River** for excavation, but Keeladi emerged as the most significant among them.

c. Sophisticated urban society: In Keeladi, they found over **7,500 old objects** like walls, drains, and wells, showing that an **advanced city** once existed there.

d. Carbon dating showed that these findings are more than **2,160 years old**, going back to the **2nd century BCE**, the **Sangam period** in **Tamil history**.

2. Significant findings

a. No religious symbols were found at the site, suggesting that the civilisation was **secular**.

b. Tamil historians and enthusiasts viewed this as **strong evidence** of an **advanced ancient Tamil civilisation**.

3. Political Tensions

a. The excavations were done in **two phases** between **2014 and 2016** by **Mr. Ramakrishna**.

b. Just as the work was **gaining momentum**, he was **transferred** to **Assam**.

c. Critics accused the central government of **purposely slowing down** the project.

d. The Centre, which had promised funds and support, delayed both after the second phase.

e. This led to **political tension**, with some claiming the Centre was trying to hide **Tamil heritage.**

f. In 2017, the **third phase** began under **archaeologist P.S. Sriraman.**

g. But after digging around **400 square meters**, he reported that the **earlier brick structures** did not continue further.

4. Rising Tensions

a. The **Madras High Court** got involved and even visited the **excavation site**.

b. It ordered the ASI to continue the work and allowed the **Tamil Nadu State Department of Archaeology** to join the project.

c. In **2019**, the department released a report saying **Keeladi was an urban settlement** from the **Sangam era (6th century BCE to 1st century CE).**

d. Since then, the **State Archaeology Department** has led the excavations, but instead of settling things, the controversy has grown.

e. In **January 2023,** Mr. Ramakrishna, who was **transferred back to Tamil Nadu**, submitted his report on the **first two phases.**

5. The controversy

a. Mr. Ramakrishna's report stayed with the ASI for about **two and a half years.**

b. In **June 2025,** the ASI asked him to **revise the report.**

c. The ASI **raised doubts** about the **dating and depth** of some findings, saying the early evidence needed more analysis.

d. But **Mr. Ramakrishna** refused to change his report, saying his conclusions were based on **proper scientific methods.**

e. He said the **timeline** in the **report** was backed by **soil layers, cultural remains**, and **advanced dating techniques** like **Accelerator Mass Spectrometry**.

f. Political parties in Tamil Nadu strongly criticised the ASI's move, calling it an attempt to hide Tamil heritage.

g. They claimed that the Centre was ignoring **Keeladi's importance** for political reasons, not scientific ones.

h. In response, **Union Culture Minister Gajendra Singh Shekhawat** said the findings lacked **strong technical support** and needed more scientific study.

i. He said one report alone isn't enough to change the **entire historical understanding** and **more data is required**.

6. State Party's views

a. The **AIADMK**, which was in power when the **Keeladi report** came out, stayed quiet for a long time during the recent controversy.

Polity
I.R.
Security
Economy
Science
Click Here for INDEX
Geography
Society
History
Ethics
P.i.N.

b. But in **June 2025**, senior leader **R.B. Udhayakumar** said the Centre only asked for more details to ensure **"additional proof."**

c. He also added that **if the Keeladi report is rejected**, the AIADMK would be the first to raise its voice in **protest**.

Challenges and Way Forward

Challenges	Way Forward
Delay in accepting the original excavation report	**Speed up report review** using independent and transparent expert committees
Allegations of **political interference**	**Ensure archaeological work** remains **neutral** and **evidence-based**, free from political influence
Conflicting views on scientific methods and dating techniques	**Involve global experts** to revalidate findings with updated and widely accepted techniques
Lack of consistent excavation efforts and **shifting leadership**	**Create a long-term, state-centre collaborative excavation** plan with stable leadership
Public trust shaken due to controversy and lack of clarity	**Publish all findings** and **decisions** in the **public domain** to maintain **trust** and **transparency**

Click Here for INDEX

3. Tansen's Tomb

Why in the News?

1. A **legal battle** concerning access to the **tomb** of **Hazrat Sheikh Muhammad Ghaus** in **Gwalior**, also the burial site of famed musician **Tansen**, has drawn national attention.
2. The **Madhya Pradesh High Court**, in **June 2025**, **dismissed** a **petition** seeking permission to perform religious and cultural activities at the site.
3. The site is protected under the **Ancient Monuments and Archaeological Sites and Remains (AMASR) Act, 1958**, and managed by the **Archaeological Survey of India (ASI).**

Background

1. The **matter** about the **petitioner** and **his family having any legal right** or **title to the tomb** have been **integrated** and **dealt** with by the **courts** multiple times.
2. The court has **maintained** its stance that the **petitioner doesn't have any legal right.**
3. Even the **ASI** and **Government** of India have **consistently maintained** that the matter had **attained finality** in **law.**
4. **Timeline:**

Year	Case in Court
1995	1. Syed Ali Hasan filed a **civil suit** in court, seeking the ownership of the tomb. 2. After the court dismissed this case, his children filed the **First Appeal.**
1996	1. Ali Hasan's son, Syed Muhammad Hasan, filed a **separate civil suit**, which was **dismissed** in **1999**. 2. A **civil revision petition** was filed against that ruling which was **dismissed** in **2002**.
2004	1. The **First Appeal** which was filed by Ali HAsan's children was **dismissed** in **2004** by a detailed **judicial order**.
2015	1. Syed Muhammad Hasan's **second appeal** was **rejected**. 2. A **review petition** was filed with the **Supreme Court** which was dismissed in **2016**.
2019	**1.** **Syed Sabla Hasan** filed a case before **MP Waqf Tribunal** to get religious control and ownership of the tomb. 2. In **2022**, this plea was **rejected**.

About Tansen's Tomb

a. **Location**: Situated in **Gwalior**, **Madhya Pradesh**, within the **complex** of **Hazrat Sheikh Muhammad Ghaus's tomb.**

b. **Historical Significance**: Tansen, one of **Emperor Akbar's 'Navratnas'**, is buried here. The site reflects the intermingling of **music, Sufism, and Mughal history**.

c. **Architectural features of the tomb:**
   i. The tomb has a **square shape** with a big, wide dome on top.
   ii. It is surrounded by small domed structures called **chhatris**, common in North Indian design.
   iii. A **verandah (corridor)** goes all around the tomb's main chamber.
   iv. The walls have beautiful **stone screens (jalis)** carved with patterns, allowing light and air to flow inside.
   v. The design shows influence from **Gujarat**, where Hazrat Muhammad Ghaus spent part of his life.

About Tansen

1. **Tansen**, also known as **Mian Tansen**, was a legendary figure in Indian classical music, especially in the **Hindustani tradition**.
2. He was one of the celebrated **Navaratnas (nine gems)** in the court of **Mughal Emperor Akbar**.
3. A gifted **composer, vocalist, and instrumentalist**, Tansen is best known for his **Dhrupad compositions** and for popularizing the **rabab**.
4. He is credited with creating famous **ragas** like **Miyan ki Malhar and Miyan ki Todi**, and had a lasting impact on various **gharanas** (musical lineages) of Indian classical music.

Key Highlights

1. **Syed Sabla Hasan's stance**
   a. He had filed a plea in High Court claiming to be the **Sajjda Nashin (spiritual caretaker)** of the tomb as well as the **saint's legal heir**.
   b. He wanted **permission** to **perform religious** and **cultural practices** at the tomb including the **annual Urs** (annual Sufi festival marking the saint's death anniversary).
   c. He argued that these practices were carried out for **more than four centuries** at the site.
   d. He said that **restrictions applied** on them are **unlawful** and **arbitrary**.
2. **ASI's report**
   a. The **claims** made by the petitioner are **false** and it interferes with the protection of the monument.
   b. ASI told the court that **unlawful activities** were being carried out at the tomb and **nails** were being **hammered on the walls**.
   c. This **hampered tourism** and affected the **structural integrity**, and **cultural** and **archeological dignity** of the **monument**.
3. The **court agreed** with the views of the **ASI** as it is a **Centrally Protected Monument** and **rejected** the **plea** of Syed Sabla Hasan.

Ancient Monuments and Archaeological Sites and Remains (AMASR) Act, 1958

1. The **AMASR Act, 1958** is a key legislation aimed at the **protection and preservation of India's ancient monuments and archaeological sites**.
2. It defines an **"ancient monument"** as any structure, building, cave, sculpture, inscription, or monolith of **historical, archaeological, or artistic significance**.
3. The Act covers all such monuments that are **over 100 years old**, regardless of whether they are under **public or private ownership**.
4. **Under the Act:**
   a. **Construction or alteration** in the vicinity of a protected monument is strictly regulated.
   b. A **100-metre zone** around a protected monument is considered a **prohibited area**, where no construction is allowed without prior approval.
   c. An additional **regulated area** of **200 metres** beyond the prohibited zone allows limited activities, subject to permissions.
5. The **National Monuments Authority (NMA)** is the **statutory body** responsible for enforcing the Act. It **evaluates proposals** and **grants permissions** for any **developmental activity** within the **protected** or **regulated zones**.
6. The Act also applies to **Centrally Protected Monuments**, which are monuments and sites declared to be of national importance by the **Archaeological Survey of India (ASI)**.
7. These monuments **receive protection** and **maintenance** directly from the **central government** under the provisions of the **AMASR Act.**

Polity
I.R.
Security
Economy
Science
Geography
Society
History
Ethics
P.i.N.

Challenges and Way Forward

Challenges	Way Forward
Contestation between cultural rights and conservation mandates	**Clearer guidelines** on rituals at syncretic heritage sites
Risk of communalizing heritage issues	Maintain **secular, heritage-first narratives** in monument protection
Repeated litigation on settled matters	**Judicial restraint** and consistent application of heritage laws

4. 14th Dalai Lama and Buddhism

Why in the News?

1. The **14th Dalai Lama, Tenzin Gyatso,** will soon turn **90,** marking a significant moment for **Tibetans** and **Tibetan Buddhists.**
2. On this occasion, a **major statement about his reincarnation** is expected.

Key Highlights

Click Here for INDEX

Year / Date	Event
July 6, 1935	Birth of **Tenzin Gyatso** in **Taktser village**, northeastern Tibet (now in Qinghai province, China).
1933	Death of the **13th Dalai Lama**, Thupten Gyatso.
1939	Child **Tenzin Gyatso is recognized** as the reincarnation of the 13th Dalai Lama.
1940	Official **enthronement** of the 14th Dalai Lama at the **Potala Palace** in Lhasa.
1949	**The Chinese Communist Party** comes to power in China.
1950	China begins a military **invasion of Tibet**.
1951	Tibet is officially **annexed by China** through the **Seventeen Point Agreement**.
March 1959	**Tibetan uprising** against Chinese rule; rebellion is crushed.
March 17, 1959	The Dalai Lama **flees from Lhasa**, disguised as a soldier.
March 31, 1959	Dalai Lama **crosses into India** at **Khenzimane, Arunachal Pradesh**.
1960	India grants asylum; Dalai Lama **settles in McLeodganj, Dharamshala**, Himachal Pradesh.
1960	Formation of the **Central Tibetan Administration (CTA)**, Tibetan government-in-exile.
1969	The Dalai Lama says the **future of his institution** should be decided by the Tibetan people and others.
2004	China **abolishes traditional religious rules** on selecting the Dalai Lama.
2007	China passes a law: **no reincarnation without government permission**.
2011 (March 14)	The Dalai Lama **formally writes** to the Tibetan parliament-in-exile asking to give up political role.
2011 (May 29)	The Dalai Lama's **political authority is transferred** to an elected leader (ending 368 years of tradition).
2011 (September 24)	Dalai Lama announces plan to **review the future of his institution** when he turns 90.
2015	The Dalai Lama publicly says **any reincarnation chosen by China should not be accepted**.
2025	Releases book Voice for the Voiceless, says successor **will be born outside China**.
July 6, 2025 (expected)	**90th birthday** of the 14th Dalai Lama; important **statement on reincarnation** to be made.

What is Buddhism?

1. **Buddhism** is a major world religion and philosophy that teaches the path to end suffering and achieve **enlightenment (nirvana).**
2. It was founded by **Siddhartha Gautama,** known as the **Buddha**, in the **6th century BCE in India.**
   a. Born in **Lumbini** (present-day Nepal), a prince of the **Shakya clan**.
   b. Attained **enlightenment under the Bodhi tree** in **Bodh Gaya**, Bihar.

c. Taught the **Middle Path** to avoid extremes of luxury and hardship.
d. Gave **first sermon (Dhamma Chakra Pravartana)** in **Sarnath**, UP.
e. Attained **Mahaparinirvana** (death of Buddha) at **Kushinagar**, UP

3. Core Teachings of Buddhism

a. Its core teachings are based on the **Four Noble Truths, the Eightfold Path,** and concepts like **Karma, Rebirth, and Nirvana.**

4. Four Noble Truth:

a. Dukkha: Sufferings (Life is full of sufferings)
b. Samudaya: Cause of suffering (like desire, greed, etc.)
c. Nirodha: End of Suffering (by removing desire and attachment)
d. Magga: There is a path, the Eightfold Path that leads to the end of suffering

5. The Noble Eightfold Path (Ashtangika Marga)

Category	Path Element	Meaning
Wisdom (Prajna)	1. Right View	Understand the Four Noble Truths
	2. Right Intention	Think with compassion and non-violence
Ethical Conduct (Sila)	3. Right Speech	Speak truthfully and kindly
	4. Right Action	Behave morally; avoid killing, stealing, etc.
	5. Right Livelihood	Earn a living without harming others
Mental Discipline (Samadhi)	6. Right Effort	Develop good thoughts; avoid negative ones
	7. Right Mindfulness	Be aware of body, mind, and feelings
	8. Right Concentration	Practice meditation to gain inner peace

6. Karma and Rebirth

a. Karma: Every action has a consequence—good or bad.
b. Rebirth (Samsara): One is reborn in a new life depending on karma.
c. The goal is to **escape the cycle of rebirth** through enlightenment.

7. Nirvana

a. Nirvana means **freedom from suffering and rebirth**.
b. It is the **ultimate goal** in Buddhism.
c. It is a **state of peace, wisdom, and liberation**.

8. Middle Path

a. Buddha taught to avoid extremes of self-indulgence and self-torture.
b. The **Middle Path** balances **spiritual discipline and practical life**.

Main Branches of Buddhism

Branch	Meaning	Main Focus	Ideal Figure	Sacred Texts	Regions Practiced
Theravada	"Teaching of the Elders"	Personal enlightenment (Nirvana)	**Arhat**	Pali Canon (Tipitaka)	Sri Lanka, Thailand, Myanmar, Laos, Cambodia
Mahayana	"Greater Vehicle"	Liberation of all beings (compassion)	**Bodhisattva**	Sanskrit Sutras (e.g. Lotus Sutra)	China, Japan, Korea, Vietnam
Vajrayana	"Diamond/ Thunderbolt Vehicle"	Quick path to enlightenment through rituals	**Lama / Bodhisattva**	Tantras (Tibetan Canon)	Tibet, Bhutan, Mongolia, Himalayan India

Click Here for INDEX

Significance

1. **Cultural Bridge Between India and Tibet:**
   a. Buddhism, which originated in India, deeply shaped Tibetan identity.
   b. Tibet regards India as the holy land of the Buddha, strengthening spiritual and emotional ties between the two.
2. **Soft Power Tool for India:**
   a. India hosts key Buddhist pilgrimage sites (e.g., Bodh Gaya, Sarnath) and the Dalai Lama, projecting moral and cultural leadership.
   b. Promotes India's image as a peaceful Buddhist hub, countering China's regional narrative.
3. **Symbol of Tibetan Resistance Against China:**
   a. Tibetan Buddhism, led by the Dalai Lama, symbolizes Tibet's struggle for religious and political freedom.
   b. China's control over Tibetan monasteries and its attempt to appoint the next Dalai Lama is seen as interference in religious freedom.
4. **Strategic Leverage for India:**
   a. The Dalai Lama and the Tibetan government-in-exile in India serve as a diplomatic card in India-China tensions, especially after border conflicts.
   b. India's Buddhist legacy supports regional ties with Bhutan, Nepal, and Southeast Asian Buddhist countries.
5. **Source of Diplomatic Tension with China:**
   a. China opposes any official engagement with the Dalai Lama, seeing it as a challenge to its sovereignty over Tibet.
   b. India's honoring of Tibetan culture is viewed by China as support for separatism, fueling mistrust.
6. **Global Buddhist Diplomacy and Influence:**
   a. Both India and China seek to lead global Buddhist forums.
   b. While China hosts state-sponsored events, India relies on historical authenticity and spiritual legitimacy, especially through the Dalai Lama's influence.

Click Here for INDEX

Challenges and Way Forward

Challenges	Way Forward
1. Dalai Lama's Succession Conflict: China insists on appointing the next Dalai Lama, rejecting India-based Tibetan leadership.	**India and like-minded countries** must push for international recognition of the Dalai Lama's right to determine his reincarnation without Chinese interference.
2. Tibetan Issue as a Geopolitical Flashpoint: Tibet remains a core irritant in India–China relations, especially after border tensions.	India should adopt a **measured yet firm Tibet policy** supporting cultural freedom and human rights, while avoiding overt political escalation.
3. China's Religious Control Strategy: China uses its state authority to control monasteries and silence dissent inside Tibet.	Global pressure through **UN bodies, human rights forums**, and Buddhist networks can highlight the need for religious freedom in Tibet.
4. India Hosting the Tibetan Government-in-Exile: India's shelter to the Dalai Lama and CTA is seen by China as a hostile act.	India must maintain this support as a **moral and cultural responsibility**, while keeping official political engagements discreet but consistent.
5. Declining Global Attention on Tibet: With shifting global priorities, Tibet's issue is losing international urgency.	Tibetans in exile should enhance **global digital diplomacy**, leveraging the Dalai Lama's moral authority to keep the issue alive in international forums.
6. Competing Buddhist Diplomacy: China projects itself as the guardian of Buddhism, challenging India's civilizational legacy.	India should actively promote **Buddhist heritage diplomacy** (e.g., Nalanda, Bodh Gaya) to reinforce its position as the spiritual homeland of Buddhism.

5. International Manuscript Heritage Conference

Why in the News?

1. India will host the first-ever **International Manuscript Heritage Conference** in **September 2025**.
2. The conference is a part of the launch of a new mission called the **'Gyan Bharatam Mission'**.
3. It will also mark the anniversary of **Swami Vivekananda's famous speech in Chicago on September 11, 1893**, which showed **India's knowledge and spiritual strength** to the world.

Gyan Bharatam Mission

Aspect	Details
Launched	Announced in **Union Budget 2025–26**
Implemented by	**Ministry of Culture**, Government of India
Inspired by	Revives and expands the **National Mission for Manuscripts (2003)**
Primary Aim	To **preserve, digitise, and disseminate** India's ancient manuscript knowledge
Key Objectives	1. Safeguard manuscript heritage 2. Promote research and academic study 3. Train scholars and conservators
Target Audience	Scholars, researchers, cultural institutions, startups, students
Key Technologies Involved	1. AI and Machine Learning 2. Handwritten Text Recognition (HTR) 3. IIIF (International Image Interoperability Framework)
Associated Event	**International Manuscript Heritage Conference** (Sept 11–13, 2025, Delhi)
Cultural Link	Commemorates **Swami Vivekananda's Chicago Address (1893)**
Special Initiatives	1. Script exhibitions 2. Live conservation demos 3. Manuscript startups showcase
Expected Outcomes	1. A **digital repository** of manuscripts 2. Strengthened heritage institutions 3. Youth engagement in traditional knowledge

Key Highlights

1. The conference is titled **'Reclaiming India's Knowledge Legacy Through Manuscript Heritage'**.
2. It is being organised under the **Gyan Bharatam Mission (GBM)**.
3. The event will see participation from **global scholars, cultural experts, and Indian dignitaries**.
4. There will be **exhibitions**, **live demonstrations**, **workshops**, and even a **startup showcase** related to manuscripts.
5. A special exhibition will feature **Indian manuscripts and scripts**, including those listed in **UNESCO's Memory of the World**.
6. The **Ministry of Culture** has invited **research papers** on topics like:
   a. Conservation and Restoration
   b. Digitisation using AI and new technologies
   c. Script and paleography training
   d. Legal and ethical aspects of manuscript care

National Mission for Manuscripts (NMM)

Aspect	Details
Launched	February 2003 by Ministry of Tourism & Culture
Announced By	PM Atal Bihari Vajpayee (Independence Day speech, 2002)
Nodal Agency	Indira Gandhi National Centre for the Arts (IGNCA)
Aim	To identify, conserve, document & make accessible India's manuscript wealth
Estimated Manuscripts	About 10 million – world's largest collection
Subjects Covered	Philosophy, Science, Ayurveda, Literature, etc.

Challenges	Poor storage, lack of cataloguing, private custody
Key Focus Areas	Sanskrit promotion, tech-based digitisation, public awareness
Motto	"Conserving the past for the future"

Significance for India

1. India has **over 10 million ancient manuscripts**, one of the largest collections in the world.
2. These manuscripts cover many areas like:
   a. Philosophy, Science, Ayurveda
   b. Mathematics, Astrology, Sanskriti, Vastu
   c. Vedic texts, Literature, and Arts
3. They are kept in **temples, libraries, monasteries, mathas**, and even **private collections**.
4. This conference and the GBM will help:

a. **Preserve and protect old manuscripts**
b. **Use modern technology** to digitise and store them
c. **Create awareness** among the youth
d. **Train scholars** to study and teach this traditional knowledge

Click Here for INDEX

Challenges and Way Forward

Challenges	Way Forward
1. Many manuscripts are in **poor physical condition.**	Set up **more conservation centres** with trained staff
2. Lack of **trained experts** in scripts and languages.	Provide **training in paleography and codicology**
3. Manuscripts are often **scattered and undocumented.**	Create a **national digital registry** of all known manuscripts
4. Legal issues in **ownership and access.**	Develop **clear policies and ethical guidelines** for manuscript custodianship
5. Need for **modern tools** for digitisation.	Promote the use of **AI, IIIF protocols**, and innovative tech platforms

6. Maratha Military Landscapes

Why in the News?

1. In July 2025, the **Maratha Military Landscapes of India** were added to the **UNESCO World Heritage List** during the 47th session held in Paris.
2. This tag recognises the **military forts built by the Maratha Empire** for their historical and architectural value.

Key Highlights

1. **UNESCO Tag Includes 12 Forts**:
   a. **Maharashtra**: Salher, Shivneri, Lohgad, Khanderi, Raigad, Rajgad, Pratapgad, Suvarnadurg, Panhala, Vijay Durg, Sindhudurg.
   b. **Tamil Nadu**: Gingee Fort
   c. These forts showcase a wide **geographical and ecological diversity** (hill forts, island forts, coastal forts).
2. **Built for Defence and Strategy**:
   a. Forts were designed using **natural landscapes** like hills and cliffs.
   b. They were part of the **guerrilla warfare tactics** led by **Chhatrapati Shivaji Maharaj**.
3. **More Than Just Military Bases**:
   a. Many forts had **temples, water tanks, storage areas**, and spaces for local governance.
   b. They show how forts were used for both defence and daily life.
4. **Unique to Maratha Style**:
   a. Unlike Mughal or European-style forts, Maratha forts focused on **speed, secrecy, and smart planning** using local materials.
5. **Boost for Indian Heritage**:
   a. With this, **India now has 44 UNESCO World Heritage Sites**.
   b. It helps promote tourism, heritage protection, and pride in Maratha history.

UNESCO World Heritage Sites

1. **About UNESCO World Heritage Sites**
   a. **Definition**: Places recognised by UNESCO for their **cultural, historical, or natural significance**.
   b. **Purpose**: To preserve these sites for future generations due to their **outstanding universal value (OUV)**.

c. **Examples**: Taj Mahal, Ajanta Caves (India); Great Barrier Reef (Australia); Pyramids (Egypt).

2. **Background and Origin**
   a. **Post-WWII Effort**: Concept arose after the destruction of cultural sites during **World War II**.
   b. **1972 Convention**: "Convention Concerning the Protection of the World Cultural and Natural Heritage" adopted.
   c. **India's Role**: Signed the Convention on **November 14, 1977**, joining global efforts in preservation.
   d. **Framework**: Created a World **Heritage Committee** and established rules for protection and selection.
3. **Selection Criteria:**
   a. UNESCO uses **10 standards** to decide if a place is special enough to become a World Heritage Site.
   b. These criteria can be divided into cultural (6) and natural (4) criterias.
   c. **Who checks these?**
      i. **ICOMOS**: Checks **cultural sites** (like monuments and buildings).
      ii. **IUCN**: Checks **natural sites** (like forests, national parks).
   d. All sites must show **Outstanding Universal Value (OUV)** — meaning they are so important that **all of humanity** should help protect them.

Cultural Criteria	Natural Criteria
1. **Human Creative Genius:** It shows extraordinary human creativity (e.g., architecture, art, design). 2. **Cultural Exchange:** It reflects influences between different cultures over time. 3. **Testimony to a Culture:** It represents a unique or rare tradition, civilisation, or culture, even if it's disappeared. 4. **Architectural or Technological Masterpiece:** It shows an outstanding example of architecture, technology, or town planning. 5. **Traditional Land/Sea Use:** It is an example of traditional human use of land or sea, showing interaction with the environment. 6. **Associated with Events or Ideas:** It is directly linked to important historical events, beliefs, or cultural traditions.	1. **Natural Beauty or Phenomena:** It has amazing natural landscapes, such as mountains, waterfalls, or coral reefs. 2. **Earth's History:** It shows evidence of Earth's geological history, including fossils or rocks. 3. **Ecological or Biological Processes:** It shows ongoing natural processes in ecosystems, evolution, or animal behavior. 4. **Biodiversity and Habitats:** It is home to rare or endangered species and rich biodiversity.

4. **World Heritage Sites in India (As of July 2025)**
   a. **Total Sites**: **44** (36 Cultural, 7 Natural, 1 Mixed).
   b. **Examples**:
      i. **Cultural**: Taj Mahal, Sun Temple (Konark), Ajanta and Ellora Caves.
      ii. **Natural**: Kaziranga National Park, Sundarbans, Western Ghats.
      iii. **Mixed**: Khangchendzonga National Park.
5. **Legal Status and Obligations**
   a. **Sovereignty Maintained**: Sites remain under national control, but have **global protection status**.
   b. **State Duties**:
      i. Protect and conserve the sites.
      ii. Report conditions regularly.
      iii. Educate the public on their value.
   c. **International Aid**:
      i. UNESCO can provide **technical and financial support**.
      ii. Sites can be **delisted or marked 'in danger'** if not protected properly.

About Marathas

1. **Rise of the Maratha Empire**
   a. The **Maratha Empire** emerged in the **late 17th century** under the leadership of **Chhatrapati Shivaji**, in response to political instability and oppression in the **Deccan region**.

Click Here for INDEX

b. Shivaji established an independent kingdom with **Raigad** as its capital, challenging the **Adil Shahi Sultanate** and the **Mughal Empire**.

c. The Marathas gained strength due to:

i. **Geographical advantage**: The region's mountains and forests supported **guerrilla warfare** and the construction of hill forts.

ii. **Religious and cultural unity**: Saints like **Tukaram, Ramdas, and Eknath** inspired unity through the **Bhakti movement**.

iii. **Administrative experience**: Many Marathas held key posts in the **Deccan Sultanates** of **Bijapur and Ahmadnagar**.

d. The Mughals under **Aurangzeb** suffered losses during their campaign against the Marathas due to harsh policies and prolonged warfare.

2. Shivaji Maharaj's Rule (1630–1680)

a. Shivaji captured forts like **Torna** and laid the foundation of **Hindavi Swarajya** (self-rule of the Hindus).

b. He was formally crowned **Chhatrapati** in **1674**.

c. Key Achievements:

i. Built a **strong fort network** and **navy** to secure coastal regions.

ii. Set up a **centralised administration** with the **Ashtapradhan Mandal (Council of Eight Ministers)**.

iii. Promoted **Marathi and Sanskrit** over Persian in official use.

iv. Practised **religious tolerance** and appointed people from **all communities and castes**, including **Europeans**.

3. Successors of Shivaji

a. After Shivaji's death in 1680:

i. **Sambhaji** (his elder son) succeeded him but was captured and executed by the Mughals.

ii. **Rajaram**, Shivaji's younger son, fled to **Gingee Fort** and later died in **Satara**.

iii. His widow **Tarabai** ruled as regent for their son **Shivaji II**.

iv. Eventually, **Shahu**, son of Sambhaji, emerged as ruler and appointed **Balaji Vishwanath** as **Peshwa** in **1713**, beginning the **Peshwa era**.

Maratha Administration

1. Central Administration (Ashtapradhan Mandal):

a. A group of **eight ministers** managing different aspects of governance:

i. **Peshwa** – Prime Minister

ii. **Amatya** – Finance

iii. **Sacheev** – Royal Secretariat

iv. **Mantri** – Intelligence/Internal Affairs

v. **Senapati** – Army Chief

vi. **Sumant** – Foreign Affairs

vii. **Nyayadhish** – Justice

viii. **Panditrao** – Religious Matters

b. Other officials: **Chitnis** (personal secretary), often acted as second-in-command.

2. Provincial Administration

a. The kingdom was divided into **Provinces (Prants) → Tarafs (districts) → Parganas (sub-districts) → Villages**.

b. Officials included:

i. **Deshmukh and Deshpande** – Local revenue and law.

ii. **Havaldars** – District officers.

iii. **Kulkarni and Patil** – Village-level officials.

c. Tax collection was **centralised** and done directly by state officers to prevent corruption.

3. Revenue Administration

a. Based on **Malik Ambar's Kathi system** (land measurement).

b. Farmers (ryots) paid **40% of their produce** as tax.

c. Chauth: 25% tax on territories outside Maratha rule for protection.

d. Sardeshmukhi: Additional 10% tax for hereditary rights.

e. Ryotwari system: Direct contact with farmers, reducing middlemen's role.

f. Mirasdars (landowners) were brought under stricter control to prevent tax evasion.

4. Military Administration

a. Shivaji built a **disciplined and loyal army**:

i. Soldiers were **paid in cash**, not land.

ii. **Saranjam system**: Revenue grants to military officers.

iii. **Paga cavalry**: 30,000–40,000 troops under **Havaldars**.

b. First Indian ruler to establish a **naval force**, building **dockyards and warships**.

c. Excelled in **guerrilla warfare** and used **mountain terrain** effectively.

Challenges and Way Forward

Challenges	Way Forward
1. Conservation Difficulties: Harsh terrain, old structures, and natural wear make restoration complex.	Use **scientific conservation techniques** and involve **local expertise** for eco-sensitive restoration.
2. Encroachment and Urban Pressure: Human settlement near forts threatens their physical integrity.	Implement **buffer zones**, regulated tourism, and clear land-use laws.
3. Lack of Awareness: Many citizens are unaware of the forts' historical and global value.	Promote **heritage education**, public campaigns, and **community-led heritage walks**.
4. Inadequate Funding: Limited financial support hinders upkeep and documentation.	Allocate **dedicated heritage funds** and encourage **PPP models** (public-private partnerships).
5. Climate and Environmental Threats: Monsoons, humidity, and erosion damage fort walls.	Use **climate-resilient materials** and integrate **disaster risk management** in conservation plans.

7. Paika Rebellion

Why in the News?

1. Concern was raised over the **omission of the 1817 Paika Rebellion** from the newly released **NCERT Class VIII history textbook**.
2. The **NCERT clarified** that the rebellion will be included in the **second volume**, set for release in **September-October 2025**.
3. The issue has **renewed focus on regional uprisings** and their representation in national history narratives.

Key Highlights

1. **Who Were the Paikas?**
   a. The **Paikas** were traditional **foot-soldiers** under the **Gajapati kings** of Odisha since the 16th century.
   b. They received **hereditary rent-free land** (nish-kar jagirs) and served militarily during wartime, cultivating land in peacetime.
2. **Background to the Rebellion**
   a. In **1803**, the **British East India Company annexed Odisha**, disrupting existing socio-political structures.
   b. Promised territories and compensation were **not fully honoured** by the British, triggering early discontent.
   c. **Jayee Rajguru**, a royal advisor, attempted to resist but was **captured and executed in 1806**.
3. **Reasons for Rising Discontent**
   a. Loss of **political patronage** and **rent-free land** deeply affected the Paikas.
   b. **New land revenue policies** forced Odia landlords to sell land to **Bengali absentee landlords**.
   c. The British introduced **currency-based taxation** and took control of the **salt trade**, worsening economic hardship.
4. **The 1817 Revolt**
   a. Led by **Bakshi Jagabandhu**, the rebellion included **tribal Kondhs and Paikas** who launched attacks on British posts.
   b. They **looted treasuries**, **burnt government quarters**, and killed officials.
   c. Despite initial success, the rebellion was **eventually suppressed**, and the leader surrendered in **1825**.
5. **Legacy and Cultural Significance**
   a. The rebellion has long been a **symbol of Odia identity and resistance**.
   b. It has been proposed to be recognised as the **"first war of independence"**, as it predated the 1857 revolt.
   c. The rebellion is now part of **heritage promotion efforts**, including **memorials and academic institutions**.

Polity I.R. Security Economy Science Geography Society History Ethics P.i.N.
Click Here for INDEX

Polity I.R. Security Economy Science Geography Society History Ethics P.i.N.

Implications

1. **Cultural and Historical Representation**
   a. Highlights the importance of **inclusive history writing** that recognises **regional contributions**.
   b. Promotes **historical justice** by giving due space to **early uprisings**.
2. **Regional Identity**
   a. Strengthens **sub-national identity** and cultural pride.
   b. Inspires **younger generations** about local heroes and resistance movements.
3. **Educational Reform**
   a. Stresses the need for **timely curriculum updates** to avoid political and academic controversy.
   b. Encourages **decentralised curriculum development** to reflect diverse histories.
4. **Heritage and Tourism**
   a. Monuments and memorials can promote **local tourism and economy**.
   b. Can lead to development of **historical circuits** in Odisha.
5. **Academic and Research Opportunities**
   a. Promotes further **scholarly research** on **regional revolts**.
   b. Encourages **archiving and documentation** of lesser-known historical events.

Click Here for INDEX

Challenges and Way Forward

Challenges	Way Forward
Delay in recognising regional resistance	Ensure timely inclusion in **national curriculum and publications**
Risk of politicising historical narratives	Maintain **academic neutrality** and support **evidence-based history**
Weak documentation of regional uprisings	Promote **regional archival research** and oral history projects
Lack of awareness among public and students	Launch **outreach campaigns**, local museum exhibits, and community programs
Centralised history writing	Empower **states in curriculum planning** for balanced historical perspectives

8. Chola Legacy

Why in the News?

1. **Prime Minister Narendra Modi** visited **Gangaikonda Cholapuram** in **Tamil Nadu** during the **Aadi Thiruvathirai festival** and commemorated **1,000 years of Rajendra Chola I's maritime expedition** to Southeast Asia.
2. The visit emphasized the **Chola dynasty's contributions** not just to art and architecture, but also to trade, statecraft, and administration.
3. This highlights how the **administrative and infrastructural achievements** of the Cholas remain relevant to present-day India.

Key Highlights

1. **Commemoration of Rajendra Chola's Maritime Achievements:**
   a. The **1,000-year** celebration of Rajendra Chola I's naval expedition to Southeast Asia highlights ancient India's engagement with global trade.
   b. Gangaikonda Cholapuram was chosen as the symbolic site due to its historical and strategic importance.
2. **Chola Contributions to Urban and Temple Infrastructure:**
   a. **Brihadeshwara temples**, constructed over 1,000 years ago, exhibit architectural resilience and are **UNESCO World Heritage Sites.**
   b. These temples have survived multiple earthquakes in peninsular India, hinting at advanced structural design and engineering.
3. **Lessons from Chola Water Management Systems:**
   a. Cholas built an **extensive network of tanks, canals, and reservoirs**, especially in the Cauvery delta region.
   b. Their models can help in current water conservation policies, especially in regions prone to floods and seasonal scarcity.
4. **Chola Taxation and Land Revenue Systems:**
   a. The Chola regime had a **systematic and decentralised** land revenue and taxation structure.
   b. Detailed inscriptions document land grants, tax assessments, and usage, showcasing administrative precision.

5. **Democratic Traditions and Local Governance:**
   a. The Cholas practiced **local self-governance** through village sabhas and **ur councils**, with elected representatives and well-documented rules.
   b. These practices resonate with the spirit of the **73rd and 74th Constitutional Amendments** that empowered Panchayati Raj institutions.

About Cholas

1. **Emergence of the Imperial Cholas**
   a. Cholas rose to prominence in the **9th century CE**, establishing control over South India, Sri Lanka, and parts of Southeast Asia.
   b. Capital: **Thanjavur (Tanjore)**
   c. **Sources:** Copperplate grants and stone inscriptions are primary sources for Chola history.

2. **Important Rulers and Their Contributions**

Ruler	Period	Major Achievements
Vijayalaya Chola	847–871 CE	Founded the Imperial Chola dynasty; captured Thanjavur; built a Durga temple.
Aditya I	871–907 CE	Defeated Pallava king Aparajita; annexed Tondaimandalam; cordial with Cheras.
Parantaka I	907–955 CE	Took Madurai (title: Madurain-konda); defeated Pandyas and Ceylon; defeated & later lost to Rashtrakutas at Takkolam.
Rajaraja I	985–1014 CE	Most celebrated king; titles include Mummudi-Chola, Jayankonda; naval conquests (Maldives); built **Brihadeshwara Temple**; annexed northern Sri Lanka.
Rajendra I	1012–1044 CE	Conducted a successful naval campaign against **Srivijaya**; conquered Bengal (Ganga expedition); founded **Gangaikondacholapuram**; titles: Gangaikondan, Kadaram Kondan.
Rajadhiraja I	1044–1052 CE	Died in the **Battle of Koppam** against Chalukyas, known as Yanai-mel-thunjina Devar.
Rajendra II	1052–1063 CE	He won the **Battle of Kundal-Sangamam**; campaigned in Kalinga and Sri Lanka.
Virarajendra	1063–1067 CE	Occupied Vengi; defeated Sri Lanka and Kadaram kings.
Kulottunga I	1070–1122 CE	United Vengi with the Chola empire; maintained diplomatic relations with China and Srivijaya; the court had scholars like Kamban and Jayakonda.

3. **Provincial Administration**
   a. Empire divided into **Mandalams → Valanadus → Nadus → Villages**.
   b. **Nagarams:** Autonomous towns governed by Nagarattar.
   c. **Officials:** Naattukanakku (record keeper), Nattuviyavan (village functionary).

4. **Economy**
   a. **Agriculture**: Agrarian expansion led to surplus food production.
   b. **Revenue and Taxation**: Land surveys and revenue settlements based on fertility and status. Key taxes include Irai, Kanikadan, Kudimai, Kadami, Opati (levied by kings/chiefs).
   c. **Irrigation and Water Management**: Advanced systems of canals, tanks, and **criss-cross channels** (Vativaykkal). Water rights were documented with land deeds.
   d. **Trade and Commerce**: Growth due to surplus production and artisan activities.
   e. **Ports**: Nagapattinam, Krishnapattinam, Mylapore, Tiruvotriyur.
   f. **Artisan Activities**:
      i. Flourishing textile industry, especially silk weaving in Kanchipuram.
      ii. Development in bronze casting and metal work for temples and utensils.

5. **Society and Religion**
   a. **Social Structure**: Followed the **Varnashrama system**—Brahmins, Kshatriyas, Vaishyas, and Shudras.
   b. **Caste Divisions**: Two major groups—**Valangai** (right-hand castes) and **Idangai** (left-hand castes).
   c. **Land Ownership and Status**:
      i. **Top**: Brahmadeya-kilavars (Brahmin landlords)
      ii. **Middle**: Vellanvagai landholders
      iii. **Bottom**: Ulukudi (tenants), Paniceymakkal (labourers), Adimaigal (slaves)
   d. **Women**: Had a low status; Sati and Devadasi practices existed.
   e. **Religion**:
      i. Kings supported **Shaivism** (worship of Shiva) and **Vaishnavism** (worship of Vishnu).
      ii. Saints like **Nayanmars** (Shaiva) and **Alvars** (Vaishnava) were popular.
      iii. Temples were richly funded and served as **religious** and **community centres**.
6. **Cultural and Architectural Achievements**
   a. **Brihadeshwara Temple** at Thanjavur by Rajaraja I.
   b. **Gangaikondacholapuram** and **Rajesvaram Temple** by Rajendra I.
   c. **Ulagalantha Perumal Temple** and **Veetrirundha Perumal Temple** expanded by Rajendra II.
   d. Metal sculptures and temple architecture reflected a blend of art and engineering.

Click Here for INDEX

Implications

1. **Boost to Heritage and Cultural Tourism:**
   a. Reviving Chola heritage and celebrating temple architecture can enhance tourism in southern India.
   b. This can generate employment in heritage conservation, hospitality, and local arts and crafts.
2. **Lessons for Urban Infrastructure and Seismic Resilience:**
   a. Studying Chola temples may inspire the development of more earthquake-resistant public structures.
   b. This is critical at a time when multiple Indian cities are facing urban planning failures and structural collapses.
3. **Water Management Models for Agricultural Productivity:**
   a. Chola-era tank irrigation systems can be adapted for modern irrigation planning.
   b. Such models can aid in addressing water shortages, especially in delta regions like Tamil Nadu's Cauvery basin.
4. **Decentralised Governance to Improve Public Service Delivery:**
   a. Drawing from Chola local governance, effective Panchayati Raj and urban local bodies can ensure better implementation of welfare schemes.
   b. Strengthening elected local bodies could reduce bureaucratic delays and improve grassroots accountability.
5. **Improved Land and Tax Administration Frameworks:**
   a. The Chola model of transparent land records and efficient tax collection could inform digitisation efforts like SVAMITVA and Digital India Land Records Modernization Programme (DILRMP).
   b. This could improve rural credit access and reduce land disputes.

Challenges and Way Forward

Challenges	Way Forward
Structural vulnerabilities in modern civic infrastructure.	**Study traditional temple architecture for seismic resilience** and adapt relevant methods.
Poor integration of traditional water systems into modern urban planning.	**Revive and integrate Chola-style tank and canal systems** into city and rural water management policies.
Loss of historical administrative insights in policymaking.	**Include ancient administrative models** in public policy, education and civil service training modules.
Limited awareness of Chola-era governance among the general public and officials.	Encourage **public education campaigns, documentaries, and exhibitions** on the Chola administrative legacy.

ETHICS

1. Fauja Singh: A Life of Purpose, A Death of Neglect

Why in the News?

1. Fauja Singh, the 114-year-old marathoner known as the **"Turbaned Torpedo,"** passed away on **July 14, 2025**, after being hit by a reckless driver while crossing the road near his home.
2. He was the world's oldest marathon runner, starting his running journey at the age of 89.
3. He became a **symbol of hope, perseverance, and purposeful ageing**, admired across generations and geographies.
4. The incident triggered a wide emotional and civic response, raising concerns about the **safety of pedestrians**, especially senior citizens, and the **moral responsibility of society and the state**.

Ethical Issues Involved

1. **Ethics and Human Interface:**
   a. The dignity of human life was violated by reckless behavior.
   b. The value of **respect for elders** and **care for the vulnerable** was compromised.
   c. It raises questions on **collective conscience** and **social sensitivity**.
2. **Attitude and Emotional Intelligence**
   a. Fauja Singh turned **personal grief into purpose** after losing his wife and son, showing emotional maturity and resilience.
   b. His positive attitude helped him cope through physical movement rather than emotional withdrawal.
3. **Foundational Values for Civil Services**
   a. His life embodied **discipline**, **integrity**, **simplicity**, and **empathy** — all of which are vital for a public servant.
   b. His example contrasts sharply with the apathy of institutions responsible for public safety.
4. **Public/Civic Ethics**
   a. His death exposes failures in **public infrastructure**, **law enforcement**, and **urban planning**.
   b. It raises concerns on **policy implementation**, **rule of law**, and **accountability** in governance.
5. **Citizen's Ethics and Societal Apathy**
   a. The act of running in India becomes a moral act of courage due to unsafe conditions.
   b. Public space is seen as **hostile**, not inclusive, especially for runners, women, and the elderly.

Course of Action

1. **Strengthen Pedestrian Safety Measures**
   a. Design **elder-friendly urban spaces** with clearly marked pedestrian zones.
   b. Enforce **zebra crossings**, underpasses, footbridges, and traffic calming techniques.
   c. Introduce **'pedestrian-first' policies** in city master plans.
   d. Install **real-time monitoring systems** and AI-based surveillance near vulnerable areas.
   e. Improve **public awareness** on right-of-way for pedestrians.
2. **Ensure Accountability in Road Management**
   a. **Strictly follow the updated traffic laws** to make roads safer and punish rule breakers properly.
   b. Enforce **zero tolerance** for drunk driving and hit-and-run cases.
   c. **Strengthen penalties** and fast-track courts for violations.
   d. Conduct **mandatory training** and sensitisation for drivers (commercial and private).
   e. Make **municipal bodies accountable** for road design, signage, and repairs.
3. **Promote Ethical Urban Planning**
   a. Integrate **inclusive mobility** in Smart City and AMRUT projects.
   b. Adopt **Universal Design Principles** for the elderly and differently-abled.

Click Here for INDEX

c. **Promote neighbourhoods** where homes, shops, offices, and parks are close to each other so that people don't need to use vehicles for every small task.
d. Mandate **impact assessments** on pedestrian safety for every new infrastructure project.
e. Appoint **urban ethics committees** to regularly check if city planning is fair, safe, and easy for all, especially for the elderly and pedestrians.

4. **Build a Culture of Respect and Responsibility**
   a. Launch **public awareness campaigns** on sharing roads ethically.
   b. Incorporate **ethics and civic sense** into school curricula and driver licensing programs.
   c. Encourage **citizen-policing apps** to report unsafe behavior.
   d. Recognise and reward examples of **public empathy and civic responsibility**.
   e. Train frontline service personnel (traffic police, municipal staff) in **compassion-based approaches**.
5. **Use Sports as a Medium for Moral Education**
   a. Promote stories like Fauja Singh's in **physical education** and value education programs.
   b. Use marathons and walks as platforms to promote **unity, inclusiveness, and healthy ageing**.
   c. Encourage senior citizen participation in community sports.
   d. Integrate **sports ethics and resilience** into national fitness programs like Fit India.
   e. Collaborate with the media to highlight **sporting stories with ethical depth**.
6. **Policy Advocacy and Legal Reforms**
   a. Institutionalise **senior citizen safety charters** in urban laws.
   b. Bring **'Right to Safe Mobility'** under the fundamental rights framework.
   c. Ensure **transparent accident reporting systems** for vulnerable groups.
   d. Create a **Citizen Road Safety Commission** with independent oversight.
   e. Allocate **dedicated funds for pedestrian and cyclist infrastructure** under urban transport budgets.

Conclusion

Fauja Singh's life was an embodiment of ethical strength, resilience in grief, simplicity in living, and purpose in action. His tragic death, however, reflects the **deep moral failures of our civic systems**. The nation must not just mourn him, but **honour him through action**, by building roads that are safe, public spaces that are inclusive, and a society that values every life, regardless of age or ability. His legacy is not in the kilometres he ran, but in the courage he inspired. It is now our **ethical duty** to carry that torch forward.

2. Mental Health in the Cockpit: A Silent Safety Crisis

Why in the News?

1. After the **preliminary report** of an accident involving an **Air India Boeing 787** in **Ahmedabad** was released, questions around **pilot responsibility** and **mental health** resurfaced.
2. Social media discussions and aviation experts have highlighted how pilot mental health is still considered a **taboo topic**, despite its **serious implications for public safety**.
3. **Past incidents** like the **Germanwings Flight 9525 crash (2015)**, where a pilot deliberately crashed the aircraft, killing 150 people, still serve as **painful reminders** of **unaddressed mental health challenges**.
4. Growing evidence from studies, including a **Harvard report** that found **12.6% pilots showed signs of depression**, has pushed for reforms in airline policy, pilot training, and mental health protocols.

Ethical Issues Involved

1. **Ethics in Public Safety and Professional Integrity**
   a. Pilots are responsible for hundreds of lives in every flight.
   b. Mental illness in pilots, if untreated or hidden, becomes a **public safety issue**.
   c. However, fear of losing their license may discourage them from seeking help.
   d. This leads to a **moral conflict between personal health and professional duty**.

2. **Emotional Intelligence and Human Behaviour**
   a. Pilots, by professional culture, are trained to suppress emotional weakness.
   b. This can lead to **bottled-up stress and long-term psychological damage**.
   c. They also face unique pressures and challenges like jet lag, fatigue, family neglect and financial strain.
   d. This demands high **emotional regulation** and awareness.
3. **Aptitude and Foundational Values for Professionals**
   a. Airline pilots are expected to demonstrate **resilience, courage, and responsibility**.
   b. However, without a supportive system, even the most capable individuals may struggle.
   c. Avoiding mental health support due to stigma also shows a **lack of institutional empathy and trust**.
4. **Professional Ethics vs Organisational Ethics**
   a. Airlines are often more focused on operational efficiency than crew welfare.
   b. Failure to offer mental health support systems reflects **weak organisational ethics**.
   c. There is a **duty of care** by the airline and regulators towards pilots.
   d. Failing this duty can indirectly compromise public safety.
5. **Ethical Governance and Policy Design**
   a. The DGCA and other regulatory bodies face the challenge of designing **fair, transparent, and non-punitive policies** around mental health.
   b. Creating overly strict or vague rules may cause **fear and misreporting**, while leniency could be risky.
   c. Hence, **ethical balance** is crucial.

Course of Action

1. **Build Trust-Based Mental Health Systems**
   a. Develop **confidential mental health support** units within airlines, staffed by trained professionals.
   b. Ensure **non-punitive, no-career-harm policies** for those voluntarily seeking help.
   c. Encourage a **culture of openness** where mental health is normalised, not shamed.
   d. Offer **anonymous helplines and counselling** services.
   e. Conduct periodic **non-intrusive psychological well-being checks**.
2. **Peer Support and Early Detection Mechanisms**
   a. Create **peer support programs** led by trained senior pilots, separate from airline HR.
   b. Train pilots to **identify emotional distress in colleagues** and report without fear of backlash.
   c. Encourage **buddy systems** during long flights to maintain morale and observation.
   d. Use **flight instructors** to track early signs of burnout or isolation.
   e. Offer **refresher courses in emotional resilience and stress management**.
3. **Policy Reforms in Airlines and DGCA**
   a. Allow **paid leave** for personal or family crises like bereavement, divorce, or child illness.
   b. Introduce **mental health clauses** in pilot contracts for flexibility during distress.
   c. Avoid **one-size-fits-all medical disqualifications**, allow pilots to fly with approved treatment.
   d. Involve **pilot unions in policy decisions** to ensure balanced perspectives.
   e. **Reduce bureaucratic delays** in special clearances for treated pilots.
4. **Regulatory Reforms and Legal Safeguards**
   a. DGCA should avoid **mandatory mental testing** without defined clinical criteria.
   b. Any mental health evaluation must be **scientifically backed and medically supervised**.
   c. The Union Ministry of Health should create **rules for doctors to report serious mental risks** (while protecting confidentiality).
   d. Introduce **legal clarity on pilot privacy vs public safety**, both must be balanced.
5. **Training, Education, and Culture Change**
   a. Include **mental health education** in pilot training academies.
   b. Host **regular workshops** on work-life balance, stress management, and digital well-being.

Click Here for INDEX

c. Encourage **aviation psychologists** to be part of routine briefings.
d. Use real case studies (e.g. MH370, Germanwings) as tools for training and reflection.
e. Celebrate stories of recovery, break the **"invincible pilot" myth**.

6. **Global Best Practices and Collaboration**
   a. Align India's policy with **ICAO** (International Civil Aviation Organization) **mental health guidelines** and **FAA** (Federal Aviation Administration) standards.
   b. Collaborate with **international airline alliances** to share mental health data and solutions.
   c. Invest in **aviation-specific mental health research** in Indian institutes.
   d. Set up a **national task force** on mental health in high-stakes professions.
   e. Introduce a **unified mental health policy** for all civil aviation stakeholders.

Conclusion

The mental health of pilots is not just a personal issue, it is a **national safety concern and an ethical imperative**. Pilots face unique stress, isolation, and pressure, yet lack the freedom to seek help without fear. It is time for India's aviation system, regulators, airlines, and society, to break the silence, **normalise mental health care**, and create a culture that values safety through compassion. A balanced, trust-based, and medically sound approach can save lives in the sky and on the ground.

Click Here for INDEX

3. Dissent: The Soul of Democracy

Why in the News?

1. Across many countries, especially democracies, free speech and intellectual freedom are being controlled, especially in **universities and media**.
2. Professors are being **suspended**, students are **punished**, and scholars are called **"anti-national"** for simply asking questions or offering different viewpoints.
3. Even countries like the **United States**, which once encouraged open debate, have shown signs of **intolerance to criticism**, as seen during Trump's presidency.
4. A country cannot appear strong to the world if it is weak inside. **Moral strength and openness to ideas** make a nation truly respected, not just its economy or army.

Ethical Issues Involved

1. **Ethics in Public Life and Governance**
   a. Governments must protect not only borders but also **freedoms**.
   b. **Suppressing dissent** goes against the basic duty of a democratic government.
   c. **Plato** believed that rulers must listen to reason and justice, not control every thought.
2. **Tolerance, Receptivity, and Emotional Intelligence**
   a. A society that cannot tolerate different views becomes rigid and fearful.
   b. **Emotional intelligence** in leadership means listening calmly to disagreement without reacting in anger.
   c. **Swami Vivekananda** taught that **true strength lies in acceptance and inner calm**, not in silencing others.
3. **Moral Courage and Integrity**
   a. Scholars and thinkers who speak the truth despite fear show **moral courage**.
   b. Universities and media must act with **integrity** and not change facts to please those in power.
   c. **Socrates** was punished for questioning norms, yet his method of questioning became the **foundation of philosophy**.
4. **Ethics of Citizenship and Democratic Participation**
   a. Democracy means **people must question and debate**. Obedience is not a value in democracy but participation is.
   b. True **patriotism** includes holding your country to high standards and not staying silent when things go wrong.
   c. **Mahatma Gandhi** believed that **truth and non-violence** required courage to speak up peacefully, even against your own government.
5. **Justice and Fairness**
   a. **Thomas Aquinas** wrote that **a law is unjust if it goes against human reason or moral good**.

b. Students and teachers being **punished unfairly** for speaking out is against the principle of justice.

c. **Aristotle** said **justice** is giving each person their due. Silencing thinkers denies them their due voice in society.

Course of Action

1. **Protect Intellectual Freedom in Institutions**
   a. Laws should clearly protect **free speech in universities** and research bodies.
   b. Professors and students should **not fear job loss or punishment** for **asking questions**.
   c. Curriculum should be based on **facts and learning**, not **political ideology**.
   d. **Buddha** encouraged **questioning** and learning through personal experience, not blind acceptance.
   e. Academic spaces must be **protected as zones of growth**, not control.
2. **Promote Respectful Dissent in Society**
   a. People should be taught that **disagreeing respectfully** is part of democracy.
   b. Dialogues between people with **different opinions** must be **encouraged** in public spaces and media.
   c. **Criticism** should **not** be labelled as **"anti-national".**
   d. **Socrates** said that the **unexamined life is not worth living,** that is, questioning is essential for growth.
   e. Schools and colleges should train young people in **debate, ethics, and empathy**.
3. **Reform Governance and Institutional Roles**
   a. Universities must be **autonomous**, free from political interference.
   b. Appointments to academic posts should be based on **merit, not loyalty**.
   c. The media must have **legal protection for independent reporting**.
   d. **Durkheim** believed that the strength of institutions reflects the **ethical health of society.** If schools and media suffer, so does democracy.
   e. Encourage **student unions and academic bodies** to act as ethical voices.
4. **Redefine Patriotism as Moral Responsibility**
   a. Teach that **loving your country also means correcting its mistakes**.
   b. Include national heroes who questioned authority **(Gandhi, Bhagat Singh, Ambedkar)** in textbooks and public talks.
   c. Patriotism should be based on **hope and reform**, not fear or obedience.
5. **Develop Ethical Leadership**
   a. Leaders should not be afraid of being questioned. They should model **calm, balanced responses** to criticism.
   b. Encourage **inclusive dialogue** when making laws or public policies.
   c. Uphold **constitutional morality**, respect for the spirit of the Constitution.
   d. Gandhi led with **truth, non-violence, and humility**, even with opponents. Modern leaders must do the same.
6. **Support Civil Society and Moral Education**
   a. NGOs, writers, and artists must be protected from censorship.
   b. Public figures must be encouraged to share **truth-based, diverse ideas**.
   c. Include **moral education** in school to help students understand freedom, justice, and compassion.
   d. Aristotle said the goal of education is not just knowledge, but **virtue and good character**.
   e. Promote social campaigns to support **freedom of expression and critical thinking**.

Conclusion

Real **freedom** is not the privilege of the majority, it is the right of everyone, especially those who **disagree**. A democracy without room for questioning becomes weak inside, even if it looks strong outside. Nations must build their future on **open minds, strong ethics, and the courage to listen**. That is the only way to preserve democracy, justice, and truth, for all, not just a few.

PLACES IN NEWS

Place	Context	Key Highlights
1. Sariska Tiger Reserve	The SC-NBWL has approved a proposal to **redraw and rationalize the boundaries** of Sariska Tiger Reserve's **core area and buffer zones**.	Sariska Tiger Reserve, in **Alwar** district, **Rajasthan**, is part of the **Northern Aravalli Hills dry deciduous forests** and was established in 1955 as a sanctuary and 1978 as a tiger reserve. Home to **Bengal tigers, leopards, and rich avifauna**, it also features historical sites like **Neelkanth Mahadev Temple and Kankwari Fort.** Tigers were locally extinct by 2004 due to poaching but were reintroduced in 2008; **human settlements, illegal mining, and conflicts with villagers** remain **ongoing concerns**. The Supreme Court is overseeing conservation efforts, including the rationalization of reserve boundaries.
2. Paikan Reserve Forest	A clash during an eviction drive in Paikan Reserve Forest, Assam, killed one alleged encroacher and injured over 20, including police. The incident highlights **rising tensions between forest authorities and encroachers in Assam's forest regions.**	**Location:** Krishnai Forest Range, Goalpara, Assam, near Meghalaya border, with low-lying terrain and hilly zones. **Ecology:** Important wildlife corridor for elephants, rich biodiversity, and part of Assam's broader ecosystem. **Encroachment:** 1,080 families and 2,500 structures demolished during eviction to restore forest cover. **Infrastructure:** Adjacent to NH-17; planned expansions affect forest fringes. **Post-Eviction:** Focus on ecological restoration, elephant movement, and reforestation.
3. Strait of Hormuz	In June 2025, Iran's Parliament approved a motion to close the Strait of Hormuz, a **key oil transit route.**	**Location:** narrow waterway between **Iran (to the north)** and the **Arabian Peninsula** (UAE and Oman) It connects the **Persian Gulf** (on the west) to the **Gulf of Oman** (on the east). **167 km long**, with its **width ranging from 39 km to 95 km**. One of the world's **most economically and geopolitically important choke points**. Around **25% of the world's oil exports** and nearly **30% of global liquefied natural gas (LNG)** shipments pass through it

Click Here for INDEX

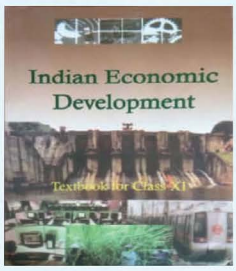
4. Male Mahadeshwara Hill Wildlife Sanctuary	Tigress and cubs found dead; sparked wildlife conservation concerns	**Location:** Eastern Ghats, **Chamarajanagar district**, Karnataka **Named After:** Lord Male Mahadeshwara (temple located inside the sanctuary) **Status: Protected Wildlife Sanctuary**; pending notification as a **Tiger Reserve** Lies near the **tri-junction** of **Karnataka**, **Kerala**, and **Tamil Nadu** Forms part of a **contiguous tiger habitat** Bordered by Cauvery Wildlife Sanctuary, Karnataka (North & East), Sathyamangalam Tiger Reserve, Tamil Nadu (South), and Biligiri Rangaswamy Temple Tiger Reserve, Karnataka (West).
5. Palamu Tiger Reserve, Jharkhand	A wild male Bengal tiger strayed into a home in Mardu village near Ranchi, prompting a tense hours-long rescue operation and the tiger being relocated to **Palamu Tiger Reserve.**	It is one of India's oldest tiger reserves. It is one of the **first nine tiger reserves** launched under **Project Tiger in 1973**. **Surrounded** by **Netarhat Forest (South), Auranga River (North), Latehar Forest Division (East), Garhwa Forest Division & Sarguja (West).** The area is drought-prone due to the **rain-shadow effect**. **Rivers:** Watershed for **Koel, Burha, and Auranga rivers**. Nine different types of soil including **loamy**, **fine**, **skeletal**, and **coarse** soils.
6. Kaziranga National Park, Assam	The **Dhole** (Asiatic wild dog), once thought extinct in the Kaziranga-Karbi Anglong Landscape (KKAL) of Assam, has been confirmed to have **returned** by Wildlife Institute of India scientists, highlighting the corridor's ecological health and the need for its conservation.	Declared a **National Park** in **1974**. It became a **Tiger Reserve** in **2006**. Declared a **UNESCO World Heritage** Site in **1985.** Recognized as an **Important Bird Area** by **BirdLife International.** Famous for the largest population of one-horned rhinoceroses. Conservation focus is on the **"Big Four"**: **One-horned Rhinoceros, Asian Elephant, Royal Bengal Tiger and Asiatic Water Buffalo** **National Highway 37 passes** through the park. **The Diphlu River** flows through the park.
7. Kailash Mansarovar	The Kailash Mansarovar Yatra resumed in 2025 after a **six-year gap** due to COVID-19 and border tensions, with the first group of Indian pilgrims visiting Tibet; the pilgrimage marks a positive step in India-China people-to-people ties.	**Mount Kailash** and **Lake Mansarovar** are located in the **Tibet Autonomous Region** (TAR) of **China**. They lie **north of the Himalayas**, near the **western part of Tibet**, close to the borders with **India (Uttarakhand)** and **Nepal**. There are **two main pilgrimage routes** from India, **Lipulekh Pass** (via Uttarakhand)and **Nathu La Pass** (via Sikkim). **Major Rivers** originating near Mount Kailash and Lake Mansarovar are Indus, Satluj, Brahmaputra and Karnali river (tributary of Ganga)

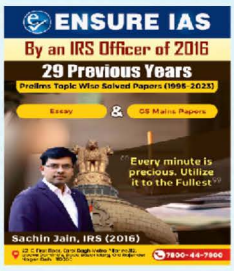
8. Kishanganga Hydropower Project	India has firmly rejected a "supplemental award" by the Court of Arbitration on the Kishanganga hydroelectric project in Jammu & Kashmir, citing lack of legal standing and violation of the Indus Waters Treaty, which India suspended after the April 2025 terror attack.	**Location:** Bandipora district in Jammu and Kashmir **River**: Kishanganga River (called **Neelum River** in Pakistan), a tributary of jhelum. **Tributary of**: Jhelum River Located in the high **Himalayan mountain region**. Terrain is **rugged and mountainous** Located very close to the **Line of Control (LoC)** between India and Pakistan
9. Mullaperiyar Dam	Tamil Nadu opened all 13 spillway shutters of the Mullaperiyar dam after water levels exceeded the rule curve, reviving focus on the 999-year lease agreement and highlighting interstate water management amid rising water levels in Kerala's Idukki reservoir.	The Mullaperiyar Dam is located in the **Cardamom Hills** of the **Western Ghats**, near **Kumily**, on the **Kerala-Tamil Nadu border** in **Idukki district**. **It was c**ompleted in **1895**, the dam was built using a mix of **limestone** and **Surkhi**. It **diverts water** from **Kerala's Periyar River** to **Tamil Nadu's Vaigai basin** to meet irrigation and drinking water needs. The dam is vital for **supplying water** to **southern districts** of Tamil Nadu for both **agriculture** and **domestic use**. It has been a subject of **long-standing disagreement** between Kerala and Tamil Nadu, mainly over issues related to **safety and control of its operations.**
10. Ranthambore Tiger Reserve	Lab tests confirmed the poaching of three tigers near Sheopur, Madhya Pradesh, with officials suspecting they had moved from Rajasthan's Ranthambore Tiger Reserve, raising serious concerns about tiger safety and corridor protection.	It is in the **Sawai Madhopur district** in southeastern **Rajasthan**. The reserve gets its name from the **Ranthambore Fort**, a **UNESCO World Heritage Site** located inside the park. It lies between the **Aravali** and **Vindhya** hill ranges, giving it a scenic and rugged landscape. It is bordered by the **Banas River** in the north and the **Chambal River** in the south. **Famous Lakes**: **Padam Talab**, **Raj Bagh Talab**, and **Malik Talab**.
11. Sudan	The UN World Food Programme warns of food aid shortage in Sudan due to ongoing civil wars.	Located in **Northeast Africa** **Borders**: Egypt in North, Red Sea in North East, Eritrea and Ethiopia, South Sudan in south, Central african republic in southwest, Chad in west and Libya in northwest. Confluence of White and Blue Nile in Khartoum (capital) **Terrain**: Deserts (Nubian, Sahara), Nile basin, Nuba Mountains, Jebel Marra plateau **Climate**: Arid to semi-arid; tropical in the south.

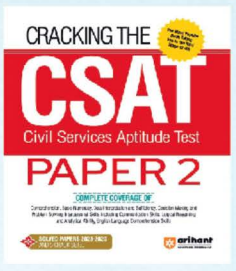
12. Ghana	PM Narendra Modi became the **first Indian PM in over 30 years** to address Ghana's Parliament during a historic visit	Located in **West Africa** **Borders**: North – Burkina Faso, East – Togo, West – Côte d'Ivoire, South – Gulf of Guinea (Atlantic Ocean) **Rivers**: Volta River (White + Black Volta); **Lake Volta** – one of the world's largest man-made lakes (Akosombo Dam) **Climate**: Tropical climate 2nd largest gold producer in Africa, oil (Jubilee Field), bauxite, cocoa (2nd globally)
13. Argentina	PM Modi made a historic visit to Buenos Aires, the first by an Indian PM in 57 years (since Indira Gandhi, 1968); part of his five-nation tour	Located in South America Borders: Chile (west), Bolivia & Paraguay (north), Brazil & Uruguay (northeast), Atlantic Ocean (east) Capital: Buenos Aires, on the Río de la Plata estuary Major Rivers: Paraná, Uruguay, Río de la Plata, Colorado, Negro Claims Falkland Islands (UK territory); part of Lithium Triangle (with Bolivia & Chile) – crucial for EV batteries
14. Wular Lake	Lotus flowers have bloomed in Kashmir's Wular Lake after 30 years, signaling ecological revival. The revival follows a 2020 restoration project by the Wular Lake Management Authority.	Wular Lake, in Bandipora district, Jammu & Kashmir, formed by the Jhelum River, is a Ramsar Wetland since 1990. It supports rich biodiversity, including migratory birds and fish, and provides economic value through lotus (nadru) and fisheries for local communities. Acts as a natural flood basin for the Jhelum River and has significant tourism potential with its scenic landscapes. The lake faces threats from encroachment, siltation, and pollution, but a 2020 restoration project by WUCMA is underway to restore its depth and ecology.
15. Great Nicobar Island	MoEFCC submitted a High-Powered Committee (HPC) report to NGT on the island's development project, amid concerns over ecological damage to coral reefs, forests, and tribal communities	**Southernmost island** of **India**, part of **Andaman & Nicobar Islands** **Mount Thullier** (642 m) is the highest peak Rich in **tropical rainforests**, **mangroves**, **coral reefs**, and **turtle nesting sites** Home to **Great Nicobar Biosphere Reserve** (UNESCO MAB), **Campbell Bay** and **Galathea National Parks** Inhabited by **Shompens** (PVTG) and **Nicobarese** tribes Close to **Malacca Strait**
16. Sierra Leone	**Nyangai Island** in the Turtle Islands is losing land rapidly due to **sea-level rise** and **climate change**, raising concerns over **climate injustice**	Located in **West Africa**, bordered by **Guinea (N, E)**, **Liberia (S)**, and **Atlantic Ocean (W)** **Capital**: Freetown (hosts one of the world's largest natural harbours) **Geography**: Mangrove-lined coasts; major rivers: **Rokel, Taia, Moa, Sewa** **Economy**: Predominantly subsistence farming; rich in **diamonds, gold, bauxite, rutile**

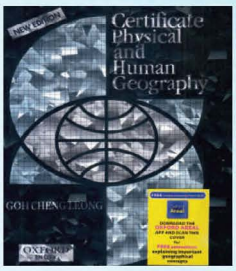
17. Red Sea	Houthi rebels attacked a Liberian-flagged cargo ship (March 2025), killing 3 mariners, part of a series of attacks since Nov 2024 threatening global trade and maritime security	A **narrow inlet of the Indian Ocean** between **Africa and Asia**; part of the **Afro-Arabian Rift System** **Connects southward** to the Indian Ocean via **Bab el-Mandeb Strait** and **Gulf of Aden** **Northern end** splits into **Gulf of Suez** (linked to **Suez Canal**) and **Gulf of Aqaba** **Strategic maritime route**: vital for global trade, especially oil shipping **Borders**: **Egypt (N), Saudi Arabia & Yemen (E), Sudan, Eritrea & Djibouti (W)** Known for **Trichodesmium algae blooms**, giving reddish tinge; includes **Tiran** and **Shadwan Islands**
18. Panna Tiger Reserve	In news after the **death of Vatsala**, a ~100-year-old elephant; one of Asia's oldest elephants (July 2025)	Located in **Madhya Pradesh** (Panna & Chhatarpur districts) **Ken River** flows through it Recognized as **Biosphere Reserve (2011)** Notified **Eco-sensitive zone (2017)** Home to **Royal Bengal Tiger**, leopards, vultures, sloth bear, and more than 200 bird species Famous for **successful tiger reintroduction** post-2009 extinction Linked to **Ken-Betwa River Linking Project**, raising ecological concerns
19. Gaza	Gaza faces a **humanitarian crisis** with widespread displacement and casualties. Israel's government plans to take control and relocate residents to a "humanitarian city."	**Geographical Location:** Located in the Middle East, Western Asia. Borders: Israel (North and East), Egypt's Rafah Crossing (South West) and Mediterranean Sea (West). **Political Status:** Palestinian territory, under Hamas control since 2007. Officially part of the State of Palestine, but Israel controls borders, airspace, and sea access, along with Egypt. **Major Cities:** Gaza City (largest), Khan Younis, Rafah and Deir al-Balah.
20. Pacific Ring of Fire	A powerful **8.8 magnitude earthquake** hit Russia's **Kamchatka Peninsula**, part of the Pacific Ring of Fire. The quake triggered a **tsunami**, highlighting the region's extreme **seismic vulnerability**. The **Ring of Fire** contributes to **80% of global major earthquakes** due to its active **subduction zones**.	**Shape & Length:** Horseshoe-shaped belt around the Pacific Ocean; (around 40,250 km long.) **Tectonic Plates:** Formed at junctions of major plates like Pacific, Eurasian, North American, Nazca, etc. **Countries Covered:** Passes through more than 15 countries (USA, Japan, Indonesia, Russia, Chile, etc). **Earthquake Activity:** High seismic activity due to constant plate movement and faultline friction. **Volcanoes & Subduction:** Most volcanoes formed by subduction; the region has the most subduction zones globally.

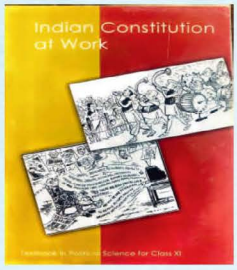
New List of Books to be provided to our classroom students since December 2023

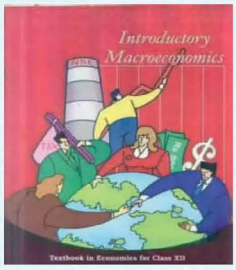


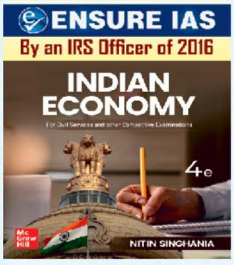


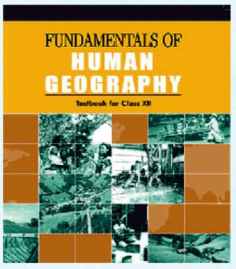


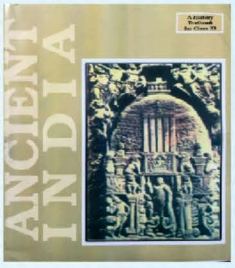


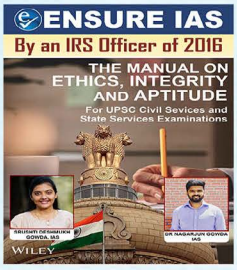


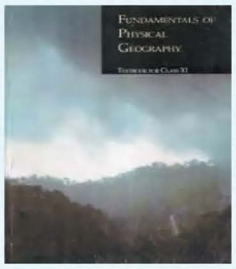


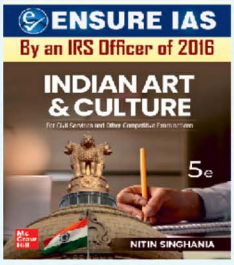


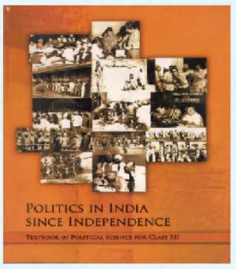


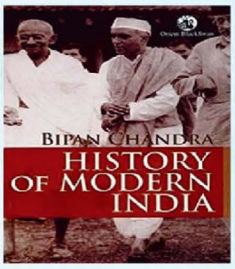


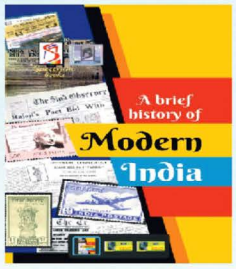


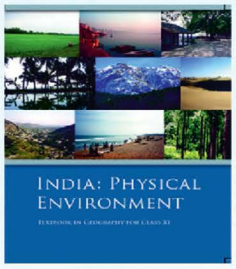


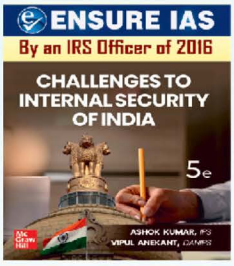


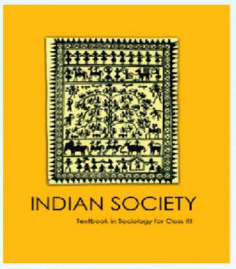


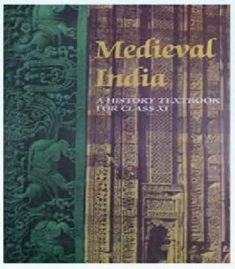


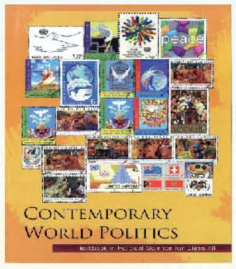


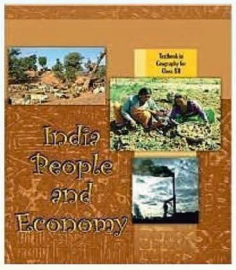


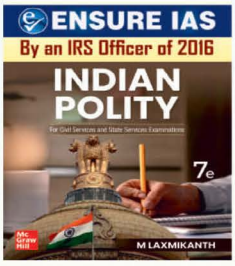


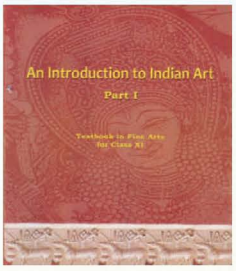


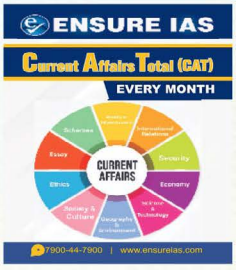












and many more .....

22-B, First Floor, Near Karol Bagh Metro Pillar No. 112, Above Domino's, Bada Bazar Marg, Old Rajinder Nagar, Delhi-110060

7900-44-7900