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INDEX

A. POLITY & GOVERNANCE

1. Courts Have Limited Powers to Modify Arbitral Awards: Supreme Court

Context:

1. The **Supreme Court** clarified that courts can modify arbitral awards under limited and specific circumstances.
2. This power arises under **Section 34 or 37 of the Arbitration and Conciliation Act, 1996.**

When Can Courts Modify Arbitral Awards?

1. **Severability of Award:** Courts may modify the award if the invalid portion can be separated from the valid one **without affecting the whole.**
2. **Legal Doctrine Invoked:** The court cited **"omne majus continet in se minus"** – the principle that the greater power to set aside an award includes the lesser power to modify it in part.
3. **Clerical or Typographical Corrections:** Errors involving **computation, clerical mistakes,** or **typos** may be corrected.
4. **Interest-Related Modifications:** Post-award interest may be altered in certain conditions to align with justice.
5. **Article 142 of the Constitution:** The court may use its powers under **Article 142** to do **complete justice,** but **only when consistent with the spirit of the 1996 Act.**

Arbitration in India:

6. **Definition:** Arbitration is part of **Alternative Dispute Resolution (ADR) mechanisms**, where disputes are resolved outside courts through a **mutually agreed private adjudication process.**
7. **Other ADR Modes:** Includes **conciliation and mediation alongside arbitration.**
8. **Why It Matters:** Arbitration is considered **less adversarial, faster,** and **more flexible** than traditional litigation.
9. **Legal Basis:** Governed by the **Arbitration and Conciliation Act, 1996**, based on the **UNCITRAL Model Law (1985).**

Key Legal Provisions in the 1996 Act:

1. **Section 34(1):** Allows recourse to a court only for setting aside an **arbitral award**, not for modifying it entirely.
2. **Section 37:** Specifies appealable orders including those related to **interim measures** and setting aside awards.

Positive Aspects of the Judgment:

1. **Equity Through Article 142:** Enables courts to **ensure fairness in commercial disputes** without compromising legal principles.
2. **Avoids Re-Arbitration:** Saves time and cost by modifying only the **problematic portion**, rather than starting arbitration afresh.

Concerns and Challenges:

1. **Risk to India's Arbitration Hub Aspirations:** Expanded judicial powers may **prompt businesses** to prefer international arbitration venues, undermining India's intent to become a global arbitration centre.
2. **No Distinction in Law:** The 1996 Act does not differentiate between **domestic** and **international arbitration**, raising concerns for global investors.

Way Forward:

1. **Amend the Arbitration and Conciliation Act, 1996:** Introduce **clear distinctions** between domestic and international arbitration within the legislation. This would allow for tailored procedures, preserving investor confidence and aligning with global best practices.
2. **Limit Judicial Interference: Strengthen** the **principle** of **minimal judicial intervention** in international commercial arbitration. Courts should act as facilitators rather than interveners, ensuring faster resolution and greater autonomy for arbitral tribunals.

2. Union Cabinet Approves Caste Enumeration in Upcoming Census

Context:

1. The **Cabinet Committee on Political Affairs** has given approval for **caste-based enumeration** in the upcoming national census.
2. This decision marks a significant shift toward **data-driven governance** and **inclusive policymaking.**

Historical Background of Caste Enumeration in India:

1. **1881 to 1931 (British Era):** The British administration conducted a **detailed caste-based census** for **colonial administrative purposes.**
2. **Post-Independence (1951 Onwards):** The Government of India discontinued **general caste enumeration,** continuing only for **Scheduled Castes and Scheduled Tribes** to promote national unity.
3. **1961 Directive:** The Central Government authorized states to conduct independent surveys for identifying **Other Backward Classes (OBCs).**
4. **SECC 2011 (Socio-Economic and Caste Census):**
   a. Conducted to collect data on the **socio-economic status of households** across various caste groups.
   b. However, **caste-wise data from SECC 2011** was never officially released due to data inconsistencies.

Census in India – Constitutional and Legal Basis:

1. Census is a **Union Subject under Entry 69** of the **Union List (Schedule VII)** as per **Article 246** of the Constitution.
2. The **Census Act, 1948** provides the legal framework for conducting census and defines the role of **census officers.**

Why is Caste Enumeration in the Census Important?

1. **Judicial Mandate:**
   a. As per **Indra Sawhney & Others v. Union of India (1992**), caste-based backwardness must be objectively assessed.
   b. The **Supreme Court** held that such **identification** should undergo **periodic review** by a permanent expert body.
2. **Promoting Social Justice:**
   a. Caste data, along with **socio-economic indicators**, may help in revising the list of socially and educationally backward classes **(SEBCs).**
   b. It can enable a **'quota-within-quota' system**, ensuring equitable distribution of reservation benefits through sub-categorization.
3. **Evidence-Based Policymaking:**
   a. Accurate caste data allows for **targeted welfare schemes**, addressing the specific needs of underprivileged and marginalized communities.
   b. It will help **policymakers** make **informed decisions** based on ground realities rather than assumptions.

3. Digital Access is a Fundamental Right: Supreme Court

Context:

1. In **April 2025**, the SC ruled that meaningful **digital access** is a part of **Right to Life under Article 21.**
2. The judgment came in the case **Amar Jain v. Union of India & Ors,** filed by acid attack survivors and visually impaired persons.
3. Petitioners faced exclusion from **banking/welfare** due to **biometric-based e-KYC systems.**

What Was the Issue in the Case?

1. Petitioners challenged the exclusionary nature of **digital KYC systems.**
2. Biometric-based methods like **fingerprint and facial scans** are not accessible to many persons with disabilities (PwDs).
3. Acid attack survivors faced failures in **facial recognition** due to disfigurement.
4. **Visually impaired** users struggled with apps **lacking screen-reader support.**
5. As a result, they were denied access to **banking, welfare,** and **digital services.**
6. These exclusions violated their **Right to Dignity, Equality, and Access.**

7. Petitioners emphasized that the **system's design lacked reasonable accommodation, violating both constitutional rights** and **international obligations** under the **UNCRPD (United Nations Convention on the Rights of Persons with Disabilities).**

What Did the Court Rule and Direct?

1. The Court held that **access to digital platforms** is a constitutional guarantee under **Article 21**, not a privilege.
2. It emphasized that digital access is essential to live with **dignity** and to avail basic public and private services.
3. The Court issued strong directions to **revise e-KYC norms** to remove exclusionary practices.
4. It urged the **Reserve Bank of India (RBI)** and all regulated entities, including **private banks** and **fintech platforms,** to ensure **inclusive digital systems.**
5. These digital systems must comply with the **Rights of Persons with Disabilities (RPwD) Act, 2016.**
6. The Court mandated the **appointment of nodal officers** in all departments to monitor accessibility compliance.
7. It directed that **regular accessibility audits** be conducted by **certified professionals** to ensure continued compliance.
8. It also required the active involvement of **persons with disabilities (PwDs)** in the design of **digital infrastructure and platforms.**

Constitutional Basis and the Need for Substantive Equality:

1. **The ruling draws strength from multiple constitutional provisions:**
   - **a. Article 21:** The right to life includes dignified digital access.
   - **b. Article 14:** Denial of access to inclusive digital services violates the right to equality.
   - **c. Article 15:** Systems that fail to accommodate language or disability concerns amount to discrimination.
   - **d. Article 38:** The State must strive to minimize inequalities, including access to digital infrastructure.
   - e. The Court emphasized that **digital transformation** must not reinforce social exclusion but should actively promote substantive equality, where systems are designed to ensure inclusion for all, especially the most vulnerable.
2. **Past Judicial Precedents Strengthening Digital Rights:**
   - a. In **Maneka Gandhi v. Union of India (1978)**: The SC laid down that any restriction on Article 21 must be just, fair, and reasonable—a principle now extended to include digital exclusions.
   - b. In **Faheema Shirin RK v. State of Kerala (2019)**: The Kerala High Court held that internet access is part of the Right to Life and Education.
   - c. In **Anuradha Bhasin v. Union of India (2020)**: The Supreme Court recognized internet freedom as essential under **Article 19(1)(a) (speech) and Article 19(1)(g) (business):** Insisting on proportionality in any restriction.
   - d. These rulings establish that **digital rights** are intertwined with **civil liberties** and that access to the internet and digital infrastructure is now a necessary condition for full citizenship.

What is KYC and What are Its Digital Challenges?

1. **KYC (Know Your Customer)** is a mandatory identity verification process under the **Prevention of Money Laundering Act (PMLA), 2002.**
2. It requires **submission of documents** like **ID proof, address proof,** and **photographs for verification.**
3. The **Digital KYC system** increasingly relies on **Aadhaar-based e-KYC,** which includes **biometric verification** such as **fingerprint and facial recognition.**
4. The **Central KYC Records Registry (CKYCRR),** maintained by **CERSAI**, had over **94 crore KYC records** as of **September 2024,** showing the vast scale of digital reliance.
5. However, this digital dependence excludes those unable to provide fingerprints, such as persons with burn injuries or scars.
6. It also excludes people who can't align **their face for digital scans**, such as acid attack survivors or individuals with facial disfigurements.

7. Many individuals, particularly the **marginalized,** are unfamiliar with **uploading digital documents,** creating further barriers.
8. As a result, **digital KYC**, in its current form, risks becoming exclusionary, particularly for marginalized communities and persons with disabilities.

Measures Recommended for Inclusive Digital Empowerment:

1. Inclusive Digital Infrastructure:

a. Use **screen readers**, voice commands, and AI-based sign language translators.
b. Avoid biometric-only systems—offer audio/haptic navigation for those with facial injuries.
c. Mandate adherence to **Web Content Accessibility Guidelines (WCAG)**.

2. Targeted Digital Literacy:

a. **Expand PMGDISHA** (Pradhan Mantri Gramin Digital Saksharta Abhiyan) to include disability-specific modules.
b. Partner with institutions like **NIEPMD** and companies like **Google** or **Microsoft** to develop accessible training programs.

3. Smart City Accessibility:

a. Install digital signage in **Braille**, **audio**, and sign formats under the **Smart Cities Mission**.
b. Ensure accessible **public transport systems** and **navigation tools**.

4. Inclusive Innovation Labs:

a. Establish public-private tech hubs to create **low-cost assistive technology**.
b. Develop innovative tools for **digital onboarding** of **PwDs**.

4. MHA Organizes Civil Defence Exercise

Context:

1. The **Ministry of Home Affairs (MHA)** has decided to conduct a **Civil Defence Exercise** across **244 Civil Defence Districts** in the country.
2. **Civil Defence Districts:** These are districts considered vulnerable to enemy attacks due to their **strategic and tactical importance.**

Civil Defence Exercise

1. The **Civil Defence Exercise** is designed to assess how civilians and government systems respond during emergencies, such as **war, missile attacks, aerial strikes, or disasters.**
2. The exercise evaluates the **operational effectiveness and coordination** of various **Civil Defence measures**, including:
   a. Testing the effectiveness of **air raid warning systems.**
   b. Ensuring the **operational readiness of Hotline or Radio Communication Links** with the Indian Air Force.
   c. Assessing the **functionality of control rooms.**
   d. Training civilians and students to protect themselves in case of **hostile attacks.**
   e. Reviewing provisions for early **camouflaging of vital installations** and rehearsing evacuation plans.
3. The last similar drill was conducted before the **1971 India-Pakistan war.**

Civil Defence Provisions in India

1. The **Civil Defence Act, 1968** was passed after the **India-China War** (**1962**) and the I**ndia-Pakistan War (1965)**.
2. The Act provides measures to **protect people**, **property**, and **places** from **hostile attacks** (air, land, sea, or other sources).
3. It authorized the **formation** of the **Civil Defence Corps** and the creation of rules and regulations for **Civil Defence**.

Conclusion

The Civil Defence Exercise initiated by the Ministry of Home Affairs marks a significant step in strengthening national preparedness against hostile threats and disasters. By conducting this large-scale drill across 244 strategically important districts, the government aims to ensure effective coordination between civilians and defence systems, enhance operational readiness, and revisit critical safety measures last emphasized before the 1971 war.

5. Article 143 of the Indian Constitution

Context

1. President Droupadi Murmu recently, has used **Article 143** to seek the Supreme Court's advisory opinion on whether the Court can set deadlines for the President and Governors to act on Bills sent by state legislatures.
2. This follows a recent SC's ruling that fixed a **3 month deadline** for such decisions and introduced the idea of **'deemed consent'** if no action is taken within that period.
3. The President's reference includes **14 questions** challenging the Court's authority to impose these timelines, making this a rare and significant use of **Article 143**.

About Article 143

1. **Presidential Reference Power**: Article 143 gives the President the power to **seek legal advice** from the Supreme Court on **important legal or factual matters** that concern the nation.
2. **Advisory Role of Supreme Court**: This article allows the **Supreme Court to act as an advisor** to the President. It does **not give a binding judgment**—just an opinion.
3. **Types of Questions**: The question referred must be of **public importance**, and it can be either an existing issue or something likely to arise in the future.
4. **Disputes Between Governments**: Even in **inter-state disputes** or disputes between the **centre and states**, which normally fall under **Article 131**, the President can seek the **Court's opinion** under Article 143(2).
5. **Court's Discretion and Procedure**: The Supreme Court can **choose how to hear the matter**, and after the hearing, it will **send its opinion to the President**. However, the government is **not obligated to follow** this opinion.

Way Forward

1. The **Supreme Court** cannot overturn its **April 8** decision through a presidential reference under Article 143.
2. In its **Cauvery Water Disputes Tribunal of 1991** opinion, the Court made it clear that **Article 143** is not meant for the executive to seek a review or reversal of established **Supreme Court judgments.**
3. The Court cannot use a **presidential reference** to sit in appeal over its own settled decisions. However, the government can still seek a **review** or file a **curative petition** against the April 8 ruling.
4. Since the judgment was by a **two-judge bench** and similar cases are pending **(Kerala and Punjab)**, a larger Constitution Bench might eventually reconsider the issue.

6. DTAB Approves Sub-Committee Report to Prohibit 16 Irrational FDCs

Context

1. In May 2025, the **Drugs Technical Advisory Board (DTAB)** approved a **sub-committee report** recommending a ban on **16 Fixed-Dose Combinations (FDCs).**
2. The sub-committee found these combinations irrational and **potentially harmful** to human health.

What is DTAB (Drugs Technical Advisory Board)?

1. It is a **statutory body constituted** under the Drugs and Cosmetics Act, 1940.
2. It advises the **Central and State Governments** on technical matters related to the **manufacture, sale,** and **regulation of drugs.**
3. It plays a key role in ensuring **drug safety, efficacy,** and **regulatory compliance** in India.

What are Fixed-Dose Combinations (FDCs)?

1. **FDCs** are pharmaceutical products containing 2 or more active pharmaceutical ingredients in a single dosage form.
2. They are commonly used in the treatment of chronic conditions such as **diabetes, tuberculosis, and hypertension.**
3. They help to reduce pill burden and improve patient adherence to treatment regimens.

Why are these FDCs Being Banned?

Reason	Details
Lack of Proper Clinical Trials	Many FDCs were approved without adequate testing, relying only on the prior approval of individual components. The 2019 New Drugs and Clinical Trial Rules require that FDCs be treated as new drugs needing independent evaluation.
Irrational Drug Composition	Some FDCs include unnecessary or redundant drugs that do not contribute to therapeutic value and may increase the risk of adverse effects and drug interactions.
Antibiotic Resistance	Overuse of antibiotic-based FDCs accelerates antimicrobial resistance (AMR). A 2023 study noted that the share of antibiotic FDCs in India rose from 32.9% (2008) to 37.3% (2020).
Price Control Evasion	Pharmaceutical companies often create irrational FDCs to bypass price controls by marketing them as new combinations not listed under essential drug price caps.

Significance of the Ban

1. The move aims to strengthen **drug regulation** and ensure the **rational use of medicines** in the interest of public health.
2. It aligns with global standards of **drug safety and efficacy.**
3. It reflects evidence-based policymaking in the **Indian pharmaceutical regulatory framework.**

Challenges in FDC Regulation

1. **Fragmented regulatory jurisdiction** between Central and State authorities.
2. Inadequate **post-market surveillance** and **pharmacovigilance systems.**
3. Legal hurdles and industry lobbying against regulatory actions.
4. Limited public awareness about the risks of irrational drug combinations.

Way Forward

1. Strengthen institutional capacity of **Central Drugs Standard Control Organisation (CDSCO)** and **State Drug Authorities.**
2. Ensure mandatory clinical trials for all new FDCs.
3. Create **awareness campaigns on rational drug** use among prescribers and the public.
4. Introduce **stricter penalties** for **non-compliance** and streamline drug approval processes.

7. India's Press Freedom Ranking in 2025

Context

1. India ranked **151st out of 180 countries** in the **World Press Freedom Index 2025**, moving up from **159th in 2024 and 161st in 2023.**
   a. Despite this improvement, India remains in the **"very serious" or "severe" category,** indicating ongoing concerns about media autonomy and freedom.
   b. The **World Press Freedom Index** is published annually by **Reporters Without Borders (RSF),** a global media watchdog.

Key Highlights from Global Press Freedom 2025

1. **Norway, Estonia,** and the **Netherlands** lead the index, benefiting from strong legal protections and a diverse, independent media.
2. **Eritrea, North Korea, China, and Syria** are at the bottom, where press freedom is severely restricted or absent.
3. Over **half the world's population** now lives in countries classified as **"red zones,"** where journalism is considered **"very serious" or "difficult".**
4. This category is the **lowest category** in the index. It means that **journalists** in that country face **major obstacles**, such as:
   a. Regular **government or political interference** in news reporting.
   b. Restrictive **laws or harsh punishments** for journalists.

c. High risk of **threats, violence,** or **even death** for reporting on sensitive issues.
d. Economic or social pressures that force journalists to self-censor or avoid certain topics.
e. Media ownership concentrated in the hands of a few, **reducing diversity** and **independence.**

5. India ranks lower than **Nepal, Maldives, Sri Lanka, and Bangladesh,** but higher than **Bhutan, Pakistan, Myanmar, Afghanistan, and China.**

What are the key challenges before Indian and Global Media?

1. **Economic Survival vs. Editorial Independence:** Many news organizations struggle to maintain editorial integrity while facing financial pressures, often leading to self-censorship or reliance on government/corporate funding.
2. **Tech Giants' Dominance:** Companies like Google, Facebook, and Amazon absorb a large share of advertising revenue, undermining the financial sustainability of traditional journalism.
3. **Legal and Physical Threats:** Journalists face lawsuits, harassment, and violence, making it difficult to report without fear.

What are the main factors affecting India's Press Freedom Ranking?

1. **Political Influence:** Concentration of media ownership among political and corporate entities threatens diversity and independence.
   a. Journalists in India face threats, violence, and intimidation, which impacts their ability to report freely.
2. **Economic Pressures:** Financial instability and dominance of tech giants in advertising revenue have weakened the media's economic base.
3. **Legal Challenges:** Restrictive laws, criminal defamation, and regulatory hurdles limit journalistic freedom and encourage self-censorship.
4. **Media Plurality:** The growing monopoly of a few media houses reduces the diversity of viewpoints and increases the risk of biased reporting.

What are the potential measures to uphold Press Freedom in Indian Society?

1. **Ensuring Journalists' Safety:** Government needs to provide more adequate security and legal support to journalists facing threats or attacks, and hold perpetrators accountable.
   a. Need to provide financial assistance and regulatory support to independent media organizations to reduce their dependence on external influences.
2. **Promoting Principled Journalism and Media Literacy:** Promote media literacy programs to educate the public on discerning credible information from propaganda and misinformation.
   a. Encourage media outlets to adhere to professional ethics and standards, fostering a culture of integrity and accountability.

Way Forward

1. India's Ranking is up, but problems remain. In many countries, journalists are under pressure from governments, businesses, and even criminals. Many places in the world are now considered "dangerous" for journalism.
2. Press freedom needs to improve, news organizations need to be financially independent, have diverse ownership, and get better legal protection.

8. Panchayat Advancement Index (PAI) : Using Local Data for Better Governance

Context

1. In recent years, the absence of timely **Census data and lack of accessible, time-series datasets has been a major concern for policymakers and researchers.**
2. This has created **gaps in reliable information for planning and decision-making** at all levels of government.
3. Though several ministries collect large amounts of data and policies like the **National Data Sharing and Accessibility Policy (NDSAP), 2012** aim to make such data public.
4. But, there are still issues with how this data is presented and used.

Problems with Current Data Systems

1. Data available on government portals like **data.gov.in** is often **too complex** or not easy to understand.
2. Visual tools to make **data more clear and usable** are **limited** or **underdeveloped**.
3. As a result, decisions at Union and State levels are still often made based on **past experience or personal judgement, not evidence.**
4. At the local level especially at the **Gram Panchayat (GP),** block, or district — data is mostly collected only for higher authorities and is not used effectively at the grassroots.

Introduction to Panchayat Advancement Index (PAI)

1. To address these gaps, the government launched the **PAI Baseline Report 2022-23,** released by the Ministry of Panchayati Raj in April 2025.
2. PAI is a tool that helps measure the **performance** of **Gram Panchayats** using local-level data across different development areas.
3. It is based on **435 indicators** (331 mandatory and 104 optional) and uses 566 different data points, across 9 themes related to the Localization of Sustainable Development Goals (LSDGs).
4. The data is aligned with the **National Indicator Framework (NIF) developed by the Ministry of Statistics and Programme Implementation.**

Coverage and Data Validation:

1. The index includes validated data from over **2.16 lakh Gram Panchayats (GPs)** across India.
2. However, about **11,000 GPs** could not be included due to missing or unverified data.
3. While 25 States/UTs submitted nearly **100% data**, **Uttar Pradesh** only submitted data for **23,207 out of 57,702 GPs (around 40%)**, which raises concerns about transparency and development planning in the state.

Performance Classification (2022–23):

Category	Score Range	% of GPs
Achiever	90+	0%
Front Runner	75–89.99	0.3%
Performer	60–74.99	35.8%
Aspirant	40–59.99	61.2%
Beginner	Below 40	2.7%

What Makes PAI Different?

1. Unlike earlier data systems, PAI focuses on local results.
2. It helps **Panchayats and communities** see how they are performing in specific areas like health, education, sanitation, water supply, and more.
3. Even a sarpanch or ward member can understand their GP's performance with basic help, and identify what needs to be improved.
4. The PAI portal allows local leaders and even **MPs or MLAs** to see data and plan actions for their areas.

Significance of PAI:

1. PAI connects data directly with development outcomes.
2. For example, if a GP is marked low in "Healthy Panchayat" indicators, the areas that need improvement are clearly shown.
3. This helps all those involved — citizens, local leaders, health workers, and government officials to focus their work where it's needed most.
4. Good coordination between departments and local representatives is found to be a major factor in better GP performance.

9. Rights of Scheme Based Workers

Context:

1. **Scheme-Based Workers (SBWs)** like **Anganwadi Worker (AWW), Anganwadi Helper (AWH), ASHA (Accredited Social Health Activist),** and **Mid-Day Meal Worker** struggle for recognition as formal workers.
2. Despite playing a vital role in delivering government **welfare schemes,** they continue to **face denial of basic labour rights** such as **minimum wages, job security**, and **social security benefits.**

Key Highlights

1. The Indian government depends on a huge workforce to run its social welfare schemes.

2. These include workers like **Anganwadi workers (AWWs), Anganwadi helpers (AWHs),** ASHAs (Accredited Social Health Activists), and Mid-Day Meal Workers.
   a. There are around 60 million people working in such roles.
   b. These workers play a crucial role in implementation of the several government schemes like Integrated Child Development Services (ICDS), **National Rural Health Mission (NHRM)** and Mid-Day Meal Scheme etc.
   c. These workers perform essential tasks like helping pregnant women and young children stay healthy, improving nutrition, and helping children attend school regularly.

Difference between AWW, AWH, ASHA and Mid-Day Meal Worker:

Aspect	Anganwadi Worker (AWW)	Anganwadi Helper (AWH)	ASHA (Accredited Social Health Activist)	Mid-Day Meal Worker
Affiliated Scheme	Integrated Child Development Services (ICDS)	ICDS	National Rural Health Mission (NRHM)	Mid-Day Meal Scheme
Key Responsibilities	Growth monitoring- Health referrals- Preschool learning- Record-keeping	Cooking- Cleaning- Assisting AWW- Bringing children to AWC	Promotes institutional deliveries- Immunization- Family planning- Nutrition awareness	Cooking meals- Serving children- Ensuring hygiene
Employment Status	Not formal government employee	Not formal government employee	Not formal government employee	Not formal government employee
Social Security Benefits	Limited; some get gratuity (as per SC ruling)	Very limited	Very limited; no pension or insurance	Very limited

What did the Courts Say?

1. In **2006, the Supreme Court** said **Anganwadi workers** are not government employees because they don't hold official posts.
2. In **2022,** the Supreme Court said **Anganwadi workers** are eligible for gratuity (a retirement benefit).
3. In **2024**, the **Gujarat High Court** said these workers do very important work. It asked the central and state governments to pay them **minimum wages** and work on making them **regular employees.**

What are the Challenges Associated with Scheme Based Workers?

1. **No official worker status:** They are not legally recognised as government employees, so they miss out on many rights.
2. **Low and irregular pay:** They are often paid very little, and sometimes their payments are delayed.
3. **Lack of job security:** Their jobs are not permanent, so they can be removed anytime without much protection.
4. **No social security benefits:** They do not get benefits like pension, provident fund, or health insurance.
5. **Ignored by policy makers:** Governments delay decisions or avoid making strong policies to support these workers.
6. **No fixed system for wage hikes:** There is no clear rule on when or how their wages will be increased.
7. **Risk of privatisation:** Some schemes like ICDS are slowly being handed over to private players, risking employment and benefits.
8. **Physical and emotional stress:** They work long hours doing important jobs like childcare and health services, but do not get the respect or support they deserve.

Way forward

1. **Give them official worker status:** The government should recognise them as formal workers, not just volunteers, so they get equal rights and dignity.
2. **Ensure fair and regular wages:** A fixed, minimum wage should be set for all SBWs, and payments must be made on time.
3. **Provide job security:** Their jobs should be made permanent with clear terms and protection from sudden removal.
4. **Extend social security benefits:** SBWs should get benefits like pension, health insurance, maternity leave, and provident fund just like other government employees.
5. **Create a national policy for SBWs:** A clear and common national policy should be made to ensure uniform treatment of SBWs across all states.
6. **Include SBWs in labour laws:** Existing labour laws should be extended to include SBWs, or new special laws should be made for them.
7. **Protect public welfare schemes from privatisation:** Government should not hand over schemes like ICDS to private players, to ensure job safety and service quality.
8. **Set up grievance redressal systems:** Easy and fast complaint resolution systems should be made to help workers when they face problems.

10. Govt Officials With Disabilities to Get 4% Quota In Housing Pool

Context:

1. Recently, in **May 2025**, the **Ministry of Housing & Urban Affairs** announced a landmark policy reserving **4%** of central government housing for **Persons with Disabilities (PwDs)**.
   a. It aligns with the vision of **Sabka Saath**, **Sabka Vikas** and the goals of the **Sugamya Bharat Abhiyan** (Accessible India Campaign).

What was the necessity for this Reservation?

1. **Long Waiting Periods for Housing:** Disabled government officials, especially at the **Assistant Section Officer (ASO) level,** often faced waiting times of up to **15–18 years** to secure **government accommodation** due to severe shortages.
   a. Even when housing was available, it was frequently not designed or modified to be **accessible for persons with disabilities.**
   b. This forced many to live in hostels or away from their families, impacting their **quality of life and workplace participation.**
   c. Now, with the new **reservation system, priority allotment is ensured for PwDs.**
2. **Bureaucratic and Social Barriers:** Enforcement of **accessibility standards** (gentle slopes, non-skid surfaces, and handrails) was **inconsistent**, and officials often did **not prioritize the needs of disabled applicants.**
   a. However, the PwDs routinely encountered **bureaucratic delays**, **lack of awareness among officials, and social stigma.**
   b. While the Rights of **Persons with Disabilities (RPwD) Act, 2016**, mandates equal opportunities and accessibility, its implementation in housing lagged behind.
   c. The absence of a formal **reservation or priority system** meant that disabled officials were not guaranteed timely.
   d. With the new reservation system, there is provision for well established and **clear guidelines and monthly priority listing.**
3. The **4% reservation** is intended to promote **social inclusion, ensure dignity,** and empower persons with disabilities to participate fully in public service and society.

Who are the Beneficiaries?

1. The presently declared reservation applies to the allotment of **General Pool Residential Accommodation (GPRA),** which covers government housing from Assistant Section Officer (ASO) to Director level (up to Type 5 houses).
2. The reservation covers over **1.02 lakh GPRA units across 355 locations in 61 cities.**
3. The **Directorate of Estates (Min. of Housing and Urban Affairs)** is ensuring that eligible government servants with benchmark disabilities (as defined by the RPwD Act of 2016), are prioritized in the monthly online housing allotment process.

4. Proof of eligibility will be established through the **Unique Disability ID (UDID) card** issued by the government.

What is Sugamya Bharat Abhiyan? (Accessible India Campaign)

1. The earlier **Persons with Disabilities Act of 1995** focused on welfare but did not give enough attention to making public spaces accessible or empowering people with disabilities to demand their rights.
   a. India is a signatory to the **UN Convention on the Rights of Persons with Disabilities (UNCRPD),** which means it has promised to create an accessible environment for all.
   b. To bring accessibility to the forefront of **National Development, 'Sugamya Bharat Abhiyan' - a flagship initiative** was launched in **December 2015.**
   c. It is rooted in the vision of **"Sabka Sath, Sabka Vikas, Sabka Vishwas,"** the campaign which ensures inclusive development.
2. The campaign was originally planned to end in March 2024, but its goals are now part of a larger government scheme called the **'Creation of Barrier-Free Environment',** under the **Scheme for Implementation of the Rights of Persons with Disabilities Act (SIPDA).**
3. This shows that making India accessible is an ongoing process, not a one-time effort.
4. As the **Sugamya Bharat Abhiyan** marks its 9th year, it stands as a milestone in India's journey towards fulfilling its commitment to an inclusive and equitable society.

Conclusion

By focusing on strict **enforcement and monitoring, Universal design standards**, and building a continuous policy review mechanism, India can ensure that the 4% reservation becomes a model for inclusive development, empowering persons with disabilities to live with dignity and independence in every sphere of life.

11. Maternity Leave Part Of Reproductive Rights

Context:

1. Recently, in **May 2025**, a landmark judgment - **K. Umadevi v. Government of Tamil Nadu,** the Supreme Court of India declared that maternity leave is an essential part of a woman's reproductive rights.
   a. This decision came after a Tamil Nadu government school teacher was **denied maternity leave for her third child,** as state rules allowed such leave only for the **first two children.**
   b. The teacher argued that she had not availed any maternity benefits for her **first two children,** born before **she joined government service.**

Why is Maternity Leave a Reproductive Right?

1. **Integral to Maternity Benefits:** The Supreme Court held that maternity leave is not just a workplace benefit but a core aspect of a woman's reproductive rights. It is crucial for the health, well-being, and dignity of both mother and child.
2. **Constitutional Provision and protection:** The right to reproductive choices, including maternity leave, falls under Article 21 of the Indian Constitution, which guarantees personal liberty and dignity.
3. This was earlier established in the **Suchita Srivastava v. Chandigarh Administration (2009) case.**
4. **Human Rights Perspective:** Reproductive rights are recognized globally as part of **international human rights law**, including the **Universal Declaration of Human Rights (UDHR)** - covers health, privacy, equality, non-discrimination, and dignity.

Maternity benefits as a fundamental human right

1. The Supreme Court stated that maternity leave is not just a workplace perk or a **statutory benefit**, but a core part of a **woman's reproductive rights**—protected by the Constitution.
2. The court explained that a **woman's right** to make reproductive choices is central to her **dignity and autonomy.**

3. **Denying maternity leav**e harms a woman's emotional and physical well-being and undermines her status and equality in society.
4. The court made it clear that **no institution or state policy** can override these **fundamental rights** by imposing arbitrary restrictions, such as **limiting maternity leave** based on the number of children.

Implications and linkages of this judgement

1. **Universal and Non-Discriminatory Access:** All women employees (permanent/ temporary/ contractual/ daily wage) will be entitled to maternity leave as a matter of right—not just by contract or statute, but as an extension of the right to life and personal liberty under Article 21 of the Constitution.
2. **Stronger Legal Protection and Enforcement:** Any denial of maternity leave can be directly challenged as a violation of fundamental rights, making it subject to **judicial review and Constitutional remedies.**
   a. Courts can strike down state or employer policies that conflict with this right, ensuring women have a clear legal pathway to enforce their entitlements.
3. **Alignment with International Human Rights:** The judgment brings India's legal framework closer to international standards on **women's rights and workplace equality,** reinforcing commitments under treaties like the **Universal Declaration of Human Rights.**
4. **Social Justice and Gender Equality:** This recognition promotes social justice by protecting the dignity of motherhood and addresses workplace gender discrimination to foster a more inclusive, equitable environment for women.

Conclusion

Historically, many countries have used maternity benefits as tools for population control, often restricting access based on the number of children. SC's present ruling challenges this approach, emphasizing that reproductive rights—including maternity leave—should not be subject to coercive state policies but should empower women to make free, informed choices about their bodies and families.

12. Mediation: Tool to Achieve Viksit Bharat 2047 Vision

Context:

1. The **President of India** emphasized the crucial role of mediation in realizing the goal of Viksit Bharat by 2047.
2. He was addressing the **First National Conference on Mediation,** held in New Delhi.
3. The event also witnessed the launch of the **Mediation Association of India** to institutionalize and promote mediation across the country.
4. The Association will work towards making **mediation a preferred, structured, and easily accessible method for resolving disputes.**

What is Mediation?

1. Mediation is a form of **Alternative Dispute Resolution (ADR)** alongside Arbitration and Conciliation.
2. It involves a neutral third party (mediator) helping the disputing parties communicate and reach a voluntary settlement.
3. Between **2016 and early 2025, over 7,57,173 cases** were successfully resolved through mediation in India.

Mediation vs Arbitration vs Conciliation

Aspect	Mediation	Arbitration	Conciliation
Nature	Voluntary and informal	Formal and legally binding	Voluntary and informal
Third Party Role	Mediator facilitates dialogue without imposing a decision	Arbitrator acts like a judge and delivers a binding verdict	Conciliator suggests solutions and may propose a settlement
Binding Decision	No	Yes	No
Enforceability	Not enforceable unless converted into a contract	Legally binding and enforceable	Not enforceable unless parties agree to it

Conclusion

Mediation plays a vital role in creating a just, inclusive, and harmonious society, which is essential for achieving the vision of **Viksit Bharat by 2047.** As a voluntary and collaborative process, it empowers individuals to resolve disputes amicably without **lengthy legal battles.** Unlike **arbitration or conciliation, mediation focuses** on **mutual understanding and long-term relationships**, making it ideal for **civil, commercial, and even community conflicts**. The launch of the **Mediation Association of India** marks a significant step toward institutionalizing this mechanism and promoting access to affordable,

13. The Lancet Study on Sexual Violence Against Children (SVAC) – May 2025

Context

1. In **May 2025,** A comprehensive global study by **The Lancet,** led by the **Institute for Health Metrics and Evaluation (IHME)** at the **University of Washington School of Medicine,** has examined the **prevalence of sexual violence** against children and adolescents across **204** countries from **1990 to 2023.**
2. It is a part of the **Global Burden of Disease Study,** focusing on first exposure by age and sex.

What is Sexual Violence Against Children (SVAC)?

1. **Sexual Violence Against Children (SVAC)** refers to any sexual act, attempt to obtain a sexual act, or other act directed against a **child's sexuality using coercion, threats, deception, or force** regardless of the relationship to the child.
2. It includes abuse that occurs both **in-person and online**, and can be committed by adults or peers.
3. According to **global legal standards**, a child is anyone under **18 years of age** (as per the UN Convention on the Rights of the Child).

Key Findings of the Study

1. **Age of First Sexual Abuse:**
   - **a. Age at First Abuse (Among 13–24-year-old survivors):**
     - i. Before 18: 67% (females), 72% (males)
     - ii. Before 16: 42% (females), 48% (males)
     - iii. Before 12: 8% (females), 14% (males)
   - **b. Nearly 50% of sexual abuse** cases begin at age **15 or younger.**
2. **Global Prevalence (Before Age 18)**
   - a. 18.9% of women (≈1 in 5)
   - b. 14.8% of men (≈1 in 7)
   - c. No significant change since 1990, indicating systemic failure.
3. **Highest SVAC Prevalence by Region**
   - a. Women: South Asia – ~27%
   - b. Men: Sub-Saharan Africa – ~19%
4. **Country-specific Data (Before Age 18)**
   - a. India has one of the highest prevalence rates globally for women.

Country	Women (%)	Men (%)
India	31%	13.5%
USA	28%	16%
UK	24%	17%

Challenges:

1. **Underreporting and Social Silence**
   - a. Stigma and fear of being ostracized silences victims and families.
   - b. Cultural taboos prevent open conversations on sexual violence.
   - c. Low legal awareness in rural and marginalized communities.
2. **Patriarchal Norms and Toxic Masculinity**
   - a. Gender-based power imbalances promote impunity for abusers.
   - b. Societal conditioning reinforces male dominance and female subjugation.
   - c. Resistance to gender sensitization initiatives at the community level.
3. **Inadequate Institutional Response**
   - a. Poor enforcement of laws like POCSO and JJ Act.
   - b. Insufficient number of child-friendly courts and lack of trained professionals.
   - c. Delayed trials, retraumatization during legal procedures.
4. **Data and Monitoring Deficits**
   - a. Lack of standardized national database on SVAC cases.

b. Variation in definitions and methodologies across agencies and states.
c. Difficulty in measuring real incidence due to the hidden nature of crimes.

5. Limited Access to Rehabilitation

a. Survivors face mental, emotional, and physical consequences without proper care.
b. Rehabilitation services are patchy, especially in rural areas.
c. Lack of victim compensation and long-term support mechanisms.

Way Forward

1. Strengthening Legal and Policy Enforcement

a. Ensure effective implementation of POCSO, JJ Act, and IPC provisions.
b. Set up fast-track courts for sexual offences against children.
c. Provide victim-witness protection, legal aid, and compensation schemes.

2. Enhancing Education and Sensitization

a. Integrate child rights and sex education in school curricula.
b. Conduct gender sensitization workshops for parents, teachers, police, and judiciary.
c. Launch nationwide awareness campaigns on safe touch, consent, and reporting mechanisms.

3. Developing Child-Friendly Systems

a. Train police and legal staff in trauma-informed and child-sensitive approaches.
b. Build child-friendly infrastructure in courts, police stations, and hospitals.
c. Make Childline 1098 more accessible and responsive.

4. Improving Data Collection and Monitoring

a. Create a centralized SVAC database with disaggregated data (age, gender, region).
b. Use standard definitions in alignment with international frameworks like CRC and UNICEF guidelines.
c. Mandate regular audits and reporting by child protection agencies.

5. Cross-Sectoral Collaboration

a. Foster coordination between health, education, legal, and social welfare departments.
b. Encourage public-private partnerships for community education and service delivery.
c. Engage youth volunteers and grassroots leaders in creating safe spaces for children.

6. Aligning with Global Commitments

a. Fast-track actions to meet SDG Target 16.2: ending all forms of violence against children.
b. Align policies with Convention on the Rights of the Child (CRC) and UNICEF frameworks.
c. Use global platforms to share best practices and innovations in child protection.

14. WAQF 2025 UMEED ACT

Context

1. Religious and charitable **institutions are organizations** created to promote religion, philanthropy, or public welfare.
2. These institutions may include **temples, mosques, churches, gurudwaras, mutts, waqfs, charitable trusts, and societies.**
3. Such institutions may run **hospitals, schools, hostels, dharamshalas, orphanages, or community kitchens.**
4. These institutions are protected under the **Constitution of India** and other specific laws.

Constitutional Provisions

1. **Article 25** of the Constitution guarantees the right to freely profess, practice, and propagate religion.
2. **Article 26** gives every religious denomination the right to manage its own religious affairs.
3. These rights include establishing and maintaining institutions for religious and charitable purposes.
4. However, these rights are subject to public order, morality, and health.

Legal Status and Formation

1. Religious and charitable institutions can be set up as public trusts, societies, or companies.
2. Public religious trusts are governed by state-specific Hindu Religious and Charitable Endowments (HRCE) Acts.

3. Tamil Nadu, Andhra Pradesh, Karnataka, Odisha, and other states have their own HRCE Acts.
4. These state laws regulate the functioning, finances, and administration of Hindu temples and related endowments.

Community-Specific Laws

1. Muslim religious endowments are governed by the Waqf Act, 1995, amended by the **Waqf (Amendment) Act, 2025.**
2. The Waqf Act provides for creation, registration, and regulation of waqf properties.
3. Christian religious institutions are generally managed under the Indian **Trusts Act, 1882**, or the **Societies Registration Act, 1860.**
4. Sikh gurudwaras in some states like Punjab and Delhi are governed under separate laws like the Sikh Gurdwaras Act, 1925, and the **Delhi Sikh Gurdwaras Act, 1971.**

Trusts, Societies, and Legal Registration

1. The Indian Trusts Act, 1882 governs private charitable trusts across India.
2. The Charitable and Religious Trusts Act, 1920 enables the government and public to obtain information about public trusts.
3. The Societies Registration Act, 1860 allows religious and charitable societies to register and function legally.

Tax and Financial Regulations

1. Section 12A and 80G of the Income Tax Act, 1961 provide tax exemptions to registered religious and charitable institutions.
2. The **Foreign Contribution Regulation Act (FCRA), 2010** regulates receipt of foreign funds by these institutions.
3. Institutions receiving foreign donations must register under FCRA and comply with reporting norms.

Use of Funds and Government Oversight

1. **Religious institutions** must ensure their income is used only for the intended religious or charitable purposes.
2. Misuse of funds or mismanagement can lead to state intervention or legal action.
3. The government may temporarily take over **management of religious institutions** if there is mismanagement or threat to public interest.
4. However, the government cannot interfere with the essential religious practices protected under **Article 26(b).**
5. The Supreme Court has ruled that secular aspects like finances and property management can be regulated.

Restrictions and Other Laws

1. **Religious conversion laws** in some states restrict the use of charitable institutions for forced or fraudulent conversions.
2. **Religious and charitable institutions** also have to comply with general laws like labour law, building rules, and health regulations.

Social Importance

1. These institutions play a crucial role in India's social fabric by offering services and preserving cultural and religious heritage.

Why the Waqf (Amendment) Act, 2025 was needed

1. **To prevent misuse of waqf land through fake claims:** Earlier, people could claim land was waqf based on long-time usage or verbal declarations. This allowed land grabbing and false encroachments in the name of religion.
2. **To remove ambiguity and bring legal clarity:** The original Act had vague terms like **"misconduct"** for removing mutawallis and allowed verbal waqfs. This led to inconsistent interpretation and misuse.
3. **To ensure only genuine Muslims can create waqf:** There was no requirement of being a practicing Muslim. Now, the amendment ensures only those who have followed Islam for at least 5 years and own the land can create waqf.
4. **To digitize and modernize waqf administration:** The earlier system lacked digital records, transparency, and public access. Now, all waqf records, surveys, and audits are required to be uploaded on a central portal.
5. **To include all Muslim sects equally:** Only Sunni and Shia waqfs were officially recognized. The amendment now includes Bohra and Aghakhani sects to ensure fairness and equal representation.

6. **To improve accountability in waqf management:** There were no clear penalties for not submitting audit reports or misusing property. The amendment introduces stricter penalties, jail terms, and personal accountability of officials.
7. **To link waqf registration with land revenue records:** Earlier, there was no cross-verification with government land records. Now, the Collector must verify ownership before registration, preventing illegal waqf of public land.
8. **To professionalize Waqf Boards and make them inclusive:** Previous Waqf Boards had no clear criteria for members. The new law requires qualified professionals, women, non-Muslims, and scholars from all sects to be included.
9. **To prevent political interference in religious matters:** The deletion of **Section 20A** removes the state government's power to control Waqf Boards through arbitrary directions, ensuring institutional autonomy.
10. **To bring uniformity across India:** Earlier, each state had slightly different rules or implementation practices. With all rulemaking now centralized, waqf governance will be consistent across the country.
11. **To align land acquisition with modern laws:** The old law still referred to the outdated 1894 Act. The amendment now mandates the use of the **2013 LARR Act,** ensuring fair compensation and transparency in acquisition.

What Is Amended In Waqf Act?

1. **Mutawalli – Appointment, Qualification, Disqualification**
   a. A mutawalli could earlier be appointed even by a verbal statement.
   b. After the amendment, mutawalli appointments must be written or officially recorded.
   c. No one can now claim mutawalli status without proper documentation.
   d. Only mutawallis of waqfs earning over **₹1 lakh annually** are eligible for State Waqf Boards.
   e. One mutawalli of a waqf earning over **₹5 lakh annually** is eligible for the Central Waqf Council.
   f. A mutawalli is disqualified if under **21 years of age.**
   g. A mutawalli is disqualified if convicted for a crime involving moral wrong and sentenced for two years or more.
   h. A mutawalli is disqualified if they have encroached on waqf property.
   i. A mutawalli is disqualified if they have misused waqf property or funds.
   j. A mutawalli is disqualified if inactive or not performing their duties.
   k. A mutawalli is disqualified if they have disrespected the Waqf Tribunal's orders.
   l. A mutawalli is disqualified if declared unfit by the Waqf Board.

Who Makes the Rules (Prescribed Authority)?

1. Earlier, most rules under the Waqf Act were made by state governments.
2. Now, all rules will be made only by the Central Government.
3. This makes waqf rules uniform for all states in India.

15. Crackdown on Dark Patterns: CCPA's New Guidelines

Context:

1. The **Central Consumer Protection Authority (CCPA)** has acted against websites and apps that try to fool users using tricky methods called **dark patterns.**

What are Dark Patterns?

1. Dark patterns are tricks used by websites or apps to make people do things they might not want to do. These include making purchases, sharing personal information, or subscribing to services.
2. These patterns exploit consumer **behavior and psychology** to serve the interests of platforms or sellers.

Types of Dark Patterns:

1. **False Urgency:** It makes people think an offer is ending soon or that only a few items are left, so they hurry to decide.
2. **Bait and Switch:** It is a practice of showing or advertising one **product or price** to attract people, but later changing it to something else when they try to buy it.

3. **Drip Pricing:** This means showing a low price at the beginning, but adding **extra hidden charges** later when the person is about to pay.
4. **Disguised Advertisements:** It is showing advertisements in a way that they look like **normal news or articles**, so people don't realize they are **ads.**
5. **Confirm Shaming:** This means using words that make people feel bad or guilty if they don't choose something. For example, saying **"No thanks, I don't want to save money"** makes the person feel wrong for not picking that option.
6. **Forced Action:** It reflects making users do something they don't want or need to do before they can move forward. For example, asking someone to sign up for a newsletter before they can download a file.
7. **Nagging:** Showing the same **pop-up or message** again and again, which disturbs the user while using a website or app.
8. **Interface Interference:** Designing a website or app in a way that quietly pushes users to choose certain options the company prefers without making it obvious. **Example:** Highlighting a "premium" plan with bright colors while making the "basic" plan hard to find.
9. **Subscription Traps:** They make it very easy for you to start a subscription, but very hard to stop it. Example: You can join with one click, but to cancel, you must search a lot or talk to authorities.
10. **Sneak into Basket:** Adding extra things to your shopping cart without asking you. Example: You choose one item to buy, but the website puts other things in your cart without telling you.

CCPA's Mandate and Enforcement:

1. These new norms apply to all **platforms, advertisers,** and **sellers** operating in India.
2. The **CCPA** has already found some **big online shopping websites** using these tricks. It has warned them to stop.
3. The intent is to protect consumer rights, promote informed **decision-making,** and ensure fair digital trade practices.

Why Does This Matters?

1. The increasing digitization of commerce has created a growing need for consumer protection in the online space.
2. Consumers often fall prey to these designed tricks without realizing its potential threat, leading to unintended **purchases, subscriptions, or data sharing.**
3. These rules help India join other countries to make sure online companies follow fair and honest rules.

Conclusion

The CCPA's action is an important step to make online shopping more fair and clear. As rules are more strictly followed, websites will have to change their design to follow these rules. This will help people trust online platforms more and make India's digital economy more honest and fair.

16. Ladakh's New Policies on Quota, Domicile Status, and Governance

Context:

1. Ladakh became a **Union Territory (UT)** in 2019 after the bifurcation of Jammu and Kashmir.
2. Following the abrogation of **Article 370 on August 5, 2019**, **Ladakhi civil society groups** demanded constitutional safeguards to protect their land, resources, employment, and identity.
3. Protests and shutdowns erupted over fears of outsiders and big businesses taking over local land and jobs.
4. There were 4 key demands by locals:
   a. **Statehood for Ladakh**
   b. **Inclusion in the 6th Schedule of the Constitution (tribal status)**
   c. **Job reservation for locals**
   d. **Separate Parliamentary seats for Leh and Kargil**
5. In response, the Centre has recently (June, 2025) notified a series of regulations aimed at addressing these issues, introducing new frameworks for domicile-based job reservation, language recognition, and local governance.

a. After all of this, A high-powered committee, headed by Minister of State Nityanand Rai, was formed in January 2023 to study these demands; its members met the Home Minister in May 2025 before finalizing the notifications.

6. The policy is an outcome of demands and consultations by local groups, including the **Leh Apex Body (LAB)** and the **Ladakh Buddhist Association.**
7. Despite these measures, the demand for **full Statehood for Ladakh** remains unresolved.

Key Policy Updates Notified

1. Reservation (Quota) Policy:

a. The **President of India, Droupadi Murmu**, notified the **Union Territory of Ladakh Reservation (Amendment) Regulation, 2025,** amending the **Jammu and Kashmir Reservation Act, 2004,** specifically for Ladakh.

b. The previous reservation cap of **50%** has been increased to:

i. Total reservation shall not exceed **85%** (excluding EWS reservations).

ii. Including **Economically Weaker Sections (EWS),** total reservation can reach **95%,** among the highest in India.

2. Comparison:

a. Meghalaya: 85% reservation for Scheduled Castes and Tribes (SC/ST)

b. Arunachal Pradesh: 80% quota for Scheduled Tribes (ST)

3. Ladakh's reservation breakup (as shared by Ladakh Buddhist Association President Cherring Dorjay Lakruk):

a. 80% for Scheduled Tribes (ST)

b. 4% for residents living along Line of Actual Control (LAC) / Line of Control (LoC)

c. 1% for Scheduled Castes (SC)

d. 10% for Economically Weaker Sections (EWS)

4. Population context: Ladakh has approximately **2.74 lakh** people, with around **80%** belonging to tribal communities (2011 Census).
5. Final categories and detailed rules to be notified soon by the Ministry of Home Affairs (MHA).

6. Domicile Criteria for Government Jobs:

a. Along with the reservation amendment, three other regulations were notified:

i. The Ladakh Official Languages Regulation, 2025

ii. The Ladakh Civil Services Decentralisation and Recruitment (Amendment) Regulation, 2025

iii. The Ladakh Autonomous Hill Development Councils (Amendment) Regulation, 2025

b. The **Ladakh Civil Services Decentralisation and Recruitment Amendment Regulation, 2025** replaces the term **"permanent resident of the State" (used in J&K laws) with "domicile of the Union Territory of Ladakh".**

c. 1st-time Domicile Requirement: Introduces a domicile requirement for government jobs in the UT of Ladakh.

d. Definition of Domicile: A person is a domicile if they have:

i. Resided in Ladakh for 15 years, OR

ii. Studied for 7 years AND appeared in Class 10 or 12 exams in Ladakh.

iii. Children of Central Government employees who served in Ladakh for at least 10 years.

iv. Children and spouses of existing domiciles.

e. Tehsildars will be empowered to issue domicile certificates based on these criteria.

f. This policy governs all Gazetted and non-Gazetted posts in the UT.

7. Hill Councils Composition and Women Reservation:

a. Amendment to the Ladakh Autonomous Hill Development Councils Act, 1997 mandates:

i. At least 1/3rd of the total seats in Hill Councils (Leh and Kargil) shall be reserved for women.

ii. The women's reservation seats will be allotted on a rotational basis to different territorial constituencies.

b. This is a significant step for gender representation in local governance.

8. **Official Languages and Protection of Local Languages:**
    a. **The Ladakh Official Languages Regulation, 2025 declares:**
        i. English, Hindi, Urdu, Bhoti, and Purgi as the official languages of Ladakh UT.
        ii. Institutional mechanisms will promote and develop other native languages: Shina (Dardic), Brokskat (Dardic), Balti, and Ladakhi.
9. This recognizes Ladakh's linguistic diversity and aims to protect endangered local languages.

Why are These Regulations Significant?

1. This is the 1st time the Centre has made a comprehensive effort to create specific governance and administrative frameworks for Ladakh since its separation from Jammu & Kashmir in 2019.
2. Since the government is unwilling to grant **6th Schedule** status (which would give greater constitutional autonomy to tribal areas), these regulations are an executive attempt to address long-standing Ladakhi demands.
3. By defining domicile criteria and creating a legal filter, the government has moved to reserve jobs for the local population, a core demand of the protest movement.
4. The recognition of **Bhoti and Purgi language** (mother tongues for many) and the promotion of other local dialects (Ladakhi, Balti) acknowledge the importance of cultural identity.
5. Reserving one-third of **LAHDC seats for women** is a significant step towards gender inclusivity in local governance.

Comparison with Existing Provisions & Jammu & Kashmir's Protections

1. **Departure from Borrowed Laws:** Before 2025, Ladakh largely followed adapted J&K laws (e.g., J&K Reservation Act, 2004; Civil Services Decentralization and Recruitment Act, 2010).
    a. These lacked Ladakh-specific domicile, job protection for locals, clear reservation caps, or recognition of Ladakhi languages.
    b. The 2025 regulations are a shift towards region-specific governance.
2. **Comparison with J&K Post-2019:**
    a. **UT of J&K**: Received domicile laws for government jobs, land ownership restrictions for outsiders, and a legislative assembly.
    b. **UT of Ladakh:**
        i. Has no legislature.
        ii. Until now, it had no job reservation policy for locals. (Addressed by new rules).
        iii. Still lacks legal land protection mechanisms.
3. While these regulations bring Ladakh closer to J&K's post-2019 protections, Ladakh still significantly lags in constitutional safeguards and autonomy.

Limitations and Shortcomings of the New Regulations:

1. **Lack of Constitutional Protection:**
    a. All new rules are made under **Article 240 of the Constitution**, which allows the President to make regulations for UTs without a legislature.
    b. These are executive decisions and can be amended or withdrawn by the Centre at any time.
    c. This is unlike the **6th Schedule,** which is a constitutional guarantee and offers permanent, robust protections.
2. **No Land Safeguards:**
    a. The most critical omission is the absence of any restriction on land ownership by non-domiciles.
    b. This is a major concern due to potential **large-scale tourism, infrastructure projects,** and Ladakh's fragile ecology and climate vulnerability.
3. **No Local Legislature or Law-Making Powers:**
    a. The Sixth Schedule provides for **Autonomous District Councils** with significant powers over land, forests, customs, education, etc.
    b. The LAHDCs in Ladakh, even with women's reservation, remain administrative bodies without legislative power.
4. **Symbolic Cultural Protection:**
    a. While local languages are recognized, there is no clear roadmap for their official use in education, governance, or the judiciary. This makes the recognition somewhat symbolic.

Way Forward

1. Move beyond executive orders under Article 240 by including Ladakh under the Sixth Schedule or granting Statehood to ensure permanent, robust safeguards.
2. Introduce legal restrictions on land ownership by non-domiciles to protect locals' land rights and preserve Ladakh's fragile ecology.
3. Give legislative and law-making powers to Ladakh Autonomous Hill Development Councils, similar to Sixth Schedule councils, for effective local governance.
4. Develop clear policies to integrate native languages into education, administration, and governance, moving beyond symbolic recognition.

17. Post-Retirement Jobs for Judges: CJI's Concern

Context:

1. Recently, **Chief Justice of India (CJI) B.R. Gavai** has openly stated his decision not to take any government job after he retires.
2. He also said that judges who join the government right after retiring or resign to enter politics face serious ethical questions and public criticism.
3. He shared these thoughts at a meeting in the **UK Supreme Court.**

CJI Gavai's Stance on Post-Retirement Jobs and Politics:

1. **Personal Commitment**: CJI Gavai has clearly decided not to accept any role or job from the government after he retires.
2. **Ethical Concerns**: He pointed out that when judges:
   a. Take another job with the government right after retirement, OR
   b. Resign to run in elections,
   c. It "raises significant ethical concerns and invites public scrutiny" (means it causes big moral worries and makes the public look at them closely).
3. **Impact on Public Trust:**
   a. A judge running for political office can make people doubt if the judiciary (courts) is truly independent and fair.
   b. This could look like a "conflict of interest" (where personal gain might affect fair judgment) or an attempt to please the government.
   c. The timing and type of these **post-retirement jobs** could make people lose trust in the honesty of the courts.
   d. It might seem like judges' decisions were influenced by the hope of getting a government job or being involved in politics later.
4. **Preserving Credibility:** To stop these doubts and keep the courts believable and independent, CJI Gavai said, "many of my colleagues and I have publicly pledged not to accept any post-retirement roles or positions from the government."

Judicial Independence and the Collegium System

1. **Judicial Independence is Key**: CJI Gavai strongly stated that "judges must be free from external control" (meaning they shouldn't be told what to do by outside forces).
2. **Collegium System**: He explained how the Collegium system (where judges appoint other judges) came about.
3. While he admitted there might be "criticism of the **Collegium system**," he stressed that "any solution must not come at the cost of judicial independence."

Transparency and Accountability Initiatives

1. **Instances of Misconduct:**
   a. The CJI admitted that "there have been instances of corruption and misconduct that have surfaced even within the judiciary" (meaning bad behavior or dishonesty has happened).
   b. He said such events naturally make people lose faith in the system.
2. **Rebuilding Trust:**
   a. To rebuild this trust, he said, the courts must take **"swift, decisive, and transparent action"** (quick, clear, and open steps) to fix these issues.
   b. He added that in India, when such problems have appeared, the Supreme Court has always taken immediate and right actions.

3. **Public Disclosure of Assets:**
   a. CJI Gavai praised the decision to make the personal wealth (assets) of Supreme Court judges public.
   b. He called this a **"significant step to bolster public confidence through transparency"** (a big step to boost public trust through openness).
   c. It also "promotes greater accountability and sets an example of **ethical leadership.**"
   d. He reminded that the Supreme Court itself has said judges, like other public officials, **"are accountable to the people" (responsible to the public).**
   e. The Court has a special online portal where judges' declarations of wealth are made public, showing that judges are willing to be checked, much like other government workers.
4. **Live-Streaming Court Cases:**
   a. He also mentioned the live broadcasting of important **Constitution-bench cases** as a step to "enhance public transparency" (make things more open to the public).
5. **Caution with Live Streaming:**
   a. However, he warned that live streaming must be used carefully because **"fake news or out-of-context court proceedings can negatively shape public perception"** (wrong information or parts of court cases taken out of context can make people think badly).
   b. He gave an example where a judge's light-hearted advice was twisted in the media to mean something negative, showing how easy it is for things to be misunderstood.

Importance of Legitimacy and Public Confidence:

1. **Credibility, Not Force**: CJI Gavai said that the courts gain their power and public trust "not through coercion of command but through the credibility earned by the courts" (not by forcing people, but by being trustworthy).
2. **Risk of Weakening Judiciary**: If public trust is lost, it risks making the judiciary weaker in its important constitutional role as the "ultimate arbiter of rights" (the final decider of people's rights).
3. **Call for Accessibility**: He stressed that transparency and accountability are democratic values.
4. In today's digital age, where information flows freely, the judiciary "must rise to the challenge of being accessible, intelligible, and answerable, without compromising its independence."
5. So, This summarises the ethical demand for modern public institutions to be open and understandable, while strictly adhering to their foundational principles.

What are Constitutional Rules for Retired Judges?

1. **Article 124(7) – Supreme Court Judges:**
   a. This rule stops a retired Supreme Court judge from working as a lawyer in any court or before any authority in India.
   b. **Purpose:** This restriction is meant to keep the judiciary independent and fair.
   c. **What's Missing:** However, the Constitution does not clearly stop retired judges from taking other jobs or positions after they leave office.
2. **Article 128 – Acting as a Judge Again:**
   a. The **Chief Justice of India (CJI),** with the President's permission, can ask a retired Supreme Court or High Court judge (who is qualified for the Supreme Court) to come back and act as a Supreme Court Judge.
3. **Article 220 – High Court Judges:**
   a. This rule stops retired **High Court judges** from working as lawyers in any court in India, except the Supreme Court and other High Courts.

What are Court Cases and Recommendations on Post-Retirement Jobs?

1. **Bombay Lawyers Association v. Union of India Case:**
   a. The Supreme Court rejected a **public interest case (PIL)** that asked for a mandatory "cooling-off period" of 2 years before retired judges could take new jobs from the government.
   b. The court said it was not its job to force such a rule; it's up to lawmakers to create a law.

c. **Key Point**:
   i. While rejecting the case, the court stressed how important it is to make a law to control post-retirement jobs for judges.
   ii. This means it's currently up to the individual judge or for a law to be made.

2. **14th Law Commission Recommendation:**
   a. This important legal body, led by **M.C. Setalvad** suggested that judges should not take government jobs after retiring.
   b. It also recommended having a **"Cooling-off Period"** after retirement, a time during which judges cannot accept certain appointments.
   c. **Current Situation:**
      i. Still, there is no specific rule that prevents judges from taking these positions.

How Judges are Appointed?

1. India follows a unique system called the **Collegium system**, developed through **Supreme Court rulings.**
2. This system faces criticism for lack of transparency, accountability, and allegations of nepotism.
3. However, attempts to reform the system, notably through the **National Judicial Appointments Commission (NJAC)**, were struck down by the Supreme Court, citing the need to preserve judicial independence.

What are Constitutional Provisions Governing Judicial Appointments

1. **Article 124(2): Appointment of Supreme Court judges.**
   a. The President appoints SC judges after consultation with CJI, and other judges of the SC and HCs as deemed necessary.
2. **Article 217(1): Appointment of High Court judges.**
   a. The President appoints HC judges after consultation with **CJI, Governor of the state**, and the **Chief Justice of the HC.**
3. Initially, these provisions gave substantial discretionary power to the executive (President and Council of Ministers) with "consultation" meaning advice that the executive could disregard.

18. CAG Conducts First Audit of Jal Jeevan Mission

Context:

1. Recently, The **Comptroller and Auditor General of India (CAG)** is currently carrying out a detailed audit of the Jal Jeevan Mission (JJM).
2. JJM is the government's program to provide tap water to all rural homes.
3. Reports from this audit are expected soon.

About the CAG Audit of Jal Jeevan Mission (JJM)

What is it?	It's an extensive performance audit of the Jal Jeevan Mission.
When did it start?	The process began about one and a half years ago after the CAG included it in its audit plan.
Period Covered	The audit looks at how JJM was implemented in states from the financial year 2019-20 to 2023-24.
Scope	It's a "horizontal audit," meaning it's being done across all states by CAG's local offices (Principal Accountant Generals/ Accountants General).
Status	Fieldwork is mostly done, and in some states, reports are being written. Reports from two states have already reached the CAG headquarters.
Next Step	Once finalized, the reports will be presented in the Legislative Assembly of the respective states.
Focus	The audit is at the state level (not national) because states lead the JJM's implementation. It covers all aspects of JJM, including planning, money spent, and reasons for cost increases.

Why Audit Now After 5 Years?

1. **Expenditure Level:** According to sources, the CAG usually picks a scheme for audit after 70-80% of its budget has been spent.
2. **JJM's Growth:** The JJM started in 2019-20. In its early years, less money was spent.
   a. The CAG chose to audit it after the first phase ended in 2023-24, when spending had significantly increased.

3. First Major Audit: This is the first big audit of the JJM since it began in 2019.
4. The last similar audit was for the National Rural Drinking Water Programme (NRDWP) in 2018 (which JJM replaced).

Related Concerns and Other Audits:

1. The Jal Jeevan Mission's estimated cost has more than doubled from its original plan of Rs 3.6 lakh crore to about **Rs 8.29 lakh crore.**
   a. The Jal Shakti Ministry (which runs JJM) asked for **Rs 2.79 lakh crore** in extra central funds, but only **Rs 1.51 lakh c**rore was approved by the Expenditure Finance Committee (46% less than requested).
   b. A report stated that a change in tender rules three years ago removed checks on spending, leading to cost increases of **Rs 16,839 crore for 14,586 schemes.**
2. **Other CAG Audits:** Besides **JJM, the CAG** is also conducting similar audits for other central schemes like:
   a. MGNREGS (reports also expected soon; last audited nationwide in 2013).
   b. Rashtriya Uchchatar Shiksha Abhiyan.
   c. Welfare of Building and other Construction Workers.
   d. Green India Mission.
   e. Smart City Mission.

About Jal Jeevan Mission (JJM):

1. The Union Budget 2025-26 has extended the Jal Jeevan Mission (JJM) until 2028, with a stronger focus on improving infrastructure quality and ensuring sustainable water supply through community involvement, known as **"Jan Bhagidhari."**

About Jal Jeevan Mission:

1. **Launch:** Prime Minister Narendra Modi launched JJM on August 15, 2019 by restructuring and subsuming the National Rural Drinking Water Programme (NRDWP).
2. **Initial Goal:** To provide tap water supply to every rural household by 2024, targeting 55 liters per person per day.
3. **Nodal Ministry:** Department of Drinking Water and Sanitation, Ministry of Jal Shakti.
4. **Funding pattern:** Centrally Sponsored Scheme (Centre and State)
   a. 90:10 for Himalayan and North-Eastern States.
   b. 100% for UTs.
   c. 50:50 for the rest of the States.

19. Delimitation and Representation in India

Context

1. There has been increasing discussion about a possible delimitation exercise in India.
2. Delimitation is the process of redrawing the boundaries of parliamentary constituencies.
3. If **parliamentary constituencies (PCs)** are allocated mainly based on population, southern States may lose seats.
4. This method could disproportionately affect southern States like **Tamil Nadu, Kerala, and Karnataka** because these States have followed strict family planning policies, resulting in lower population growth.
5. There is a bigger debate, should population or number of electors be the main basis for allocating parliamentary constituencies?

Key Highlights

1. **Population vs Electors Debate:**
   a. The main question is whether delimitation should be based on total population or on the number of registered electors.
   b. Population data includes everyone, including **children, migrants,** and those not registered to vote. In contrast, elector data only includes those who are eligible and registered to vote.
2. **Problems with Population as a Basis:**
   a. Census counts all people who stayed in a place for six months or more, even without proof of residence.
   b. Migrants are people who move from one place to another. They are counted in the population where they move to. But many of them do not change their voter registration. So, they are not able to vote in the new place.

c. Some places have more young people under the **age of 18**. These children cannot vote. So, even if the total population is high, the number of voters is low. This changes how many people can actually vote in that area.

3. **Electors Give a Clearer Picture:**
   a. Using elector data better reflects the actual number of voters in each constituency.
   b. It avoids the delay in waiting for the **Census.**
   c. It supports the idea of **"one person, one vote, one value".**
4. **Vote Value Varies Across India:**
   a. The value of a vote is inversely related to the number of electors in a constituency. The value of each vote goes down when there are more voters in a constituency.
   b. In 1951, southern States had higher vote values. This changed later but again improved in **2009, 2019, and 2024.**
   c. Union Territories, hilly States, and north-eastern States have had higher vote values from **1951 to 2024** because of their special conditions and minimum seat rules.
   d. The average difference in elector numbers between southern and other States has changed over time, showing a mixed pattern. For example: **Idukki (Kerala)** has far fewer electors than **Malkajgiri (Telangana)** and **Bangalore North.**
   e. A vote in Idukki is worth 4.5 times more than a vote in **Malkajgiri.**
5. **Southern States Already Overrepresented:**
   a. In 2024, the southern States had only **22.45%** of India's voters but they had **23.8% of Lok Sabha seats,** which is more than their share of voters. Their seats in the **Rajya Sabha** is **24.4%,** which is even higher.
   b. The opposite is true for the other States. They have more voters but fewer seats. Their share of **Lok Sabha and Rajya Sabha seats** is less than their **share of voters.**
   c. The situation is the other way around for the other States. These States have **71.2%** of India's voters, but only **67.4% of Lok Sabha seats.** Their Rajya Sabha share is even lower at **64.4%**. For example, Tamil Nadu has **39 Lok Sabha seats**, which is less than **Bihar (40)** and **West Bengal (42)** but Tamil Nadu has 18 Rajya Sabha seats, while Bihar and West Bengal each have only 16.
   d. According to experts, a fairer way is to give seats based on the number of voters, not just population.

Significance

1. **Fair Representation:** Using electors instead of population ensures that seats are given where actual voters live, not just where people are counted.
2. **Strengthens Democracy:** It promotes equality by ensuring each vote has equal value across the country.
3. **Timely Adjustment:** Elector data is regularly updated, unlike the Census which happens once a decade.
4. **Reflects Urban Migration Trends:** With increasing urbanisation and migration, elector-based delimitation captures where voters actually reside and vote.
5. **Avoids Penalising Population Control:** Southern States should not lose seats for effectively following population control policies, using elector-based allocation helps to prevent this.

Challenges and Way Forward

Challenges	Way Forward
1. Resistance from States fearing loss of seats.	1. Clear communication and consensus-building among States and political parties.
2. Migration not reflected in voter registration.	2. Improve and simplify voter re-registration processes for migrants
3. Inaccurate or outdated electoral rolls.	3. Regularly clean and update electoral rolls with use of technology.
4. Risk of ignoring minimum representation for small States and UTs.	4. Continue to protect minimum seat guarantees for small and hilly States
5. Political misuse of the population control narrative	5. Reframe the debate around democratic fairness and equal vote value.
6. Delay in Census data availability.	6. Promote use of real-time elector data from Election Commission for delimitation

B. International Relations

1. Persian vs Arabian: Trump's Gulf Name Controversy

Context:

1. Former US President Donald Trump is reportedly considering a significant symbolic move — renaming the Persian Gulf to either the **Arabian Gulf or Gulf of Arabia** in official US government references.
2. This proposal, discussed ahead of Trump's scheduled Middle East trip to Saudi Arabia, Qatar, and the United Arab Emirates, has triggered sharp reactions, particularly from Iran.

What Is the Persian Gulf and Why Does the Name Matter?

1. The Persian Gulf is a geopolitically vital body of **water situated between Iran and the Arabian Peninsula.**
2. Historically, it has been called the **Persian Gulf** since at least the 16th century and even earlier during Roman times.
   a. The name reflects **Persia's ancient maritime and imperial legacy,** making it a matter of **national identity and pride** for Iran.
   b. The Gulf is crucial for global oil transport, maritime trade, and regional military strategy.
3. However, **Arab nations** including Saudi Arabia, UAE, Qatar, and Iraq prefer the term Arabian Gulf, claiming it better represents their geographic and political presence on the western shores of the Gulf.

Why Is Trump Considering a Name Change?

1. President Trump's intention appears to be part of a broader effort to **strengthen US ties with Gulf Arab nations**, especially in the context of:
   a. Middle East peace negotiations
   b. Iran's nuclear program
   c. Gulf investment opportunities in the US

What Is Iran's Response?

1. Iran has **vehemently opposed** any attempt to change the name of the Gulf, Iran also reminded that:
   a. The name Persian Gulf is internationally recognized.
   b. It has been used by global cartographers and official bodies for centuries.
   c. Altering it now would have **no legal or geographical effect** but would deepen hostilities.

What Are the Broader Geopolitical Implications?

1. **Regional Power Dynamics:**
   a. **Arab states vs Iran** in a struggle for narrative dominance
   b. **Identity politics** in the Middle East
2. **Diplomatic Signaling:**
   a. Trump's gesture aligns with **Saudi Arabia** and **Gulf monarchies**
   b. Seen as a deliberate snub to Iran during sensitive **nuclear negotiations**
3. **Global Reactions:**
   a. The **International Hydrographic Organization** (IHO) and UN still use **Persian Gulf**
   b. Many countries and news outlets are unlikely to follow a US-led change

Why Does This Matter for the World and India?

1. **Regional tensions** could escalate, especially with Iran feeling cornered.
2. **India**, which maintains strong ties with both Iran and Gulf states, must navigate this issue diplomatically.
3. **Naming disputes,** though symbolic, can ignite strong nationalistic sentiments and affect diplomatic negotiations, especially around sensitive issues like **nuclear proliferation** and **Middle East peace processes.**

2. India-UK Ties Deepen: From Trade to Terror Fight

Context

1. Recently, the **UK Foreign Secretary** visited India.
2. This was the first visit by a minister from a **major power (P-5 country)** after recent tensions between **India and Pakistan.**
3. **India** and the **United Kingdom** are deepening their relationship in many areas.

Key Highlights

1. **Focus on Terrorism:**
   a. India made it clear that it has zero tolerance for terrorism.
   b. The **Indian External Affairs Minister** said that India will never accept treating the attackers and victims as the same.
   c. India also thanked the UK for its support in the fight against **cross-border terrorism.**
2. **Free Trade Agreement (FTA):**
   a. The P**rime Minister of India** praised the **UK Foreign Secretary** for his role in the strong progress of the **India-UK Comprehensive Strategic Partnership.**
   b. One major step in this was the signing of the **Free Trade Agreement (FTA)** and the **Double Taxation Avoidance Convention.**
   c. This agreement is seen as a big achievement.
   d. It is expected to increase two-way trade and investment and help build stronger supply and value chains between the two countries.
3. **Boost to Technology and Innovation:**
   a. A new **Technology Security Initiative (TSI)** has been launched.
   b. It will help India and the UK to work together in **AI, semiconductors, telecom, quantum computing**, health tech, bio-tech, critical minerals, and advanced materials.
   c. Also, the **Strategic Exports and Technology Cooperation Dialogue** will help solve issues related to technology trade, such as licensing and regulation.
4. **Infrastructure and Finance:**
   a. The **UK-India Infrastructure Financial Bridge** is expected to bring more long-term capital from the UK to India.
   b. This will help in the development of India's infrastructure.
5. **Education and People-to-People Ties:**
   a. There is also **strong cooperation** in the education sector. More UK universities are planning to set up campuses in India. This will improve **learning and exchange** between students.
   b. On the migration front, the UK is working to make it easier for people from both countries to **travel and work**, which will help businesses and workers.
6. **Economic Gains:**
   a. The **new trade deal** is expected to **increase trade between India and the UK** by over £25 billion every year. It could also raise the UK's GDP by £4.8 billio**n** and increase wages by £2.2 billion each year.
   b. UK leaders have said this partnership is not just about trade. It is also about working together on technology, climate change, migration, and security.
7. **Cultural Cooperation:**
   a. India and the UK signed a **new Programme of Cultural Cooperation.**
   b. It will help in areas like art, culture, tourism, sports, and creative industries.
   c. It will also support **UK cultural exports and promote partnerships** between museums and institutions in both countries.
8. **Business Support:**
   a. Top Indian business leaders have welcomed the trade deal. It is expected to create new opportunities for trade and investment.
   b. The UK government also plans to launch a **modern Industrial Strategy**, which will make it easier and cheaper to do business in the UK.

Challenges and Way Forward

Challenges	Way Forward
1. Delays in Finalising the FTA	Speed up negotiations through regular high-level meetings and deadlines.
2. Regulatory Barriers in Tech Trade	Strengthen the Strategic Exports & Tech Cooperation Dialogue to resolve licensing and compliance issues.
3. Different Standards and Norms (e.g., in AI, telecom)	Set up joint working groups to harmonise technical standards and testing norms.
4. Migration and Visa Issues	Simplify visa processes for students, professionals, and skilled workers from both countries.
5. Unequal Market Access for Businesses	Ensure mutual benefits in trade agreements; support MSMEs and start-ups with special trade provisions.
6. Tax Disputes Despite DTAA	Improve awareness of DTAA benefits and create a joint grievance redressal system.
7. Trust Deficit in Tech Sharing (Data, IP rights)	Build confidence through legal protections, joint research, and transparent sharing frameworks.

Conclusion

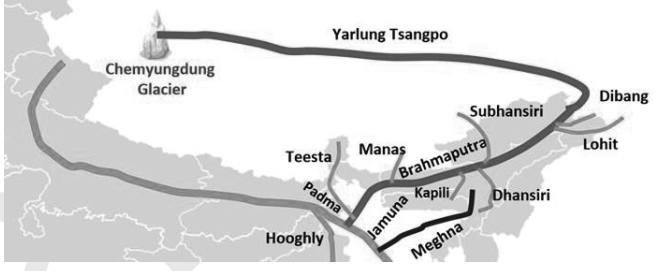
India and the UK are building a **modern partnership** for a new global era. The strong cooperation in trade, technology, culture, education, and security shows that both countries want to work closely together in the future.

3. Myth of China's Control Over the Brahmaputra

Context:

1. **After India suspended the Indus Waters Treaty with Pakistan**, discussions about water sharing in South Asia have become more intense.
2. This has **brought attention to the Brahmaputra River,** with India firmly stating that it controls its water resources and rejecting claims that China has significant control over the river's flow.
3. There is a **common myth, often spread by Pakistan**, that China's actions on the Brahmaputra could threaten India's water security.
4. However, this claim is **based on incorrect information about the river's geography and water sources.**
5. Pakistan has historically benefited more than it should have from the Indus Waters Treaty, which limited India's ability to build water infrastructure in states like Kashmir.
6. Now that India is reasserting control over its water resources, **Pakistan is trying to create a false story that India depends on China for the Brahmaputra's water.**

About The Brahmaputra River:



1. **About:**
   a. The **Brahmaputra River** is known as the **Yarlung Tsangpo** in **Tibet**
      i. **Siang** or **Dihang** in **Arunachal Pradesh**, India.
      ii. **Brahmaputra** in **Assam**, India.
      iii. **Jamuna** in **Bangladesh**.
   b. Length: **6th-longest river in Asia**, approximately **2,900 km.**
   c. Origin: Originates in the **Tibetan Plateau** (**Chemayungdung mountain** ranges at 5,150 meters, near Konggyu Tsho lake).
   d. The Brahmaputra is primarily a **rain-fed river system.**
      i. Only approximately 30-35% of its flow comes from China, mostly from Chemayungdung Glacier melt and scanty rainfall in the Tibetan region.
      ii. This constitutes the base flow.
      iii. The majority of the river's water (about 65-70%) originates within India itself, mainly from monsoon rains over the Northeast's hilly areas and numerous tributaries.

e. **Flow:** Flows eastward through the Tibetan Plateau, enters India, then Bangladesh, and finally empties into the Bay of Bengal.

2. **The Brahmaputra River Basin**
   a. **Total Area:** Spreads across Tibet, Bhutan, India, and Bangladesh, covering a total area of **5,80,000 square kilometers.**
      i. It is one of the **largest river basins** in **Asia**.
   b. **In India:** The Brahmaputra basin covers **1,94,413 square kilometers,** which is about **5.9% of India's total geographical area.**
      i. **States Covered:** Arunachal Pradesh (81,424 sq km), Assam (70,634 sq km), West Bengal (12,585 sq km), Meghalaya (11,667 sq km), Nagaland (10,803 sq km), and Sikkim (7,300 sq km).
   c. **Course of the River**
      i. **Tibet (Yarlung Tsangpo):**
         1. Flows eastward for about 1600 km through the Tibetan Plateau, parallel to the Himalayas.
      ii. **India (Siang/Dihang to Brahmaputra):**
         1. It enters India in Arunachal Pradesh as the Siang or Dihang river.
         2. Takes an **S-shaped bend near Bishing village at the Indian border.**
         3. Further downstream, it is joined by the Lohit and Dibang rivers to form the mighty Brahmaputra river.
         4. Flows in a south-easterly direction for about **230 km through Arunachal Pradesh** before entering the Assam valley.
         5. Travels a **total distance of 916 km** within India (through Arunachal Pradesh and Assam).
      iii. **Bangladesh (Jamuna to Meghna):**
         1. After entering Bangladesh, it is known as the **Jamuna river**.
         2. The **Jamuna** is joined by the **Ganga River** (known as the Padma river in Bangladesh).
         3. Eventually, the **Brahmaputra (as Jamuna-Padma) joins the Meghna River** and finally empties its water into the **Bay of Bengal.**

3. Key Tributaries of the **Brahmaputra** River
   a. **Left Bank Tributaries** (Common Features: flatter grades, fine alluvial soils, low silt, deep meandering channels)
      i. **Siang River:**
         1. **Origin:** Kailash Range glaciers (Himalayas) at 5300m altitude.
         2. **Course:** Known as **Yarlung Tsangpo in Tibet;** enters India through Arunachal Pradesh (deep gorge); joined by Lohit and Dibang to form Brahmaputra.
      ii. **Dibang River:**
         1. Origin: Near Indo-Chinese border in Upper Dibang Valley, Arunachal Pradesh.
         2. Course: Flows through Mishmi Hills; locally called Sikang; joins Lohit River before merging with Brahmaputra near Sadiya, Assam.
         3. Tributaries: Dri, Mathun, Talon, Eme, Ahi, Emra, Awa.
      iii. **Lohit River:**
         1. **Origin:** Eastern Tibet (as Zayu River); formed by Kangri Karpo Chu and Zayul Chu.
         2. **Course:** Enters India through Arunachal Pradesh (Mishmi Hills); merges with Siang River to form Brahmaputra.
         3. **Features:** Reddish color due to lateritic soil; Dhola-Sadiya Bridge (longest in India) over it. Farthest east tributary.
      iv. **Burhi Dihing / Dihing River:**
         1. **Origin:** Eastern Himalayas in Patkai Hills, Arunachal Pradesh; formed by Namphuk and Namchik.
         2. **Course:** Flows southwest through Patkai Hills, creating oxbow lakes; joins Brahmaputra at Dihingmukh, Assam (380 km long).

3. **Significance:** Known for tea, rubber, oil fields, diverse flora/fauna (Joy-Dihing tropical rainforest).

v. **Dhansiri River:**
1. **Origin:** Laisang peak in Nagaland.
2. **Course:** Forms boundary between Cachar, Nagaon, Nagaland districts; flows through Karbi-Along and Golaghat districts of Assam; joins Brahmaputra on its south bank (354 km long).
3. **Significance:** Known for rich biodiversity (Joy-Dihing tropical rainforest); isolated Mikir Hills from Peninsular Plateau with Kapili River.

vi. **Kopili River:**
1. **Origin:** Saipong Reserve Forest in southeast Meghalaya.
2. **Course:** Forms border between Meghalaya and Assam; flows through Assam before joining Brahmaputra at Kopilimukh (256 km long).
3. **Features:** Rocky, swift, many waterfalls; harnessed for irrigation and power projects (Kopili Hydro Electric Project). Largest south bank tributary in Assam.

b. **Right Bank Tributaries** (Common Features: steep slope, coarse sandy beds, shallow braided channels, heavy silt charge)

i. **Subansiri River:**
1. **Origin:** Tibet, beyond Himalayas (trans-Himalayan); formed by Tsari Chu, Chayal Chu, Sikung Chu.
2. **Course:** Largest tributary of Brahmaputra; enters India near Taksing (Arunachal Pradesh); joins Brahmaputra at Jamurighat, Assam (442 km long).
3. **Features:** Swift flow, scenic forests, popular for white water rafting. Home to Lower Subansiri Hydro-Electric Project (under construction).

ii. **Kameng River (formerly Bharali River):**
1. **Origin:** Glacial lake near Nyegi Kangsang mountain, Arunachal Pradesh.
2. **Course:** Flows through Tawang district; joins Brahmaputra at Tezpur, Assam. Forms boundary between East and West Kameng districts.
3. **Tributaries:** Tippi, Tenga, Bichom, Dirang Chu.

iii. **Manas River:**
1. **Origin:** Tibet (trans-Himalayan).
2. **Course:** Flows through Bhutan (largest river system there); enters India and joins Brahmaputra near Jogighopa, Assam.
3. **Significance:** Flows through Royal Manas National Park (Bhutan) and Manas Wildlife Sanctuary (India), home to diverse and endangered wildlife.

iv. **Sankosh River:**
1. **Origin:** Northern Bhutan (as Puna Tsang Chu).
2. **Course:** Flows through hilly terrain, enters India forming a border between Assam and West Bengal; enters Bangladesh and joins Brahmaputra near Indo-Bangladesh boundary. Glacial-fed.

v. **Teesta River:**
1. **Origin:** Zemu glacier in Himalayas, North Sikkim (part of Kanchenjunga range).
2. **Course:** Lifeline of Sikkim; flows through narrow gorges; enters plains at Sevoke (Jalpaiguri district); joins Brahmaputra River near Rangpur, Bangladesh (309 km long).
3. **Features:** Carved deep gorge in Darjeeling hills; fed by streams and lakes in Eastern Himalayas.
4. **Management Efforts:**

a. **Brahmaputra Board (established 1980):** To prepare master plans for flood control and bank erosion prevention.

b. **Flood Forecasting Systems:** Central Water Commission operates 27 flood forecasting stations.

5. **India's Water Independence (Flow Rates):**

a. At the **Indo-China border** (near Tuting, Arunachal Pradesh), the flow rate is around 2,000-3,000 cubic meters per second.
b. During the monsoon season, as the river enters Assam's plains, the flow dramatically increases to **15,000-20,000 cubic meters per second**.
c. These figures clearly show that the **river's volume** is overwhelmingly sustained within India's climatic and geographical boundaries.

5. UK-EU Reset: A Strategic Opening for India

Context:

1. The **UK and European Union (EU)** have agreed to restart cooperation on food standards, fishing rights, and defence **(UK-EU Reset).**
2. This signals a major **diplomatic shift** in their post-Brexit relationship.
3. This reset is expected to impact global trade, regulations, and diplomacy.

Key Highlights of the article:

1. UK-EU Agreement Brings Big Changes
a. The UK and EU have started working together again after Brexit.
b. They will now cooperate on **food standards, fishing rights, defence, and border checks.**
c. This new partnership can affect how trade and policies are made globally as it sets standards for future agreements and cooperation frameworks.
d. It could change India's strategy in dealing with both the UK and EU.

2. Impact on Indian Exports
a. India exported goods worth **$86 billion** to the EU and **$12 billion** to the UK in **FY2024.**
b. Key sectors like medicines, seafood, and farm products can benefit from smoother trade rules.
c. Common rules between the **UK** and **EU** will reduce paperwork and delays as the standards will be similar and this will reduce the need for extra checks.
d. However, small Indian companies may struggle with stricter rules and higher costs. Example: A textile exporter paying more to comply with product standards.

3. New Opportunities in Diplomacy
a. India can work more closely with both the UK and the EU on defence and foreign policy.
b. It gives India more chances to be part of global talks on climate change, security, and technology.
c. India can use platforms like the **G20** and **UN** to strengthen its position.
d. Stronger ties with a united **UK-EU** can help India deal with challenges in the **Indo-Pacific.**

4. Better Education and Job Prospects Abroad
a. India sent over **1,00,000 students to the EU in 2024,** showing growing educational links.
b. Easier border movement between the UK and EU can help Indian workers and students.
c. This can also support India's ties with **Germany, France, and Portugal.**
d. A common travel system in Europe could help Indians move, study, and work more easily.

5. Sector-wise Benefits and Risks
a. Pharma: India supplies **25%** of the **UK's medicines.** Faster approvals can lower costs.
b. Seafood: Exports worth around **₹60,523 crore** may rise if rules match between UK and EU.
c. Trade Support: India needs to boost support schemes like **RoDTEP** and PLI to stay competitive.
d. Risk: Small businesses may not have the money or skills to meet tough new standards.

Possibilities for India:

1. For Indian Exporters:
a. Lower trade barriers can reduce costs and increase profits.
b. Helps improve supply chain efficiency by reducing duplication of efforts.

2. For Policy Makers
a. Opportunity to strengthen strategic alliances.
b. Can align trade rules with UK-EU to make exports more competitive.
c. Helps identify key sectors for export growth and investment.

d. Useful for designing better incentives and trade agreements.

3. **For Indian Diaspora**
   a. Easier movement between the UK and EU helps students and professionals.
   b. More job and education options in both regions.
   c. Can support better integration of Indian communities abroad.
   d. Helps strengthen people-to-people connections, creating goodwill for India.
4. **Trade Corridors**
   a. Possibility of creating a smooth, UK-EU-India trade corridor.
   b. Promotes easy goods movement between all three regions.
   c. Can boost India's trade links with countries like Germany, France, and Portugal.
   d. Makes India an important part of the Europe-Asia trade network.
5. **Diplomatic Engagements (Indo-Pacific and Global South)**
   a. India can partner with the UK-EU in regional defence and maritime security in the Indo-Pacific to deal with China's assertiveness.
   b. Joint voice with UK-EU on climate change, technology, and global finance.
   c. Enhances India's leadership role in the Global South.
   d. Opens doors for new multilateral partnerships and global decision-making.
6. **Soft Power Leverage in the West**
   a. India's cultural influence can grow with better diaspora presence and mobility.
   b. More Indian students in the EU build long-term goodwill.
   c. Strategic role in digital infrastructure and governance improves India's global image.
   d. India becomes a key partner for a united and strong West.

Challenges and Way Forward

Challenges for India	Description	Way Forward	Action Points
Stricter Standards	UK-EU alignment may lead to higher product and safety norms. MSMEs may lack capital, tech, and skills to comply. Risk of product rejection and market loss.	**Strengthen Export Ecosystem**	Support MSMEs through schemes like RoDTEP and PLI. Lower production costs and boost competitiveness.
Export Barriers	Compliance with technical regulations increases costs. Requires more testing, certification, and paperwork. Reduced margins discourage new exporters.	**Improve Regulatory Preparedness**	Update Indian standards to align with global norms. Help MSMEs adopt new requirements through financial and technical assistance.
Post-Brexit Restrictions	Brexit-related mobility hurdles remain. Visa and work restrictions for Indian professionals. Limited recognition of qualifications delays migration.	**Negotiate Smartly**	Ensure trade and mobility deals safeguard Indian professionals and students. Push for mutual recognition of qualifications.

Dependency Risks	Over-reliance on UK-EU may hurt India if ties deteriorate. Could limit foreign policy autonomy and reduce space for relations with other powers like Russia or China.	**Enhance Strategic DialogueLeverage Diaspora**	Engage in global platforms (G-20, UN, Indo-Pacific) to voice India's concerns. Use the Indian diaspora to deepen educational, cultural, and business links with the UK and EU. Maintain balance in international relations.

6. India-Central Asia Connectivity and Trade

Context

1. Recently India's External Affairs Minister (EAM) spoke at the **India-Central Asia Business Council** meeting on June 5, 2025.
2. He called for **stronger trade and better connectivity** between India and Central Asian countries.
3. The event took place ahead of the **fourth India-Central Asia Dialogue** on June 6, 2025.

What is the Historical Background?

1. **Ancient Civilizations and Trade Links:**
   a. India and Central Asia have shared deep historical and cultural ties going back **more than 2000 years.**
2. **The Silk Road:**
   a. This **ancient trade route** connected **India to Central Asia** and beyond.
   b. Indian goods like **spices, textiles, and precious stones** were traded, while Central Asia sent **horses, wool, and dried fruits to India.**
3. **Buddhism:**
   a. Indian **Buddhist monks and scholars** travelled to Central Asia, where Buddhism spread and flourished for centuries.
   b. Important Buddhist monasteries and remains have been found in countries like **Uzbekistan and Tajikistan.**
   c. **Cultural Exchange:** Along with goods, India shared ideas, art, architecture, and languages with Central Asia.
   d. **Sanskrit and Indian philosophical thoughts** reached Central Asian cities that became learning hubs.
4. **Political and Dynastic Connections:**
   a. **The Kushan Empire (1st–3rd century CE):**
      i. It was founded by rulers from Central Asia **(Yuezhi tribes)** and extended into northern India.
      ii. The Kushans helped spread Buddhism from India into Central Asia and China.
   b. **The Mughal Empire:**
      i. Babur, the founder of the Mughal Empire in India (1526), was born in **Fergana Valley (present-day Uzbekistan).**
      ii. His Central Asian roots created lasting political, cultural, and familial links between the two regions.
5. **Religious and Linguistic Influence:**
   a. India's influence was also visible in **religion and language**. **Buddhism**, **Hinduism**, and even **Indian astrology** had a presence in Central Asia for centuries.
   b. Central Asian cities like **Samarkand and Bukhara** became centers for Indian scholars, and many Indian texts were translated into local languages.
   c. **Modern Engagement:**
      i. After India's independence, relations with **Central Asia** were limited because these countries were part of the **Soviet Union.**
      ii. But after the **Soviet breakup in 1991**, India established formal ties with all five Central Asian republics i.e., **Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, and Uzbekistan.**

iii. India launched the **"Connect Central Asia" Policy in 2012** to deepen ties in political, economic, cultural, and security areas.

6. **Strategic and Cultural Revival:**
   a. Defence cooperation and military training:
      i. Trade through **Chabahar Port** and the **International North-South Transport Corridor**
      ii. **Cultural exchanges**, education, and promotion of **digital tools** like Aadhaar and DigiLocker
      iii. Popularity of Indian culture like **Bollywood films and yoga** in Central Asian societies

Key Highlights

1. **High-Level Participation:**
   a. The event was addressed not just by India's EAM but also by top foreign ministers from Kazakhstan, Tajikistan, Turkmenistan, and Uzbekistan.
   b. This highlights that the dialogue wasn't just a routine event but it was a high-level regional engagement, showing the **collective interest of Central Asian nations** in deepening ties with India.
2. **Platform of Discussion:**
   a. The meeting was organized by the **Federation of Indian Chambers of Commerce & Industry (FICCI)**, and it took place under the **India-Central Asia Business Council**, ahead of the 4th India-Central Asia Dialogue.
   b. It shows that this is **not only a diplomatic dialogue but also a business-led initiative,** aiming to bring governments and industry closer for practical outcomes.
3. **Operation Sindoor and Taliban Engagement:**
   a. The India-Central Asia dialogue comes just a month after India's Operation Sindoor (targeting terror groups in Pakistan) and **renewed contact with the Taliban.**
   b. This adds a **strategic and security dimension** to the talks.
   c. Central Asia shares borders with Afghanistan and is sensitive to regional stability.
   d. India's outreach shows it wants to work beyond just economics on security, too.
4. **Focus on Regional Security:**
   a. Ministers will discuss not just **trade and technology**, but also **regional security challenges and global issues of mutual interest.**
   b. Central Asia is close to conflict-prone areas like Afghanistan, and India's role in regional peace and anti-terror operations (e.g., Operation Sindoor) makes this engagement **strategically important."**
5. **India's Engagement with the Taliban:**
   a. The dialogue takes place soon after India reached out to the Taliban administration in Afghanistan.
   b. It shows **India is adapting its foreign policy to new realities** and seeking stable links in the region despite earlier tensions.
6. **Upcoming SCO Summit in Tianjin, China:**
   a. The Prime Minister of India is expected to visit China for the **Shanghai Cooperation Organization (SCO) summit.**
   b. India is balancing **bilateral ties** with Central Asia alongside **multilateral engagement** through **SCO**, where **China** and **Russia** also play key roles.
7. **Indian-Central Asia Dialogue:**
   a. **1st Indian-Central Asia Dialogue:** January 2019, Samarkand, Uzbekistan
   b. **2nd Indian-Central Asia Dialogue:** October 2020, held virtually
   c. **3rd Indian-Central Asia Dialogue:** December 2021, New Delhi, India
   d. **4th Indian-Central Asia Dialogue:** June 6, 2025, New Delhi, India
8. **Financial Cooperation Deepening:**
   a. **Special Rupee Vostro Accounts** are already being opened by Central Asian banks.
   b. UPI discussions underway for **digital payment integration.**
   c. These are concrete steps toward **rupee-based trade** and **digital economic connectivity,** reducing dependence on the **U.S. dollar and SWIFT.**

9. **Trade Volume vs. Potential:**
   a. EAM of India said **India-Central Asia trade has reached $2 billion**, but this figure **does not reflect the full potential, especially in today's uncertain global economy.**
   b. It highlights a sense of urgency to expand trade ties.
   c. Central Asia is a **natural trade** partner for India, and the economic slowdown worldwide makes **regional cooperation more necessary.**
10. **Pharmaceuticals Sector:**
   a. Central Asia is one of the **largest markets** for Indian pharmaceutical products.
   b. This is a **key export strength** for India.
   c. Expanding pharma trade will benefit both India's economy and public health needs in Central Asia.
11. **Energy and Natural Resources Cooperation:**
   a. EAM identified **uranium, crude oil, gas, mining, coal, and fertilizers** as sectors for **long-term cooperation.**
   b. These are strategic sectors that can ensure **India's energy** and **food security,** and they offer Central Asian nations steady demand and investment.
12. **Digital Public Infrastructure:**
   a. India is willing to **partner in sharing digital platforms** like Aadhaar and DigiLocker.
   b. This shows India is exporting its **Digital Public Infrastructure (DPI)** model, which has been praised globally.
   c. It can improve **public service delivery, student verification, and tourism** in Central Asia.
13. **Kazakhstan's Regional Connectivity Plan:**
   a. Kazakhstan's Foreign Minister said his country is working to **boost connectivity between Caspian Sea ports and Iran's Bandar Abbas Port.**
   b. Kazakhstan's move supports **regional trade corridors** like the International North-South Transport Corridor (INSTC) and complements India's Chabahar strategy.

Significance

1. **Strengthened Regional Ties:** India is building deeper and more stable relationships with Central Asian countries through trade, technology, and people-to-people links, especially in sectors like pharmaceuticals, which are crucial for both economic and public health cooperation.
2. **Energy and Resource Security:** Long-term partnerships in oil, gas, uranium, coal, mining, and fertilizers will help India secure its strategic energy and resource needs, while giving Central Asian countries assured markets and investment.
3. **Digital Diplomacy:** India's offer to share digital public infrastructure (Aadhaar, DigiLocker) demonstrates leadership in digital governance. It can enhance student mobility, tourism facilitation, administrative cooperation, and trust-building.
4. **Financial Integration:** Steps like opening of Special Rupee Vostro Accounts and discussions around UPI-based payment systems aim to enable mutual trade in national currencies, reducing dependence on the U.S. dollar and creating a more resilient financial ecosystem.
5. **Strategic Engagement Post-Operation Sindoor:** This dialogue gained importance after India's Operation Sindoor against terror camps in Pakistan and outreach to the Taliban in Afghanistan, highlighting India's growing role in regional security affairs.
6. **Multilateral and Bilateral Synergy:** India's presence in both bilateral (India-Central Asia Dialogue) and multilateral platforms (Shanghai Cooperation Organization – SCO) shows a balanced, layered approach to engagement in Central Asia.
7. **Connectivity and Trade Hub Potential:** The International North-South Transport Corridor (INSTC) and Chabahar Port can transform India into a logistical bridge between Central Asia, the Indian Ocean, and beyond, reducing costs and enhancing trade efficiency.
8. **Support from Kazakhstan and Regional Partners:** Efforts by Kazakhstan to link Caspian ports with Iran's Bandar Abbas port complement India's vision of regional connectivity, reinforcing a shared regional commitment to economic integration.

Challenges

1. **Limited Trade Volume:** Despite growing engagement, India-Central Asia trade stands at only $2 billion, which is far below its potential.

2. **Lack of Direct Connectivity:** India does not share a land border with Central Asia, and trade routes are often dependent on third countries like Iran, Afghanistan, or Pakistan many of which are geopolitically sensitive or unstable.
3. **Geopolitical Instability:** Instability in Afghanistan, India's strained relations with Pakistan, and regional tensions pose hurdles to seamless connectivity, especially along the Chabahar and INSTC corridors.
4. **Infrastructure Gaps:** While efforts are being made to develop Chabahar Port and link it with the International North-South Transport Corridor (INSTC), last-mile connectivity, customs coordination, and port infrastructure still require major improvements.
5. **Financial and Regulatory Barriers:** The process of settling trade in national currencies, opening Special Rupee Vostro Accounts, and integrating systems like UPI still faces regulatory, banking, and technological hurdles.
6. **Competition from Other Powers:** Central Asia is also a region of interest for China (via the Belt and Road Initiative), Russia, Turkey, and the EU, making it a competitive space where India must carve out its role strategically.
7. **Digital Readiness Gap:** India is offering platforms like Aadhaar and DigiLocker, technical capacity and digital infrastructure in many Central Asian countries may not yet be ready to fully absorb these systems.
8. **Lack of Private Sector Involvement:** There is limited participation by Indian private businesses, startups, and SMEs in Central Asian markets due to lack of awareness, language barriers, and logistical concerns.

Way Forward

1. **Expand Trade Volume and Diversity:** India and Central Asian countries should work to increase trade beyond the current $2 billion, focusing on sectors like pharmaceuticals, IT, agriculture, and renewable energy.
2. **Strengthen Chabahar Port and INSTC:** Speed up development and usage of Chabahar Port and the International North-South Transport Corridor (INSTC) to create faster and cheaper trade routes connecting India with Central Asia, Europe, and Russia.
3. **Use Local Currencies for Trade:** Promote mutual trade in national currencies by expanding the use of Special Rupee Vostro Accounts and adopting UPI (Unified Payments Interface) to reduce dependence on the U.S. dollar and simplify cross-border transactions.
4. **Share India's Digital Platforms:** Offer Central Asia access to India's digital tools like Aadhaar and DigiLocker to improve services for students, tourists, and businesses, and strengthen digital governance ties.
5. **Ensure Regional Stability and Security Dialogue:** Continue engaging Central Asia on security cooperation, especially after Operation Sindoor and ongoing developments in Afghanistan, to promote peace and shared counter-terrorism efforts.
6. **Coordinate Through Multilateral Forums:** Leverage platforms like the **Shanghai Cooperation Organization (SCO)** and the proposed India-Central Asia leadership summit to maintain consistent dialogue at the highest levels.

7. Rising Tensions: The Iran-Israel Crisis

Context:

1. Israel has launched a major military attack on Iran, called **Operation Rising Lion**.
2. This has made the already tense situation in West Asia even more dangerous.
3. The attack included bombing **Iran's nuclear facilities** and killing important **Iranian military and scientific leaders.**

Key Highlights

1. **Israel's Attack:**
   a. Israel bombed Iran's nuclear power stations and killed at least six nuclear scientists.
   b. It also killed General Hossein Salami, head of Iran's Revolutionary Guards, and other senior military leaders.
2. **Iran's Response:**
   a. Iran has responded with drone attacks but most of them were intercepted.
   b. The situation has raised global concern about the possibility of a full-scale war.

3. **International Reaction:.**
   a. The International **Atomic Energy Agency (IAEA)** has censured Iran for not following its nuclear commitments.
4. **Nuclear Deal Situation:**
   a. Talks for a new nuclear deal with Iran have failed again. The 2015 nuclear deal **Joint Comprehensive Plan of Action (JCPOA)** was canceled earlier by Trump.
   b. Israel has always opposed this nuclear deal.
5. **Impact on the Region:**
   a. Tensions have risen sharply since **Hamas's attack** on **Israel** in October and Israel's heavy response in Gaza.
   b. Now, this Iran-Israel conflict has made peace in the region even more difficult.

Implications for India

1. **Energy Security & Oil Prices:**
   a. **Dependence on Middle Eastern Oil:** India imports over **80%** of its crude oil, much of it from the Persian Gulf.
   b. **Disruption of Supply Routes:** Conflict in the region, especially around the **Strait of Hormuz**, could severely disrupt oil shipments.
   c. **Rising Prices:** War would likely spike global oil prices, worsening India's trade deficit and increasing inflation.
2. **Geopolitical Balancing Act:**
   a. India maintains strategic ties with **Israel (defense, tech, intelligence cooperation), Iran (Chabahar Port, trade, connectivity to Central Asia)** and **Gulf States (energy, diaspora, trade).**
   b. A war would force India to navigate a delicate diplomatic balance and avoid alienating any side, especially given its growing ties with the U.S. and Israel, and its need for stable relations with Iran and the Gulf.
3. **Impact on Indian Diaspora:**
   a. Millions of Indians live and work across the Middle East, including in **Israel, the UAE, Saudi Arabia, and Iran.**
   b. A war could endanger their lives, force mass evacuations (like in past Gulf crises) and disrupt remittances, which are crucial for India's economy.
4. **Terrorism and Domestic Security:**
   a. An **Israel-Iran war** could embolden proxy groups like Hezbollah or other Iran-aligned militias.
   b. There's also potential for spillover tensions affecting India's Muslim communities or leading to sectarian tensions.
   c. Risk of terrorist attacks linked to global or regional retaliation against Israeli or allied interests.
5. **Strategic Projects at Risk:**
   a. Chabahar Port: India's gateway to **Afghanistan** and **Central Asia** through Iran. A war could halt or severely delay this strategic investment.
   b. INSTC (International North-South Transport Corridor): Also passes through Iran, could be disrupted.
6. **Opportunity for Diplomacy:**
   a. India could attempt to act as a mediator or backchannel negotiator given its ties with both Israel and Iran.
   b. It can also use forums like the UN or **BRICS** to advocate de-escalation.

Challenges and Way Forward

Challenges	Way Forward
1. **Rising Military Tensions:** Direct attacks between Israel and Iran (e.g., 2024, 2025) risk full-scale regional war.	1. Encourage urgent international diplomacy to de-escalate and establish communication channels.
2. **Proxy Warfare:** Iran uses groups like Hezbollah and Hamas to fight Israel indirectly, causing ongoing instability.	2. Global and regional powers must push for disarmament and dialogue with proxy groups.
3. **Collapse of Nuclear Deal:** The breakdown of JCPOA talks has increased nuclear risks.	3. Revive nuclear negotiations with involvement of neutral countries to ensure peaceful use of nuclear energy.
4. **Civilian Suffering:** Conflicts have led to deaths, displacement, and destruction in Gaza, Lebanon, Syria, and more.	5. Ensure humanitarian aid, enforce ceasefires, and protect civilian areas under international law.

5. **Cyber Warfare and Assassinations:** Cyberattacks and killings of scientists have made conflict more unpredictable.	6. Set international norms and agreements on cyber warfare and targeted killings.
6. **Impact on Regional Peace**: Abraham Accords and Gulf-Israel normal-ization are under threat.	7. Restart regional peace talks involving Arab states, Israel, and Iran to rebuild trust.

Conclusion

The recent attack by Israel on Iran is a dangerous step that has pushed West Asia closer to war. With many lives lost and tensions rising, it is important for all countries, including the United States, to **stop the violence and support peace talks. Diplomacy must come first**. A full war in West Asia would hurt not just the region but the whole world, including countries like India. The world needs to act fast to stop this crisis from becoming worse.

8. Balancing Power and Trust in the Bay of Bengal

Context

1. India's trade activity in the **Bay of Bengal** region is increasing. Trade through eastern ports like **Visakhapatnam, Paradip, and Haldia** has gone up.
2. A new agreement under **BIMSTEC (Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation)** was signed to make sea trade smoother and cheaper.
3. However, India withdrew a trade facility for Bangladesh, which has caused tensions and raised concerns in the region.

What is BIMSTEC?

1. A regional organization that **connects South Asia and Southeast Asia.**
2. Formed in 1997, through the **Bangkok Declaration.**
3. It aims to promote regional cooperation, peace, and prosperity through mutual assistance in economic and technical sectors.
4. **Members of BIMSTEC:** There are a total of **7 countries** which are **Bangladesh, India, Myanmar, Sri Lanka, Thailand, Nepal and Bhutan.**
5. All member countries lie around or near the Bay of Bengal.
6. **Headquarters: Dhaka, Bangladesh**

What are the Key Highlights?

1. India **stopped a facility for Bangladesh in April that allowed Bangladesh to send its goods to other countries using Indian ports.**
2. **Reason:**
   a. India said the reason was port **congestion**, meaning the Indian ports were too busy and causing delays for other exporters.
   b. Bangladesh saw this move as political, not just about logistics, and thought it was linked to its growing friendship with China.
   c. A speech by a Bangladeshi leader in China upset India, because he called India's northeastern states "landlocked" and said Bangladesh was their only sea link.
   d. India felt hurt by this comment, as it believes the Northeast is very important and well-connected through Indian efforts.
3. **India's Role in BIMSTEC**
   a. India is trying to make BIMSTEC stronger and more useful.
   b. One agreement, called the **BIMSTEC Maritime Transport Cooperation Agreement**, aims to make trade easier by improving transport and customs systems.
   c. Small countries like **Bhutan, Nepal, and Myanmar depend on Indian ports** to trade with the world.
4. **Problem with Bangladesh's Trade Access**
   a. `India stopped allowing Bangladeshi goods to pass through its ports **(trans-shipment facility).**
   b. Earlier, this system helped Bangladeshi exporters, especially those in the garment industry, save time and money.
   c. Now, they may have to use ports in Sri Lanka or Southeast Asia, which are more expensive and slower.
   d. This makes trade harder for Bangladesh at a time when global demand is already weak.

5. **New Trade Restrictions by India**
   a. In May, India banned seven types of goods from Bangladesh (like clothes, plastic, and food) from entering through land ports in Northeast India.
   b. These goods must now go through Indian sea ports like **Kolkata or Nhava Sheva,** which **increases cost and time.**
   c. India said it did this because Bangladesh had stopped yarn imports by land, but India had already removed the port access before that.
   d. Many people in Bangladesh feel India's action is too harsh.
6. **Political Tensions Behind Trade Moves**
   a. Some in India think Bangladesh is moving closer to China and reopening trade with Pakistan.
   b. They believe India is using trade restrictions to warn Bangladesh.
   c. But Bangladesh has the right to make its own foreign policy choices.
   d. Using trade as a way to send political messages goes **against the idea of regional cooperation.**
7. **Impact on the Whole Region**
   a. This is not just a problem between India and Bangladesh but other countries like Myanmar, Thailand, and Sri Lanka are also watching.
   b. India had promised that trade and infrastructure would stay free from politics.
   c. Now, it seems that trade routes are becoming less cooperative and more political.
8. **India's Strengths in the Region**
   a. India has the best port infrastructure in the Bay of Bengal region.
   b. Its **cargo-handling, coastal shipping, and transport networks** are stronger than those of other BIMSTEC countries.
   c. But having good infrastructure is not enough to be a leader.

Why does India Focus on the Bay of Bengal?

1. **Strategic Location:** The Bay of Bengal lies at the intersection of South and Southeast Asia, serving as a vital maritime and economic bridge. It is crucial for India's Act East and Neighbourhood First policies.
2. **Trade and Economic Potential:** BIMSTEC nations account for over **20%** of the **global population.** Improved port infrastructure and proposed FTA could turn the Bay into a high-growth regional corridor.
3. **Connectivity Hub:** India's extensive port network, multimodal logistics, and trans-shipment capacity offer a backbone for regional integration and supply chain resilience.
4. **Geopolitical Leverage:** A stable, economically integrated Bay region acts as a counterbalance to China's growing influence, particularly in the **Indo-Pacific and Indian Ocean Region (IOR).**
5. **Energy and Blue Economy:** The region holds untapped potential for energy cooperation, fisheries, and sustainable maritime economic activities.

Challenges and Way Forward

Challenges	Way Forward
1. **Credibility Deficit:** Trade facilitation appears inconsistent, politicised.	1. Establish a rules-based mechanism that separates trade from political cycles.
2. **Regional Distrust:** Smaller BIMSTEC partners wary of India's dominance.	2. Enhance transparency, consultative mechanisms, and mutual benefit frameworks.
3. **FTA Delays:** BIMSTEC Free Trade Agreement remains stalled.	3. Expedite FTA negotiations with focus on market access, tariff rationalisation, and NTBs.
4. **China's Presence:** China's economic engagement with BIMSTEC members is growing.	4. Offer competitive, reliable alternatives with focus on quality infrastructure and inclusive growth.

9. UNESCO's Global Education Monitoring Report 2025

Context

1. Recently, the **Global Education Monitoring (GEM) 2025** Report was officially at the **Paris Nutrition for Growth Summit (held in March 2025).**

2. The 2025 report suggests a **student-centered, technology-driven, and inclusive approach** to education—emphasizing **personalized learning, digital integration, hybrid models, teacher empowerment, and community involvement** to build skills and wellbeing for the future.

Key Findings of the 2025 GEM Report

1. **Focus on Education and Nutrition:** The Report highlights the strong two-way link between education and nutrition. Education can improve nutrition outcomes by teaching healthy habits, and better nutrition enhances learning and cognitive development in children and youth.
2. The report calls for **stronger collaboration between education, health, and nutrition sectors.**
3. **Leadership in Education:** Effective leadership is the second most important factor influencing student learning outcomes, after teachers.
4. **Data and Monitoring:** The report includes expanded data on education systems, with new indicators on digital skills and the integration of climate and environmental education into curriculum.
   a. For the first time, countries are reporting on how environmental and climate topics are mainstreamed in education.
5. **Policy Recommendations**: Develop and support strong, inclusive educational leadership at all levels. Foster partnerships across sectors to meet education and broader Sustainable Development Goals.

What are the main challenges highlighted in the 2025 Global Education Monitoring Report?

1. **Gaps in Education and Nutrition Policies:** There are significant gaps in policies and programs that prevent education from fully supporting better nutrition and health outcomes for students.
   a. About **one billion teenage girls** and **women** are affected by **undernutrition and anemia,** with the majority living in ***South Asia*** **and** ***sub-Saharan Africa***. No region is on track to meet global nutrition targets for 2030.
2. **Exclusion and Inequality: Vulnerable and marginalized communities, including girls, children with disabilities,** and those in **low-income or conflict-affected areas,** continue to face barriers to accessing quality education.
   a. **251 million children** and youth are still not in school globally, with progress stagnating since 2015.
   b. For example, **Central and Southern Asia, especially Afghanistan, Bangladesh, India, and Pakistan, have the largest populations of out-of-school children.**
3. **Lack of Funding:** Four in ten countries spend less than **4% of their GDP on education,** which is below recommended levels and insufficient to meet education targets. **Insufficient funding affects the ability to improve infrastructure, teacher training, and learning resources.**
4. **Technology and Digital Divide: Unequal access to digital devices and the internet widens educational inequalities**, particularly in low-income and marginalized communities.
   a. While technology can help, many teachers feel unprepared to use it effectively, and only half of countries have standards for developing teachers' digital skills.
   b. Secondly, excessive or inappropriate use of technology can harm student learning and well-being, and issues like data privacy and e-waste are growing concerns.
5. **Leadership and Inclusion:** School and system leaders often lack training and autonomy to promote inclusive education and respond to diverse student needs. There is a need for more professional development and support for leaders to foster inclusive, equitable, and quality education.
6. **Collaboration Gaps:** There is a lack of effective collaboration between education, health, and nutrition sectors, which is necessary for holistic student development and learning.

What is a strong education system according to the Report?

1. Education systems are composed of multiple actors and components that must work together to facilitate learning.
2. Strong education systems are responsive and resilient, reaching all girls and boys with quality learning opportunities.
3. Teaching and learning are at the heart of the education endeavor. Prepared learners, teachers and quality teaching, safe learning environments, and leadership and local accountability all play an important part.
4. **Global Partnership for Education (GPE) -** (strategic plan for 2012 - 2025 that covers SDG too) works to strengthen and support education systems holistically to develop policies, prioritize and implement reforms, align external support with those priorities and jointly monitor and hold accountable all partners to achieve system-wide change. (as shown in the figure)

How does the 2025 report suggest addressing the drop in global aid to education?

1. **Increase Domestic Funding:** The report emphasizes that the most sustainable source of education funding is from national governments themselves. It calls for countries to raise the volume, equity, and efficiency of their domestic education spending, ensuring resources reach the most marginalized groups.
2. **Innovative Financing Mechanisms:** It recommends the use of new financing tools, such as matching funds and debt forgiveness mechanisms, to encourage greater investment in education.
   a. **The Global Partnership for Education (GPE) Multiplier** is cited as an example of expanding the impact of available funds.
3. **Flexible and Responsive Aid:** The report advocates for more flexible grant-making processes that respond to country-specific needs and crisis situations. This includes accelerated financing mechanisms for countries in emergencies, which can be channeled through existing humanitarian pooled funds.
4. **Partnerships and Coordination:** The report calls for stronger collaboration and alignment among governments, donors, civil society, and the private sector to maximize the impact of available resources and avoid duplication of efforts.
5. **Focus on Results and Accountability:** Aid and domestic spending should be linked to clear, evidence-based priorities and monitored for impact. The report suggests using incentives and results-based financing to drive reforms and ensure accountability.

Way Forward

1. Empower leaders and give them autonomy over decision-making in their schools, particularly around **resourcing and pedagogy.**
2. **Invest in professionalisation**, ensuring leaders have management experience as well as teaching experience, that they are prepared to focus on inclusion and that they represent the local population.
3. **Ensure Inclusion** is a part of school leader recruitment and training.
4. **Encourage collaboration** between school leaders and staff, learners, and families and communities as key to building inclusive schools.

10. US signs 'Take it Down Act' to combat deep fakes and online exploitation

Context

1. In **May, 2025,** U.S. President Donald Trump signed the **Take It Down Act** into law to curb the growing threat of explicit images and videos being shared online without the subject's consent.
2. The law responds to a rise in **revenge porn** and **AI-generated deepfakes**, especially targeting women and minors who are subjected to online exploitation and harassment.

About Deepfakes

1. Deepfakes are **manipulated digital media**, including videos, images, and audio, that make someone appear to be someone else, or to be saying or doing something they didn't.
2. This technology uses **artificial intelligence**, specifically deep learning algorithms, to create highly realistic fakes that can be difficult to distinguish from genuine content.

Why Was the Law Needed?

1. Artificial Intelligence tools have enabled the creation of realistic fake images, often used to **humiliate, blackmail, or bully individuals**—most commonly women.
2. With increasing incidents of **non-consensual content sharing,** both real and digitally altered, the U.S. government deemed urgent federal legislation necessary to protect privacy and dignity in the digital space.

Key Provisions of the Take It Down Act

1. Online platforms are legally required to remove reported non-consensual explicit images within **48 hours of a complaint being filed** by the victim.
2. Additionally, platforms must take reasonable measures to ensure that the content does not resurface elsewhere on their systems.
3. The law specifically **includes both real and AI-manipulated or generated content**, such as deepfakes, under its scope.
4. This ensures that advanced digital manipulation techniques cannot be used to bypass accountability or harass individuals under the guise of fabrication.
5. The law makes it a federal criminal offense to knowingly share or even threaten to share explicit content of a person without their consent.
6. Offenders can face up to **three years in prison,** marking the first federal-level criminal penalty for this specific offense.
7. Under the law, digital platforms must promptly act on takedown requests or risk federal enforcement.
8. The **Federal Trade Commission (FTC)** is empowered to take legal action against companies failing to comply, which includes penalties and regulatory restrictions.

Legal Framework Supporting Anti-Deepfake Measures

1. **Legal Provisions Under the Information Technology Act, 2000**
   a. Though the Take It Down Act is U.S. legislation, efforts in India to tackle deepfakes have relied on existing IT laws. Key legal tools include:
      i. **Section 66E:** Punishes the capture or sharing of images that violate a person's privacy.
      ii. **Section 66D:** Addresses impersonation and cheating using electronic or digital means, applicable to deepfake scams or fake profiles.
      iii. **Sections 67, 67A, 67B:** Penalize the creation or transmission of obscene, sexually explicit, or child-focused content, which includes AI-manipulated pornography.
2. **Regulatory and Platform Responsibility**
   a. Authorities have advised that platforms assist victims in filing **First Information Reports (FIRs)** when deepfake-related crimes occur.
   b. Under **Section 66D,** platforms are also expected to remove such content quickly, or else risk losing safe harbor protections that normally shield them from legal liability.
   c. Indian Penal Code (IPC), 1860 – now mostly superseded by the Bharatiya Nyaya Sanhita (BNS), 2023:
      i. The BNS addresses offenses such as **defamation (Section 356), organized crime (Section 111), digital theft (Section 316),** and **cheating (Section 318).**
   d. **Digital Personal Data Protection Act, 2023:** Primarily focuses on preventing the unauthorized handling or processing of personal data.
   e. **Indecent Representation of Women (Prohibition) Act, 1986:** Aims to ban the portrayal of women in an indecent or offensive manner.
3. **Broader Implications for Digital Platforms**
   a. Social media sites, content-hosting platforms, and messaging services must now implement systems to identify and remove explicit content rapidly.
   b. With deepfake tools becoming more accessible, platforms are expected to invest in AI content detection, user protection mechanisms, and **clear complaint redressal processes.**

Conclusion

The Take It Down Act is a **landmark U.S. federal law** designed to **address the abuse of technology** in the form of non-consensual explicit content sharing. By combining

criminal penalties, enforceable platform responsibilities, and rapid response requirements, it sets a new precedent for protecting digital privacy and dignity—especially in the face of advancing AI technologies. It also signals to governments worldwide, including India, the need to strengthen domestic legal frameworks to counter deepfake exploitation and ensure victim-centered justice in the digital age.

12. U.K. To Hand Sovereignty Of Chagos Islands To Mauritius, India Welcomes

Context

1. After a long span of **60 years**, Britain returned the **sovereignty of Chagos Island to Mauritius** in **May 2025.**
2. **Historical Background of Chagos Island:**
   a. The Chagos Islands in the Indian Ocean, have been under British control **since 1814.**
   b. In **1965**, shortly before granting Mauritius independence, the UK separated the Chagos Islands to form the **British Indian Ocean Territory (BIOT).**
   c. It retained control over the islands while **Mauritius became independent in 1968.**
   d. The UK later expelled the Chagossian residents from the Chagos islands to make way for a US military base on **Diego Garcia**, the **largest island i**n this group.
      i. Mauritius has long contested the legality of the UK's continued administration of the Chagos Islands.
      ii. It argued that the separation violated **International law of Sea Tribunal** and **the Right to self-determination.**
   e. Finally, in **2017,** the **United Nations General Assembly (UNGA)** requested an advisory opinion from the **International Court of Justice (ICJ)** on the legal consequences of the separation of the Chagos Archipelago from Mauritius.
   f. In **February 2019,** the ICJ delivered its advisory opinion with a decisive 13–1 ruling. The court found:
      i. The separation of the Chagos Islands from Mauritius in 1965 was not based on the free and genuine expression of the will of the people concerned that reflects **"Unlawful Separation".**
         1. The process of decolonization of Mauritius was not lawfully completed yet.
         2. The Court stated that the UK is "under an obligation to bring to an end its administration of the Chagos Archipelago as rapidly as possible".
      ii. In fact, the ICJ called on all UN member states to cooperate with the United Nations to complete the decolonization of Mauritius.
         1. This was supported by UN members in majority.
         2. The UNGA resolution significantly increased international pressure on the UK and strengthened Mauritius's claim.
         3. The case became a landmark in the **Global Movement for Decolonization and the Right to self-determination.**
         4. The ICJ opinion, though advisory and not legally binding, clarified the legal status of the Chagos Islands and the obligations of the UK under international law.
         5. The ruling highlighted the 'Human rights' of displaced Chagossians and the need for their resettlement.

Key highlights of the New UK-Mauritius Agreement

1. The agreement was briefly delayed by a UK court 'injunction' after two Chagossian women, displaced from the islands decades ago, raised concerns about their right to return.
   a. Injunction refers to a court order that temporarily stopped or delayed the signing of the agreement. However, the injunction was lifted on 22nd May 2025, and the signing proceeded.
   b. This ends more than 200 years of British rule and decades of legal and diplomatic disputes over the islands.

2. Some of the **major provisions** include:
   a. **Mauritius regains sovereignty over the Chagos Islands.**
   b. **Diego Garcia and Financial Terms:** The UK and US will retain control and operational oversight of the crucial military base on Diego Garcia, the largest island in the archipelago, through a **99-year lease agreement.**
      i. This base is strategically important for **defense and intelligence operations** in the Indian Ocean.
      ii. The **UK will pay Mauritius an annual fee** (reported as £101 million or about €120 million per year) for the lease.
   c. **Chagossian Rights**: The agreement establishes a £40 million trust fund to support Chagossians, the original inhabitants who were forcibly displaced in the 1960s and 1970s.

What is India's stance?

1. India welcomed the 2025 UK-Mauritius treaty as a "milestone achievement" and a positive regional development.
2. This stance is rooted in India's principled position on decolonization, respect for sovereignty, and the territorial integrity of nations.
3. **India has actively backed Mauritius in international forums,** making both written and oral submissions before the International Court of Justice (ICJ) and UNGA resolutions that called for the UK to return the islands to Mauritius.
4. **India's Strategic and Regional interests**
   a. India views the Indian Ocean as a strategic priority and sees the resolution of the Chagos issue as vital for **regional stability and maritime security.**
   b. India has carefully balanced its relations with the UK and the US, acknowledging the strategic importance of the Diego Garcia military base for **Indo-Pacific security** and **QUAD cooperation.**
5. **India's broader Geopolitical Calculations**
   a. India's stand reinforces its image as a Global leader which respects the sovereignty and decolonization in the Global South.
   b. By supporting Mauritius, India **also ensures to prevent Chinese influence**.

13. India Calls for End to Export Controls Among BRICS Nations

Context

1. In **May 2025,** The 15th BRICS Trade Ministers' Meeting was held under the leadership of **Brazil's BRICS Presidency.**
2. The meeting's **theme** was "**Strengthening Global South Cooperation for More Inclusive and Sustainable Governance."**

India's Main Demand:

1. In this meeting, India asked for the **removal of export controls among BRICS countries.**
2. The goal is to **make trade easier and stronger within BRICS,** and to promote closer cooperation among countries of the Global South (developing countries).

Why Does This Matters?

1. **Export controls slow down trade** and make it harder for BRICS countries to help each other.
2. India's call promotes **better trade relations and unity among developing countries.**
3. It supports India's goal of leading a **fair and balanced global trade system.**
4. It **strengthens India's role** as a **link between East and West, and North and South in global politics.**

Joint Declaration and Related Documents

1. The meeting also approved a Joint Declaration, along with 3 important documents:
   a. **BRICS Declaration on WTO Reform and Strengthening of the Multilateral Trading System**
   b. **BRICS Data Economy Governance Understanding**
   c. **BRICS Trade and Sustainable Development Framework**
2. These papers show BRICS' promise to support a fair, open, and rule-based global trade system.
3. They also warned that climate-related trade rules should not be used unfairly to block trade or treat some countries badly.

India's Focus on WTO Reforms

1. India pointed out the urgent need to **fix longstanding development problems in the World Trade Organization (WTO).**
2. It especially called for a **permanent solution for Public Stockholding (PSH)**
   a. It allows countries to keep food **stocks for food security without facing WTO penalties.**
3. India shared its "**30 for 30**" proposal, suggesting 30 small improvements to mark WTO's 30th anniversary in 2025.
4. India also stressed that sustainable development is part of its culture and must be a key part of global trade rules.

India's Representative and Key Points

1. **Economic Adviser from India's Department of Commerce**, represented India and emphasized:
   a. The need to remove trade restrictions that disturb important supply chains.
   b. The call for rich countries to support the transfer of **Environmentally Sound Technologies (ESTs)** to developing countries, with enough financial help.
   c. Promotion of **Mission LiFE (Lifestyle for Environment),** India's global effort encouraging responsible consumption and recycling as part of a fair climate plan.

Digital Economy and Technology Cooperation

1. Moreover, The meeting recognized that digital growth and technology are important for future cooperation.
2. The BRICS Data Economy Governance Understanding called **Digital Public Infrastructure (DPI)** a key tool for digital growth.
3. India confirmed its leadership in digital governance through programs like:
   a. Digital India
   b. IndiaAI
4. India also promised to work with other countries on digital infrastructure, artificial intelligence, and cybersecurity through international groups like:
   a. Global Partnership on AI (GPAI)
   b. G20

Recent Developments of New Development Bank (NDB):

1. Algeria formally admitted as a new member of the New Development Bank (NDB).
2. In **May 2025**, Algeria deposited its instrument of accession in accordance with the Articles of Agreement of NDB
3. The NDB President welcomed **Algeria as a member** and said that it will enhance NDB's global financial influence.
4. He also Highlighted **Algeria's potential** due to:
   a. Natural resources
   b. Dynamic economy
   c. Strategic geographic location

Why Algeria Joined the NDB Without BRICS Membership:

1. **Algeria's bid** to become a full **BRICS member** was **rejected** during the 2023 summit in South Africa.
2. Then, Algeria closed its BRICS membership file but continued to pursue NDB membership.
3. This allowed Algeria to engage with BRICS-related economic initiatives without committing to the political and geopolitical alignment required for full BRICS membership.
4. Algeria's decision to join the NDB aligns with its economic strategy to secure **non-predatory financing** for infrastructure and development projects.
   a. It is critical for **diversifying its economy** beyond oil and gas.
   b. The NDB offers loans with fewer conditionalities compared to Western financial institutions, making it attractive for Algeria.

NDB Membership Criteria:

1. The NDB allows membership for countries beyond the founding BRICS members.
2. According to the NDB's Articles of Agreement, membership is open to all members of the United Nations, provided they meet the bank's criteria and are approved by its Board of Governors.
3. This means non-BRICS countries can join as long as they align with the bank's objectives of financing infrastructure and sustainable development projects in emerging markets and developing countries.

About the New Development Bank (NDB):

1. **Established:** In **2015**, at the **6th BRICS Summit** in Fortaleza, **Brazil.**
2. **Purpose**: **Mobilise financial resources** for:
   a. Infrastructure development
   b. Sustainable development projects
3. **Parent Organisation:** BRICS (**Founding members: Brazil, Russia, India, China, South Africa)**
4. **Headquarters: Shanghai, China**
5. **Voting System:**
   a. Equal vote for each member country
   b. No veto power for any member
6. **Current Membership:**
   a. Total of 9 members:
      i. BRICS 5: Brazil, Russia, India, China, South Africa
      ii. **New Members**: Bangladesh(2021), UAE(2021), Egypt(2023), Algeria(2025)
      iii. **Prospective Members:** Uruguay
      iv. **Prospective members:** admitted by NDB's Board of Governors and will officially become a member country once they deposit their instrument of accession.
7. **UN Status:**
   a. Holds Observer Status at the United Nations General Assembly (UNGA)
8. **Leadership Rotation:**
   a. Presidency and Vice-Presidency rotate among BRICS founding nations.
9. **Project Impact & Financing Stats:**
   a. Since inception, NDB has approved 120+ investment projects worth over $40 billion.
   b. **Project Areas Include** clean energy and energy efficiency ,Transport infrastructure, Water supply and sanitation, Environmental protection, and Social and digital infrastructure.
   c. **Major NDB Projects** in India are Mumbai Urban Transport Project–3A-II, Rajasthan Water Sector Restructuring Project and Delhi-Ghaziabad-Meerut Regional Rapid Transit System.

What Is BRICS And Its Origin?

1. In **2001**, **Economist Jim O'Neill** coined the term BRIC, predicting that Brazil, Russia, India, and China would be the **main drivers of global economic growth by 2050.**
2. The BRIC grouping began informally in 2006 at the G8 Outreach Summit in St. Petersburg, Russia.
3. The first BRIC Foreign Ministers' Meeting took place in New York in 2006.
4. The first formal BRIC summit was held in Russia in 2009, marking the official beginning of BRIC as an economic and political coalition.
5. In 2010, South Africa was invited to join BRIC, transforming it into BRICS. This expanded the grouping to represent not only the largest emerging economies in Asia but also Africa.
6. 2021: The 13th BRICS Summit was held virtually under India's chairmanship, reflecting the growing global role of BRICS.

14. 24th Indian Ocean Rim Association (IORA) Meeting of the Council of Ministers (COM)

Context:

1. The **24th meeting of the Indian Ocean Rim Association (IORA)** Council of Ministers was held virtually in **May 2024.**
2. It was **hosted by Sri Lanka,** the current Chair of IORA.
3. The **theme** of the meeting was "**Sustainable Indian Ocean for Future Generations."**
4. All Member States and Dialogue Partners participated in the meeting.
5. The key **outcome** was the **adoption of the Colombo Communique.**
6. The discussions focused on promoting **regional peace, enhancing maritime cooperation, and ensuring sustainable growth.**
7. India strongly reaffirmed its **zero tolerance towards terrorism**, including state-sponsored terrorism, and called for its unequivocal condemnation.

Indian Ocean Rim Association (IORA)

1. IORA is an inter-governmental regional organisation, established in 1997 to promote **economic cooperation among countries bordering the Indian Ocean.**

2. Initially formed with 14 countries, now has 23 Member States and 12 Dialogue Partners.
3. **Headquarters:** Mauritius
4. **India:** Founding Member
5. **Institutional Framework**
   a. Council of Ministers (COM): Apex decision-making body, **meets annually.**
6. **Chairmanship:**
   a. Elected for 2 years (voluntary offer/geographical rotation).
   b. Current Chair (2023–25): Sri Lanka
   c. India is the Vice-Chair (2023–25); will take over as Chair (2025–27).
7. **Secretariat:** Based in Mauritius, headed by Secretary-General.
   a. Decisions made by consensus; commitments are voluntary.
8. **Observer to:**
   a. UN General Assembly
   b. African Union (since 2015)
9. **Member States (23):** Australia, Bangladesh, Comoros, France, India, Indonesia, Iran, Kenya, Madagascar, Malaysia, Maldives, Mauritius, Mozambique, Oman, Seychelles, Singapore, Somalia, South Africa, Sri Lanka, Tanzania, Thailand, UAE, Yemen.
10. **Dialogue Partners (12):** China, Egypt, Germany, Italy, Japan, Turkey, Russia, Saudi Arabia, South Korea, UK, USA, EU.
11. **Priority Areas:**
    a. Maritime Safety and Security
    b. Trade and Investment Facilitation
    c. Fisheries Management
    d. Disaster Risk Management
    e. Academic, Science and Technology Cooperation
    f. Tourism and Cultural Exchanges
12. **IORA Special Fund:**
    a. Established in 2004 (Colombo Meeting).
    b. Supports implementation of projects aligned with IORA's Charter and goals.

Significance of the Indian Ocean

1. 3rd-largest ocean; critical to global trade.
2. Handles:
   a. 50% of global container traffic
   b. 33% of bulk cargo
   c. 66% of global oil shipments
3. It includes 2.7 billion people; rich in cultural and civilisational heritage.
4. Regional groupings: **ASEAN, SAARC, GCC, SADC**

India's Role in IORA

1. **SAGAR Vision aligns with IORA's goals** – maritime security, economic growth, sustainability.
2. Uses **strong diplomatic and economic ties** to promote cooperation.
3. Aims to **enhance IORA funding** via public-private partnerships in shipping, oil, gas, and tourism.
4. Promotes **digital tools for better data and faster decision-making.**
5. Supports marine education and the **blue economy** through academic partnerships.

Challenges Faced by IORA

1. **Limited budget**; depends on member contributions.
2. **Most members are developing countries** with financial constraints.
3. Large mandate, but **lacks resources** for full implementation.
4. **Weak private sector engagement** in key maritime sectors.
5. **Small Secretariat in Mauritius** with low capacity.
6. **Poor data systems** hinder efficient planning and execution.

15. India-Germany Strategic Partnership: Silver Jubilee

Context

1. India and Germany are celebrating **25 years of their strategic partnership in 2025.**
2. The partnership has steadily grown and is prepared to face global challenges today.
3. Germany's 'Focus on India' strategy outlines a clear vision for the future of bilateral ties.
4. The **German Coalition Treaty** and discussions between German Chancellor Friedrich Merz and PM Narendra Modi, and between Foreign Ministers Johann Wadephul and S. Jaishankar, emphasises continuing and strengthening cooperation.

Four Pillars of the Partnership

The partnership rests on **four main pillars:**

1. Peace
2. Prosperity
3. People
4. Future of our planet (environment)

Peace and Stability

1. Peace and stability are essential for the development of both India and Germany.
2. Both countries share a vision of a peaceful, stable, rules-based international order.
3. The **Intergovernmental Government Consultations (IGGC)** is a unique, regular dialogue platform strengthening bilateral ties.
4. Defence cooperation has grown in recent years, including joint military exercises.
5. For example, the **Tarang Shakti Exercise (2024)** at Sulur Air Force Station in Tamil Nadu involved skilled teamwork of Indian and German pilots.
6. The German Navy's port calls in India underline the importance of the Indo-Pacific region in Germany's strategy.
7. Future plans include closer strategic defence cooperation and stronger links between defence industries of both countries.

Prosperity and Economic Cooperation

1. Prosperity means **economic growth, meaningful jobs, and better living standards.**
2. Approximately **2,000 German companies** operate in India, providing over **750,000 jobs** to Indians.
3. **The Delhi-Meerut Rapid Rail project** is a notable cooperation example, run by Deutsche Bahn, Germany's national railway.
4. Indian companies are expanding in Germany, integrating into advanced supply chains.
5. Despite global trade disruptions, these supply chains reflect deep trust between India and Germany.
6. Negotiations on a **Free Trade Agreement (FTA)** between India and the European Union, including Germany, are progressing.
7. **Science and technology collaboration** is strong, with Indian researchers working in leading German institutions.
8. **Technological cooperation** helps convert environmental challenges into business opportunities.

People-to-People Relations

1. People are the living bridge of this partnership, sharing experiences and cultures.
2. More than **50,000 Indian students** study in Germany, the largest foreign student group there.
3. Many Indian students work temporarily in Germany and return to India with skills and savings.
4. Some Indians settle permanently in Germany, raising families and enriching cultural ties.
5. Young Indians actively share their lives in Germany through social media.
6. Indians adapt well and contribute positively to German society and economy.
7. Learning the German language improves opportunities for Indians in Germany.
8. Interest in learning German is growing in India, requiring more trained teachers.
9. More Germans should study, work, and live in India to better understand its culture and languages.
10. Investing in young generations of both countries will strengthen this partnership in the coming 25 years.

Green Development and Environmental Cooperation

1. Environmental partnership is a crucial part of the strategic ties.
2. In **2022,** Germany committed **€10 billion (euros)** in loans and grants to India over **10 years.**
3. This initiative is called the **Indo-German Green and Sustainable Development Partnership (GSDP).**
4. Cooperation includes **renewable energy, biodiversity protection, and smart city projects.**
5. Private sector collaborations are also active in **green technology.**
6. In **Gujarat**, large renewable energy projects feature solar panels and windmills.
7. Some wind turbine rotor blades are manufactured by a German company, showing technology sharing.
8. Germany aims to support India's energy transition and growing economy through technology.

Conclusion

As India and Germany mark 25 years of strategic partnership, their ties stand strong and future-ready.

Rooted in shared values, the **four pillars—Peace, Prosperity, People, and Planet**—guide their collaboration. Continued **high-level engagement and mutual trust** drive progress across sectors.

Together, they are shaping a **sustainable, secure, and prosperous future.**

C. SECURITY

1. Civil Defence Mock Drill Conducted Nationwide on May 7, 2025

Context:

1. In May**, 2025**, the **Ministry of Home Affairs (MHA)** had issued directives to all States and Union Territories to conduct civil defence mock drills on May 7, 2025.
2. The drill was ordered amid escalating tensions between India and Pakistan, following the Pahalgam terror attack and recent missile tests conducted by Pakistan.
3. This was the **first large-scale civil defence preparedness exercise since the 1971 India–Pakistan war.**

What Are Civil Defence Districts?

1. Civil Defence Districts are specially designated areas where civil defence plans are implemented for **protecting civilians and infrastructure during emergencies.**
2. The districts are notified based on their strategic importance, location near borders, and presence of critical infrastructure

Demarcation Details

1. **259 districts** were notified in **2010**; in **January 2023**, the Centre identified 295 vulnerable towns/districts needing active civil defence measures.
2. Divided into **three categories:**
   a. Category I (13 districts): Full implementation
   b. Category II (201 districts): Partial implementation
   c. Category III (45 districts): Limited implementation

What the Mock Drill Entailed?

The drill simulated various **war-like emergency scenarios** and included the following activities:

1. Activation of air raid warning sirens
2. Crash blackout procedures (simulated blackouts in select areas)
3. Hotline/radio link testing with the Indian Air Force
4. Operational control and shadow control rooms were manned
5. Evacuation rehearsals and civilian training sessions
6. Camouflaging of critical infrastructure like power plants and military sites
7. Testing civil defence services: wardens, rescue teams, firefighting units
8. Clearing of bunkers and trenches
9. Updating of district-wise civil defence and evacuation plans

Impact on Public Life

The mock drill had noticeable effects in several towns and districts:

1. Brief power cuts were implemented to simulate crash blackouts.
2. Sirens were heard in designated areas, halting traffic movement temporarily.
3. Evacuation exercises were carried out in some schools, offices, and public places.
4. In certain high-risk districts, people were directed to shelters and bunkers
5. Mobile network disruptions, public announcements, and restricted area access occurred as part of the simulation.

Conclusion

The nationwide civil defence mock drill conducted on May 7, 2025, was a crucial step in national preparedness, aimed at readying both the government and citizens for emergencies such as war or terrorist attacks. While it temporarily disrupted routine public life in many districts, it demonstrated India's resolve to proactively **safeguard its population through coordinated civilian-military readiness.**

2. Operation Keller – Counter-Terror Success in Kashmir

Context

1. In May, 2025, the Indian Army, with support from J&K Police and CRPF, launched **Operation Keller** in Shopian district, South Kashmir.

2. The operation led to the neutralisation of three terrorists, including Shahid Kuttay, the chief of **The Resistance Front (TRF)** and the mastermind of the Pahalgam terror attack.
3. TRF is considered a front for **Lashkar-e-Taiba (LeT)**, a banned, Pakistan-backed terror group.
4. This is seen as a major blow to terrorist networks operating in the Kashmir Valley.

What Is Operation Keller?

1. A targeted counter-terror mission launched in the dense forests of Shoekal Keller in Shopian.
2. Based on intelligence inputs from Rashtriya Rifles, a unit specialising in counter-insurgency operations.
3. The area was sealed off by the Army and paramilitary forces, leading to a brief but intense gunfight.
4. All three terrorists were killed, and the operation was still ongoing as of May 14.

Background of the Attack

1. **Shahid Kuttay** was the top commander of TRF, a known proxy of LeT, and the key planner behind the Pahalgam massacre, which killed 26 civilians in a public space earlier in 2025.
2. His elimination removes a key figure in Pakistan-sponsored terrorism in Kashmir.
3. This was the **second major anti-terror encounter in Kashmir in 2025:**
   - The first was in March, when a Pakistani terrorist was killed by J&K Police in the Handwara forests, 100 km north of Srinagar.

Strategic and Security Context

1. Operation Keller comes shortly after **Operation Sindoor (**May 7, 2025), under which:
   a. The Indian Air Force carried out airstrikes on 9 terror camps in Pakistan-occupied Kashmir (PoK) and Pakistan.
   b. This was in response to the Pahalgam terror attack, signaling a strong Indian response.
      i. Both operations are part of India's broader strategy to counter cross-border terrorism.

About the Rashtriya Rifles (RR)

1. A special **counter-insurgency force** under the **Ministry of Defence**, formed in 1990.
2. Draws powers from the **Armed Forces (Jammu and Kashmir) Special Powers Act, 1990 (AFSPA).**
3. Known as the Indian Army's "specialist elite force to combat insurgency".
4. Headquartered in Udhampur under Northern Command, led by an Additional Director General (ADG RR).

About Shopian District

1. Located in **southern Kashmir,** bordered by Pulwama, Anantnag, Kulgam, and the Pir Panjal range.
2. Altitude: **2,146 metres**, with harsh winters (down to −7°C).
3. Historical trade route via the Mughal Road linking Lahore and Srinagar.
4. Granted district status in 2007.
5. The economy is horticulture-based, especially known for apple orchards.
6. The name Shopian may derive from:
   - "Shah-payan" (royal stay), or
   - "Shin-van" (snow forest).

Broader Implications for Internal Security

1. Strengthens India's case globally against Pakistan's support to terrorism.
2. Demonstrates the effectiveness of pre-emptive strikes (e.g., Operation Sindoor) and post-attack precision operations (like Keller).
3. Signals a shift to proactive, fast-response counter-terror strategy in Kashmir.

3. Zero Tolerance Policy Against Terrorism & Maoists

Context

1. Recently, the Prime Minister publicly reiterated the Indian government's policy of "zero tolerance" against terrorism and Naxalism (Left-Wing Extremism).
2. He made this statement while inaugurating the Northeast Rising Summit on May 23, 2025.

What is Left-Wing Extremism (LWE) in India

1. LWE, commonly known as Naxalism or Maoism, refers to armed insurgency movements in India that seek to overthrow the existing democratic state structure through violent means, inspired by radical leftist and Maoist ideologies.

2. This movement originated from the 1967 uprising in Naxalbari (West Bengal), led by members of the Communist Party of India (Marxist)
    a. The CPI- the main LWE outfit in India, is known for its adherence to Maoist ideology and its objective of establishing a "New Democratic Revolution" through armed struggle.
    b. This quickly spread to underdeveloped, tribal-dominated, and rural regions in central and eastern India, often called the "Red Corridor". (as shown in the map)
3. This movement is characterized by a focus on social justice, land rights, and the rights of marginalized communities.

Status of Left Wing Extremism in India:

1. According to the data declared by the Central government in 2022, overall violent occurrences in Naxal-affected regions reduced by 76% as compared to 2010.
2. As per the Multidimensional Poverty Index (MPI) by the Oxford Poverty and Human Development Initiative, regions affected by left-wing extremism, like Jharkhand, are driven by high levels of deprivation, contributing to discontent.
    a. Poor Governance: Lack of effective governance and corruption often exacerbate feelings of alienation and injustice, driving people towards extremism.
    b. Illiteracy and Unemployment: These factors, evident in Odisha, contribute to the vulnerability of individuals to extremist ideologies.

What are the challenges that India faces due to the rise in Left Wing Extremism?

1. **Internal Security Threat:** LWE poses a direct threat to India's internal security by targeting security forces, police, government officials, and critical infrastructure. This undermines the state authority, disrupts law and order, and creates "liberated zones" where state presence is minimal or absent.
    a. For example, the major operations in Chhattisgarh, such as the neutralization of 16 Naxalites in Sukma (March 2025) and 27 killed in Narayanpur (May 2025), highlight ongoing violent confrontations.
2. **Socio-Economic Underdevelopment**: The government acknowledges that Naxalism has stalled progress in Central and Eastern India, preventing education, healthcare, and connectivity from reaching remote villages.
    a. For example, the number of LWE-affected districts has reduced, but the remaining areas still struggle with development bottlenecks.
3. **Exploitation and Alienation of Tribal and Marginalized Populations:** The LWE movement usually exploits grievances of tribal and marginalized groups, such as landlessness, displacement due to mining or industrial projects, and denial of rights over land and forests.
    a. Inadequate rehabilitation and social exclusion fuels the resentment towards the government and support for extremist groups.
    b. In Chhattisgarh and Telangana, Maoists continue to recruit from tribal populations by leveraging local discontent and resistance to state-led projects.
    c. The surrender of 50 Naxalites in Bijapur (March 2025) reflects ongoing efforts to bring alienated groups back into the mainstream
4. **Governance and Administrative Deficit:** Weak governance, corruption, and failure to deliver justice or basic entitlements erode public trust in state institutions. LWE groups often fill this vacuum by providing alternative systems of governance and justice.
    a. Despite security gains, forest areas like Chhattisgarh and Jharkhand still witness sporadic violence and attempts by Maoists to reassert control, like the security camps reclaimed along the Chhattisgarh-Telangana border (April–May 2025).

What are the government's initiatives to counter LWE?

1. Initiatives like 'Aspirational Districts Programme' aim to address socio-economic disparities and curb extremism.
2. Enhanced Security Operations like '**Operation Green Hunt'** focus on neutralizing extremists and reclaiming areas under their control.

3. **National Policy and Action Plan (2015):** The central government approved this policy aiming to address LWE comprehensively. The policy adopts a multi-pronged strategy which includes:
   a. To strengthen the security operations against LWE groups.
   b. Addressing the root causes of extremism by promoting infrastructure.
   c. Ensuring that local people benefit from development projects..
4. **Collaborative Efforts:** The state governments demonstrate a collaborative effort by having meetings and reviews with chief ministers and officials of affected states to promote cooperative federalism.
5. **SAMADHAN Strategy:** The Ministry of Home Affairs developed the comprehensive strategy that covers multiple aspects like:
   a. It encourages the development of astute leaders capable of making informed decisions.
   b. It involves adopting an assertive approach, including proactive security operations and robust policy measures.
   c. It aims to boost the morale and skills of security forces and other stakeholders.
   d. It enhances intelligence capabilities to preemptively detect and neutralize threats.
   e. It optimizes efficiency by using modern technology for intelligence, surveillance, and operational efficiency.

Way Forward

1. **Security Measures**: Continue strengthening the capacity of state police and Central Armed Police Forces (CAPFs), modernize equipment, and improve intelligence sharing. Establish more Counter Insurgency and Anti-Terrorism (CIAT) schools and fortified police stations in affected areas.
2. **Development Initiatives:** Accelerate infrastructure projects (roads, telecom, electricity), improve healthcare and education, and ensure that government schemes reach the grassroots. Special focus on expanding road networks and digital connectivity can reduce isolation and improve state presence.
3. **Community Rights and Entitlements:** Ensure land rights, forest rights, and access to traditional resources for tribal and marginalized populations. Fast-track the implementation of the Forest Rights Act and other welfare schemes to build trust and address core grievances.

4. Creation of Integrated Theatre Commands

Context

The Indian government is planning for the big change - the Army, Navy, and Air Force will be reorganized to operate more closely as a single unit - "Integrated Theatre Commands."

1. The Ministry of Defence has also (in Jan 2025) announced that 2025 will be the "Year of Reforms" for the armed forces.
2. Plan is to have a major push to modernize and upgrade the defence forces so that they work better together and are ready for future challenges

What are "Integrated Theatre Commands (ITC)"?

1. An ITC is a military structure where the Army, Navy, and Air Force operate under a single commander for a specific geographic area or thematic purpose.
2. This unified command aims to improve coordination, decision-making, and combat effectiveness by pooling resources and ensuring seamless integration of forces.
3. Structural Mandate:
   a. The Chief of Defence Staff (CDS) is responsible for making sure the Army, Navy, and Air Force work together smoothly in every area—like operations, logistics, training, and support.
   b. The plan is to have three main theatre commands:
      i. Two land commands (for the western and northern borders)
      ii. One maritime (sea) command (for the coastline)
   c. It is recommended that the heads of these commands, as well as the Vice CDS, should all be four-star officers—just like the Army, Navy, and Air Force chiefs, and the CDS.

Why is this change necessary?

1. Instead of each branch fighting separately, the ITC system makes better teamwork and coordination, which is much more effective in modern warfare.
2. For example, India will be better prepared for threats from countries like China or Pakistan, or for handling emergencies like natural disasters.
3. With one commander in charge of a region, decisions can be made quickly without waiting for approval from different branches.
4. Service chiefs focus on building and maintaining the force; theatre commanders focus on using it during operations - it clarifies the role with respective boundaries.

Countries with Integrated Theatre Commands	
United States	Has 11 unified geographic and functional combatant commands (e.g., Indo-Pacific Command, Central Command) that integrate all service branches for global operations.
China	Reorganized its military in 2016 into five theatre commands: Eastern, Southern, Western, Northern, and Central, each responsible for specific strategic regions and threats.
Russia	Operates four main military districts (Western, Southern, Central, Eastern) functioning as theatre commands, integrating land, air, and naval forces for regional defense.
United Kingdom	Has a Joint Forces Command overseeing cyber, intelligence, and logistics, integrating operations across services, especially for overseas deployments
France	Uses Commandement des Operations Speciales and other joint operational commands to coordinate special forces and overseas military actions
India is moving toward this model, with the Andaman and Nicobar Command as its only operational tri-service theatre command so far, and plans underway for more integrated theatre commands	

What are the major challenges to adapt with the ITC system in the context of India?

1. **Lack of Unified Doctrine:** The Indian Army, Navy, and Air Force have different operational cultures and priorities, making it difficult to agree on a joint war-fighting doctrine and command structure.
   a. **For example,** the Indian Air Force, in particular, has concerns about losing operational control and resource dilution within theatre commands.
   b. Transitioning from single-service to joint commands requires major restructuring and clarity in roles.
2. **Resource and Budget Constraints:** India's armed forces face limited budgets, with the Army dominating allocations, which can skew resource distribution and influence within commands.
   a. The Air Force operates with fewer squadrons than required, and the Navy's budget restricts its maritime capabilities.
3. **Outdated Equipment and Infrastructural Gaps:** Many platforms, such as MiG-21s and delayed indigenous projects like the Arjun tank or new aircraft carriers, highlighted the existing gaps in modernization and integration.
   a. Underdeveloped infrastructure, especially in border areas like the Northern Theatre, hampers joint operations due to poor connectivity and logistics.
   b. The China-centric Northern Theatre and Pakistan-centric Western Theatre need tailored approaches to counter specific adversaries.
   c. These gaps affect the ability to effectively integrate and deploy forces under theatre commands.
4. **Technological Enhancement:** India's integration of advanced technologies (cyber, space, electronic warfare, and ISR—Intelligence, Surveillance, Reconnaissance) is still in early stages and lags behind countries like China.

Way Forward

1. Establish Clear Joint Doctrine and Command Structure: Develop and formalize a unified war-fighting doctrine that clearly defines the roles,

responsibilities, and authority of theatre commanders and service chiefs.This should be backed by robust joint training and regular inter-service exercises to build trust and operational synergy.

2. Optimize Resource Allocation and Modernize Equipment: India should prioritize modernization of outdated platforms and invest in new technologies, so each theatre command is well-equipped for its specific operational requirements.
3. Streamline Command Hierarchy and Integration: Need to establish high-level organizational structure by initiating joint staff committees and integrated logistics, acquisition, and human resource management for seamless functioning.
4. Upgrade Infrastructure and Technology: Need to invest in infrastructure in strategic areas (especially border regions) and accelerate integration of advanced technologies like cyber, space, and electronic warfare capabilities.

5. BrahMos Aerospace Integration and Testing Facility

Context

1. Recently, the Defence Minister of India inaugurated the BrahMos Aerospace Integration and Testing Facility in Lucknow, Uttar Pradesh.
2. It is a major step to achieve self-reliance in defence manufacturing.
3. It was inaugurated on National Technology Day.
4. National Technology Day 2025 was celebrated on 11th May 2025.
   a. The theme is 'YANTRA: A New Era for Advancing Technology, Research, and Progress'.

BrahMos Missile System

1. BrahMos is named after two rivers: the Brahmaputra in India and the Moskva in Russia.
2. The BrahMos missile is one of the world's fastest supersonic cruise missiles.
3. Cruise missiles are described as unmanned, self-propelled guided vehicles that remain airborne by generating aerodynamic lift for the majority of their flight.
4. Cruise missiles are:
   a. Unmanned (no pilot inside).
   b. Self-propelled (they move on their own).
   c. Guided (directed toward a target).
   d. They stay in the air by using aerodynamic lift (like an airplane) for most of their flight.
   e. Their main job is to deliver a bomb or special payload to a target.
      It is co-developed by India and Russia.
5. It is considered as a symbol of strategic deterrence, military strength, and national pride.
6. BrahMos is a two-stage missile system.
7. First Stage: The first stage is a solid propellant booster engine.
   a. A solid propellant booster engine is a type of rocket engine that uses solid fuel (propellant) to produce thrust.
   b. Solid propellant consists of a mixture of fuel and oxidizer that is cast or packed into a solid form.
   c. The first stage brings it to supersonic speed and then gets separated.
8. Second Stage: The second stage is liquid ramjet stage.
   a. A liquid ramjet stage refers to a propulsion stage in a missile or aerospace vehicle that uses a ramjet engine powered by liquid fuel.
   b. It takes the missile closer to 3 Mach speed in cruise phase.
9. It has stealth technology and guidance system with advanced embedded software that provides the missile with special features.
10. The missile has a flight range of up to 290-km with supersonic speed.
11. It operates on 'Fire and Forget Principle' adopting varieties of fights on its way to the target.
12. It is able to carry a conventional warhead that weighs between 200 - 300 kilograms (Kg).
13. It is a missile that can be launched from land, air, or sea, making it very versatile.
14. Compared to other modern subsonic cruise missiles, BRAHMOS is:
    a. 3 times faster,
    b. 2.5 to 3 times longer in range,
    c. 3 to 4 times better at finding its target,
    d. 9 times more powerful in impact (Kinetic Energy).

6. Operation Sindoor to Ceasefire: A Holistic Coverage

What was Operation Sindoor

1. Operation Sindoor launched on May 7th, 2025, to retaliate against the Pahalgam terrorist attack on April 22nd, 2025.
2. Indian forces attacked nine terrorist bases in Pakistan and Pakistan-Occupied Kashmir (POK).

a. These terrorist bases belonged to Jaish-e-Mohammed, Lashkar-e-Taiba, and Hizbul Mujahideen in Pakistan and POk.

3. This Operation was conducted by the coordinated efforts of the Army, Navy, and Air Force, conducted from Indian territory.
4. India's forces only targeted terrorist bases and never attacked civilians. However, Pakistan attacked civilian areas in India and even tried to harm temples, gurdwaras, and churches.

Arms and Ammunition Used by India:

India used High-Precision Weapons in Operation Sindoor:

1. SCALP Cruise Missiles:

a. It is a cruise missile. It is also known as Storm Shadow.
b. It is a long-range, air-launched (aircraft-to-aircraft), stand-off attack cruise missile
c. It was developed by MBDA, a multinational defence company based in Europe.
d. The missile has a range of approximately 560 kilometres (around 350 miles).
e. It can be launched from various aircraft platforms, including the Mirage 2000 and the Rafale.
f. It consists of GPS + Inertial Navigation + TERCOM + Imaging Infrared (IIR) for terminal guidance
g. TERCOM, short for Terrain Contour Matching, is a navigation system primarily used in cruise missiles to enhance their accuracy and stealth capabilities.
    i. By comparing real-time terrain data with preloaded maps, TERCOM enables missiles to fly at low altitudes, closely following the Earth's contours, which makes them harder to detect by enemy radar systems.
    ii. Stealth capabilities refer to the ability of a military platform (like an aircraft, missile, ship, or drone) to avoid detection by enemy sensors, especially radar, infrared, sonar, or visual systems.
h. A gyroscope is a device that helps to measure or maintain orientation and angular velocity. It works based on the principles of angular momentum.
    i. Examples of India's Cruise Missile: BrahMos, Nirbhay

2. HAMMER Precision-Guided Missile:

a. HAMMER (Highly Agile Modular Munition Extended Range), is an all-weather precision air-to-ground munition
b. Its range is about 70 km, which is also known as a glide bomb.
c. Manufactured by a French company called SAFRAN.
d. It cannot be jammed by enemy jamming systems, jammers are not effective against it.
e. It can be used with various standard bomb sizes, including 125 kg, 250 kg, 500 kg, and 1000 kg.
f. It is equipped with a wide range of guidance systems, including INS/GPS, laser, and infrared imaging.
g. It can be launched from low altitude and it is difficult to intercept it.

3. Loitering Munitions:

a. Loitering munitions are a special type of weapon that combine features of drones and missiles.
b. It is a new type of unmanned aerial vehicle (UAV) used in modern warfare.
c. Unlike regular drones, which are usually used for watching or spying, loitering munitions are made to attack targets directly.
d. Loitering munitions are also called kamikaze drones or suicide drones.
e. They carry advanced sensors, guidance systems, and explosive warheads.
f. It can provide real-time information about the battlefield.
g. They can stay in the air for a long time during missions.
h. They are able to make their own decisions about when to attack a target.

4. **S-400 Air Defence System**:
   a. The S-400 is a powerful long-range air defense missile system. It is a surface to air defense missile.
   b. It is also known as the "Sudarshana Chakra".
   c. India bought it from Russia in 2018 to protect its skies from enemy aircraft, missiles, and drones.
   d. It has a range of 400 Kms.
   e. Its missiles are very fast and can travel up to 17,000 kilometers per hour, which is about 14 times faster than the speed of sound.

Past Attacks on India and India's Responses Against Pakistan:

Year	Operation / War	Trigger Event	Indian Response	Outcome
1947	First Indo-Pak War	Tribal invasion in Kashmir	Military defense	Ceasefire; PoK Created
1965	Second Indo-Pak War	Pakistan infiltration in J&K	Army counterattack	Tashkent Agreement (1966)
1971	Bangladesh Liberation War	Crisis in East Pakistan	Full-scale war, naval strikes	Creation of Bangladesh
1999	Kargil War	Pakistani intrusion in Kargil	Operation Vijay & Safed Sagar	India Regained Territory
2016	Surgical Strikes	Uri terror attack	Special Forces cross-LoC attack	Terrorist Bases Targeted
2019	Balakot Air Strike	Pulwama suicide bombing	Air strikes on terror camp	Escalation, Strong Political Signal

Ceasefire Agreement:

1. On May 10th, 2025, India and Pakistan agreed to a ceasefire.
2. The agreement came after talks between the military heads (DGMOs) of both countries.
3. Soon after the agreement, both India and Pakistan blamed each other for breaking the ceasefire.
4. Explosions happened in Indian-administered Kashmir. India said Pakistan had broken the truce.
5. After some early fighting, the situation became calm by May 13, 2025.
6. Both armies stayed alert, and India's military was on high alert.

Punitive Actions that will Remain in Effect Even after the Ceasefire:

1. Suspension of the Indus Waters Treaty by India:
   a. India has not reversed its decision to suspend the Indus Waters Treaty.
   b. This treaty controls the sharing of river waters between the two countries.
   c. Pakistan considers this move a serious threat to its water security.
2. Continued High Alert by Indian Forces:
   a. The Indian military remains on high alert despite the ceasefire.
   b. Vigilance and readiness to respond to any provocation will continue.
3. No Resumption of Diplomatic Talks Yet:
   a. There has been no announcement about resuming broader diplomatic or trade talks.
   b. Communication remains limited to military channels (like the DGMOs).
4. Cross-Border Monitoring and Intelligence Operations
   a. India is likely to continue strict monitoring of cross-border movements.
   b. Surveillance and intelligence operations along the Line of Control (LoC) will stay active.

Conclusion

Operation Sindoor showed that India can strongly fight back against terrorism using modern weapons and teamwork. The ceasefire on May 10th, 2025, brought some peace, but tensions still remain. India is staying alert and taking strict steps for its safety. For real peace, both countries need to take honest steps, not just sign agreements.

7. India Shoots Down Pakistan's PL-15 Missile in Punjab: A New Escalation in the India-Pakistan Conflict

Context

1. In April 2025, amid growing military tensions, India intercepted and recovered a PL-15 long-range air-to-air missile launched by the Pakistan Air Force (PAF).
   a. The missile interception and retaliation are part of a broader strategy under Operation Sindoor, which began as a response to the Pahalgam terror attack on April 22, 2025.
2. The missile landed intact and unexploded in Hoshiarpur, Punjab.
3. The recovery is seen as a major intelligence breakthrough and a milestone in India's aerial defense preparedness.

What is the PL-15 Missile?

1. The PL-15 is a Chinese radar-guided long-range air-to-air missile, used by both China and Pakistan's air forces.
2. **Key Specs:**
   a. Range: Up to 200 km (export version: 145 km)
   b. Speed: Over Mach 5
   c. Length: 4 meters | Diameter: 200 mm
   d. Guidance: Inertial + Satellite Navigation + Active Radar + Datalink
   e. Propulsion: Dual-pulse solid-fuel rocket motor
3. Developed by China Airborne Missile Academy (CAMA); entered Chinese service in 2015.
4. Seen on platforms like JF-17 (Pakistan), J-10C, J-16, J-20 (China).
   a. JF-17 Thunder is a 4th-generation, multi-role combat aircraft developed in a joint effort between the Pakistan Aeronautical Complex (PAC) and China's Chengdu Aircraft Corporation (CAC)

Key Points from the Incident

1. **Missile Recovery and Significance**
   a. Fired from a PAF JF-17 fighter jet, the missile was recovered intact by Indian security forces.
   b. Its unexploded condition allows reverse engineering, trajectory analysis and insight into Pakistan's targeting intent and operational strategy.
2. **Missile Neutralization**
   a. India's air defense intercepted all incoming missiles from Pakistan during this episode.
   b. Pakistani strikes targeted military sites in J&K, Punjab, Rajasthan, and Gujarat but were fully thwarted.
   c. Confirms high operational readiness of India's air defense infrastructure.

India's Air Defense Capabilities

1. India has developed a multi-layered air defense network, including:
   a. S-400 Triumf Systems (acquired from Russia)
   b. Akash Surface-to-Air Missiles
   c. Barak-8 interceptors
   d. Integrated Counter-UAS Grid
   e. DRDO Anti-Drone Systems
2. S-400 Deployment
   a. Operational since 2018
   b. 3 of 5 S-400 squadrons are deployed along the China-Pakistan border
   c. Enables interception of high-speed, long-range threats

Indian Response: Strategic Counterattacks

1. India retaliated with precision strikes in Pakistani territory.
   a. Targets hit: Chinese-supplied HQ-99 air defense unit in Lahore, key radar installations.
   b. Weapons used: SCALP cruise missiles, HAMMER smart bombs, loitering munitions
2. Demonstrated ability to carry out surgical, high-impact countermeasures.

Strategic Significance

1. The PL-15 interception signals a new chapter in India–Pakistan conflict dynamics.
2. Reflects India's improved missile defense systems, intelligence-led operational readiness and firm policy on cross-border terrorism.
3. Highlights growing use of drones and precision missiles in regional conflict.

D. ECONOMY

1. Vizhinjam Port : India's 1st Dedicated Container Transshipment Port

Context

1. In May 2025, The Prime Minister of India inaugurated the ₹8,800 crore **Vizhinjam International Deepwater Multipurpose Seaport** in **Kerala**.
2. It is **India's first transshipment hub** dedicated to transshipment.
3. It is aiming to reclaim a large share of cargo that **currently gets routed via Sri Lanka's Colombo port.**
4. It will allow India to handle global cargo directly.
5. It is also the **first semi-automated port** in the country and is **equipped with an AI-powered vessel traffic management system** developed in collaboration with IIT Madras.

Key Features

1. **Location:** Near **Thiruvananthapuram**, **Kerala**.
2. **Developer: Adani Ports and SEZ Ltd** in partnership with the Government of Kerala.
   a. The Kerala government has borne two-thirds of the total cost, including funding for the 2.95 km breakwater.
3. **Natural Depth:** Nearly 20 metres, ideal for mega container ships.
4. **Proximity to Global Route:** Located just 10 nautical miles from the East-West international shipping route.
   a. **Vizhinjam** is now part of the **MSC's Jade Service route**, connecting Singapore to Europe, marking a key milestone in India's maritime ambitions.
5. The port will be connected via **NH 66 and a new railway link**, and Kerala's first cloverleaf interchange is being developed to handle future logistics traffic.

Strategic Importance:

1. Reduces reliance on foreign ports such as Colombo, Singapore, and Dubai.
2. Decreases logistics costs and turnaround times for Indian exporters and importers.
3. Enhances India's standing as a maritime hub in the Indian Ocean Region (IOR).

Current Status of India's Port Sector

1. **Port Infrastructure**
   a. India has 13 Major Ports under central administration and 200+ Minor Ports under state governments.
   b. Major Ports are governed by the Major Port Authorities Act, 2021.
   c. Minor Ports are governed by the outdated Indian Ports Act, 1908.
2. **India's Maritime Profile**
   a. India is the 16th largest maritime nation in the world.
   b. Ports handle 95% of India's international trade by volume and around 70% by value.
   c. India is strategically located along key global trade routes, giving it potential as a transshipment hub.

Significance of Port Economy in India's Growth

1. Ports are **critical trade gateways** that enable faster and cost-efficient import-export of goods.
2. A robust port sector enhances **export competitiveness** and reduces the trade deficit.
3. Ports generate large-scale **direct and indirect employment** in logistics, transportation, and warehousing.
4. The government allows **100% FDI under automatic route** for port infrastructure, attracting global investment.
5. Ports integrate with **multi-modal logistics networks**—including road, rail, and inland waterways.
6. They are essential for the development of **Coastal Economic Zones (CEZs)** and **industrial clusters.**
7. Ports contribute to government revenue through **customs duties, service charges,** and **port fees.**

Achievements in the Port Sector

1. **Capacity Expansion**
   a. Cargo handling capacity at major ports has increased to **820 Million Metric Tonnes (MMT), a 47% growth** since 2014.
   b. Overall port capacity has **doubled to 1,630 MMT.**
   c. India aims to achieve **10,000 MMT capacity by 2047.**
2. **Key Mega Port Projects**
   a. **JNPT (Jawaharlal Nehru Port)** has surpassed **10 million TEUs (Twenty-foot Equivalent Units)** in container handling.
   b. **Vadhavan Port** in Maharashtra is under development to be India's largest container port.
   c. **Galathea Bay Port** in Great Nicobar aims to become a major international transshipment hub.
3. **Operational Efficiency**
   a. According to the **World Bank's Logistics Performance Index 2023,** India improved its ranking to **22nd in International Shipments**, from 44th in 2018.
   b. **Turnaround time** of vessels has reduced to **0.9 days.**
   c. **Container dwell time** has reduced to **3 days.**
   d. **Nine Indian ports** were listed in the World Bank's Container Port Performance Index 2023.
   e. **Visakhapatnam Port** ranked among the **top 20 globally.**

Challenges in India's Port Sector

1. Many minor ports lack **modern facilities, mechanisation,** and **deep berths.**
2. Absence of advanced container handling technology hampers growth.
3. Poor planning and insufficient equipment result in long waiting times, especially at busy ports like **Nhava Sheva.**
4. **Dual control** of major and minor ports leads to **inefficiency and fragmented governance.**
5. The **Indian Ports Act, 1908** is outdated and does not align with current economic goals.
6. Many ports, especially on the **east coast,** suffer from **siltation**, reducing their operational depth.
7. Despite digitisation, cargo inspections and documentation are often delayed due to lack of coordination.

Government Initiatives and Reforms

1. Green and Digital Initiatives
   a. **Harit Sagar Guidelines** promote sustainable and environmentally friendly ports.
   b. **Sagar Setu App** helps simplify cargo clearance and logistics management.
   c. **National Logistics Portal (Marine)** is a digital platform to bring all stakeholders under one roof.
2. Legislative Reforms
   a. **Major Port Authorities Act, 2021** provides autonomy and corporate governance models for major ports.
   b. **Marine Aids to Navigation Act, 2021** modernises vessel navigation.
   c. **Indian Vessels Act, 2021** ensures legal uniformity across inland waterways.
3. Strategic Vision Plans
   a. **Maritime India Vision 2030** aims to develop **world-class mega ports, transshipment hubs,** and **modern logistics systems.**
   b. **Sagarmala Project** focuses on **port-led development, coastal connectivity,** and **reducing logistics** costs by leveraging India's maritime location.

Way Forward

1. The **Indian Ports Act, 1908** must be replaced with a modern law that supports private participation and innovation.
2. Upgrade non-major ports with modern berths, container scanners, and cargo-handling automation.
3. Invest in **smart port systems** using **IoT, blockchain,** and **AI.**
4. Expand **rail and road links** to reduce bottlenecks between ports and industrial zones.
5. Create **predictable policy frameworks** to attract more private capital and expertise in port development.
6. Ensure end-to-end **electronic documentation, real-time tracking,** and **automated inspections to reduce delays.**

Conclusion

The commissioning of Vizhinjam Port is a landmark event in India's maritime development journey.

It reflects India's vision to become a self-reliant, globally competitive hub for international shipping.

With reforms, modernisation, and integration of port infrastructure, India can lower logistics costs, enhance trade efficiency, and strengthen its strategic position in global supply chains.

A robust port economy will be a key pillar in achieving the goal of a **$5 trillion economy** and positioning India as a leading **blue economy.**

2. Pilot Study on Annual Survey of Services Sector Enterprises (ASSSE)

Context

1. On **30 April 2025,** the **Ministry of Statistics and Programme Implementation (MoSPI)** released the **Technical Report** of the **Pilot Study on the Annual Survey of Services Sector Enterprises (ASSSE).**
2. The pilot study lays the foundation for a **comprehensive, annual statistical survey of India's incorporated service sector,** using the **GSTN database.**
3. The full-scale survey is expected to begin in **January 2026**, covering sectors like **construction, trade, IT, education, healthcare, transport,** and more.

Background and Context of ASSSE

1. **A proposed annual survey** to collect granular economic data from **incorporated service sector enterprises** (registered under the Companies Act or LLP Act).
2. Aimed at addressing the lack of comprehensive data on India's formal service economy.
3. **Aim:**
   a. Test the **clarity and usability** of the questionnaire and instructions.
   b. Analyze **response rates** and cooperation levels.
   c. Evaluate **CAPI technology** for real-time digital data collection.

Key Results and Findings

Operational Insights

1. Most enterprises were **existent and cooperative.**
2. Data from **HQs in other states** posed difficulty due to centralized, CIN-based recordkeeping.
3. The questionnaire and instructions were largely **user-friendly and clear.**

Type of Enterprises

Type of Entity	Share (%)
Private Limited Co.	82.4%
Public Limited Co.	~8%
LLPs	~8%

Challenges Faced by India's Services Sector

1. **Skill Gaps**
   a. Only **51.25% youth are employable** (Economic Survey 2023-24).
   b. Just **5% of the workforce is formally skilled (WEF).**
2. **Informal Employment**
   a. In 2017–18, **78%** of services jobs were informal.
   b. Gig workers (e.g., Swiggy, Ola) lack **social security.**
3. **Global Competition**
   a. Visa restrictions for Indian IT professionals.
   b. Competing hubs: Philippines (BPO), Vietnam (Tech).
   c. Indian IT wages rising, **eroding cost advantage.**
4. **Digital and Infrastructure Gaps**
   a. MSMEs, especially rural/women-led units, lack **AI/digital adoption**.
   b. Slow integration of **Industry 4.0 tools** in smaller firms.
5. **Post-COVID Impact**
   a. Inbound tourism still recovering; FTAs at **90% of pre-pandemic levels** (first half of 2024).

Way Forward: Policy Recommendations

1. **Upskilling**
   a. Expand **Skill India Digital** to cover AI, cloud, cybersecurity.
   b. Strengthen **PMKVY 4.0** and implement the Prime **Minister Internship Scheme (PMIS).**

2. **Enhance Global Competitiveness**
   a. Negotiate **FTAs with the UK, EU, Australia** to ease mobility.
   b. Promote **Global Capability Centers (GCCs)** to attract R&D and finance functions.
3. **Digital Infrastructure**
   a. Boost **cybersecurity** and cloud security, especially in finance.
   b. Promote **digital literacy**, especially among small firms and rural businesses.
4. **Foster Growth in Smaller Cities**
   a. Follow **NITI Aayog's** call to develop **Tier-2 and Tier-3 cities.**
   b. Improve infrastructure, connectivity, and service support systems in smaller urban hubs

Conclusion

The **Pilot Study on ASSSE** is a **landmark effort** to institutionalize data collection from the **formal services sector**. It recognizes the sector's **critical role** in GDP, employment, exports, FDI, and urban transformation. Challenges such as skill gaps, informal employment, global constraints, and infrastructural deficits remain. Through **targeted reforms,** capacity-building, and improved digital infrastructure, the services sector can be made **more inclusive, globally competitive,** and **resilient**.

3. India's Digital Divide: Access vs Ability

Context

1. The first **Comprehensive Annual Modular Survey (CAMS)** conducted by **NSSO (National Sample Survey Office)** between **July 2022–June 2023**.
2. It reveals data on digital access across Indian households.
3. It assesses how access to **Internet and digital skills** vary across **social groups, income deciles, and rural-urban areas**.
4. The survey covered **3.02 lakh households** and **12.99 lakh individuals** across **India**.

Key Highlights of the Survey:

1. **Broadband Access Across India**
   a. At the national level, **76.3% of households** have broadband internet. However, this access is uneven:
      i. In **urban areas**, **86.5%** of households are connected.
      ii. In **rural areas**, the figure drops to **71.2%**.
2. **Regional Disparities:**
   a. Some states have very **high broadband penetration**, with **over 90%** of households connected.
   b. These include **Delhi, Goa, Mizoram, Manipur, Haryana, Sikkim**, and **Himachal Pradesh**.
   c. On the other hand, some states have **less than 70%** of households with broadband access.
   d. These include **West Bengal, Andhra Pradesh, Odisha**, and **Arunachal Pradesh**.
3. **Caste-wise Differences**
   a. Broadband connectivity also varies across caste categories:
      i. **General category** households: 84.1%
      ii. **Other Backward Classes (OBCs)**: 77.5%
      iii. **Scheduled Castes (SCs)**: 69.1%
      iv. **Scheduled Tribes (STs)**: 64.8%
4. **Income and Broadband Access**
   a. **Monthly per capita consumption expenditure (MPCE)** is used as a proxy for income as income data at household level is not available.
   b. The population is arranged from the bottom 10% to the top 10% in terms of MPCE.
      i. Among the **bottom 10%** households (poorest), only **28.4%** have broadband access.
      ii. Among the **top 10%**, broadband access is **98.1%**.
      iii. Even in the **second lowest decile**, only **56.2%** of households are connected.
   c. This shows a strong correlation between **economic status and digital access**.
5. **Mobile and Telephone Ownership**
   a. Mobile or telephone ownership is high across the country
      i. **94.2% of rural households** own a mobile or telephone
      ii. **97.1% of urban households** own a mobile or telephone.

b. Among individuals aged 1**5 and above:**
   i. **83.9% in rural areas** can use mobile phones.
   ii. **92.4% in urban areas** can use mobile phones.

6. **Gender and Social Disparities:**
   a. Despite high mobile ownership, actual usage reveals deeper inequalities:
      i. Among rural women from the **general category**, only **25.3%** use mobile phones exclusively.
      ii. In urban areas, the number increases to **51.2%**.
      iii. For **SCs, STs, and OBCs**, both male and female usage rates are significantly lower than the general category.
7. **Status of 4G and 5G usage:**
   a. **Rural Areas: More than half** the population uses 4G.
   b. **Urban Areas: More than 70%** use 4G.
   c. **40.4%** of the population still relies on **older technologies** like 2G or 3G.
   d. **5G adoption** is currently **negligible**.
8. **Digital skills Assessment:**
   a. The survey a**ssessed digital abilities** using tasks like internet usage, emailing, copy-paste, spreadsheet operations, and online banking:
      i. **Internet usage** (15+ years age): **53.6%** in rural areas, **74%** in urban areas.
      ii. **Sending/receiving emails**: **20%** in rural areas, **40%** in urban areas.
      iii. **Copy-paste function**: **40%** in rural areas, **60%** in urban areas.
      iv. **Spreadsheet arithmetic operations**: **Extremely low** nationwide.
      v. **Online banking**: Only **37.8%** of the total population aged 15+ can perform these tasks.
   b. This reveals that **basic digital literacy remains limited**, especially in rural and economically weaker sections.

Monthly Per Capita Consumption Expenditure (MPCE):

1. It is the **average amount** an individual **spends in a month** on food, housing, education, and other necessities.
2. It helps **measure living standards** and **economic conditions** across different regions.

Implications for India

1. **The Digital Divide is Stark**:
   a. Access to the internet and digital skills are still concentrated among the rich, urban, and upper social groups
   b. This leaves behind the poor, rural, and marginalized communities.
2. **Threat to Educational Goals**:
   a. India's commitment to **Sustainable Development Goal (SDG) 4**, which aims at **inclusive and equitable quality education**, is challenged by these digital disparities.
   b. Specifically, SDG targets **4.4.1** and **4.4.2** relate to digital and ICT skills, which are clearly lagging.
3. **Limited Employability**:
   a. Without basic digital skills like email use or online banking, large sections of the population face barriers to **employment in a digital economy**.
4. **Inequity in Access to Government Services**:
   a. Many government services are now digital-first, and this digital divide creates exclusion for those without access.
5. **Gender Inequality**:
   a. The gender gap in mobile and internet usage is a major concern, especially for women in rural and marginalized communities.
6. **Slow 5G Adoption**:
   a. Despite policy-level enthusiasm, actual ground-level usage of 5G is almost non-existent.
   b. This means **India is still catching up with 4G**, let alone advancing to next-gen tech.

Digital Divide in India:

1. The **digital divide** refers to the **gap between individuals, households, or regions** in terms of **access to digital technologies**, such as the internet, computers, smartphones, and the ability to effectively use them.
2. **Causes of Digital Divide:**
   a. **Income Inequality** – Poorer households can't afford internet and devices.
   b. **Lack of Infrastructure** – Rural and remote areas lack connectivity.

c. **Low Digital Literacy** – People lack training or exposure to digital tools.
d. **Gender Disparity** – Cultural and social barriers limit women's access.
e. **Caste and Social Barriers** – Marginalized groups face systemic exclusion.
f. **High Cost of Devices and Data** – Digital services are unaffordable for many.
g. **Lack of Local Language Content** – Many digital platforms are not multilingual.

3. **Impact of Digital Divide:**
   a. **Exclusion from Education** – Especially visible during online learning periods.
   b. **Reduced Job Opportunities** – Limits participation in the digital economy.
   c. **Poor Access to Public Services** – Citizens may miss out on government benefits.
   d. **Limited Financial Inclusion** – Low use of online banking and fintech services.
   e. **Social Isolation** – Affects participation in civic and social spaces.
   f. **Weaker Democratic Engagement** – Informed decision-making is hindered.
4. **Benefits of Bridging the Digital Divide:**
   a. **Inclusive Growth** – More people participate in the digital economy.
   b. **Better Education Access** – Remote and blended learning becomes feasible.
   c. **Enhanced Governance** – Easier delivery of public services and welfare.
   d. **Empowered Citizens** – Access to information, services, and opportunities.
   e. **Boost to Innovation** – Greater tech adoption drives innovation and productivity.
   f. **Social Equality** – Bridges gaps across gender, caste, and income groups.

Challenges and Way Forward

Challenges	Way Forward
1. Low broadband access among the poorest households	The government should **subsidize broadband** for low-income households.
2. Gender gap in mobile/ internet use	Promote **digital literacy campaigns** targeted at rural women and girls.
3. Lack of digital skills in rural areas	Integrate **basic ICT training** in schools and adult literacy programs.
4. Caste and social inequality in digital access	Design **inclusive schemes** with special focus on SC, ST, and OBC communities.
5. Outdated mobile technology still in use	Encourage **affordable smartphone schemes** with 4G/5G capability.
6. Uneven regional infrastructure	Invest in **rural digital infrastructure**, especially in low-performing states

4. India's Trade Gap Reduces

Context

1. India's **total trade deficit** fell to **$6.6 billion in May 2025**, which is **30% less** than in **May 2024.**
2. This happened mainly because:
   a. **Oil prices fell**, so India had to spend less on oil imports.
   b. **Service exports did well**, especially in sectors like IT and business services.

Key Highlights

1. **Export Growth**
   a. **Total exports** rose **2.8%** to **$71.1 billion** in May 2025 (from **$69.2 billion** in **May 2024**).
   b. **Service exports** were the major contributor, growing by **9.4%** to **$32.4 billion**.
   c. **Merchandise exports**, however, contracted **2.2%** to **$38.7 billion**.
   d. **Non-Petroleum exports** grew **5.1%** in **May 2025**.
2. **Import Trends**
   a. **Total imports** in **May 2025** saw a **slight decline.**
   b. **Merchandise imports** fell by **1.7%** in **May 2025**, affected by lower oil prices.
   c. **Non-petroleum imports** grew **10%** in **May 2025.**
   d. **Services imports** rose **1.5%** in **May 2025.**.
3. **Trade Balance Overview**
   a. **Positive trade balance** in **services** helped offset **merchandise trade deficit**.

Implications for India:

1. **Reduced Trade Deficit** is a good sign for the Indian Economy:
   a. India's **services sector is doing well**, even when goods exports are not.
   b. This helps **balance the trade**.
   c. The surplus in services helps to cover up merchandise deficit.
2. **Helps Reduce Current Account Deficit (CAD):**
   a. A **current account deficit** occurs when the total value of goods and services a country **imports exceeds** the total value of goods and services it **exports**.
   b. A smaller trade deficit means **less money is going out** of the country.
   c. This is **good for India's economy**.
3. **India** still depends on **Global Prices:**
   a. India's exports still **depend a lot on world prices**, especially oil.
   b. If oil prices go up or down, **India's trade gets affected**.

Challenges and Way Forward:

Challenges	Way Forward
1. Oil Price Volatility: Global oil prices keep changing, raising India's import bill, especially for crude oil.	**1. Diversify Export Basket:** Boost non-oil exports like electronics, pharma, green tech to reduce dependency on oil.
2. Low Merchandise Export Growth: India's goods exports are weak and less competitive globally.	**2. Make Exports Competitive:** Improve product quality, support MSMEs, and sign trade agreements
3. Overdependence on Services Exports: Too much reliance on IT & service exports is risky in global slowdowns.	**3. Balanced Export Strategy:** Strengthen manufacturing exports to reduce risk from service dependency.
4. High Dependence on Imports: India imports many essential items like electronics, fuels, chips.	**4. Import Substitution:** Promote domestic production of key goods (like semiconductors, solar modules) under schemes like PLI.
5. Weak Trade Infrastructure: Poor logistics, port delays, and high costs affect trade.	**5. Improve Trade Infrastructure:** Build better ports, roads, and digital systems to lower cost and time.

5. Pulses & Oilseeds Crisis

Context

1. In many parts of India, farmers who grow pulses and oilseeds are facing twin problems.
   a. Lack of government procurement as compared to rice and wheat
   b. High import of pulses and oilseeds from abroad
2. They work hard to grow crops like **moong (green gram), soybean, chana (chickpea),** and **masoor (red lentil)** but they do not get a good price for their crops.
3. The government declares a **Minimum Support Price (MSP)** for these crops but there is no proper system to buy them at that price.
4. At the same time, India is importing a lot of **pulses and vegetable oils** from other countries.
5. These imports are growing even though farmers in India are already producing.

Key Highlights

1. **Pulses Imports**
   a. **2015-16: Pulses production** was low at **16 million tonnes (mt)** due to drought-like conditions.
   b. **2016-17:** India imported **6.6 mt** of pulses worth **$4 billion, the previous highest record.**
   c. **2017-18 to 2022-23: Imports declined** to an **average of 2 mt per year.**
      i. This was due to **better domestic production,** supported by improved **chana and moong varieties.**
      ii. Production rose steadily, reaching a **peak of 27 mt in 2021-22.**
   d. **2023-24:** An **El Niño-induced drought** reduced production to **24 mt.**
      i. **Retail prices of pulses** started rising, crossing into **double-digit inflation.**
   e. **Mid-2023:** To **control rising prices,** the government **cut import duties** on pulses. This decision **boosted imports** to meet consumer demand.

f. **2024-25:** India imported a **record 7 mt** of pulses, valued at **$5 billion.**
g. Domestic production slightly improved to **25 mt.**
h. **Late 2024 to Mid-2025:**
i. **Inflation in pulses dropped sharply,** turning **negative** by early 2025.
i. However**, mandi prices fell below MSP,** hurting farmer incomes.
ii. **Example: arhar and chana** were sold below MSP in **Latur mandi.**

1. India's journey toward self-sufficiency in pulses saw significant improvement between 2017 and 2022, with production rising due to better chana and moong varieties.
2. However, a drought in 2023-24 reduced output, triggering high retail inflation. To control prices, the government slashed import duties, leading to record pulses imports of 7 million tonnes in 2024-25.
3. While inflation eased, the influx of cheaper imports pushed mandi prices below MSP, causing distress for domestic farmers.
4. **Vegetable Oil Imports:**
   a. **2013-14:**
      i. India imported **8 million tonnes (mt)** of vegetable oil.
      ii. The import bill stood at **$7 billion.**
   b. **2014–2022:**
      i. Vegetable oil imports steadily increased over the years.
      ii. The **Russia-Ukraine war** in 2022 caused global supply disruptions, leading to a **sharp rise in international prices.**
      iii. By **2022-23**, import value nearly **tripled to $20.8 billion.**
   c. **2024-25:**
      i. India imported a **record 16.5 mt** of vegetable oil, **doubling** the quantity compared to 2013-14.
      ii. The composition of imports included:
         1. **8 mt** of **palm oil** (from Indonesia and Malaysia)
         2. **5 mt** of **soyabean oil** (from Argentina and Brazil)
         3. **3.5 mt** of **sunflower oil** (from Russia, Ukraine, and Argentina)
      iii. Meanwhile, **domestic production** of edible oil (from oilseeds and by-products like cottonseed, rice bran, and maize) remained around **10 mt.**
      iv. This resulted in a **more than 60% dependence** on imported oils.
      v. Despite a decline in global prices post-2022, India's oil imports have continued to **rise steadily**, reflecting persistent structural dependency on external sources.
5. India's growing dependence on imported vegetable oils highlights a serious structural weakness in its agricultural system.
6. Despite efforts to boost domestic production, the country remains unable to meet its own edible oil demand.
7. Even as global prices stabilize, India's import volumes continue to rise, leading to high import bills and exposing the economy to global market shocks.
8. This situation underscores the urgent need to strengthen domestic oilseed cultivation and reduce reliance on foreign sources to ensure long-term food and economic security.
9. **Inflation and Government Response**
   a. Vegetable oil prices began to rise quickly in **November 2024**, and since then, the price increase has stayed above **10%.**
   b. The rise in prices reached **18%** in May 2025,
   c. The government took steps to reduce prices on May 30, 2025.
      i. It reduced the **basic customs duty** from **20% to 10%.**
      ii. It also cut the total import tariff (including extra charges) from **27% to 16%.**
   c. The government reduced import duties on **vegetable oils** to **control rising prices,** which had stayed above **10%** since **November 2024** and peaked at **18%** in **May 2025.**
   d. This move aimed to make **edible oils cheaper** for consumers, though it may also increase dependence on **imports** and **hurt domestic oilseed farmers.**

10. Global Outlook and Impact:

a. The **US Department of Agriculture (USDA)** expects:

i. Lower duties will lead to **more soybean oil imports** in India.

ii. This could help **US soybean oil** enter India's market more easily.

b. **Global vegetable oil production** is projected to reach a **record 235 mt** in **2025-26:**

i. Palm oil: 80 mt

ii. Soybean oil: 70 mt

c. Global vegetable oil production is expected to reach record levels in 2025-26, and lower import duties in India will likely increase soybean oil imports.

d. This creates an opportunity for countries like the US to export more to India. However, it may also raise concerns about rising import dependence and challenges for domestic oilseed farmers.

Challenges and Way Forward

Challenges	Way Forward
1. Weak Procurement Mechanism: Government does not procure pulses and oilseeds at MSP like it does for rice and wheat.	Strengthen procurement infrastructure for pulses and oilseeds through FCI and state agencies. Set up decentralised procurement centres in producing regions.
2. Volatility in Production: Droughts (like El Niño in 2023–24) reduce production, making prices unstable.	Promote climate-resilient and drought-tolerant crop varieties. Expand irrigation facilities in rainfed pulse-growing areas.
3. Import Dependency: High reliance on imported pulses and oils despite domestic production.	Encourage crop diversification toward pulses and oilseeds. Provide input subsidies and MSP assurance for these crops.
4. Global Price Shocks: International events (e.g., Ukraine war) disrupt supplies and raise import costs.	Build strategic buffer stocks of pulses and vegetable oils. Promote domestic oilseed crushing and processing industries.
5. Rising Retail Prices vs Falling Farm Prices: Consumers face inflation while farmers get low prices.	Improve farm-to-market linkages and reduce intermediaries. Use digital platforms and e-NAM for transparent pricing.
6. Low Domestic Oilseed Yield: Despite rising demand, oilseed productivity remains stagnant.	Increase research and development for high-yielding oilseed varieties. Promote integrated farming with oilseeds.

Conclusion

The current crisis highlights the urgent need to prioritise self-reliance in pulses and oilseeds. Policy efforts must shift from short-term fixes to long-term resilience. Empowering farmers with fair prices, assured procurement, and better technology can ensure sustainable outcomes. A stable and supportive ecosystem is essential for bridging the gap between production and market reality.

6. Ahmedabad Air Crash: A Safety Wake-Up Call

Context

1. An **Air India Boeing 787 Dreamliner** flying from Ahmedabad to London faced **technical issues** shortly after takeoff.
2. This resulted in a **crash landing** killing almost all passengers and crew.
3. This incident highlighted a broader trend - **most aviation accidents occur during takeoff and landing**, not mid-flight.
4. Data from **Boeing's Statistical Summary of Commercial Jet Airplane Accidents (2015–2024)** supports this trend.

Key Dimensions of the Ahmedabad Plane Crash:

1. Immediate Emergency Signalled

a. The pilot issued a **Mayday call within seconds of takeoff**, indicating a life-threatening emergency.

b. However, **no further communication followed**, suggesting either **instant system failure or structural damage**.

2. **Breakdown in Real-Time Air-Ground Coordination**
   a. Despite the emergency call, the **Air Traffic Control (ATC)** could not establish further contact.
   b. This raises concerns over **efficacy of emergency protocols** between **cockpit** and **ATC** during critical moments.
3. **Pilot Was Highly Experienced**
   a. The Captain had over **8,200 flying hours**, including 1,100 hours on the Boeing 787 aircraft.
   b. This makes **human error less likely**, focusing attention on **mechanical failure or technical glitch**.
4. **Crash Within 40 Seconds of Takeoff in Civilian Zone**
   a. The aircraft crashed into a **residential and medical college area**, causing **ground-level casualties**.
   b. Highlights the urgent need for **safe buffer zones around airports** in urban areas.
5. **DGCA and Safety Regulation Challenges**
   a. DGCA acknowledged the emergency but couldn't intervene effectively.
   b. It reveals the **need for stronger monitoring systems**, quicker response infrastructure, and regular audits of high-risk aircraft.

Why do accidents happen mostly during take-off or landing?

1. **Limited Time & Space for Correction:**
   a. During takeoff/landing, pilots have minimal time and space to react if something goes wrong.
   b. Unlike cruise, there is no altitude buffer to correct errors or system failures.
2. **Aircraft under Maximum Stress:**
   a. During takeoff, a plane's **engines and body experience the most pressure** as they work hard to lift off the ground.
   b. During landing, aircraft must handle speed, alignment, descent, and possible runway factors all at once.
3. **External Risk Factors:**
   a. Lower altitudes are more prone to bird strikes, turbulence, wind shear, and poor visibility.
   b. Landings are further complicated by human error and technical challenges.

Impact of this on Economy

1. **Fall in Boeing's Share Price:**
   a. Boeing's share prices went down by nearly 8% in pre market after this incident
   b. This reflects **investor fear** about Boeing's aircraft safety and future sales.
2. **Aviation Insurance Premiums May Rise**
   a. This crash is seen as a **"significant event"** by the global insurance industry.
   b. Experts say it could **lead to higher aviation insurance premiums** worldwide, especially for wide-body aircraft like the Boeing 787.
   c. Insurance firms may also become **stricter in policy renewals** and **terms of coverage**.
3. Reinsurance Cost Escalation
   a. Insurance for large aircraft is typically **shared among multiple global firms** via reinsurance.
   b. This crash could **increase reinsurance costs**, especially if multiple such incidents happen in a short time.
4. Financial Liability for Air India and Tata Group
   a. Air India may face a **liability burden of over ₹500 crore**, including compensation, legal costs, and aircraft damage.
   b. They could also face **reputation and financial stress** despite its swift humanitarian response.
5. Effect on Aircraft Manufacturing Sector
   a. The incident may further **delay deliveries** or **affect demand** for Boeing's 787 models
   b. This impacts global aviation production and supply chains.
6. **Impact on India's aviation Sector:**
   a. **It may face a downgrade** in global rankings, leading to **stricter regulations** and **increased scrutiny** from international aviation bodies.
   b. **Foreign investments in Indian airlines could decline**, as concerns over safety standards may make investors hesitant to **fund aviation-related projects**.

Way Forward

1. **Check aircraft health before every flight** using modern tools that can detect any technical problem early.
2. **Train pilots and air Traffic Control (ATC) staff better** for emergencies with regular practice and mock drills.
3. **Avoid building homes or schools too close to airports** to reduce damage if accidents happen.
4. **Make sure old aircraft follow all safety rules strictly** and are inspected more often.
5. **Use smart technology** that can warn the pilot early if something is going wrong in the engine or system.
6. **Ensure crash investigations are open and quick**, and use the findings to improve safety rules.

7. India's Poverty Story: What Recent Surveys Tell Us

Context

1. The **Government of India** has released the findings from the **two rounds of the Household Consumption Expenditure Surveys (HCES) for 2022-23 and 2023-24**.
2. The new data helps to **remove confusion** about how **poverty** has changed in recent years.
3. Earlier, there was confusion because the government did not release the **2017–18 Consumption Expenditure Survey**, saying that there were **data quality issues**.

Historical Background of Poverty in India:

Period/Year	Significance
1950s–1990s – Planning Era	Poverty alleviation became central to **Five-Year Plans.**
1993 - Tendulkar Committee	Shifted poverty estimation to a **consumption-based methodology** that is focused on **minimum calorie intake** and **expenditure levels**.
2011-12 - Rangarajan Committee	Recommended **higher poverty lines**.
2011–2023 – Data Vacuum Period	The last official poverty data was from the **2011-12 NSSO survey**. The **2017-18 survey was withheld** due to quality issues, causing a data gap.
2021 (onwards) - NITI Aayog's Multidimensional Poverty Index (MPI)	Broadened poverty metrics beyond income to include **education, health, and living standards**.
2022–2024 - New Household Consumption Expenditure Surveys (HCES)	Conducted after over a decade; **filled the data gap** since 2011–12; enabled fresh poverty estimates.

Key Data Insights:

1. **World Bank:**
   a. **Extreme Poverty** fell from **27.1% in 2011-12 to 5.3% in 2022-23.**
   b. This **decline** happened even after the World Bank **raised the extreme poverty line** from **$2.15 per day to $3 per day.**
   c. People living in extreme poverty in India fell from **344.47 million to 75.24 million** over this period.
   d. As per the poverty line for **lower-middle income countries** (revised **from $3.65 a day to $4.2 a day**), the **poverty ratio** in India fell from **57.7% in 2011-12 to 23.9 % in 2022-23**.
   e. **Inequality** in India also **fell between 2011 and 2022**. It was based on measures like the **Gini and Theil indices**.
2. **NITI Aayog:**
   a. **Multidimensional Poverty in India** has experienced a steep **decline**, falling from **55.34% in 2005-06 to 24.85% in 2015-16 to 14.96% in 2019-21**.
   b. These estimates drew data from the **National Family Health Surveys**.

Gini and Theil Indices:

1. **Gini Index**: Measures **income inequality** in a society (ranges from 0 to 1; higher value means more inequality).
2. **Theil Index**: Another inequality measure that shows **how income is distributed**, especially among different population groups.

Challenges and Way Forward:

Challenges	Way Forward
Lack of updated data	Ensure regular release of official surveys like the **Periodic Labour Force Survey**, etc.
Fragmented methodologies	Create a **Unified National Poverty Index** by considering various **dimensions of poverty**, like income, education, health, etc.
Ineffective scheme delivery	Improve last-mile delivery via digitisation and social audits
Hidden poverty in urban areas	Expand focus on **urban poverty mapping** and gig workers
Income inequality	Promote inclusive growth via **labour-intensive sectors** and skill development.

8. SEBI Launches "@valid" UPI IDs

Context

1. **SEBI (Securities and Exchange Board of India)** will launch a **validated UPI handle "@valid"** for all **its investor-facing registered intermediaries** starting **October, 2025**.
2. The aim is to **enhance investor protection**, ensure **secure digital payments**, and combat **fraudulent activities** in the securities market.
3. Existing **UPI** IDs used by intermediaries will be discontinued by **December, 2026**.

Key Highlights

1. The **"@valid" UPI handle** will:
   a. Be **allocated only by NPCI (National Payments Corporation of India) and** only for payment collection by **SEBI-registered intermediaries.**
   b. Display a **green triangle with a thumbs-up symbol** to indicate authenticity.
   c. Be **mandatory** for all SEBI-registered intermediaries (brokers, investment advisors, analysts, etc.) who collect payments from investors.
2. **The UPI ID format:**
   a. It will be a **unique ID with @valid combined** with the name of a **self-certified syndicate bank**.
      i. **Example:** For a registered broker ABC. Ltd, who has an account with xyz bank, the exclusive **UPI ID** will be **abc.brk@validXYZ.**
3. **No change in existing SIPs (Systematic Investment Plans)**, but **older UPI IDs** will be phased out.
4. **Development of *"SEBI Check"*:**
   a. It will provide an **additional layer of security** to the investors.
   b. The investors will be able to verify the **authenticity** of an entity before proceeding with any **financial transaction**.
   c. This can be done by either **scanning** a **QR code** or by entering the **UPI ID manually**.
   d. The investor will be able to confirm the **bank details** of the **registered intermediary**, like the **bank account number** or the **Indian Financial System Code (IFSC).**

Objectives and Benefits

1. **Investor Protection**:
   a. Prevents fraud by verifying payment recipients.
   b. Ensures payments are made only to SEBI-registered entities.
2. **Payment Security**:
   a. Makes UPI transactions in the financial sector more **transparent and secure**.
3. **Ease of Identification**:
   a. Helps non-tech-savvy and regional language users easily identify valid payment handles.
4. **Increased Trust**:
   a. Encourages wider use of digital payments in the securities market.
5. **Regulatory Context:**
   a. Part of SEBI's broader push for:
      i. **Tech-enabled transparency**.
      ii. **Strengthened market infrastructure**.
      iii. Combating the rise in **digital frauds** targeting retail investors.

Challenges and Way Forward

Challenges	Way Forward
1. **Low adoption by small intermediaries**	Provide **technical support** and a **simplified onboarding process** for all intermediaries.
2. **Lack of investor awareness about @valid handle**	Launch **multilingual awareness** campaigns via TV, print, apps, and financial influencers.
3. **Language and accessibility barriers**	Use **symbols** (like green triangle) and **vernacular content** to reach the non-English population.
4. **Risks during transition period (till Dec 2026)**	**Strict deadlines**, phased migration, and **frequent reminders** to investors and intermediaries.
5. **Over-reliance on NPCI for infrastructure**	Explore **creating backup systems** or **cross-verification mechanisms** in collaboration with SEBI.
6. **Possibility of fraud in dual-ID phase**	Implement **real-time fraud tracking** and flagging of non-validated UPI handles.

9. SEZ Rules Eased for High Tech Manufacturing

Context

1. The Government of India has relaxed regulations governing **Special Economic Zones (SEZs)** specifically for **semiconductor and electronics component manufacturing**.
2. The aim of this relaxation is to **promote high-tech investments**.
3. This includes approving two new SEZs in **Gujarat and Karnataka** with a combined investment of **₹13,100 crore**.

Key Highlights

1. **New Rules Announced:**
   a. In **June, 2025**, the government made changes to SEZ rules..
2. **Smaller Land Requirement:**
   a. Companies setting up SEZs for semiconductors or electronics now need only **10 hectares of land**, instead of the earlier **50 hectares**.
3. **Domestic Sales Allowed:**
   a. These SEZ units can now **sell their products within India** (after paying duties), not just export them.
4. **Easier Land Rules:**
   a. Earlier, land used to set up an SEZ **had to be completely free of any legal claims or loans**, this is called being "**encumbrance-free**."
   b. Now, the rule has been relaxed. If the land is **mortgaged or leased to the Central or State Government** (or their authorized agencies), it can still be used for setting up an SEZ.
5. **New SEZ Projects Approved:**
   a. **Micron** will set up a semiconductor SEZ in **Sanand, Gujarat** with an investment of **₹13,000 crore**.
   b. **Aequs Group** will set up an electronics components SEZ in **Dharwad, Karnataka** with an investment of **₹100 crore**.
6. **Benefits Expected:**
   a. These changes will help grow **high-tech manufacturing**, create **skilled jobs**, and build India's **semiconductor ecosystem**.

India's Semiconductor Industry

1. India's semiconductor industry is experiencing rapid growth, with the market valued at approximately **$38 billion in 2023** and projected to reach **$109 billion by 2030**.
2. The country's semiconductor consumption market is expected to expand at a strong **Compound Annual Growth Rate (CAGR) of 13%** through **2030**.
3. This growth is driven by **increasing demand across sectors** such as mobile handsets, IT, telecommunications, consumer electronics, automotive, aerospace, and defense.
4. India is actively working to **strengthen** its **semiconductor ecosystem**, with government incentives and industry collaborations playing a crucial role in shaping its future.

Initiatives to Strengthen the Semiconductor Industry in India

1. **Semicon India Program** – Government-led initiative offering incentives and strategic partnerships to boost domestic semiconductor manufacturing.
2. **India Semiconductor Mission** – Aimed at building a strong semiconductor and display ecosystem, positioning India as a global electronics hub.
3. **Global Collaborations** – Partnering with leading firms like **Micron** to establish semiconductor manufacturing units in India.

Significance of establishing SEZs:

1. **Tackling Supply Issues**: Special Economic Zones (SEZs) provide a dedicated space for **semiconductor manufacturing**, reducing India's dependence on imports and preventing supply chain disruptions in industries like automobiles and electronics.
2. **Meeting Growing Demand**: SEZs create a **technology-friendly environment**, boosting semiconductor production to meet the rising demand for digital devices, cloud computing, and internet services.
3. **Job Creation**: By encouraging semiconductor industries to set up in SEZs, **thousands of skilled jobs** can be created, strengthening India's electronics sector and workforce.
4. **Boosting Economy**: SEZs help **increase exports and reduce imports** by promoting local semiconductor manufacturing, which in turn generates revenue and improves India's trade balance.
5. **Enhancing Security**: Domestic semiconductor production in SEZs ensures that **trusted, homegrown chips** are used for crucial technologies like 5G infrastructure and surveillance systems, improving cybersecurity.
6. **Geopolitical Strength**: Establishing semiconductor SEZs enhances India's global standing as a **self-reliant tech hub**, reducing dependence on foreign nations for critical components.
7. **Increasing Competitiveness**: SEZs attract **global investments** in India's semiconductor industry, making the country a strong player in advanced technology and innovation.

Challenges and Way Forward

Challenges	Way Forward
High Investment Requirement – Setting up semiconductor fabs in SEZs requires massive financial resources.	**Government Support & SEZ Incentives** – Offering tax exemptions, subsidies, and financial aid for semiconductor manufacturers in SEZs.
Shortage of Skilled Professionals – SEZs lack trained experts in semiconductor design, fabrication, and testing.	**Skill Development Programs in SEZs** – Setting up specialized training centers within SEZs to develop a skilled semiconductor workforce.
Dependence on Imports – SEZ-based semiconductor fabs still rely on imported raw materials like silicon wafers.	**Building Domestic Supply Chain in SEZs** – Encouraging local industries within SEZs to manufacture key semiconductor components.
Lack of Advanced Manufacturing Infrastructure – SEZs in India do not yet have large-scale semiconductor fabrication facilities.	**Global Collaborations for SEZs** – Partnering with international firms to set up advanced chip-making units in SEZs.
Competition from Established Players – Global semiconductor giants from Taiwan, South Korea, and the U.S. dominate the industry, making it tough for SEZs in India.	**Strategic SEZ Policies & R&D Investments** – Strengthening research facilities in SEZs to drive semiconductor innovation and attract global investors.
Earlier Stringent SEZ Regulations – Previous policies restricted semiconductor investment and manufacturing in SEZs.	**Relaxed SEZ Rules** – Recent government changes encourage semiconductor production, approving high-tech SEZs in Gujarat and Karnataka.

10. State of the World Population 2025: The Real Fertility Crisis

Context

1. **United Nations Population Fund (UNFPA) Report 2025:** As per the **State of the World Population Report 2025**, India's population reached **146.39 crore** by **April 2025**.
2. **Fertility Decline:** India's **Total Fertility Rate (TFR)** declined to **1.9**, which is **below the replacement level** of **2.1.**

Key Highlights

1. **Population Growth Trends**
   a. India's population is projected to **peak at 170 crores in the next 40 years**, after which it will begin to **decline**.
   b. Current estimates closely match the Government of India's **projections published in 2019.**
   c. The report designates **India as the world's most populous nation**, while estimating **China's** population at **141.61 crore**.
2. **Fertility and Demographic Transition**
   a. The **TFR of 1.9** reflects a shift **below replacement level**, indicating **population stabilisation**.
   b. Many Indian women now have **fewer children** than desired, signalling **unmet reproductive goals**.
3. **Youth Demographics**
   a. India still has a **youth advantage**:
      i. 24% are aged **0–14 years**.
      ii. 17% are **10–19 years**.
      iii. 26% are **10–24 years**.
   b. 68% of India's population is in the **working-age group (15–64)**.
   c. This provides India with the opportunity of the **Demographic Dividend**.
4. **Elderly Population**
   a. Elderly (65 years and above) comprise **7% of the population**, expected to rise with increasing **life expectancy**.
   b. Life expectancy at birth is projected to be **71 years (men)** and **74 years (women)** by **2025**.
5. **Unmet Fertility Goals – "The Real Crisis"**
   a. Many women are not able to have the number of children they actually want.
   b. This happens because of problems like **poor healthcare, lack of support, or social pressures**.
   c. The report says this is more about **women's rights and choices**, not about having too many people.

India's Fertility Transition and the Road to Demographic Dividend:

1. **A Shift in Reproductive Choices Over Time:**
   a. In **1960**, India had a **population** of **approximately 436 million**, and the average woman had **nearly 6 children**.
   b. Back then, **less than 1 in 4** women used contraception, and **fewer than half** had attended primary school.
   c. Over the decades, **better education and healthcare access** gave women more control over their bodies and choices.
   d. Today, the average woman has **about 2 children**, but many still **lack full autonomy** in deciding if, when, and how many children to have.
2. **Road to Demographic Dividend:**
   a. Demographic dividend refers to the **economic growth potential** when the **working-age population (15–64 years)** is larger than the **dependent population** (children + elderly).
   b. **68% of India's population** is now in the **working-age group** (15–64 years), offering a **unique growth window.**
   c. This youth majority can boost **economic growth, savings, and innovation**—if provided with skills and jobs.
   d. India must act fast to **educate, skill, and empower** its youth to fully benefit from this demographic phase.

Challenges and Way Forward

Challenges		Way Forward	
1. Unmet Reproductive Goals	Many women have fewer children than they desire due to **lack of access, information, or autonomy.**	**Reproductive Autonomy**	Enhance **women's reproductive health services**, adolescent health, and **quality education**.
2. Ageing population	Rising share of elderly may **stress health and social welfare systems** in the coming decades.	**Support Elderly Needs**	Develop **social security systems** and healthcare **infrastructure** for the ageing population.
3. Delayed Census	**2021 Census** has been postponed; lack of updated data may **hinder targeted policy making.**	**Census Completion**	Speed up the 2021 Census process by **March 2027** to provide **updated demographic data** for policymaking.
4. Youth employment	While the working-age population is high, **job creation has not kept pace**, risking demographic dividend loss.	**Productive Age Utilisation**	Leverage the working-age population through **skill development and job creation**.
5. Urban-rural disparity	**Fertility transition** varies across regions—southern states **have lower TFR** than northern ones.	**Reduce regional gaps**	Improve health, education, and family planning access in **high-fertility rural areas** to ensure **balanced fertility across regions.**

11. Updating Economic Indicators: An Important Exercise!

Context

1. The government periodically revises the **base year** for **key economic indicators** like the **consumer price index (CPI), index of industrial production (IIP), and gross domestic product (GDP)** to reflect updated consumption and production patterns.
2. These revisions ensure economic statistics remain **relevant and accurate**, incorporating **new data sources** such as online transaction records and e-commerce price trends.
3. The **Ministry of Statistics and Programme Implementation (MoSPI)** oversees these updates, ensuring **transparency** in methodology.
4. The latest **base year revisions** for GDP, CPI, and IIP are expected in the coming years, significantly impacting policy decisions.

Key Highlights

Earlier Base Year Revisions	Upcoming Base Year Revisions
1. In **2015**, the GDP series was updated from **2004-05 to 2011-12.**	1. The **new GDP series** with a **base year of 2022-23** is scheduled to be released in February **2027.**
2. In **2015**, the CPI base year was changed from **2010 to 2012.**	2. The **CPI** series with a **base year of 2024** is likely to be released from the first quarter of **2026.**
3. In **2017**, the IIP was revised from **2004-05 to 2011-12.**	3. The **new IIP** series with a base year of **2022-23** is likely to be released from **2026-27** onwards.

Updating Economic Indicators: A Complete Breakdown

1. **Why is it Done?**
   a. **Reflecting Current Economic Trends:**
      i. **Consumer spending patterns** change over time, requiring updated price baskets for CPI.

ii. **New industries** emerge, making IIP revisions necessary.

b. **Ensuring Accurate Policy Decisions:**

i. **Inflation-targeting** by the **Reserve Bank of India (RBI)** depends on reliable CPI data.

ii. **GDP revisions** help governments plan **budget allocations** and **welfare schemes** effectively.

c. **Incorporating Technological Advancements:**

i. **E-commerce and digital transactions** now play a larger role in price movements.

ii. **Surveys** and **data collection** now use **advanced digital tools** to improve accuracy and efficiency.

2. **How is it Done?**

a. **Base Year Revision:** The base year for GDP, CPI, and IIP is updated periodically to capture recent trends.

b. **Household Consumption Surveys:** Surveys like the Household Consumption Expenditure Survey (2023-24) collect fresh data to adjust CPI weights.

c. **Sector-Wise Data Collection:** Industrial output, trade, and services growth figures are revised using industry data. Online and offline retail price data are analysed for CPI calculations.

Inflation targeting

1. It is a **policy used by central banks**, like the **Reserve Bank of India** (RBI), to **control inflation** and keep the economy **stable**.
2. The central bank decides an inflation level that is safe for the economy (usually around **4% ± 2% in India**).
3. To control inflation, the RBI **adjusts interest rates** and **money supply** (higher rates reduce inflation, lower rates boost growth).
4. If **inflation** goes beyond the target, RBI takes steps to bring it back under control which is important to **ensure stability** in the economy.

Challenges and Way Forward

Challenges	Way Forward
Collecting accurate data – Online prices and e-commerce trends can be unreliable.	**Improve data checks** – Use better methods to confirm data from online sources.
Understanding the new method – People may not trust or understand the changes in calculations.	**Explain the process clearly** – Hold discussions to help policymakers and the public understand.
Changes in spending habits – What people buy keeps changing, making old data less useful.	**Update regularly** – Make sure revisions happen often to reflect current trends.
Differences in industries – Some sectors may grow fast while others decline, making comparisons hard.	**Industry-specific updates** – Study different sectors separately for better accuracy.
Effects on inflation and interest rates – Sudden changes can affect RBI's financial decisions.	**Smooth transition** – Make changes gradually to avoid big policy shifts.

12. First-Ever Global Carbon Tax on Shipping Industry

Context

In April 2025, India joined other 62 nations by voting in favour of the world's **first global carbon tax** on the **shipping industry**, which was adopted by the UN's **International Maritime Organization (IMO).**

What is Carbon Tax?

1. A carbon tax is a type of penalty (paid in the form of tax) that businesses must pay for excessive greenhouse gas emissions. The tax is usually levied per ton of greenhouse gas emissions emitted.
2. It aims to reduce *greenhouse gas (GHG) emissions* from maritime transport, which accounts for nearly 3% of global emissions and has been excluded from international climate frameworks like the *Paris Agreement.*

3. In India, presently there is no formal nationwide carbon tax yet. However, Indian government is implementing it through policy schemes like - *PAT Scheme, National Solar Mission, EV adoption, etc.*
    a. For example, the *Clean Energy Cess (2010)* on coal production/import was initially ₹50/tonne and then increased to ₹400/tonne. It was used to fund the *National Clean Energy Fund.*
4. Further, India is also working on establishing a *Carbon Credit Trading Scheme* and a Voluntary Carbon Market.

What are the present concerns related to the Carbon Taxation Policy?

1. **Exclusion of Climate Finance:** All revenues raised from the carbon tax will be ring fenced for decarbonising the maritime sector, and will not be allocated to broader climate finance efforts. A group of more than 60 countries, largely from the Pacific, Caribbean, Africa, and Central America, had pushed for a share of the revenues to be directed towards broader climate finance needs.
    a. Funds are not allocated to broader climate adaptation, which *developing nations* need. *Vulnerable nations* feel left out of the financial benefits.
2. **Lack of Transparency:** Nations like Tuvalu, representing Pacific Island countries, criticised the non-transparent negotiation process and the failure of the agreement to promote a just transition.
3. **Issue of Incentives:** The tax is designed to push industry towards cleaner fuels and technologies, but experts caution that the price range may not be high enough to drive a rapid shift, especially if fossil fuel prices remain low.
4. **Opposition and Abstentions:**
    a. Opposed by: Saudi Arabia, UAE, Russia, Venezuela (oil-dependent economies).
    b. Abstained: United States (did not participate in negotiations or voting).

About the International Maritime Organization (IMO):

1. It is a specialized agency of the United Nations that is responsible for measures to improve the safety and security of international shipping and prevent marine pollution from ships (under UN SDG 14). Some of the important Treaties under IMO are:
    a. International Convention for the Safety of Life at Sea (SOLAS)
    b. International Convention on Standards of Training, Certification, and Watchkeeping for Seafarers (STCW)
    c. International Convention for the Prevention of Pollution from Ships (MARPOL)
2. Membership: IMO currently has 176 member states. In addition, there are three associate members: Hong Kong, Macao, and the Faroe Islands.
3. It consists of the assembly, representing the member states, and a council (an executive body, appoints secretary-general) elected by the members at two-year intervals.
4. Headquarter: London, U.K.

Conclusion

The global carbon tax on shipping represents a landmark step in international climate governance. While it reflects a new era of environmental accountability for the maritime sector, challenges remain in terms of transparency, ambition, and equitable revenue use. For India, the policy aligns with its clean energy transition and evolving maritime ambitions.

13. India's Economic Transformation: Infrastructure, Innovation, and Inclusion

Context

1. India is at a **turning point** where it can **surpass Japan** and become the **fourth-largest economy** with a **GDP of $4.2 trillion.**
2. It is also **expected to overtake Germany** in the next few years to become the **third-largest economy** in the world.
3. One of the most visible symbols of this **economic transformation** is **the development of infrastructure**.
4. For this, India needs to adopt **frontier technologies** like **Artificial Intelligence, Quantum Computing,** etc.

The Journey of Indian Economy

1947 – India gained independence	1. It was merely a **$33 billion economy** due to being weakened by **British exploitation**.
Post-Independence – Soviet Style Central Planning	1. Adopted by the Jawaharlal Nehru government. 2. Promotion of **heavy industries and public sector**. 3. Low economic growth of **3-4%** only. (**Hindu rate of growth**) 4. Till 1991, it could only reach the $266 **billion mark**.
1991: New Economic Policy	1. The Narasimha Rao government introduced the economic reforms – **liberalisation, privatisation and globalisation**. 2. This brought the **digital revolution** in the economy with the introduction of the internet. 3. The economy grew manifold in the next 2 decades (Major share of **service sector – approx. 60%)** 4. The economy crossed **$2 trillion by 2015.**
2015-2025	1. The recent government has given emphasis on **faster economic growth** with initiatives like **Start-Up India, Stand-Up India** and **Make in India.** 2. The current impressive growth is due to the **corrective actions** taken, like the removal of the **parallel economy**, allowing for proper distribution of wealth and encouraging greater consumption. 3. The government targets to make India **a $5 trillion economy by 2027** and a **$10 trillion economy by 2035.**

Infrastructure Development in Recent Years

Sector	Infrastructure Development	Impact on the Economy
Roads	1. **National Highways** expanded from **91,287 km (2014) to 1,46,204 km (2024).** 2. Construction speed increased from **12 km/ day to 34 km/day.** 3. Nearly **4 lakh km** of rural roads were built.	1. Ensured **last-mile connectivity** across the country. 2. Brought 99% of rural India into the national road network. 3. Improved **rural mobility** and promoted **economic inclusion.**
Railways	1. **25,871 km** of new railway tracks laid in the last 10 years. 2. India is now **a global leader** in locomotive manufacturing. 3. **Railway connectivity** has expanded to the Northeastern region.	1. Railways became the **second-largest** cargo transporter globally. 2. **Dedicated Freight Corridors** allow faster goods movement and reduce traffic on passenger train routes, **improving overall efficiency.** 3. Enhanced **regional connectivity** and **integration**.
Airways	1. The number of operational airports increased from **74 (2014) to 160 (2025).** 2. The government aims to expand to **300 airports by 2047**.	1. Air travel became **democratised** (made accessible to common people). 2. Schemes like **UDAN** connected remote and small towns.
Urban Transformation	1. Implementation of **Smart Cities Mission.** 2. Expansion of **Delhi Metro** and other metro networks.	1. Made cities more **efficien**t, livable, and digitally integrated. 2. Improved **urban mobility** through mass rapid transit systems.

Clean Energy	1. **Solar capacity** grew from **2.82 GW (2014) to over 105.65 GW.** 2. Total clean energy capacity reached **228.28 GW**.	1. India is now the **3rd-largest** solar and **4th-largest** wind energy producer globally. 2. Supports **energy transition** and climate goals.
Digital Public Infrastructure	1. Exponential growth in platforms like **UPI and Aadhaar.** 2. Rollout of schemes like **Jan Dhan Yojana** and **rural Digital Access Points**.	1. Enabled **real-time payments**, direct benefit transfers, and **financial inclusion**. 2. Boosted **digital economy** and service delivery, especially in rural areas.

Growth v/s Per Capita Income

1. Some people argue that despite the current growth of India as a **$4 trillion economy**, the **per capita income** remains low.
2. No country's growth can be measured in **per capita income** alone. The US, being the **world's largest economy**, ranks **7th in per capita income,** and China, being **the 2nd largest economy**, ranks **69th in per capita income**.
3. The per capita income **depends on population** and India being the world's most populous country, its per capita is bound to remain low.
4. Even if India becomes the world's largest economy with **$30 trillion,** it will still **rank 55th in per capita.**
5. The only merit of measuring per capita is to provide **better living standards** to all its citizens.
6. As per the **Economic Survey**, the **Monthly Per Capita Expenditure (MPCE)** in India increased by **more than 2.5 times** in the last 10 years (most expenditure on travel, health and education – healthy growth parameters).
7. Tourism has increased in India by **30% (2024 data).**
8. All this indicated healthy economic growth, which led to the **near eradication of baseline poverty** and the creation of a strong middle class with **disposable income**.

Key Indicators of India's Economic Transformation

1. **Strong and Steady Growth**: Since 2014, India's average GDP growth has been **6.4%**, and it recently increased to **7.4%**, showing the strength and rising pace of the economy.
2. **Better Inflation Control**: Inflation has come down from **9.4% in 2013–14** to around **4.6% now**, making life more stable for both households and businesses.
3. **Social Progress**: **Poverty levels have reduced**, improving the quality of life for millions.
4. **Major Economic Reforms**: Reforms like **GST**, simplification of rules, and removal of outdated laws have made doing business easier and **boosted economic growth.**

Technology and Path Ahead

1. **Historical Shifts in Global Economic Power**
   a. During the **First Industrial Revolution**, countries like **England and America** emerged as leading global economic powers.
   b. With the rise of **automation and digitisation**, **China** took the lead and became the **second-largest economy** in the world.
2. **India's Missed Opportunities and Partial Gains**
   a. India **missed the first two industrial revolutions**, largely due to **colonial rule**.
   b. It gained **partial benefits from the Third Industrial Revolution** (digital revolution), especially in IT services and digital infrastructure.
3. **The Fourth Industrial Revolution: A New Opportunity**
   a. The ongoing **Fourth Industrial Revolution**, driven by **frontier technologies** like AI, robotics, quantum computing, and biotechnology, offers a **new window of opportunity**.
   b. This revolution **requires new thinking, fresh priorities**, and bold investments to stay globally competitive.
   c. By actively embracing and investing in frontier technologies, **India can aim to become a $10 trillion economy** by 2035.
4. **What Needs to Be Done: Strategic Focus Areas**
   a. Stronger focus on Deep Tech Research and Development to build indigenous capabilities.

b. **Smooth and easy access to funding** for startups and companies working in **frontier technologies**, including AI, clean tech, biotech, and advanced manufacturing.

Challenges and Way Forward

Challenges	Way Forward
Doing business is still difficult – Too many rules and approvals slow things down.	**Make policies flexible** – Simplify rules so businesses can grow faster.
Too many formalities – Heavy paperwork and legal requirements create delays.	**Focus on sustainability** – Reduce unnecessary processes while keeping businesses responsible.
Struggling to compete globally – Indian industries face tough competition from other countries.	**Stronger global connections** – Improve manufacturing and skills to increase exports.
Low investment in research and innovation	**Increase funding** for research, especially in deep technologies, and encourage innovation
Skill gap for future jobs	**Teach skills** like AI, robotics, and green energy
Weak factories and industries	Support manufacturing and small businesses via schemes
Poor infrastructure	Improve transport, **digital infrastructure** and power infrastructure
Unequal regional growth	Invest in backward areas for **balanced** and **inclusive development**

14. RBI Cuts Repo Rates by 50 bps: Monetary Policy Move

Context

1. The **Reserve Bank of India (RBI)** recently announced a significant **monetary policy move** in its **June 2025 review**, reducing the repo rate by **50 basis points (bps)** from **6.0% to 5.5%.**
2. This marks the **largest single reduction** in recent years, reflecting the **RBI's proactive stance** to promote economic growth amidst a challenging global environment.
3. Additionally, the RBI cut the **Cash Reserve Ratio (CRR) by 100 bps to 3%,** injecting approximately **₹2.5 lakh crore** into the banking system to boost liquidity.
4. The **Monetary Policy Committee (MPC)** also shifted its policy stance from "**accommodative**" to "**neutral**," indicating a more **cautious approach** to future rate cuts.
5. This refined stance reflects the **central bank's commitment** to balancing **growth stimulation** with a cautious approach to **inflation control**, based on evolving economic data.

Why Did RBI Cut the Repo Rate by 50 bps Now?

1. **Easing Inflationary Pressures:**
   a. Inflation in India has been on a **declining trend**, with **retail inflation** in **April 2025** recorded at 3.16%, which is notably below the RBI's target of **4%.**
   b. The RBI has revised its **inflation forecast** for **FY 2025-26** downwards to **3.7% from 4%**.
2. **Global Economic Uncertainties:**
   a. Despite **robust domestic growth** (GDP growth of **7.4% in Q1 FY 2025-26**), the Indian economy faces potential risks from global uncertainties such as ongoing trade tensions, geopolitical instabilities, and slowdowns in major global economies.
   b. **Lower interest rates** can act as a buffer, helping to shield the Indian economy from external shocks by stimulating domestic investment and consumption.
3. **Recent Rate Cuts and Economic Support:**
   a. This 5**0 bps rate cut** is part of a series, following **2 prior cuts of 25 bps each** in February and **April 2025**, bringing the total reduction in **2025 to 100 bps**.
   b. The **monetary policy actions** are complemented by the **Government's fiscal measures,** including tax reliefs and infrastructure spending, providing additional stimulus to the economy.

Implications on the Economy

1. **Cheaper Loans and EMI Relief:**
   a. The r**educed cost of borrowing** for commercial banks from the RBI is expected to translate into lower interest rates on loans for both consumers and businesses.
   b. This will likely lead to cheaper home loans, vehicle loans, and business loans, resulting in a reduction in **Equated Monthly Installments (EMIs)**, providing relief to borrowers.
   c. Lower EMIs increase **disposable income** for consumers, which can boost consumer spending and drive aggregate demand.
2. **Stimulus to Economic Growth:**
   a. With **reduced borrowing costs,** businesses are incentivized to invest in expansion, capital projects, and new ventures, particularly in interest-sensitive sectors like infrastructure, housing, and manufacturing.
   b. Consumers are also more likely to make large purchases (e.g., homes, cars), further **stimulating economic activity.**
   c. The overarching goal is to **increase aggregate demand** and support India's long-term growth trajectory towards **7-8%.**
3. **Increase in Liquidity:**
   a. The **100 bps CRR reduction,** alongside the repo rate cut, releases approximately ₹2.5 lakh crore into the banking system.
   b. This **enhanced liquidity** ensures that banks have ample funds to extend credit to consumers and businesses, thereby promoting overall credit growth in the economy.
   c. Increased money supply promotes greater competition among banks, potentially leading to even more affordable loan offerings.
4. **Impact on Fixed Deposits and Savers:**
   a. Fixed deposit (FD) rates and returns on other traditional savings instruments are likely to decline.
   b. Savers, particularly senior citizens and conservative investors who rely on fixed-income investments, may experience reduced returns on their deposits.
   c. This might **encourage investors** to diversify their portfolios into alternative instruments like mutual funds, bonds, and equities in pursuit of higher returns.
5. **Inflation and Financial Stability:**
   a. The RBI anticipates **inflation** to remain within its **revised target range of 3.7% for FY 2025-26.**
   b. Despite the push for growth, the RBI has indicated a **cautious approach** to ensure that the **increased liquidity** and **credit growth** do not lead to asset bubbles or an overheating of the economy.
   c. The shift to a **neutral stance** underscores the RBI's commitment to carefully monitor economic data for **future policy adjustments.**

15. RBI Revises Rules for Investment In Alternative Investment Funds

Context

1. In **May 2025**, the **Reserve Bank of India (RBI)** proposed new rules to better control how banks and other financial institutions invest in **Alternative Investment Funds (AIFs).**
2. This is being done to **reduce risk** and **ensure safer investment practices.**

Why Is This Important?

1. Financial institutions (called **Regulated Entities or REs**) sometimes invest in AIFs, which are high-risk, privately managed investment funds.
2. If not monitored properly, these investments can lead to **conflicts of interest, financial misuse,** or **even losses** that could affect the stability of the financial system.

What Are the New Rules?

1. **Limit on How Much One Can Invest**
   a. A single financial institution (RE) can invest **not more than 10%** of an AIF scheme's total size.

b. All REs together cannot invest **more than 15%** in any one AIF scheme.

2. **Extra Caution Beyond 5% Investment**
   a. If an RE invests **more than 5%** in an AIF and that AIF lends money (debt) to a company **connected to the RE**, the RE must set aside **100% of that exposure as a provision.**
   b. This acts as a safety buffer to prevent financial damage.
   c. Note: This rule applies **only when the AIF gives loans**, not when it just invests in shares or convertible bonds.

Why Did RBI Do This?

1. According to financial experts, these changes aim to **align RBI rules with SEBI's more detailed and modern rules** for AIFs.
2. While SEBI's framework is already strong, RBI saw the need to make its own rules clearer and safer—**especially for banks and NBFCs investing in riskier assets.**

What Are Alternative Investment Funds (AIFs)?

1. **Alternative Investment Funds (AIFs)** are **unique investment vehicles** that pool money from investors to invest in non-traditional assets—those beyond stocks and bonds.
2. These include **Venture capital, Private equity, Hedge funds, Real estate, Commodities, Derivatives and Distressed assets**.
3. They're ideal for **wealthy** or **institutional investors** looking for higher returns through **riskier** and **more complex investments**

Why Do Investors Choose AIFs?

1. **Diversification** into assets not available via traditional investments
2. **Professional fund management** for high-risk, high-return opportunities
3. Often designed for **longer-term growth**
4. AIFs are **not suitable for beginners** or small retail investors due to high risk, complexity, and regulatory requirements.

16. India's EV Mission: Progress Delayed, Not Denied

Global Evolution of EVs

1. **Early Innovations in the 19th century:** Early prototypes of EVs emerged in the US and Europe and gained popularity in urban areas.
2. **Declining Phase from early to mid-20th century:** The mass production of Internal Combustion Engine Vehicles made them more affordable and led to a decline in EV popularity.
3. **Reawakening (1970s-1990s):** The Oil Crisis (1973 and 1979) sparked renewed interest in alternative fuel vehicles. In 1990, California introduced the zero-emission vehicle mandate, and in 1997, Japan introduced the first mass-produced hybrid EV.
4. **Global Mainstreaming:**
   a. Global mainstreaming of EVs began in the 2000s with innovations like Tesla's Roadster and Nissan Leaf.
   b. Government incentives and climate goals boosted adoption.
   c. By 2023, EVs made up 18% of global sales, with China leading in production, sales, and infrastructure.

Leading countries in EV Sales

Total Sales = 17 million units	
Country	**Percentage Share**
China	66%
Europe	19%
USA	9%
Rest of the World	6%

India's EV Policy Evolution

1. **India's EV Journey begins –** Approximately 5 years behind the global trend as:
   a. It focused first on affordable conventional vehicles for the masses.
   b. It lacked local battery and motor technology.

c. It faced unclear government policies regarding which clean technology to promote.

d. It had poor charging infrastructure that limited consumer and industry readiness.

2. **2015-2019:** FAME I - Faster Adoption and Manufacturing of (Hybrid &) Electric Vehicles - ₹895 crore allocated. Focused on demand creation and pilot projects.
3. **2019 onwards:** FAME II (Updated version of FAME I) - Budget: ₹10,000 crore. Emphasis on demand incentives, charging infrastructure, and localisation.
4. **March 2024:** Scheme to Promote Manufacturing of Electric Passenger Cars in India (SPMECI) - A parallel scheme with FAME II, it allows for a maximum import of 8,000 CBUs annually for each manufacturer for five years.
5. **June 2025: India's New EV Policy -** Offers **15% concessional import duty** on **completely built-up (CBU) EVs**, provided:
   a. Companies invest at least **₹4,150 crore** over **3 years**
   b. They achieve **25% Domestic Value Addition (DVA)** in 3 years, and reach **50% DVA** within 5 years.

Types of Electric Vehicles:		
Category	**Meaning**	**Import Duties**
Completely Knocked Down Electric Vehicles	Parts imported and assembled in India	Lower Duty (10-15%)
Semi Knocked Down Electric Vehicle	Partially assembled units imported	Moderate Duty (25-35%)
Completely Built Up (CBU) Electric Vehicles	Fully assembled units are imported.	Generally - Higher Duty (60-100%) Now – 15 % concessional import duty

Challenges and Way Forward

Challenges	Way Forward
No Technology Transfer Clause: Unlike China's mandatory tech-sharing via joint ventures, India's policy lacks mechanisms to ensure domestic firms gain foreign technology.	**Mandate technology transfer in EV-related foreign investment policies:** Ensure foreign companies investing in India share EV-related technologies, helping Indian firms build local capabilities.
Low Battery Technology Capability: India does not control the full battery value chain (mining, processing, assembly), risking Indian firms being limited to vehicle assembly without capturing value.	**Promote battery value chain development – from raw material sourcing to battery cell manufacturing:** Develop the entire battery ecosystem domestically to reduce import dependence and cut EV costs.
Repurposing ICE Component Makers: Manufacturers of petrol/ diesel vehicle parts face job risks and need strong support to transition their production to EV components.	**Integrate software and hardware innovation (India's strength in IT + auto sector):** Leverage India's IT expertise to develop smart, connected EVs that integrate both digital and mechanical systems. Also, strengthen public EV charging infrastructure.
Weak Global EV Market Position: India's EV sales and market share remain minimal compared to global leaders like China, Europe, and the USA.	**Expand FAME scheme benefits to R&D and innovation, not just demand creation:** Broaden the FAME scheme to support innovation and domestic development of EV technologies, not just consumer subsidies.

17. India's 2027 Digital Census Notified

Context

1. The Union Home Ministry has officially notified that the next **Census of India will be conducted in 2027**, using **digital tools** for the first time.
2. This notification marks the **freezing of administrative boundaries** until the exercise is complete.

Key Highlights

1. **Census Year**: Scheduled for **2027**; reference date is **00:00 hours of March 1, 2027**.
2. **Digital Mode**: Census to be conducted through **digital means using mobile applications**.
3. **Enumerator Deployment**: Around **34 lakh enumerators and supervisors** to be deployed.
4. **Self-enumeration Provision**: People may have the option for **self-enumeration via digital tools**.
5. **Boundary Freeze**: No changes to administrative boundaries (states, districts, tehsils, police stations) will be allowed **until the census concludes**.
6. **Notification Issued**: Under **Section 3 of the Census Act, 1948** by the Registrar-General of India.
7. **Non-synchronous Areas**: Census in Union Territories of **Ladakh, Jammu & Kashmir, Himachal Pradesh, and Uttarakhand** will have a reference date of **October 1, 2026**.
8. **Census Phases**: The Census will be held in two phases:
   a. **House Listing Operations:** This is the **first phase** of the census, where every building and household is listed and numbered.
   b. **Population Enumeration:** This is the **main phase** of the census where details of individuals living in each household are collected.
9. **NPR (National Population Register):** No official update/announcement on NPR this time, though it was notified in 2019 for updating.
10. **Security & Data Management:**
    a. The ministry emphasizes **data security** for collection, transmission, and storage.
    b. Trial runs and pre-test exercises to evaluate effectiveness of digital tools and ensure enumerator training.

Challenges and Way Forward

Challenges	Way Forward
Digital Divide – Lack of internet access and digital literacy in rural areas	Provide training to enumerators; use offline data collection modes in remote areas
Data Privacy Concerns – Fear of data misuse or surveillance	Ensure strong data protection laws and public awareness campaigns on data confidentiality
Logistical Complexity – Managing 34 lakh enumerators and reaching every household	Use GPS-based tracking and real-time monitoring systems to manage operations efficiently
Quality of Data – Risk of inaccurate or false data	Ensure proper training, accountability, and supervision of enumerators
Coordination Issues Between Centre and States	Establish clear roles, responsibilities, and collaborative planning with state governments

Conclusion

The 2027 Census is an important step to collect updated data using digital methods. With proper planning, public trust, and strong coordination, the challenges can be managed, helping the government make better plans for the country's future.

E. Science & Technology

1. Gene Editing Techniques

Context

1. **Asian Rice Pangenome**: Chinese scientists have built a **comprehensive pangenome** for Asian rice, revolutionizing **precision agriculture**.
2. **FOXP4 and Long COVID**: A global study found a **gene (FOXP4)** linked to **long COVID**, with potential for personalized treatment.
3. **First Personalized Gene Editing Therapy**: A US baby was cured of a **rare genetic disease** using custom CRISPR therapy—first in the world.
4. **Novel CAR-T Therapy:** Brazilian scientists have developed a novel cancer therapy called **HSP-CAR30**, which targets the **CD30 protein** found on **T and B cells**, showing promising results in its initial trial for treating certain types of cancer.
5. **RNA Editing Discovery**: Chinese researchers discovered **A-to-I RNA editing** in a crop-damaging fungus, advancing our understanding of **gene regulation**.

Key Highlights:

1. **Asian Rice Pangenome**
   a. A **pangenome** is a **complete collection** of **genome sequences** from multiple individuals of a species comprising both, core genes and unique genes.
   b. Scientists used **PacBio high-fidelity (HiFi) sequencing technology**, a long-read DNA sequencing method that provides highly accurate, long DNA reads to create this pangenome.
   c. The project combined essential **genetic segments from 144 wild and cultivated rice varieties** to build a high-resolution pangenome.
   d. The pangenome revealed **3.87 million base pairs** of novel genetic sequences absent from the previous single reference genome.
   e. These unique wild rice genes are linked to traits such as disease resistance and environmental adaptation, offering a "**genetic goldmine**" for future crop improvement.
   f. It enables **precision breeding** using tools like **CRISPR**, allowing scientists to introduce beneficial traits from wild rice into cultivated varieties.
2. **FOXP4 and Long COVID:**
   a. **Long COVID** means having **symptoms** like tiredness, breathing problems, or memory issues for weeks or months after COVID-19 infection.
   b. WHO says long COVID starts **within 3 months** of infection and lasts for **at least 2 months**, without another reason.
   c. The study used a method called **GWAS (Genome-Wide Association Study)**.
   d. GWAS looks for **small changes in DNA** that are more common in people with a certain condition.
3. **First Personalized Gene Editing Therapy:**
   a. This therapy was custom-designed for this particular baby, who was born with **Carbamoyl-Phosphate Synthetase 1 (CPS1) deficiency.**
   b. It is a **rare condition** where the liver fails to break down byproducts from protein metabolism, leading to **toxic ammonia buildup** in the body.
   c. Scientists used a tool called **CRISPR** (like tiny scissors for DNA) to **fix the exact mistake** in the baby's genes that caused the illness.
   d. After getting the treatment, the baby's health improved a lot.
   e. This is a huge step forward because it shows doctors can now quickly design a gene fix for one unique patient, offering hope for people with rare diseases that never had a cure before.
4. **Novel CAR-T Therapy:**
   a. **Efficacy:** The therapy has shown a **100% overall response rate**, with **50%** of patients achieving complete remission.
   b. **Safety and Immunity:** The therapy has **no dose-limiting toxicities**, and **CAR30+ cells** remained detectable in **60% of evaluable patients** even a year after infusion.

5. **RNA Editing Discovery**:
   a. **A-to-I RNA Editing** is also known as the **Adenosine-to-Inosine RNA editing.** It is a natural process that changes the information in RNA after it is made from DNA.
   b. The **Adenosine (A)** in the **RNA** molecule is chemically converted into **Inosine (I).**
   c. This editing is carried out by enzymes called **ADARs (Adenosine Deaminases Acting on RNA).**
   d. ADAR enzymes recognize **double-stranded regions** of RNA and change specific adenosines (A) into inosines (I).
   e. Inosine is recognized as **guanosine (G)** by the cellular machinery during translation (process of converting the genetic information encoded in mRNA into a protein) and other processes, which can alter the amino acid sequence of proteins.

What is Chimeric Antigen Receptor T-cell (CAR-T) Therapy?

1. **CAR-T therapy** involves collecting a **patient's T cells** from their blood and genetically modifying them in a lab to fight cancer.
2. **Mechanism:** A special receptor, known as **Chimeric Antigen Receptor (CAR)**, is added to T cells, enabling them to recognize and attack cancer cells more effectively.
3. **Success in Blood Cancers:** CAR-T therapy has shown **significant success** in treating blood cancers, including **Acute Lymphoblastic Leukemia (ALL), Non-Hodgkin Lymphoma, and Multiple Myeloma**.

Challenges and Way Forward

Challenges	Way Forward
1. Limited genomic diversity in reference data (e.g., earlier rice genome or underrepresented ethnicities in genetic studies)	Develop and promote inclusive, high-resolution pangenomes and country-specific genome projects
2. Difficulty in treating rare genetic disorders	Scale up personalized gene-editing research and streamline regulatory approvals for customized therapies
3. Ethical and safety concerns in gene-editing and immunotherapies	Ensure ethical oversight, transparent clinical trials, and robust monitoring of long-term side effects
4. Regulatory uncertainty around **newer gene-editing tools** (like CRISPR-Cas, ADARs)	Update national biotech regulations to differentiate between GMOs and non-GMO gene-edited crops or therapies
5. High cost and **limited accessibility** of advanced therapies (CAR-T, CRISPR)	Encourage public-private partnerships, subsidies, and licensing models to improve access and affordability
6. Limited awareness and **post-treatment care** in complex conditions (e.g., Long COVID)	Strengthen follow-up care systems and invest in genomics-integrated healthcare infrastructure
7. Technological gaps in delivery mechanisms (e.g., lipid nanoparticles, RNA editing enzymes)	Invest in R&D for safer, more efficient delivery systems across therapeutic and agricultural use cases

2. HAL-ISRO Deal on SSLVs

Context

1. **Hindustan Aeronautics Limited (HAL)**, a leading **aerospace** and **defence** public sector undertaking, has won a **₹511 crore Transfer of Technology (ToT)** deal from the **Indian Space Research Organisation (ISRO).**
2. Under this deal, HAL can manufacture and commercialise **Small Satellite Launch Vehicles (SSLVs).**
3. This marks a significant milestone in the **commercialisation** of India's space technology, supported by **IN-SPACe.**

Key Highlights

1. **Deal Value: ₹511 crore**
2. **Awarding Agency**: Indian National Space Promotion and Authorisation Centre **(IN-SPACe)**
   a. It is an **independent**, **autonomous agency** under the **Department of Space (DoS)** in India.
   b. It acts as a **single-window interface** between ISRO and private companies to facilitate their participation in the space sector.
   c. IN-SPACe **promotes**, **enables**, **authorizes**, and **supervises** space activities of non-governmental entities.
3. **Recipient: Hindustan Aeronautics Limited (HAL)**
4. **Technology: Small Satellite Launch Vehicle (SSLV)**
   a. It is a **3-stage Launch Vehicle** configured with **three Solid Propulsion Stages** and a **liquid propulsion** based Velocity Trimming Module **(VTM)** as a **terminal stage**.
   b. SSLV is capable of launching **around 500 kg satellites** into a **500 km planar orbit** from SDSC/ SHAR.
   c. The **key features** of SSLV are Low cost, with low turn-around time, flexibility in accommodating multiple satellites, Launch on demand feasibility, minimal launch infrastructure requirements, etc.
5. **Support Period: 2 years of complete technical support from ISRO**
6. **Purpose** of the deal:
   a. **Manufacture SSLV Launch Vehicles:** HAL will build SSLVs using the technology transferred by ISRO, ensuring standardisation and quality as per ISRO specifications.
   b. **Operationalise the SSLV Program:** HAL will be responsible for managing end-to-end SSLV operations, from production to launch execution.
   c. **Commercial Launch Services:** HAL will offer SSLV launch services to domestic and international clients for placing small satellites in orbit.
   d. **Promote 'Launch on Demand' Capability:** By ensuring quick manufacturing and turnaround, HAL aims to provide launch services on short notice for time-sensitive missions.
   e. **Enable Technological Self-Reliance:** Through this initiative, HAL will gain deep technical expertise in launch vehicle systems, enhancing India's self-reliance in space technologies.
   f. **Serve the Growing Small Satellite Market:** With the increasing demand for small satellite launches globally, HAL will cater to both government and private sector customers.
7. **Bidding Process:**
   a. **Multi-stage evaluation** involving eligibility and financial criteria.
   b. The entire **selection process** was conducted in a **fair**, **competitive**, and **transparent** manner over several months, ensuring the best bidder was chosen.
8. **Outcome**: HAL selected among three shortlisted bidders as the highest financial bidder.

Challenges and Way Forward

Challenges	Way Forward
Technology Absorption: HAL needs to fully understand and integrate complex SSLV technology within two years.	ISRO should provide detailed technical training, hands-on support, and documentation during the ToT phase.
Reliability of SSLV: SSLVs must demonstrate consistent performance and successful launches to gain global trust.	Conduct multiple test launches under ISRO's guidance to ensure technical robustness and mission success.
Global Competition: Competing with international small satellite launch providers like Rocket Lab and SpaceX.	Focus on cost-efficiency, timely launches, and customization options to position SSLV competitively.
Infrastructure Requirements: HAL may need to develop or upgrade facilities for production, testing, and launches.	Invest in advanced infrastructure, possibly in partnership with government or private investors.
Policy and Regulatory Clarity: Complex regulatory frameworks and export rules may affect private participation.	IN-SPACe should streamline policies, provide clear guidelines, and support export approvals.

Liability and Insurance: According to international space laws, the Indian government will be held responsible for any wrong with a privately launched SSLV. This may worry private customers who use HAL's launch services, as they might be unsure about who will handle the risks or losses.	Explore risk-sharing models and develop insurance mechanisms to protect commercial stakeholders.

Conclusion

The ₹511 crore ToT deal between ISRO and HAL to build and operate SSLVs is a landmark in India's space privatization journey. It exemplifies the government's vision to commercialize and scale India's space capabilities by involving public and private sector players. With the right strategic moves and strong support from ISRO and IN-SPACe, HAL could soon become a key player in the global small satellite launch market. However, successful technology absorption, consistent launches, and navigating international competition will be vital in turning this potential into performance.

3. Project Kuiper

Context

1. **Project Kuiper** is Amazon's ambitious initiative to build a **broadband satellite network** in low **Earth orbit (LEO)**.
2. The project aims to deploy **a constellation of around 3,232 satellites** to provide internet access globally.
3. Amazon recently launched the **first 27 satellites** under this mission, marking the initial phase of deployment.

Key Highlights

1. **Objective of Project Kuiper**
   a. The core goal is to deliver **high-speed, low-latency, and affordable broadband services.**
   b. It targets **unserved and underserved regions** across the world, including remote and rural areas.
   c. By expanding digital access, Kuiper seeks to bridge the **global digital divide** and promote digital inclusion.
1. **Key Components of the Kuiper System**
   a. The project includes three major components:
      i. A network of LEO satellites,
      ii. Supporting **ground infrastructure,** and
      iii. Compact **customer terminals** to receive the signal.
   b. Low Earth orbit (up to 2,000 km above Earth) allows faster data transfer and lower signal delay.
2. **Why is it Called 'Kuiper'?**
   a. The project is named after the **Kuiper Belt**, a region of the solar system beyond Neptune.
   b. The name reflects Amazon's vision of expanding technological frontiers into space.
3. **Similar Global Projects**
   a. Project Kuiper joins the race with other space-based internet initiatives.
   b. SpaceX's Starlink is a major competitor, already operational with thousands of satellites in orbit.

4. Brain-Computer Interface (BCI): A Breakthrough for Paralysed Individuals

Context:

1. Scientists have developed a **Brain-Computer Interface (BCI) system** that enables **paralysed individuals to control robotic arms** using only their **thoughts**.
2. The system works by **detecting brain activity** when a person imagines a movement, which is then processed using **Artificial Intelligence (AI)** to move a robotic arm accordingly.

What is a Brain-Computer Interface (BCI)?

1. A **BCI is a computer-based system** that captures brain signals generated by the **Central Nervous System (CNS).**
2. These signals are **analyzed** and **translated into commands**, which are sent to an external device to perform a specific action.
3. It is **not a voice-controlled, muscle-activated,** or **mind-reading system.**

Major Components of a BCI System:

1. Signal Acquisition: Involves **measuring brain signals** through sensors which are **digitized and transferred to a computer**.

2. **Feature Extraction:** The acquired signals are **analyzed** to identify features that indicate the **user's intent**, filtering out irrelevant data.
3. **Feature Translation Algorithm:** Converts meaningful features into **machine-readable commands** that can operate output devices.
4. Device Output: Executes the intended action such as **letter selection, cursor movement, or operation of robotic limbs.**

Key Applications of BCI Technology

1. **Communication and Control:** Acts as an **alternative interface** for those with physical disabilities to communicate or operate devices.
2. **Medical Uses:**
   a. Supports **prevention (**like controlling smoking urges or motion sickness).
   b. Aids in **detection and diagnosis** of brain-related or sleep disorders.
   c. Facilitates **rehabilitation** in patients with **brain stroke** or motor impairments.
3. **Security and Authentication:** Employs **unique brainwave patterns** for **user identification**, reducing risks associated with **passwords or biometric theft.**
4. **Education and Training:**
   a. Assesses how clearly a user **understands studied content.**
   b. Enables **personalized interaction** and adaptive learning tools.

5. Discovery of Molecule That May Treat Rare Mitochondrial Diseases (2025) + Mitochondrial DNA (mtDNA)

Context:

1. Recently, Scientists have found a **molecule** (a small chemical compound) that could help treat **POLG-related diseases.**
   a. These are **rare genetic diseases** that harm the **mitochondria** (the "powerhouses" of our cells) and make it hard for cells to get enough energy.
2. This molecule appears to **reverse the damage caused by mutations** (changes in DNA) that affect the **POLG gene** (a gene responsible for a key protein in mitochondria).

What Are POLG-Related Diseases?

1. **POLG-related diseases** are rare and caused by problems with the **POLG gene.**
2. The diseases lead to **mitochondrial DNA** being damaged and not being able to repair itself properly.
3. This affects the body's ability to create and use energy.
4. The diseases are very **variable** (different people have different symptoms, and it can affect people at different ages).
   a. Alpers-Huttenlocher syndrome (a severe form) starts between ages **2-4** and can lead to liver failure, seizures, and death within 4 years.

What is Mitochondrial DNA ?

1. Mitochondrial DNA (mtDNA) is the **circular, double-stranded DNA** found within the mitochondria, the cell's energy-producing organelles.
2. Mitochondria have their own DNA, which is separate from the **DNA** found in the **nucleus** of the cell.
3. This mitochondrial DNA is passed down only through the **mother,** which is why it's sometimes called the "maternal inheritance."
4. The health of mitochondrial DNA is crucial for the proper functioning of mitochondria.
5. If there are mutations (changes) in the mitochondrial DNA, it can lead to diseases that affect energy production in the body.

Other forms of POLG diseases may show symptoms between 12 and 40 years old, but symptoms are less severe for people who develop them later in life

How Does This New Molecule Work?

1. The researchers wanted to find a molecule that could **enhance the activity** of the **POLG protein** (the protein made by the POLG gene).
2. They screened **270,000 compounds** to find one that could help the **healthy POLG protein** and even **mutant versions** of it.
3. They found one promising molecule, called **PZL-A**, and made it more powerful by tweaking it.
4. **PZL-A** helps stabilize the **POLG protein**, so it can **repair DNA** and work properly, even with mutations.
5. This helps cells to recover from damage.

What Makes This Molecule Special?

1. **PZL-A** works by **binding** to a specific part of the POLG protein that is **not affected by the most common disease-causing mutations** (the mutations that cause these diseases).
2. The molecule **stabilizes the POLG protein,** allowing it to continue its work in **repairing and replicating mitochondrial DNA.**
3. In experiments, cells with POLG mutations treated with **PZL-A** were able to **recover their mitochondrial DNA** much faster than untreated cells.

What's Next for This Discovery?

1. The team has started testing a molecule similar to **PZL-A** in humans.
2. They're currently testing its **safety** in healthy people.
3. If PZL-A works well and has **no harmful side effects**, it could become a treatment for people with POLG diseases, which currently have **no cure**—only treatments for symptoms.
4. The researchers are also looking into whether this molecule could help with **other diseases**, like those related to aging or **neurodegenerative conditions** (diseases like Alzheimer's that involve the breakdown of the brain).

Why Is This Important?

1. This is the **first drug** aimed specifically at **treating POLG mutations** and **improving mitochondrial function.**
2. If successful, this could **change the lives** of people with these **devastating diseases.**
3. The research could also help in understanding **aging diseases**, since **mitochondrial DNA depletion** is linked to many age-related illnesses.

6. World's First 'Black Hole Bomb' Created in a Lab (2025)

Context:

1. Recently, Scientists at the **University of Southampton (UK)** have, for the **first time**, recreated a **"black hole bomb" i**n a laboratory.
2. This experiment proved a **50-year-old theory** that waves can grow stronger by **stealing energy from a spinning object**, just like near a black hole.
3. The experiment used a **spinning aluminium cylinder, magnetic fields,** and **reflected electromagnetic waves**.

What is a 'Black Hole Bomb'?

1. It's a **theoretical idea** that says waves (like light or sound) can get stronger and stronger when bouncing around a fast-spinning object.
2. These waves steal energy from the spinning object, making it slow down.
3. The effect was **first proposed in 1971** by physicist **Yakov Zel'dovich.**

Background – Where Did the Idea Come From?

1. **Penrose Process (1969):** Proposed by physicist **Roger Penrose.**
   a. He said that energy can be **taken out of a rotating black hole**, in a region called the **ergosphere** (a zone around a black hole where space-time is stretched).
      i. Black hole means : an area in space that nothing, not even light, can escape from, because the force that pulls objects in space towards each other (gravity) is so strong there
   b. In this zone, a particle can split into two:
      i. One part falls into the black hole with **negative energy.**
      ii. The other escapes with **more energy** than it had before.
2. **Zel'dovich Effect (1971)**
   a. Physicist **Yakov Zel'dovich** asked: Can this process happen **without a black hole?**
   b. He suggested:
      i. A **fast-spinning metal cylinde**r could do the same.
      ii. If **waves** (like sound or light) hit it, they could **gain energy.**
      iii. If **mirrors** reflected the waves back and forth, they would grow stronger each time.
   c. This energy boost process was later called a **"black hole bomb."**

Key Concept – What Is the Zel'dovich Effect?

1. If a spinning object moves **faster than the incoming waves,** it can **shift the wave's frequency.**
2. Waves turn into **negative frequencies.**
3. This allows the wave to **take energy from the spinning object**—causing **amplification.**
4. Similar to the **Doppler effect** (like when a car honking its horn sounds different when it approaches or moves away), but with **rotation** instead of motion.

How It Was Done?

1. Led by **Hendrik Ulbricht** and **Marion Cromb.**
2. **The setup included:**
   a. A **spinning aluminium cylinder.**
   b. A **three-phase magnetic field.**
   c. A **resonant circuit** that acted like mirrors, bouncing electromagnetic waves back.
3. **What happened:**
   a. At first: only background noise.
   b. Then: waves started **amplifying** with each bounce.
   c. Result: waves stole energy from the **spinning motion,** just like the theory said.

Why Is This Important?

1. This experiment provides **real proof** that waves can grow stronger by taking energy from a rotating object.
2. It shows that we can study **cosmic physics** (physics related to space, stars, and black holes) right here on Earth.
3. It also proves some predictions made by **Einstein's theory of relativity** (a theory about gravity and space-time).
4. This finding could help scientists understand how **black holes lose energy.**
5. It could help detect **dark matter** (mysterious stuff in space that we can't see but know is there because of its gravity) and how it behaves near black holes.

Future Possibilities

1. Scientists want to try using even **smaller energy changes** in space (called **quantum vacuum fluctuations,** which are tiny fluctuations in energy that happen in empty space) to start the wave amplification process.This will **require new technology,** but it's now considered **possible.**

7. Anti-Submarine Warfare Shallow Water Craft INS Arnala + INS Arnala – 1st Indigenously-Built ASW-SWC Ship

Context:

1. The Indian Navy is set to commission INS Arnala, the first of 16 indigenously-built Anti-Submarine Warfare Shallow Water Crafts (ASW-SWC), at the Naval Dockyard in Visakhapatnam on June 18, 2025.
2. This marks a significant progress in India's naval capabilities and its 'Aatmanirbhar Bharat' (self-reliant India) initiative in defence manufacturing.

About INS Arnala

1. **Type**: 1st indigenously-built Anti-Submarine Warfare Shallow Water Craft (ASW-SWC) ship.Anti-Submarine Warfare Shallow Water Crafts (ASW-SWC) are small, agile warships specially designed to detect and engage enemy submarines operating close to coastlines and in shallow water.
2. **Role & Enhancement**: It will significantly enhance India's capabilities in coastal surveillance, mine-laying, and sub-surface operations.
3. **Builder:** Designed and constructed by Garden Reach Shipbuilders & Engineers (GRSE), Kolkata, in partnership with L&T Shipbuilders under a Public-Private Partnership (PPP) model.
4. **Delivery:** The Indian Navy received delivery of the ship on May 8, 2025.
5. **Induction Ceremony:** Will be led by Chief of Defence Staff at Eastern Naval Command.

Operational Region and Capabilities

1. **Designed For**: Coastal waters and the broader Indian Ocean Region (IOR).
2. **Mission Profile:**
   a. Anti-Submarine Warfare Operations (ASW).
   b. Subsurface Surveillance.
   c. Low-Intensity Maritime Operations (LIMO).
   d. Search and Rescue (SAR).
   e. Mine-laying.

Key Features of INS Arnala

1. **Dimensions & Performance:**
   a. Length: 77.6 meters
   b. Displacement: 1490+ tonnes

c. Speed: Up to 25 knots
d. Endurance: 1800 nautical miles (~3300 km)

2. **Propulsion:** Notably, it is the first Indian naval warship powered by a Diesel Engine–Waterjet combination.
3. **Indigenization (Aatmanirbhar Bharat):**
   a. Highly indigenous, with over 80% content locally sourced.
   b. Most systems are put together by Indian defence companies such as Bharat Electronics Limited (BEL), L&T, Mahindra Defence, and MEIL.
   c. A total of 55 Micro, Small, and Medium Enterprises (MSMEs) contributed to its development, strengthening domestic defence industries.
4. **Advanced Systems:** Supports AI-driven combat systems, sonar arrays, and mine-laying gear.

Naming and Symbolism:

1. **Name Inspiration:** Named after the historic Arnala Fort off Vasai, Maharashtra, near Mumbai's northern coast. The fort is strategically located to face the Vaitarna River mouth.
2. **Ship's Crest:**
   a. Showcases a stylised Auger Shell on a blue backdrop.
   b. Represents resilience, vigilance, and supremacy in demanding conditions.
   c. The spiralling, fortified structure and precise tip of the Auger Shell embody resilience, vigilance, survival, and dominance in harsh environments, reflecting the ship's ability to endure the ocean's relentless forces and execute precise anti-submarine operations.
3. **Ship's Motto: "Arnave Shauryam"** (written in Devanagari beneath the crest), which translates to "Valour in the Ocean," capturing the vessel's operational spirit.

Other Key Warships Awaiting Commissioning/ Induction:

1. **Talwar-Class Stealth Frigates:**
   a. **INS Tamal:** The 2nd Talwar-class stealth frigate under a 2016 Indo-Russian agreement, set to be commissioned by the end of June 2025.
   b. **Acquisition Context:** Part of a $2.5 billion deal with Russia for four frigates: 2 constructed in Russia, and two at Goa Shipyard Limited (GSL) with Russian technology transfer.
   c. **Sister Ship:** INS Tushil, which was commissioned in December 2024 at Russia's Yantar Shipyard and reached India in February 2025.
2. **Other Vessels Awaiting Induction:**
   a. **Diving Support Ship:** Under construction at Hindustan Shipyard Limited.
   b. **Project 17A (Nilgiri-class) Frigates:** At least one frigate, and possibly a second, from this class is expected to be commissioned before year-end. These are being built jointly by Mazagon Dock Shipbuilders Limited and GRSE.
   c. **Large Survey Vessel:** From GRSE.
3. **Recent Commissioning (January 2025):**
   a. **INS Vagsheer:** The 6th Kalvari-class submarine under Project 75, commissioned in January 2025.
   b. **Capabilities:** A diesel-electric submarine, operating underwater on battery power and on the surface using diesel engines, offering silent patrol capability close to the coast.

What is Project 17A?

Feature	Details
Origin	Project 17A (P-17A) was launched by Indian Navy in 2019 to construct a series of stealth guided-missile frigates. They are the upgraded version of the Shivalik-class (Project 17) frigates currently in service.
Construction	These frigates are being constructed by Mazagon Dock Shipbuilders (MDL) and Garden Reach Shipbuilders & Engineers (GRSE).
Stealth Features	Includes radar-absorbent coatings and low observability for enhanced stealth. Technology to minimize infrared emissions, making them harder to detect by adversaries.

Key Milestones	The 1st frigate, Nilgiri, was launched in 2019 and is now inducted. The 2nd frigate, Udaygiri, was launched in 2022 and is expected to be commissioned in mid 2025.
Current Status	7 P-17A frigates are in different stages of construction at MDL and GRSE.
Indigenous Contribution	Around 75% of project orders have been placed with Indian companies, including MSMEs, reinforcing the Atma Nirbhar Bharat initiative.

What is Project 75?

Feature	Details
Origin	• Project 75 involves the construction of 6 Scorpene-class diesel-electric attack submarines for the Indian Navy.
Construction	• All six submarines are being built by Mazagon Dock Shipbuilders Limited (MDL) in Mumbai, in collaboration with France's Naval Group.
Timeline of Commissioning	• INS Kalvari (2017), INS Khanderi (2019), INS Karanj (2021), INS Vela (2021), INS Vagir (2023) and INS Vagsheer (2025)
Design	• Based on the Scorpene-class design, renowned for stealth and operational versatility. • Diesel-electric propulsion systems ensure silent operations, crucial for stealth missions. • Incorporates advanced acoustic silencing techniques, low radiated noise levels, modular construction and the ability to launch precision-guided weapons. • Plans are underway to retrofit all Scorpene-class submarines with AIP systems
Armament	• Torpedoes: Can launch various types of torpedoes for anti-ship and anti-submarine warfare. • Missiles: Anti-ship missiles for surface target engagement. • Mines: Can deploy naval mines for area denial operations. • Advanced sonar and sensor suites for superior enemy detection and tracking.

8. Shingles Vaccine & Lower Dementia Risk: What New Study Says

Context:

A new analysis of a vaccination program in Wales found that the shingles vaccine appeared to lower new dementia diagnoses by 20% — more than any other known intervention.

What is 'shingles'?

1. Shingles is a viral infection causing painful rashes, usually appearing as a stripe of blisters on one side of the torso.
2. **Causes:**
   a. It is caused by the varicella-zoster virus, the same virus responsible for chickenpox. After chickenpox, the virus remains dormant and can reactivate as shingles, especially if the immune system is weakened.
   b. People who have never had chickenpox can contract the virus through direct contact with shingles blisters or by inhaling virus particles.
   c. Pain may persist after the rash disappears. Severe cases can lead to vision loss (if near the eye), facial paralysis, or brain inflammation.
3. **Prevention:** A shingles vaccine, which prevents the reactivation of the varicella-zoster virus, is recommended primarily to individuals over the age of 50 years. It may also be recommended to adults living with a weakened immune system due to conditions such as HIV.

What did the Weles study find? Why is it unique?

1. Wales' shingles vaccine rollout created a **"Natural Experiment,"** that closely resembled a randomized control trial. Eligibility was based strictly on age, for minimizing bias.
2. Study began in September 2013 and only those aged 79–80 on that date could get the vaccine that year. Further, the 78-year-olds got it the following year (2014); those over 80 were never eligible. Hence, two similar groups were created that differed only by vaccine eligibility.

What were the unique findings?

1. Over 7 years, vaccinated individuals had a **3.5% point lower rate of dementia diagnosis.**
2. This equals a **20% lower relative risk** compared to the unvaccinated group.

What was the explanation given by the researchers?

1. The shingles virus may cause long-term cognitive effects; vaccination could prevent these.
2. Changes in the immune system from the vaccine may also help protect against dementia.
3. The exact reason for the reduced dementia risk after shingles vaccination is still unknown. One theory suggests that preventing the reactivation of the shingles virus may directly lower dementia risk, as the virus is linked to long-term cognitive effects.
4. Another possibility is that changes in the immune system caused by the shingles virus or its vaccination may help protect against dementia.

Conclusion:

Both shingles vaccines (Zostavax and Shingrix) may help reduce dementia risk, with similar protective effects seen in studies. Other common vaccines may also offer some protection against dementia.

9. Bio-Foundry in India

Context:

Recently, a meeting of the **Board of Governors of the International Centre for Genetic Engineering and Biotechnology (ICGEB)** was organized.A new **Bio-foundry** has been set up by the ICGEB.

What is Bio-Foundry?

1. A biofoundry is a specialized laboratory that uses advanced technology.
2. Its objective is to **design, build, and test** the efficiency of biological systems efficiently.
3. It's like a high-tech workshop where scientists and engineers work together to create and improve living organisms or biological parts for various purposes.
4. These improved organisms or biological parts are used in **medicine, agriculture, or environmental protection.**

Growth of India's Biotech Sector in Last Decade:

1. In August 2024, the Indian government introduced the **BioE3 Policy (Biotechnology for Economy, Environment, and Employment**) to promote **high-performance biomanufacturing.**
   a. Its aim is to drive green growth by **enhancing research & development, innovation,** and **creating jobs in sectors.**
2. **National Biopharma Mission (NBM)** was launched in May 2017.
   a. It is an initiative launched in collaboration with Industry and Academic Institutions to accelerate biopharmaceutical development in the country.
   b. It was funded by the **World Bank.**
   c. It has increased employment opportunities.
   d. The mission will be implemented by **Biotechnology Industry Research Assistance Council (BIRAC).**
   e. It is 50% co-funded by a **World Bank loan.**
3. India's biotechnology industry has grown a lot in the **past 10 years.**
4. This 10 years starts from **2014,** when the biotechnology sector was worth **$10 billion,** but in 2024, it has reached **$165.7 billion.**
5. Considering this progress in 10 years the government set its target to increase the worth of the biotechnology sector to **$300 billion** by the year **2030.**

India is Becoming a Global Biotech Leader

1. India is now the **12th largest biotechnology hub in the world** and **3rd in the Asia-Pacific region.**

2. India has also become the **largest producer of vaccines** and has the **3rd largest number of startups in the world.** For example, there were only **50 biotech startups** in 2014, but now there will be over **10,000** in 2024.
3. During the **COVID-19 pandemic**, India made a big achievement by creating the **world's first DNA-based vaccine.**
4. This means the vaccine was made using **advanced science** that had never been used before for any other vaccine in the world.
5. India didn't just use the vaccine for its own people but it also helped other countries through a program called **"Vaccine Maitri"**which means **"Vaccine Friendship".**
   a. India sent vaccines to many countries to support them during the pandemic.
6. This showed India's commitment to helping the world and caring for global health.

New Medicines and Innovations in India

1. India is also making progress in developing new medicines and health tools.
2. One big achievement is the creation of **Nafithromycin.**
3. Nafithromycin is a new **antibiotic** for treating **bacterial pneumonia** especially those that have become resistant to older antibiotics.
4. Indian scientists have also developed diagnostic kits for detecting Dengue and HIV.

What are the challenges associated with Bio-Foundry?

1. **High Cost of Setup and Maintenance:** Building a biofoundry needs expensive machines and advanced labs. India still lacks enough investment to support such high-tech infrastructure.
2. **Shortage of Skilled Workers:** Biofoundries need **trained scientists, engineers, and technicians.** India doesn't yet have **enough people with the right skills** for this new field.
3. **Lack of Coordination Among Institutions:** Many research institutes and industries work separately. Without teamwork, sharing data, tools, or ideas it will remain a difficult task.
4. **Limited Access to Raw Materials and Tools:** Biofoundries need **special chemicals, genes, and biological parts**. These are not always available easily or cheaply in India.
5. **Weak Legal and Ethical Guidelines:** There are not enough clear rules on safety, privacy, and use of synthetic biology. This creates confusion and slows down research and innovation.

Way forward

1. **Increase Government and Private Investment:** More money should be given by both government and private companies to build and maintain bio foundries. Special funding schemes can help create world-class labs and infrastructure.
2. **Develop Skilled Workforce**: Introduce new courses and training programs in synthetic biology and biotechnology. Partnering with foreign universities and companies can help in training Indian scientists and technicians effectively.
3. **Promote Collaboration Between Institutions:** Create groups of platforms where research institutes, industries, and startups can work together. This kind of platform can help them share tools, data, and good ideas easily.
4. **Improve Access to Raw Materials and Tools**: The government should encourage companies in India to produce important biological parts and tools locally. Until local production is sufficient, the process for **importing these scientific materials** should be simplified.
5. **Frame Strong Legal and Ethical Guidelines:** The government should make s**ure the safe and responsible use of synthetic biology.** Along with this, special committees should be set up to check new projects and make sure that the research is done in simple and clear rules to a safe and ethical way.

10. India's First Bio-Experiments in Space

Context:

1. India will conduct i**ts first-ever biological experiments** in space on the **International Space Station (ISS)**.

2. These experiments will be part of a **space mission** called **AXIOM-4**, which is planned to launch on **June 8, 2025,** from NASA's **Kennedy Space Center** in the USA.
3. This is a joint effort by **Indian Space Research Organization (ISRO), Department of Biotechnology (DBT) and NASA.**
4. The project is part of a larger plan called the **BioE3 Policy,** which focuses on using biotechnology to help the **economy, protect the environment**, and **create jobs.**

Biological Experiments Planned on the ISS:

1. The Scientists from the **International Centre for Genetic Engineering and Biotechnology (ICGEB)** are working on these experiments.
2. **Microalgae Experiment**
   a. **Objective**: To study the effects of **microgravity and space radiation** on the growth of **edible microalgae.**
   b. **Significance:**
      i. Microalgae are **nutrient-rich, high in proteins, lipids**, and **bioactive compounds.**
      ii. They show **high photosynthetic efficiency,** aid in **oxygen production**, and CO_2 **absorption**, crucial for life support in space.
      iii. Fast-growing with short life cycles, they are ideal for **sustainable food and air regeneration** in long-duration space missions.
      iv. **Expected Outcome:** Identification of the **most suitable microalgae** species for space-based life-support systems.
3. **Cyanobacteria Experiment:**
   a. **Organisms Studied**: **Spirulina and Synechococcus.**
   b. **Mediums Used: Urea-based vs. nitrate-based** nutrient environments.
   c. **Objectives:**
      i. To explore Spirulina's potential as a **"space superfood"** due to its high **protein and vitamin** content.
      ii. To assess the ability of cyanobacteria to **recycle carbon and nitrogen** from human waste in closed-loop life support systems.
      iii. To study **metabolic adaptation** and **proteomic responses** under microgravity.
   d. **Significance:** Enables development of **self-sustaining recycling systems** for future extraterrestrial habitats and space colonies.

Significance of the Experiments for India:

1. **Strategic Leap in Space Biotechnology**: Supports long-term space missions through food, oxygen production, and waste recycling.
2. **Strengthens International Collaboration:** Aligns with NASA and global scientific bodies.
3. **Boosts India's Global Position:** Reinforces India's emergence as a leader in biotechnology and space research.

11. China's 1st Attempt To Survey And Sample an Asteroid : China's Space Mission Tianwen-2

Context

1. China plans to launch its **Tianwen-2** mission at the end of May 2025.
2. This is China's 1st attempt to survey and sample an asteroid.
3. If successful then it will elevate China into an elite group of countries — including the **US, Russia, and Japan — capable of interplanetary sample-return missions.**
4. **Interplanetary sample-return missions** are space missions designed to travel from Earth to another celestial body within our solar system to collect physical samples (like soil, rocks, dust), and then bring those samples back safely to Earth for detailed analysis.
5. These celestial bodies could be an asteroid, comet, the Moon, or Mars.

Background

1. China's space program has made significant progress in recent years with missions like **Chang'e** lunar sample returns and Tianwen-1, its Mars orbiter and rover mission.
2. Tianwen-2 is part of this ongoing effort to deepen China's presence and capabilities in planetary exploration.

Key Details of Tianwen-2 Mission

1. The spacecraft will launch on a **Long March 3B rocket from the Xichang Satellite Launch Centre** in Sichuan province.
2. The exact launch date has not yet been confirmed by the China National Space Administration (CNSA), but it is scheduled for late May 2025.
3. **Primary Mission : Asteroid Kamo'oalewa (469219)**
   a. Tianwen-2 will **first visit the asteroid Kamo'oalewa (469219),** a near-Earth object that orbits the Sun but stays close enough to Earth to be called a **quasi-satellite.**
   b. It is estimated to be 40 to 100 meters in diameter.
   c. Scientists hypothesize that Kamo'oalewa might be a fragment of the Moon, blasted off by an ancient impact and now trapped near Earth.
   d. Its orbit loops around Earth while also orbiting the Sun.
   e. Tianwen-2 will use a **touch-and-go** sampling method, where a robotic arm briefly contacts the asteroid's surface to collect dust and particles.
   f. This technique has been successfully employed by **NASA's OSIRIS-REx and Japan's Hayabusa2 missions.**
   g. Additionally, the spacecraft will attempt a 2nd sampling method involving **anchoring and drilling.**
   h. This method deploys robotic arms to grip the surface and extract subsurface materials.
   i. The collected samples will be returned to Earth before the spacecraft continues to its second mission phase.
4. **Secondary Mission – Comet 311P/PANSTARRS:**
   a. After returning samples from Kamo'oalewa, Tianwen-2 will journey to the **main asteroid belt** to study **311P/PANSTARRS**, a comet known for its unusual, intermittent dust tails.
   b. Unlike the asteroid mission, Tianwen-2 will **not collect samples** from this comet but will perform detailed remote sensing and composition analysis.
5. **Duration**: The mission to Kamo'oalewa is expected to take about two and a half years.
6. The entire mission, including the comet study, could last up to a decade.

Significance of Tianwen-2 Mission

1. This mission will provide new insights into the origin and nature of near-Earth objects and main-belt comets.
2. Studying Kamo'oalewa could improve understanding of the Earth-Moon system and early solar system processes.
3. The analysis of 311P/PANSTARRS will help clarify the behavior of main-belt comets, which are key to understanding how water and organics were delivered to Earth.
4. Tianwen-2 will demonstrate China's capability in complex space exploration techniques such as autonomous navigation, asteroid sample return, and multi-phase deep-space missions.

About the Name "Tianwen"

1. The name "Tianwen" means **"Heavenly Questions".**
2. It is derived from a classical Chinese poem written by the poet Qu Yuan around 278 BCE.

Related Missions

1. Tianwen-1: Launched in July 2020, it was China's first Mars mission.
2. Its rover landed in May 2021 but was later put into hibernation and failed to restart by the end of 2022.
3. Tianwen-3: Scheduled for 2028, it aims to return samples from Mars and will build upon the experiences gained from Tianwen-2.

12. Report Submitted for Framework on Repairability Index (RI) in Mobile and Electronic Sector

Context

1. A committee chaired by **Bharat Khera** has submitted its report to the **Department of Consumer Affairs (DoCA)** on creating a **Repairability Index (RI) framework.**
2. The framework aims to bring **transparency** and **consumer awareness** in the electronics sector, especially mobile devices.

What Does the RI Framework Recommend?

1. Original Equipment Manufacturers (OEMs) must self-declare the RI based on standardized scoring guidelines laid down in the framework.

2. The declared RI must be clearly visible at the point of sale, on E-commerce platforms, and through QR codes on product packaging.
3. In the initial phase, the committee has prioritized smartphones and tablets for implementation of the RI.
4. The RI is calculated using six core parameters, each assigned specific scoring criteria and weightages.
5. After aggregating the weighted scores of priority parts, the final RI is presented on a five-point numeric scale.

What is the 'Right to Repair' Movement?

1. The **Right to Repair** advocates that manufacturers should provide spare parts, tools, and repair manuals to customers and repair shops.
2. This initiative **aims** to extend the life of products and **reduce dependency** on company service centers.
3. To support this cause, the **Right to Repair Portal India** was launched by **DoCA** in 2022, making **repair-related information accessible** to consumers.

13. ISRO Moves Gaganyaan Mission to First Quarter of 2027

Context:

1. ISRO has rescheduled the Gaganyaan mission to the first quarter of 2027.
2. The successful completion of Test Vehicle Abort Mission-1 (TV-D1) and the first uncrewed Test Vehicle Abort Mission set the stage for the upcoming tests.
3. The second Test Vehicle Mission (TV-D2) will precede the uncrewed orbital flights of Gaganyaan.
4. Vyommitra, a gynoid (female robot), will undertake the first uncrewed mission of Gaganyaan.

About Gaganyaan Mission

The objective is to demonstrate India's human spaceflight capability by launching a crew of three astronauts into a 400 km Low Earth Orbit for a 3-day mission, followed by a safe return to Earth via sea landing.

Components of the Gaganyaan Mission

1. **Launch Vehicle Mark-3 (LVM-3):**
   a. Previously known as GSLV Mk-III, it is a three-stage rocket.
   b. First stage: Two solid-fuel boosters attached to the rocket core.
   c. Second stage: Powered by two liquid-fueled Vikas 2 engines.
   d. Third stage: Equipped with CE-20 indigenous cryogenic engine using liquid hydrogen and oxygen.
2. **Orbital Module (8.2 tonnes):**
   a. Launched into Low Earth Orbit by the LVM-3 rocket.
   b. Consists of two main parts:
      i. **Crew Module:**
         - Accommodates up to three astronauts for a week.
         - Equipped with parachutes for controlled descent during re-entry.
         - Includes an Environmental Control and Life Support System (ECLSS) for air quality, temperature, waste, and fire management.
         - Features a crew escape system for astronaut safety in case of ascent malfunction.
      ii. **Service Module:**
         - Provides propulsion to raise the orbital module's altitude post-separation.

14. CCRAS has revived two rare Ayurvedic Manuscript

Context:

1. The Central Council for Research in Ayurvedic Sciences (CCRAS) has revived two rare Ayurvedic manuscripts: *Dravyaratnākara Nighaṇṭu* and *Dravyanamākara Nighaṇṭu*.
2. In Ayurvedic terminology, "Nighantu" refers to texts listing groups of drugs, their synonyms, properties, and the specific parts used.

About *Dravyaratnākara Nighaṇṭu*

1. This manuscript was composed by **Mudgala Paṇḍita** in **1480 AD.**
2. It is divided into **18 chapters,** offering detailed insights into drug synonyms, medicinal actions, and therapeutic properties.

3. The text references earlier classical works like *Dhanvantari Nighaṇṭu* and *Raja Nighaṇṭu*, while also adding new medicinal substances.
4. It includes information on drugs of **plant, mineral, and animal origin,** expanding the traditional Ayurvedic knowledge base.

About *Dravyanamākara Nighaṇṭu*

1. This work is **attributed to Bhisma Vaidya.**
2. It deals specifically with the **homonyms** of plant and drug names, a complex area critical to Ayurvedic identification.
3. The manuscript is considered an **independent appendix** to the *Dhanvantari Nighaṇṭu*, serving to clarify overlapping names and meanings.

1. The Cabinet Committee on Economic Affairs (CCEA), chaired by PM Narendra Modi, approved the Revised SHAKTI Policy for coal allocation to the power sector on 07 May 2025.
2. The policy is part of ongoing coal sector reforms by the government.
3. SHAKTI stands for Scheme for Harnessing and Allocating Koyala Transparently in India.
4. Originally introduced in 2017 to shift from nomination-based coal allocation to a transparent auction/tariff-based

15. IISc. Develops Nanozyme to Prevent Excess Blood Clotting

Context:

1. Researchers at the **Indian Institute of Science (IISc.)** in Bengaluru have developed a new artificial metal-based **nanozyme** that shows promise in controlling abnormal blood clotting.
2. This innovation could potentially be used to treat conditions like pulmonary thromboembolism (PTE) and other diseases where excess clotting occurs.

What is Blood Clotting and the Problem ?

1. **Normal Clotting (Haemostasis):**
   a. When a blood vessel is injured, specialized blood cells called **platelets** get activated.
   b. These platelets gather around the injury to form protective blood clots.
   c. This process is called the **blood clotting cascade (haemostasis)** and involves complex protein interactions triggered by chemical signals (agonists) like collagen and thrombin.
2. **Abnormal Clotting (Thrombosis):**
   a. In certain conditions (like **Pulmonary Thromboembolism - PTE)** or diseases (**like COVID-19)**, these normal signals go wrong.
   b. Leads to an increase in **oxidative stress** and toxic **Reactive Oxygen Species (ROS).**
   c. High ROS levels cause over-**activation of platelets,** which then trigger the formation of **excess clots** in blood vessels.
   d. This excess clotting leads to **thrombosis,** a major cause of illness (morbidity) and death (mortality).

What is The IISc. Nanozyme Solution?

1. **Researchers: Department of Inorganic and Physical Chemistry at IISc.**
2. **What is a Nanozyme?**
   a. They developed **nanomaterials** (very tiny materials at the nanoscale) that can copy and do the activity of natural antioxidant enzymes.
   b. Natural antioxidant enzymes help to scavenge (remove) **harmful reactive oxidative** molecules (like ROS).
3. **How it Works:**
   a. These **nanozymes** work by controlling ROS levels.
   b. By doing so, they prevent the **over-activation of platelets,** which in turn stops the formation of excess blood clots (thrombosis).
4. **Key Development and Findings:**
   a. The team created redox-active nanomaterials (materials that can participate in reduction-oxidation reactions, crucial for controlling ROS) of different sizes, shapes, and forms.
   b. They started with **small building blocks** and **used controlled chemical reactions.**

5. **Testing:**
   a. They **isolated platelets** from human blood.
   b. They **activated** these **platelets** using natural chemical signals.
   c. They then **tested** how well **different nanozymes** could **prevent platelets** from **clumping** together excessively.
6. **Most Efficient Nanozyme:**
   a. The team found that spherical-shaped **vanadium pentoxide (V2O5)** nanozymes were the most effective.
   b. These specific **materials** mimic a **natural antioxidant enzyme** called **glutathione peroxidase**, which helps to reduce oxidative stress.
   c. **Key Role of Vanadium:** Unique chemistry of the vanadium metal is crucial because the redox reactions that reduce ROS levels are happening on the surface of the vanadium nanomaterial.

Animal Model Studies and Future Plans

1. **Mouse Model:** The team injected the V2O5 nanozyme into a mouse model of **Pulmonary Thromboembolism (PTE).**
2. **Results:**
   a. The nanozyme **significantly reduced thrombosis** (excess clotting).
   b. It also **increased the survival rates** of the animals.
   c. No toxic effects were observed: The researchers monitored the animals' weight, behavior, and blood parameters for up to five days after injection and found no signs of toxicity.
3. **Future Research:**
   a. The team now plans to study the nanozyme's effectiveness in preventing **ischemic stroke**, which is also caused by blood vessel clogging.
   b. The team expressed optimism for human clinical studies, stating, "We are hopeful about clinical studies in humans because we have done our experiments with human platelets, and they worked."

16. Desulphurisation (FGD) in India + Flue Gas Desulfurization (FGD)

Context:

1. In June 2024, a committee chaired by **Principal Scientific Adviser** recommended **removing the mandatory requirement of installing Flue Gas Desulphurisation (FGD)** units in all coal-fired thermal power plants (TPPs).
   a. This recommendation is under review by the **Ministry of Environment, Forest and Climate Change (MoEFCC)** and the **Ministry of Power.**
   b. This could mark a critical shift in India's strategy to manage **sulphur dioxide (SO_2) emissions** — balancing pollution control with economic and climate realities.

What is Flue Gas Desulphurisation (FGD)?

1. **Flue Gas Desulphurisation (FGD)** is a technology used to **remove sulphur dioxide (SO_2)** — a major air pollutant — from the flue gases emitted during **coal combustion in power plants.**
2. It helps prevent **acid rain,** protects respiratory health, and mitigates environmental degradation.

Chemical Process

1. The most common method involves **wet scrubbing,** where flue gas is passed through a tower sprayed with a **limestone ($CaCO_3$) slurry.**
2. SO_2 reacts with limestone to form **calcium sulphite,** which gets oxidised to **calcium sulphate (gypsum).**
3. The by-product gypsum is used in **cement and construction,** promoting a **circular economy.**

Types of FGD Systems

FDG Systems	Description
Wet Limestone-Based FGD	High efficiency (~95%), widely used for large coal plants.
Dry Sorbent Injection (DSI)	Involves dry lime injection; lower capital cost, suited for smaller units.
Seawater FGD	Uses alkaline seawater to reduce SO_2 by 70–95%; applicable in coastal plants with less stringent norms.

Policy Origin:

1. In **December 2015,** the MoEFCC revised emission norms for thermal power plants, mandating **FGD installation** for all **coal-based power plants** to curb SO_2 emissions.
2. Compliance deadlines were set between **2018 and 2022**, depending on plant age, location, and pollution levels.

Implementation Status (as of 2024):

1. India has around **180 thermal power plants,** comprising **600+ units.**
2. **92%** of these units have **not installed FGDs,** despite three deadline extensions.

Expert Committee's Recommendation to Scrap the Mandate:

1. **Low Ambient SO_2 Level**
   a. Studies by **CSIR-NEERI, IIT Delhi**, and **National Institute of Advanced Studies (NIAS)** report ambient SO_2 levels across most Indian regions are **10–20 µg/m³,** well below the NAAQS limit of **80 µg/m³.**
   b. No significant d³.ifference was observed in SO_2 concentrations between areas with and without operational FGDs.
2. **Low Sulphur Content in Indian Coal**
   a. 92% of Indian coal has a sulphur content o**f 0.3–0.5%,** which naturally limits SO_2 emissions.
3. **Stack Design and Dispersion**
   a. Thermal plants have stack (chimney) heights of **220m or more,** aiding in wider dispersion and natural dilution of SO_2.
4. **Limited Acid Rain Risk**
   a. A **2024 IIT Delhi stud**y found acid rain is **not a major threat** in Indian climatic and atmospheric conditions.
5. **Climate Impact of FGDs**
   a. FGD systems are energy-intensive and estimated to cause **69 million tonnes of additional CO_2 emissions (2025–30)** for just a **17 million tonne reduction in SO_2.**
   b. SO_2 contributes to **short-term global cooling.** Eliminating SO_2 while increasing CO_2 could **exacerbate global warming.**
   c. SO_2 emissions are estimated to have **offset 0.5°C of global warming** between 2010 and 2019.

The committee recommends differentiated compliance based on geography, pollution risk, and public exposure:

Category	Description
Category A: Mandatory FGD Installation	• **TPPs within 10 km** of NCR or cities with **>1 million population**. • **66 units** fall in this category; only 14 have complied. • The compliance deadline remains **2027.**
Category B: Case-by-Case Compliance	• Plants near **critically polluted or non-attainment cities** (72 units). • Deadline: **2028.** • Some older units (20+ years) may be exempted.
Category C: Full Exemption Recommended	• **Remaining 462 units.** • Deadline: **2029** (original). • Committee recommends complete **exemption from FGD requirements.**

Alternative Pollution Control Focus

1. Particulate Matter (PM) Pollution
   a. Indian coal has high ash content, leading to significant PM emissions.
   b. Electrostatic Precipitators (ESPs) are recommended for PM control.
   c. ESPs are **cost-effective**: ₹25 lakh per MW (vs. ₹1.2 crore for FGDs).
   d. Can **remove 99% of PM,** which has a more immediate impact on health.
2. **Water and Efficiency Norms**
   a. 2015 norms for water use and PM emissions remain unchanged and are to be enforced strictly.

Concerns

1. India's **annual SO_2 emissions rose from 4,000 kilotonne**s (2010) to **6,000 kilotonnes** (2022) — highest globally.
2. Indonesia, despite using higher-sulphur coal, maintains lower emissions (2,000 kt), due to fewer coal-fired plants and laxer (less strict) norms (800 µg/m³ vs India's 100 µg/m³).

3. Experts fear **scrapping FGDs** may reduce India's **climate credibility** and contradict its **air quality goals** under the NCAP and international commitments.

Conclusion

The recommendation to scrap the universal FGD mandate is a **data-backed, cost-aware, climate-sensitive policy shift.** It acknowledges ground realities — low SO_2 levels, financial and implementation bottlenecks, and unintended climate consequences. Yet, the move requires **cautious implementation,** with clear enforcement for high-risk zones (Category A) and strong investment in **alternative pollution control** technologies

17. Should India amend its nuclear energy laws? + India's Nuclear Liability Law Debate

Context:

1. India is planning to build s**ix nuclear reactors in Jaitapur, Maharashtra.**
2. It would become the **world's biggest nuclear power site.**
3. This nuclear project has been delayed for more than **ten years.**
4. The reason is **India's nuclear liability law.** The issues with this law must be solved before they can sign a contract.

What are the Key Points on Nuclear Liability Law in India?

1. Background:

a. Nuclear energy can be used for many **peaceful and useful purposes**.

b. When an accident happens, it becomes difficult to decide **who is responsible** and **how much liability** each party holds.

c. In **1986,** a major accident called the **Chernobyl disaster** occurred in the **USSR (present-day Ukraine).**

d. After this disaster, the global community felt the need for a proper system to **handle nuclear liability.**

e. So, the Convention on Supplementary Compensation (CSC) was introduced in 1997.

f. India passed its own nuclear liability law called the Civil Liability for Nuclear Damage Act (CLNDA) in 2010.

g. India signed the CSC in 2010.

h. India ratified the CSC later in 2016.

Year	Event
1986	Chernobyl nuclear disaster; led to strengthening of international nuclear liability norms.
1997	Convention on Supplementary Compensation (CSC) adopted globally.
2009	India and Areva (now EDF) signed an initial MoU for Jaitapur nuclear power project.
2010	India signed the CSC.
2010	India passed the Civil Liability for Nuclear Damage Act (CLNDA).
2016	India ratified the CSC.
2016	Revised MoU signed between NPCIL and EDF for Jaitapur project.
2018	"Industrial Way Forward" agreement signed in presence of PM Modi and President Macron.
2020	EDF submitted a techno-commercial offer for Jaitapur project.
2025	Project remains on hold due to unresolved issues with nuclear liability law.

2. International Framework:

a. Convention on Supplementary Compensation (CSC), 1997:

i. Introduced after the 1986 Chernobyl disaster to enhance global nuclear liability rules.

ii. Sets a minimum national compensation amount and allows for additional public funds from CSC member countries.

iii. India signed the Convention on Supplementary Compensation (CSC) in 2010 and ratified it in 2016.

3. Domestic Law:

a. Civil Liability for Nuclear Damage Act (CLNDA), 2010:

i. Enacted to align with **international standards** and **ensure quick compensation for victim**s of nuclear incidents.

ii. Establishes **strict and no-fault liability** on the operator, meaning the operator is liable regardless of fault.
iii. The operator's liability is capped at **₹1,500 crore,** which must be covered through **insurance or other financial security.**
iv. If the compensation exceeds ₹1,500 crore, the central government is liable for up to 300 million Special Drawing Rights (SDRs), approximately ₹2,100–₹2,300 crore.
v. Specifies time limits and caps on the amount for claiming compensation.

4. Current Status of Nuclear Infrastructure in India:
a. India has 22 nuclear reactors currently in operation.
b. All existing reactors are operated by the **state-run Nuclear Power Corporation of India Limited (NPCIL)**.
c. Over a dozen more nuclear power projects are planned.

5. India's Deviation: Introducing Supplier Liability:
a. India's CLNDA (2010) added a third condition, going beyond the CSC framework.
b. Section 17(b) of the CLNDA allows the operator the right of recourse.

6. Rationale Behind India's Approach:
a. Inspired by past industrial disasters, notably the **Bhopal gas tragedy (1984)**.
b. The law aims to ensure accountability of suppliers for defective equipment or negligence.

7. India's Law is Unique Globally:
a. India is the only country where suppliers can be held liable for nuclear damage under domestic law (CLNDA).
b. This is contrary to the international norm, where only the operator bears liability.

8. Supplier Concerns:
a. Fear of unlimited liability under CLNDA discourages both **foreign and domestic suppliers.**
b. Ambiguity in insurance requirements for suppliers adds to business uncertainty and risk.

9. Controversial Provisions
a. Section 17(b): Allows the operator to claim recourse from suppliers for:
i. Defective equipment or services.
ii. Acts of supplier or employees leading to nuclear incidents.
b. Section 46:
i. States that other legal proceedings (civil/ criminal) outside CLNDA are not barred.
ii. Lacks a clear definition of **"nuclear damage"**, creating room for civil tort claims against suppliers.
c. This means that while the **operator's liability is capped, supplier liability remains potentially unlimited.**

10. Legal and Business Risks:
a. Section 46 undermines the core idea of the CLNDA: **channeling liability solely to the operator** for quick victim compensation.
b. Opens the door for litigation under **other civil laws**, making suppliers vulnerable to **multiple and unlimited claims.**

11. Government's Official Position
a. The government asserts that **India's CLNDA is consistent with the Convention on Supplementary Compensation (CSC).**
b. It maintains that Section 17(b) of the CLNDA only permits the operator (e.g., NPCIL) to seek recourse from the supplier — it does not mandate this action.
c. Therefore, inclusion of supplier liability in contracts is optional, not compulsory.

12. Legal Expert Interpretation:
a. Legal experts argue that Section 17(a), (b), and (c) are separate and standalone clauses.
b. Even if Section 17(a) (contractual right of recourse) is not invoked, suppliers can still be liable under 17(b) (for defective goods/services) or 17(c) (intent to cause damage).
c. Hence, the **right of recourse** exists independently of the contract, increasing the risk for suppliers.

13. **Public Policy Concern:**
    a. Experts say it would be unsound public policy for NPCIL to waive its right of recourse, since the law explicitly provides for such a right.
    b. Such a waiver might go against the spirit and intent of the legislation.
14. I**nterpretation in Legal Proceedings:**
    a. The government references Parliamentary debates to argue that supplier liability through class-action suits was rejected.
    b. However, legal experts clarify that court judgments are based on the statute's text, not on Parliamentary debates or intent.
15. **Impact on Nuclear Projects**
    a. The supplier liability issue has stalled key projects like the **Jaitapur nuclear power project**, intended to be the world's largest nuclear power generation site.
    b. The government has committed to resolving the liability law concerns **before the French President's rescheduled visit in September, 2025 (originally March, 2025)**.

What are the Significances of India's Nuclear Liability Law?

1. **Victim-Centric Approach**: Ensures prompt compensation to victims of nuclear incidents, reflecting lessons from past industrial disasters like Bhopal.
2. **Deterrence and Accountability:** Makes suppliers accountable for equipment quality, promoting higher safety standards in the nuclear supply chain.
3. **Unique Domestic Safeguard:** India is the only country with supplier liability built into its nuclear law, offering an extra layer of safety regulation.
4. **Public Confidence**: Builds trust among the population by showing commitment to safety, transparency, and justice in case of accidents.
5. **Strategic Leverage:** Demonstrates India's independent legal and ethical stance in international nuclear partnerships and agreements.

What are the Challenges and Way Forward?

Challenges	Way Forward
1. **Supplier Aversion**: Foreign and private suppliers are unwilling to participate due to fear of unlimited liability.	1. Clarify the interpretation of Section 17(b) as permissive, not mandatory, through official guidelines.
2. **Legal Ambiguity**: Section 46 allows for the possibility of civil/ criminal cases outside CLNDA, increasing legal uncertainty.	2. Amend or clarify Section 46 to ensure exclusive jurisdiction of CLNDA in nuclear liability cases.
3. **Insurance Complications**: Lack of clear insurance mechanisms for suppliers creates financial risk.	3. Operationalize a nuclear insurance pool with government backing for suppliers.
4**. International Hesitation:** Laws not aligned with global norms hinder agreements with countries like France and the USA.	4. Harmonize domestic law with the Convention on Supplementary Compensation (CSC) while protecting Indian interests.
5. Delay in Projects: Legal concerns have delayed critical infrastructure like the Jaitapur plant.	5. Set up a joint legal-technical working group with stakeholders to fast-track consensus and project clearances.
6. **Judicial Interpretation Risks:** Courts may interpret the law based on statutory text, not parliamentary intent.	6. Introduce explanatory amendments or clarifications via Rules under the CLNDA to reduce interpretation risks.
7. **Public Policy Dilemma:** NPCIL waiving recourse might conflict with legislative intent and public interest.	7. Frame clear policy on when recourse can be waived and how it aligns with public safety and legal compliance.

Conclusion

India's nuclear liability law reflects a strong commitment to public safety, justice for victims, and accountability in the nuclear energy sector. While its unique provisions, such as supplier liability, offer enhanced safeguards, they have also created legal and commercial challenges that hinder international collaboration and delay critical projects like Jaitapur. Balancing domestic concerns with global best practices is essential. A clear, transparent, and harmonized framework, one that protects both public interest and encourages private participation is the way forward for India's clean energy future and global nuclear partnerships.

18. Diabetes and Space Travel

Context:

1. A new space mission called **Axiom-4,** expected to launch on 10th June 2025.
2. It will include a special research project. This project is important because it will study how to help diabetic people travel to space in the future.

What is Special about the Axiom-4 Mission?

1. Axiom Mission 4 (Ax-4) is the fourth private astronaut mission to the International Space Station (ISS), organized by Axiom Space.
2. The crew will launch aboard a **SpaceX Dragon spacecraft f**rom Florida.
3. The astronauts will spend up to 14 days aboard the ISS.
4. Indian astronaut Shubhanshu Shukla and other astronauts on this mission will take part in a new study on diabetes.
    a. He will serve as the pilot. He will be the first ISRO astronaut to go to the ISS.
5. The study is called Suite Ride.
6. It is being led by Dr. Mohammad Fityan, a doctor from Burjeel Medical City in Dubai.
7. His hospital is working with Axiom Space for this project.
8. The astronauts will:
    a. They wear **Continuous Glucose Monitors (CGMs)** to measure blood sugar levels in real time.
    b. This data will be sent back to Earth so that scientists can watch the changes.
    c. Collect blood samples to check the accuracy of the CGMs.
    d. It will carry two kinds of insulin pens, one kept cold (refrigerated) and other kept at room temperature (ambient) to see if they still work in space.
9. This is not the first time astronauts have used CGMs in space. Earlier studies only focused on collecting blood sugar data. However, this study is more detailed. It will examine:
    a. If CGMs give correct readings in space.
    b. If insulin pens still work in space.
    c. How microgravity affects the human body and blood sugar levels.

How is this helpful on Earth?

1. This study is not just for future astronauts. It can help people on Earth too.
2. People who are very sick and cannot move much (like patients in bed for a long time) have similar body changes as astronauts in space.
3. The information from space can help doctors understand how diabetes works in such people.

Why Microgravity Matters?

1. In space, there is no gravity. This changes how the body works like:
    a. Body fluids move differently.
    b. Organs behave in new ways.
    c. Scientists can study how the body reacts in these new conditions.

Conclusion

This research on the **Axiom-4** mission is a big step forward. It may help diabetic people become astronauts in the future. It may also help doctors take better care of diabetic patients on Earth. It shows how space science can help solve health problems for everyone.

What is Diabetes?

1. Diabetes is a non-communicable disease (NCD). This means it does not spread from one person to another. It happens when:
   a. The pancreas does not make enough insulin, or
   b. The body cannot use insulin properly.
2. Insulin is a hormone. It helps control the amount of sugar (glucose) in the blood.
3. When there is not enough insulin, or it doesn't work well, blood sugar becomes too high.
4. If diabetes is not treated properly, it can cause serious health problems like:
   a. Heart disease
   b. Kidney failure
   c. Vision loss
5. With good care, diabetes can be managed and people can live healthy lives.

Types of Diabetes:

There are mainly three types of diabetes:

1. **Type 1 Diabetes:**
   a. **About:**
      i. The body's immune system attacks the cells in the pancreas that make insulin.
      ii. It usually starts in children or young adults, but it can happen at any age.
   b. **Cause:** Exact cause is unknown, but it may be linked to genetics or infections.
   c. **Treatment:** People with type 1 diabetes must take insulin every day.
2. **Type 2 Diabetes:**
   a. **About:**
      i. The body does not use insulin well (insulin resistance), or the pancreas does not make enough insulin.
      ii. Usually develops in adults, but is now seen in children too due to obesity and poor lifestyle.
   b. **Cause:**
      i. Linked to obesity, lack of exercise, unhealthy diet, and family history.
   c. **Treatment:**
      i. Managed with diet, exercise, medicines, and sometimes insulin.

19. First-Ever Image of Sun's South Pole Captured

Context:

1. For the first time, scientists have taken direct pictures of the Sun's poles using a spacecraft called Solar Orbiter.
2. This spacecraft is part of a joint mission by the **European Space Agency (ESA)** and NASA, launched in **2020** to study the Sun closely.
3. These new views became possible because the spacecraft tilted its orbit 17 degrees above the Sun's usual flat path (called the ecliptic plane) with the help of Venus's gravity in February 2024.
4. The first pictures of the **Sun's South Pole,** taken in March 2025, were shared with the world in June 2025.
5. These pictures show parts of the Sun we have never seen before and open the door to exciting discoveries in solar science.

Key Highlights of the News:

1. **First Polar Views of the Sun:**
   a. The previously invisible areas due to the flat viewing plane of the earlier spacecraft can now be studied with the new viewing angles.
   b. Revealed chaotic magnetic fields with both polarities (north & south) at the Sun's south pole, a sign of solar maximum when the magnetic field is about to flip.
2. **Magnetic Field Flip Explained**
   a. The Sun's magnetic poles switch every 11 years, this is called the solar cycle. It causes sunspots, solar flares, and coronal **mass ejections (CMEs).**
   b. These events can affect Earth by causing communication blackouts, power grid failures, and also create beautiful auroras.
   c. These new images will help scientists better understand and predict space weather.
3. **A New Chapter in Solar Science**
   a. Scientists are calling this the beginning of a **"new era"** in studying the Sun.

b. In the coming years, the spacecraft will tilt even more, over 30, to get clearer and closer views of the Sun's poles.

4. **Much Better Than Past Missions**
   a. Solar Orbiter not only takes photos but also measures the magnetic field, solar wind, and more, giving us much more useful data.
5. **North Pole Images Coming Soon**
   a. The spacecraft is still sending back data from the Sun's North Pole, expected to arrive soon.
   b. This will help improve our models of the heliosphere, a huge protective bubble created by the Sun's magnetic field that surrounds our entire solar system.

Implications for India

1. **Stronger Global Role in Solar Science**
   a. This discovery opens new doors for India and the **Indian Space Research Organisation (ISRO)** to work more closely with international missions in solar science and data sharing.
2. **Support for India's Own Mission (Aditya-L1)**
   a. India's solar mission Aditya-L1 studies the Sun's outer layers.
   b. Data from **Aditya-L1** and **Solar Orbiter** together can give us a better idea of how solar storms affect satellites, communication, and GPS in India.
3. **Better Disaster Preparedness**
   a. Knowing how the Sun's activity changes helps India prepare for events like blackouts, GPS failures, or internet disruptions caused by strong solar flares.
4. **Boost to Science Education**
   a. These missions inspire students and researchers to take an interest in space science, helping grow STEM careers in India.

Challenges and Way Forward:

Challenges	Way Forward
Data Interpretation Complexity: Understanding the Sun's magnetic fields at the poles is very difficult.	Enhance Research and Development: Support more solar science research in Indian universities and institutes.
Space Weather Vulnerability: India relies heavily on technology, which can be affected by solar storms.	Public Awareness & Policy Preparedness: Create plans and policies to handle solar-triggered blackouts or signal failures.
Resource Constraints: India needs more funding and tools to study the Sun and space weather.	Strengthen Aditya-L1 Ecosystem: Improve how India uses data from Aditya-L1 and link it with global missions like Solar Orbiter.

F. GEOGRAPHY & ENVIRONMENT

1. Bees Affected by Microplastic Pollution

Context

1. Recent research highlights that **microplastic pollution** is emerging as a serious threat to pollinators like **bees and bumblebees**.
2. These microplastics can **disrupt their foraging behavior,** reducing their efficiency in **gathering nectar and pollen.**
3. As a result, their **pollination capabilities are compromised**, potentially impacting plant reproduction and food security.

Where are bees found?

1. Wild bee species are incredibly diverse and are found on **every continent except Antarctica.**
2. Their wide distribution reflects their **critical role in maintaining ecological balance** across various ecosystems.

What are the unique features of bees?

1. Among bees**, only the females possess stingers,** which are actually **modified ovipositors**—organs originally evolved for egg-laying.
2. Bees rely entirely on **flowering plants for nutrition, feeding on sugary nectar** for energy and protein-rich pollen for growth.
3. This specialized diet supports their role as **key pollinators in nature.**

How important are bees in pollination?

1. Bees are essential to ecosystems, as they **pollinate nearly 80% of all flowering plant species.**
2. This includes many agricultural crops, making them vital for **food production and biodiversity conservation.**
3. The decline in bee populations due to pollution and habitat loss poses a serious threat to global food systems.

Conclusion

Bees are vital pollinators, supporting both natural ecosystems and global food production.

Microplastic pollution threatens their behavior and efficiency, risking plant reproduction.

Their widespread presence and unique biology make them irreplaceable in nature.

Protecting bees is essential for sustaining biodiversity and food security worldwide

2. Stockholm Convention on Persistent Organic Pollutants (POPs)

Context

1. India has raised objections to the inclusion of the hazardous insecticide **Chlorpyrifos** under the Convention for global phase-out in 2021.
2. Chlorpyrifos is widely used in Indian agriculture, particularly for pest control in crops like cotton and rice.

Background of the Convention

1. The Stockholm Convention was formally **adopted in 2001 a**nd **came into force in 2004.**
2. It is a global treaty aimed at addressing the threat of Persistent Organic Pollutants (POPs).

Objective of the Convention

1. The core objective is to **safeguard human health and the environment** from harmful chemical substances.
2. It focuses on **regulating substances that are toxic, long-lasting, and bioaccumulative** in ecosystems and food chains.

Understanding POPs (Persistent Organic Pollutants)

1. POPs are **carbon-based organic compound**s that resist environmental degradation.
2. They persist for long periods, accumulate in fatty tissues, and biomagnify up the food chain.
3. These substances pose serious risks to both human and wildlife health even at low concentrations.

Key Features of the Convention

The Convention maintains a dynamic list of harmful chemicals, categorized into three annexes:

1. **Annex A:** For elimination of listed chemicals.
2. **Annex B**: For chemicals allowed under restricted use.
3. **Annex C**: For substances requiring reduction of unintentional releases.

India's Role and Position

1. India has **signed and ratified** the Stockholm Convention, reaffirming its commitment to global chemical safety.
2. However, India continues to **oppose the listing of Chlorpyrifos**, citing agricultural dependency and lack of viable alternatives.
3. The decision reflects India's balancing act between environmental obligations and national agricultural needs.

Mendelian Inheritance: Rediscovering the Roots of Genetics

1. Scientists have recently identified the specific genes responsible for the last three traits in peas originally studied by **Gregor Johann Mendel.**
2. Mendel is widely regarded as the **father of modern genetics** for his foundational work on hereditary principles.
3. He conducted experiments by **cross-breeding around 28,000 garden pea plants** to investigate how traits are passed from one generation to the next.
4. His observations focused on features such as seed shape, seed color, pod shape, pod color, among others.

Objective of Mendel's Experiments

1. Mendel aimed to uncover the underlying mechanism through which traits are inherited in living organisms.
2. He selected pea plants (Pisum sativum) due to their easily distinguishable traits, short lifecycle, and ease of controlled pollination.

What is Mendelian Inheritance?

1. Mendelian inheritance refers to the method of **genetic transmission** of traits from parents to offspring through **discrete units called genes.**
2. This approach laid the foundation for understanding how traits are passed and how genetic variation arises.

Mendel's Three Laws of Inheritance

1. **Law of Dominance**
   a. In a cross between two organisms with contrasting traits, **only the dominant trait** appears in the offspring of the first generation (F1).
   b. The **recessive trai**t is masked but reappears in the second generation (F2).
2. **Law of Segregation**
   a. Each organism carries two alleles for every trait, which **separate during gamete formation,** ensuring that each gamete carries only one allele.
   b. This ensures that traits do not blend but are inherited independently from each parent.
3. **Law of Independent Assortment**
   a. Genes controlling different traits are **assorted independently** of one another during the formation of gametes.
   b. This law explains how the **inheritance of one trait** does not influence the i**nheritance of another, promoting genetic diversity.**

Conclusion

India has objected to banning Chlorpyrifos because it is still important for farming, especially for crops like cotton and rice. The Stockholm Convention wants to stop harmful chemicals to protect people and the environment. At the same time, scientists are learning more about how traits are passed from parents to children, based on Mendel's early work. These events show how science and policies must work together for a better future.

3. Discovery of 2 new crocodile species in Mexico

Context:

1. On **May 10, 2025,** scientists from **Canada, Mexico, and Panama** announced the discovery of 2 new crocodile species near the **Yucatán coast of Mexico.**
2. These species were found in:
   a. Cozumel Island, and
   b. Banco Chinchorro Atoll
3. With this discovery, the number of New World crocodile species has increased from 4 to 6.

4. The **previously known species include:**
   a. American crocodile (*Crocodylus acutus*)
   b. Morelet's crocodile
   c. Cuban crocodile
   d. Orinoco crocodile
5. The 2 new species have not yet been formally named but are expected to reflect their island origins.

Background of the Discovery

1. Initially, researchers believed that the crocodiles on Cozumel Island and Banco Chinchorro were local populations of the widespread American crocodile.
2. However, new research has proven that:
   a. These populations are **genetically distinct**.
   b. They are not merely r**egional variants** but entirely new species.
3. The discovery was made after years of fieldwork and genetic analysis, leading to the conclusion that these crocodile groups evolved separately on their respective islands.

Research Methods Used

1. The discovery was based on a combination of **genetic and anatomical studies.**
2. The scientists used the following methods:
   a. DNA Sequencing: Blood and tissue samples were collected from live crocodiles, which were then released safely back into the wild.
   b. Anatomical Comparisons: The body structure, size, and scale patterns of the island crocodiles were compared with known species.
   c. Field Surveys: Extensive surveys were conducted in remote island areas to locate crocodile nests and populations.
3. This comprehensive approach helped confirm that the crocodiles from Cozumel and Banco Chinchorro are **separate evolutionary lineages** from the American crocodile.

Key Findings from the Genetic Analysis

1. The genetic studies revealed the following:
   a. The crocodiles in both island habitats **diverged significantly** from the American crocodile.
   b. They form **two separate and unique evolutionary branches.**
   c. This suggests that these crocodiles may have been isolated for thousands of years, evolving independently in their specific environments.
   d. This finding challenges the earlier assumption that the American crocodile was **genetically uniform across its geographic range.**

Conservation Status and Population Size

1. Each of the two newly identified crocodile species is believed to have **fewer than 1,000 breeding individuals.**
2. This makes them:
   a. Ecologically fragile due to their limited gene pool

About Crocodiles

1. Crocodiles are the **largest surviving members of the Reptilia** class of vertebrates.
2. They are mostly found in **freshwater ecosystems** such as rivers, lakes, and swamps, though one species—the saltwater crocodile—also thrives in coastal and brackish waters.
3. **Key Characteristics:**
   a. Crocodiles are **nocturnal** animals.
   b. They are **poikilothermic,** meaning they cannot maintain a constant internal body temperature.
   c. They play an important role in **maintaining ecological balance** in wetland ecosystems.
4. **Three Species of Crocodiles Found in India**
   a. India is home to 3 native crocodile species, each with distinct physical features, habitats, and conservation statuses.
   b. Saltwater or Estuarine Crocodile (*Crocodylus porosus*):
      i. It is the largest living reptile on Earth.
      ii. Listed as **Least Concern by the IUCN Red List**.
      iii. Protected under **Schedule I of the Wildlife Protection Act, 1972**.
      iv. Included in **Appendix I of CITES.**
      v. Found in **3 main locations in India:** Bhitarkanika (Odisha), Sundarbans (West Bengal), and Andaman & Nicobar Islands.

c. Mugger or Marsh Crocodile *(Crocodylus palustris)*:

i. Identified by its **broad snout and burrowing habits.**

ii. Listed as **Vulnerable by the IUCN Red List.**

iii. Protected under **Schedule I of WPA, and listed in CITES Appendix I.**

iv. Found across 15 Indian states, especially in the Ganga River basin and associated wetlands.

d. Gharial (Gavialis gangeticus):

i. Recognized by its long, narrow snout with a bulbous tip called a "ghara."

ii. It is a fish-eating species and does not pose a threat to humans.

iii. Listed as Critically **Endangered by the IUCN Red List.**

iv. Protected under S**chedule I of WPA and Appendix I of CITES.**

v. Found in freshwater rivers like the Chambal, Girwa, Ghagra, Son, and Gandak.

Bhitarkanika National Park: The Birthplace of the Project

1. Bhitarkanika National Park is located in Kendrapara district of Odisha
2. It was the starting point of India's **Crocodile Conservation Project in 1975.**

Key Facts About Bhitarkanika:

1. It is India's second-largest mangrove ecosystem, after the Sundarbans.
2. Declared a **Ramsar site** due to its ecological significance.
3. It is formed by a network of tidal rivers and creeks, including the Brahmani, Baitarani, Dhamra, and Patasala rivers.
4. It is home to the largest wild population of saltwater crocodiles in India.
5. Other notable species include water monitor lizards, pythons, king cobras, spotted deer, and hyenas.

4. India outlines 'Five-point call for Global Action' to Protect Mountain Ecosystems

Why in the News?

1. Recently, a **Himalayan Yala Glacier** was declared dead in Langtang (Nepal), making it among Nepal's first likely to be declared dead.
   a. India at the first **'Sagarmatha Sambaad**'—a global dialogue held in Kathmandu, Nepal has emerged as a vocal advocate for the protection of mountain ecosystems, under the theme **'Climate Change, Mountains,** and the **Future of Humanity'.**

What is the significance of the Himalayas?

1. The Himalayas, often referred to as the ***"Third Pole,"*** are vital for the ecological and economic well-being of nearly 1.3 billion people across Asia. These mountains:
   a. Provide forest cover that supports unique biodiversity.
   b. Feed perennial rivers like the **Ganges, Brahmaputra, and Indus,** which are lifelines for millions.
   c. Act as natural barriers, influencing weather patterns and climate.
   d. Serve as a reservoir for freshwater through glaciers and snowfields.
   e. Support the livelihoods of diverse communities through agriculture, tourism, and traditional practices.
2. However, the Himalayas face numerous threats: climate change, glacial retreat, deforestation, unsustainable tourism, and increasing natural disasters.

What are the consequences of Glacial Loss?

1. **Increased Global warming:** Reduced Glaciers will have less albedo effect and therefore will increase heat absorption.
2. **Rising sea levels:** According to a Nature study, melting glaciers have caused nearly 2 cm to global sea level rise since 2001.

3. **Disrupted water cycles:** Nearly three-quarters of Earth's freshwater is stored in glaciers. Their rapid melting threatens water security and endangers biodiversity.
4. **Natural disasters:** It increases risks of Glacial Lake Outburst Floods (GLOFs) and avalanches.

What is the 'Sagarmatha Sambad'?

1. Named after **Mount Everest',** the Sagarmatha Sambaad is a biennial, multi-stakeholder global dialogue forum initiated by the Government of Nepal.
2. The Sambaad serves as a platform for deliberation on pressing global, regional, and national issues, with a focus on fostering collective wellbeing and the common good of humanity.
3. The inaugural edition was held in May 2025, under the theme "Climate Change, Mountains, and the Future of Humanity".

What were the major outcomes of the 'Sagarmatha Sambad' - call for Action?

1. It recognized climate change as an unprecedented challenge threatening present and future generations.
2. It reaffirmed the commitments to international frameworks such as the **UNFCCC, Paris Agreement, and the 2030 Agenda for Sustainable Development.**
3. It called for limiting global temperature rise to **1.5°C** above pre-industrial levels
4. It urged accelerated emission reductions, enhanced adaptation, addressing loss and damage, and fair financial support for vulnerable nations.
5. The summit emphasized climate justice, especially for mountain communities that contribute little to global emissions but suffer disproportionately.
6. It advocated for the inclusion of **local, indigenous, women, youth, and marginalized voices** in climate action.
7. Sambad proposed the establishment of a dedicated climate fund for Himalayan nations and the development of payment mechanisms for ecosystem services.
8. It stressed on the importance of early warning systems for natural disasters and the promotion of green technologies.

What are the present key initiatives taken by the Indian Government?

1. **National Mission on Sustaining Himalayan Ecosystem (NMSHE):** It is part of the National Action Plan on Climate Change (NAPCC) that focuses on understanding and responding to climate change impacts on the Himalayas, conserving biodiversity, and promoting sustainable development.
2. **SECURE Himalaya Project:** It is part of the Global Wildlife Program. It aims to - Wildlife conservation, habitat protection, and prevention of wildlife crime in the Himalayan region. It is implemented under the Ministry of Environment, Forest and Climate Change (MoEFCC), in partnership with UNDP, and Global Environment Facility (GEF).
3. **International Centre for Integrated Mountain Development (ICIMOD):** It is an intergovernmental knowledge and learning center serving the Hindu Kush Himalaya (HKH) region. It facilitates research, policy dialogue, and capacity building for sustainable mountain development.

Conclusion

India's proactive stance at the 'Sagarmatha Sambad' underscores the global significance of mountain ecosystems and the urgent need for collective action. Protecting the Himalayas and other mountain regions is not just a regional imperative but a global responsibility—one that is crucial for the future of humanity and the planet. The Five-Point Call for Action provides a comprehensive roadmap for international cooperation and policy integration.

5. 16th Asiatic Lion Census (2025)

Context

1. In May 2025, Gujarat Forest Department Released 16th Asiatic Lion Census (2025)
2. It marks a significant progress in India's wildlife conservation efforts, particularly for the Asiatic lion (Panthera leo persica), the only wild population of lions outside Africa.

Key Findings of the Census

1. **Total Population**
   a. 891 Asiatic lions recorded in Gujarat in 2025.

b. 32.2% increase from 674 lions recorded in the 15th Census (2020).
c. Indicates successful conservation policies, habitat management, and reduced mortality.

2. **Population Distribution**
   a. **Protected Forest Areas:**
      i. 384 lions reside in protected forests and wildlife sanctuaries.
   b. **Non-Forested Areas:**
      i. 507 lions now live outside traditional protected areas (up from 340 in 2020).
      ii. This represents 44.22% of the total lion population, showing increased range expansion and habitat adaptation.
   c. **Core Protected Region:**
      i. Gir National Park and adjoining sanctuaries (Gir Wildlife Sanctuary and Pania Wildlife Sanctuary) host 394 lions.
         1. Pania Wildlife Sanctuary, also known as Chanchai-Pania, is a protected area in Gujarat, India.
         2. It's considered part of the Gir Wildlife Sanctuary and is particularly known for its role in conserving the Asiatic lion.
         3. The sanctuary, located in the Amreli district, is easily accessible from Amreli and Dhari.
         4. Declared a sanctuary in June 1989.
      ii. Continue to be the stronghold of the lion population.

3. **Noteworthy Areas**
   a. **Amreli District:**
      i. Highest count with 257 lions, highlighting its emergence as a key habitat.
   b. **Mityala Wildlife Sanctuary:**
      i. Population doubled to 32 lions, indicating positive habitat utilization.
   c. **Barda Wildlife Sanctuary (near Porbandar):**
      i. 1st time lions recorded (17 individuals) since 1879 – a historical re-establishment.
   d. **Satellite Populations:**
      i. New lion populations identified around Jetpur and Babra-Jasdan, indicating natural range dispersion.

4. **Demographic Highlights**
   a. **330 Adult Females:**
      i. A 27% increase since 2020.
      ii. A healthy sex ratio and reproductive capacity suggests positive future population trends and genetic viability.

Background: Barda Dungar Sanctuary is the 2nd habitat of the Asiatic lion.

1. Asiatic lions are found only in Gir Forest & other protected areas in Gujarat Saurashtra region.
2. The Barda Wildlife Sanctuary was once home to Asiatic lions.
3. But they vanished from the forest 143 years ago.
4. In January 2023 A male Asiatic lion naturally recolonized the Barda Wildlife Sanctuary.
5. So it is the return of Asiatic lions to the area after a long time.

About Barda Wildlife Sanctuary:

1. Barda Wildlife Sanctuary is situated in Gujarat.
2. It shows 2 rivers the Bileshvary River & the Joghri River along with 2 dams Khambala & Fodara.
3. Ethnic groups like the Maldharis, Bharvads, Rabaris, & Gadhvis live in this area.
4. In 1979, the state government launched the Gir Barda Project to make Barda a 2nd home for the Asiatic lion.

What is Project Lion: Backbone of Conservation

1. **Launched in 2020**
2. **Objective:**
   a. To create a secure and sustainable ecosystem for the long-term survival of Asiatic lions.
   b. Implemented in the Gir Landscape, which includes core, buffer, and dispersal zones.
3. **Key Components:**
   a. **Habitat Restoration:** Improvement of grasslands, water sources, and removal of invasive species.
   b. **Prey Base Strengthening:** Conservation of herbivore populations for a balanced food chain.
   c. **Human-Wildlife Conflict Mitigation:** Installation of fences, awareness campaigns, and compensation schemes.

4. **Use of Technology:**
   a. Radio-collaring and camera traps for tracking.
   b. Global Positioning System (GPS) based lion and vehicle monitoring.
   c. Automated Sensor Grids:
      i. Comprising magnetic, motion, and infrared sensors to detect lion movements.
   d. Geographic Information System (GIS):
      i. Enables real-time surveillance, rapid reporting, and proactive response to threats.
5. **Implementation:**
   a. Led by the Gujarat Forest Department.
   b. Regular lion censuses and population health monitoring.
6. **Census Methodology – Scientific and Efficient**
   a. Direct Beat Verification Method:
      i. The landscape was divided into regions, zones, and sub-zones.
      ii. Each unit was assigned to trained enumerators, supervisors, and volunteers.
      iii. Lions were counted using direct sightings, evidence-based tracking, and GPS data.
   b. Efficiency:
      i. Completed in just three days.
      ii. Compared to the tiger census, which takes up to two years, this method is more efficient and statistically robust.

What is IUCN Green Status of Lions (2025)?

1. The International Union for Conservation of Nature (IUCN) recently released its first Green Status Assessment for the lion (***Panthera leo*****).**
2. **The lion has been categorized as "Largely Depleted".**
3. **It is showing ecological degradation across much of its historic range.**

6. Aravalli Landscape Restoration Action Plan 2025

Context

1. The Aravalli Landscape Restoration Workshop was held on 21 May 2025, on the eve of the International Day for Biodiversity 2025.
2. The event took place in Udaipur, Rajasthan.
3. It was organized jointly by the Ministry of Environment, Forest and Climate Change (MoEFCC) and the Rajasthan Forest Department.
4. The workshop focused on finalizing a detailed action plan for the ecological revival of the Aravalli range.

What was the purpose of this ?

1. Finalization of a Detailed Action Plan for restoration of the Aravalli Hill Range, India's oldest mountain system
2. To Promote a multi-stakeholder, science-driven, and community-based approach for reviving degraded ecosystems.
3. To Align restoration with the theme of Biodiversity Day 2025: "Harmony with Nature and Sustainable Development".

Vision & Emphasis by Union Minister

1. Call for 'Whole of Government' and 'Whole of Society' Approach:
   a. Collaboration among central/state governments, civil society, academia, and citizens.
   b. Integrating schemes, attitudes, and planning mechanisms for holistic ecological revival.
2. **Key Inspiration:**
   a. Reference to 'Ek Ped Maa Ke Naam' campaign launched by PM Modi from Delhi Ridge (part of Aravallis) on World Environment Day 2024.

What are the Key Highlights of the Aravalli Restoration Action Plan?

Strategic Pillars (5 Focus Areas)

1. **Ecological Restoration**
   a. Assisted Natural Regeneration
   b. Native species plantation
   c. Soil and moisture conservation
   d. Removal of invasive species
   e. Replantation with native trees and bamboo
2. **Community Participation**
   a. Involvement of local communities, particularly women and youth
   b. Eco-clubs, MY Bharat volunteers, and Eco-Task Forces to support restoration
   c. Awareness campaigns and grassroots engagement

3. **Policy and Governance**
   a. Strengthening regulatory frameworks
   b. Convergence of schemes like MNREGA, CAMPA, Green Credit Programme
   c. Inter-state cooperation (Delhi, Haryana, Rajasthan, Gujarat)
   d. Annual review workshops to track progress and share best practices
4. **Sustainable Livelihoods**
   a. Promoting eco-tourism, nature parks, safaris, and trekking trails
   b. Encouraging agroforestry and non-timber forest produce (NTFP)-based enterprises
   c. Restoration of abandoned mines and their use as water sources and wildlife habitats
5. **Research and Innovation**
   a. Use of GIS-based mapping, remote sensing, and ecological restoration techniques
   b. Establishing a research and monitoring vertical under NIRANTAR institutions (e.g., BSI, ZSI)
   c. Scientific tracking of biodiversity and habitat change

Initiatives taken to protect Aravallis

1. **Aravalli Green Wall Project**
2. **State Government Measures:** 2016 Haryana government notification declared Mangar Bani area (part of Aravalli) a "no-construction zone".
3. **MC Mehta v. Union of India Case:** In a series of judgments, the Supreme Court prohibited and banned mining activities in the entire Aravalli hills.

About Aravalli Green Wall Project

1. The **Aravalli Green Wall Project** is a large-scale afforestation initiative in India, inspired by **Africa's Great Green Wall project**
2. It aimed at combating land degradation, desertification, and promoting biodiversity conservation within the **Aravalli hill range.**
3. It envisions creating a 1,400 km long and 5 km wide green belt across the region, covering parts of **Haryana, Rajasthan, Gujarat, and Delhi.**
4. The project seeks to restore degraded land, enhance ecosystem services, and create sustainable livelihoods for local communities.

7. 477 Snow Leopards in Ladakh: Study

Context:

1. A recent assessment by **Ladakh's Department of Wildlife Protection** has recorded 477 snow leopards in the region.
2. Ladakh hosts 68% of India's total snow leopard population, making it one of the densest habitats globally.

Key Highlights of the Study:

1. High snow leopard concentrations are found in **Hemis National Park, Kargil,** and Leh, forming one of the world's largest connected populations.
2. Favorable factors include resource-rich grasslands, moderate climate, and abundant prey availability.
3. About **61% of Ladakh's snow leopards** were found living in areas shared with human communities, showing successful coexistence.
4. Cultural respect for wildlife, benefits from eco-tourism, and active conflict management practices contribute to their protection.

About Snow Leopards (Panthera uncia):

1. Native to 12 countries across South and Central Asia, they are a flagship species of high-altitude mountain ecosystems.
2. In India, snow leopards are found in Jammu & Kashmir, Ladakh, Himachal Pradesh, Uttarakhand, Sikkim, and Arunachal Pradesh.
3. Conservation Status:
   a. Listed as Vulnerable on the IUCN Red List.
   b. Protected under CITES Appendix I, CMS Appendix I, and Schedule I of the Wildlife Protection Act, 1972.
4. Prefer habitats with steep rocky terrains and elevations between 3,000–5,000 metres.
5. Known for their smoky-grey fur with dark rosettes, they are solitary and mostly active during dawn and dusk.

8. India Climbs to 3rd in Global Wind & Solar Energy Production

Context

1. India has become the **world's third-largest producer of electricity** from **wind and solar energy** by overtaking Germany according to the sixth report of the global energy think tank 'Embers Global Electricity Review'. Now, only China and America are ahead of India in this sector.

Sixth Report of Embers Global Electricity Review: Key Points

1. 15 percent of electricity has been produced from wind and solar energy globally, in which India's share has been **10 percent** at the global level.
2. Low-carbon sources, including renewables and nuclear power, together provided 40.9 per cent of the world's electricity in 2024. This is the first time the 40 per cent mark has been crossed since the 1940s.
3. In India, clean sources accounted for **22 per cent** of the electricity generation. Hydropower contributed the most at **8 per cent**, while wind and solar together accounted for 10 percent.
4. Global solar power generation is 6.9 per cent of the electricity mix. Solar contributed 7 per cent of India's electricity in 2024 with an addition of 24 gigawatts in the year **2024.**
5. India's total electricity demand rose by 5% in 2024. However, instead of turning to coal, India is adding clean energy capacity at a record pace. In 2024, India more than doubled its new solar power capacity compared to 2023.

India's Nationally Determined Contributions (NDCs)

1. As part of its **Nationally Determined Contributions (NDCs)** submitted to the UNFCCC in 2022, India aims to achieve 50 per cent of its installed electric power capacity from non-fossil fuel sources by 2030.

India's Renewable Energy Capacity [As of 31st March 2025]

1. The **Ministry of New and Renewable Energy (MNRE)** has reported robust progress in India's clean energy sector for the Financial Year 2024–25.
2. With a record annual capacity addition of **29.52 GW, the total installed renewable energy (RE)** capacity in the country has reached 220.10 GW as of 31st March 2025.
3. This reflects India's steady advancement towards the target of achieving 500 GW of non-fossil fuel-based capacity by 2030, as part of its commitments under the 'Panchamrit' goals.

Solar Energy Drives Growth:

1. Solar energy contributed the most to the year's capacity expansion, with 23.83 GW added in FY 2024–25
2. The total installed solar capacity now stands at 105.65 GW as of 31st March 2025.
3. This includes 81.01 GW from ground-mounted installations, 17.02 GW from rooftop solar, 2.87 GW from solar components of hybrid projects, and 4.74 GW from off-grid systems.

Steady Rise in Wind Installations:

1. Wind energy also witnessed sustained progress during the year, with 4.15 GW of new capacity added in FY 2024-25.
2. The total cumulative installed wind capacity now stands at 50.04 GW, reinforcing wind energy's role in India's renewable energy mix.

Bioenergy and Small Hydro Power Maintain Momentum:

1. Bioenergy installations reached a total capacity of **11.58 GW**, which includes **0.53 GW** from off-grid and waste-to-energy projects.
2. Small Hydro Power projects have achieved a total capacity of **5.10 GW.**

Expanding Pipeline of Clean Energy Projects:

1. In addition to the installed capacities, India has **169.40 GW** of renewable energy projects under implementation.
2. This includes **65.29 GW** from emerging solutions such as hybrid systems, round-the-clock (RTC) power, peaking power, and **thermal + RE bundling projects.**
3. These initiatives represent a strategic shift towards ensuring grid stability and reliable supply from renewable sources.

Government Initiatives to Promote Solar & Wind Energy

Solar Energy:

1. **Pradhan Mantri Kisan Urja Suraksha Evam Utthaan Mahabhiyan (PM-KUSUM):** Focuses on promoting solar energy in agriculture, providing financial and water security to farmers.
2. **PM Surya Ghar: Muft Bijli Yojana:** Aims to install rooftop solar plants in one crore households, empowering residential households to generate their own electricity.
3. **Production-Linked Incentive (PLI) Scheme for Solar PV Modules:** Incentivizes domestic manufacturing of Solar Photo Voltaic modules, reducing dependence on imports.
4. **Solar Parks and Ultra Mega Solar Power:** Development of large-scale solar power projects, offering a plug-and-play model for developers.
5. **International Solar Alliance:** India plays a key role in the International Solar Alliance, which focuses on promoting solar energy globally.
6. **One Sun, One World, One Grid (OSOWOG):** This initiative aims to create a global electricity grid, facilitating the exchange of renewable energy across borders.

Wind Energy:

1. **National Offshore Wind Energy Policy (2015):** To develop offshore wind energy potential in India along the coastlines of Gujarat, Tamil Nadu, and other maritime regions.
2. **National Wind Energy Mission:** Aims to expand the country's wind energy capacity, with a target of 140 GW by 2030.
3. **National Wind-Solar Hybrid Policy (2018):** Promotion of large scale, grid connected wind-solar PV hybrid systems for optimal and efficient utilization of wind and solar resources.

a. Tamil Nadu Repowering, Refurbishment, and Life Extension Policy for Wind Power Projects [2024]: Launched by Tamil Nadu government aiming to enhance wind energy output by repowering or refurbishing small wind turbines

Conclusion

MNRE has been taking various key initiatives to achieve the vision of 500 GW of renewable energy by 2030. The continued growth reflects India's commitment to its climate goals and energy security.

The Government's focused efforts to scale up renewable energy is important not just for its people, but also for the global fight against climate change. As the world's most populous country India's energy choices affect the entire planet.

9. Two New Ramsar sites: Menar (Udaipur) And Khichan (Phalodi)

Context:

1. Ahead of **World Environment Day (June 5, 2025),** India has officially added two new Ramsar Sites: **Menar (Udaipur) and Khichan (Phalodi),** both located in Rajasthan.
2. This significant addition raises India's total number of Ramsar wetlands to 91, cementing its position as the highest in Asia and 3rd globally in terms of the number of designated sites.

Newly Designated Ramsar Sites (June 2025)

A. Menar Wetland, Udaipur (Rajasthan)

1. **Nickname:** Known as the "Bird Village" due to its rich avian diversity.
2. Size: Covers an area of 104 hectares.
3. **Biodiversity:** Supports over 200 bird species, including significant populations of Eurasian coot, herons, and spot-billed duck.
4. **Community-Driven Conservation:** Local residents play a crucial role in its conservation by prohibiting hunting and fishing. It was declared an Important Bird Area (IBA) in 2016, recognizing its avian significance.
5. **Tourism Value:** Evolving as a growing eco-tourism destination, strategically located on the Udaipur-Chittorgarh route.

B. Khichan Wetland, Phalodi (Rajasthan)

1. **Known For:** Particularly renowned for being a major wintering site for large flocks of migratory Demoiselle Cranes.

2. **Ecological Significance:** Serves as a critical stopover along the **Central Asian Flyway**, a major migratory bird route.
3. **Community Role:** Local traditions and community efforts are instrumental in protecting the migratory birds, highlighting successful human-wildlife coexistence.

What are Wetlands and Their Ecological Importance

1. **What Are Wetlands?**
   a. Wetlands are areas of land covered by water (either stagnant or flowing), such as marshes, lakes, bogs, and swamps, which may be permanent or seasonal.
   b. They are distinct ecosystems based on the presence of water.
2. **Ecological Importance of Wetlands:**
   a. **Biodiversity Hotbeds:** Supporting a wide range of species, including birds, fish, amphibians, and plants.
   b. **Water Conservation:** Crucial for groundwater recharge, purification of water, and regulation of floodwaters (natural sponges).
   c. **Climate Change Mitigation:** Acting as significant carbon sinks, absorbing and storing atmospheric carbon.
   d. **Economic Benefits:** Providing resources through fisheries, agriculture (e.g., rice paddies), and supporting local economies through tourism and livelihoods.

About Ramsar Sites and the Ramsar Convention:

1. **What is a Ramsar Site?**
   a. A wetland of international importance designated under the **Ramsar Convention.**
2. **Ramsar Convention:**
   a. An international agreement signed on February 2, 1971, in Ramsar, Iran, under the auspices of UNESCO.
   b. Focused on the sustainable use and conservation of wetlands globally.
   c. World Wetlands Day is celebrated annually on February 2nd to raise awareness about wetland conservation.
3. **Recognition Criteria:** Ramsar Sites are recognized for providing critical ecosystem services, supporting significant biodiversity, and sustaining local livelihoods.
4. **Eligibility Criteria:** A wetland can be designated as a Ramsar Site if it meets any 1 of 9 Ramsar Criteria, which include:
   a. Supporting rare or endangered species.
   b. Hosting significant bird populations.
   c. Being a critical life cycle habitat (e.g., for breeding or migration).
   d. Being an exemplary wetland ecosystem or possessing unique hydrological characteristics.

10. EnviStats India 2025

Context:

1. The **Ministry of Statistics and Programme Implementation (MoSPI),** Government of India, released the 8th issue of **"EnviStats India 2025: Environment Statistics"** on 5th June 2025.
2. The report gives important data about India's environment and how it has changed over the years.

What are the Key Highlights?

1. **Power Generation**
   a. Electricity production from thermal power increased from 7,92,053 GWh (2013-14) to 13,26,549 GWh (2023-24).
   b. Electricity from renewable energy (like solar, wind) rose from 65,520 GWh to 2,25,835 GWh in the same period.
2. **Fish Production**
   a. Inland fish production (like in rivers and ponds) grew from 61.36 lakh tonnes to 139.07 lakh tonnes (2013-14 to 2023-24).
   b. Marine fish production (from seas) increased from 34.43 lakh tonnes to 44.95 lakh tonnes.
3. **Climate Data**
   a. Annual mean temperature increased from **25.05°C (2001) to 25.74°C (2024).**
   b. Minimum temperature rose from **19.32°C to 20.24°C.**
   c. Maximum temperature rose from **30.78°C to 31.25°C.**

d. Rainfall shows high yearly changes in its pattern but no clear long-term increase or decrease has been observed.

4. **Biodiversity**
   a. India has 1,04,561 faunal species out of the world total of 16,73,627 species.
   b. India also has 20,613 marine species, 9,436 freshwater species, 5,023 species in mangroves, 3,383 estuarine species, 22,404 soil species.
5. **Government Spending on Environment (2021–22):**
   a. Rs. 2,433.24 crore spent on the Environment Sustainability sector.
   b. Spending on Conservation of Natural Resources is rising.

c. The Agro-Forestry sector had the lowest spending.

6. **New Additions in the Report:**
   a. New data on electricity, transport, and sanitation access for the population.
   b. A list of Ramsar Sites (important wetlands) has been added.
   c. The report follows the international FDES 2013 structure.

11. Heatwave

Context:

1. A new climate report titled **"Weathering the Storm: Managing Monsoons** in a **Warming Climate"** has raised concerns about rising climate risks in India.
2. The report, jointly released by Esri India and IPE Global, warns that cities like Delhi, Mumbai, Chennai, Surat, Thane, Hyderabad, Patna, and Bhubaneswar could see a two-fold increase in heatwave days by 2030.
3. It also highlights a sharp rise in extreme rainfall events, posing a dual threat of heat and floods in many regions.

What are the Key Highlights of the Report?

1. **Heatwave Risk:** Heatwave days in major Indian cities may double by 2030.
2. **Extended Summer Conditions:** Summer heat is now spreading into the monsoon months, creating overlapping risks.
3. **Extreme Rainfall:** India is expected to see a 43% increase in the intensity of heavy rainfall events.
4. **Rising Frequency:** Between 1993 and 2024, extreme heat days have gone up 15 times, and in the last 10 years, they have increased 19 times.
5. **Widespread Impact:** 8 out of 10 districts will face frequent and irregular rainfall by 2030.
6. **Urban Vulnerability:** Around 72% of Tier-I and Tier-II cities may face both heat stress and heavy rainfall, along with lightning, hailstorms, and storm surges.
7. **Vulnerable States:** States like Gujarat, Rajasthan, Uttar Pradesh, Uttarakhand, and Himachal Pradesh will be among the worst affected.

What is the Heatwave?

1. A heatwave is a time when the weather stays unusually hot for several days or even weeks.
2. It includes both very hot days and very warm nights.
3. If the temperature is **5–6 °C above normal,** it is called a heatwave.
4. If it's more than **7 °C above normal**, it's a severe heatwave.

Characteristics of Heatwaves:

Region	Temp Threshold
Plains	**40 °C or higher**
Hills	**30 °C or higher**
Coast	**37 °C or higher**

What is the Significance of the Report?

1. **Early Warning for Cities:** It alerts urban areas like Delhi, Mumbai, and others about increasing climate risks such as heatwaves and extreme rainfall.
   a. It helps cities prepare for compound weather events, such as heat and floods occurring together.
2. **Supports Climate-Smart Planning:** The report acts as a planning guide for policymakers, city officials, and disaster management teams.
   a. It can help in designing climate-resilient infrastructure and urban development plans.
3. **Promotes Data-Driven Governance:** Provides scientific data and trends on how heatwaves and rainfall have increased.

   a. Encourages governments to use GIS tools and real time risk mapping for better decision-making.

4. **Highlights Urgency for Adaptation:** It emphasizes that climate change is no longer a future issue but a present and growing crisis.
   a. Pushes for urgent action in vulnerable states and cities to reduce human and economic losses.
5. **Identifies Vulnerable Regions:** Pinpoints hotspot districts and states most at risk, helping to prioritize resources.
   a. Focuses on both Tier-I and Tier-II cities, showing the pan-India nature of the threat.
6. **Encourages Financial Preparedness:** Suggests the need for risk financing instruments to manage disaster-related economic shocks. Helps in planning climate insurance models and emergency funds.
7. **Informs Public and Stakeholders:** Raises public awareness about how climate change is already affecting daily life. Acts as a knowledge source for NGOs, researchers, media, and educational institutions.

What are the Challenges and Way Forward?

Challenges	Way forward
1. Lack of real-time climate data and localised risk maps	1. Set up a Climate Risk Observatory (CRO) for real-time monitoring
2. Inadequate early warning systems in many regions	2. Strengthen early warning systems at city and district levels
3. Poor urban planning and infrastructure	3. Integrate climate resilience in city planning
4. High economic losses due to weather events	4. Develop risk financing tools to reduce socio-economic impact
5. Limited awareness among citizens and local bodies	5. Conduct public awareness campaigns on heat and flood preparedness
6. Fragmented coordination among government departments	6. Ensure inter-departmental coordination for timely climate action

12. Eurasian Otter

Context:

1. The Eurasian otter, believed to be extinct in Kashmir for the past 30 years, was sighted in the Lidder River in South Kashmir.
2. This rare sighting has brought hope for the return of the species to the Valley.
3. It is listed as "Near Threatened" by the IUCN.
4. Wildlife officials have now started monitoring its movement through CCTV cameras.

What are the Key Highlights?

1. **About:**
   a. The Eurasian otter is a shy and quiet animal.
   b. Even though it lives in a large area, its number is going down in many countries.
   c. This otter likes to play. It eats many things like **fish, crabs, frogs, and sometimes even small birds, eggs, insects, and worms.**
   d. The Eurasian otter is active mostly at night. It lives near rivers, lakes, and streams.
   e. The Eurasian otter can grow up to **4 feet long.**
   f. It usually weighs around **10 kilograms.**
   g. This animal is a very good swimmer and can swim at a speed of **10 kilometers per hour.**
   h. It can also dive as deep as **20 meters underwater.**
   i. Eurasian otters are very territorial, which means they protect their area from other otters.
   j. They live in parts of **Europe, Asia, and North Africa.**
   k. It is known as *Vuder* in the local language of Kashmir.
   l. It lived in lakes, rivers, and streams.
   m. The return of the otter gives hope that the local water life may also be recovering.
   n. In the past, otters were seen in Dachigam, Dal Lake stream, Rambiara stream in South Kashmir, Lidder River in Pahalgam.
   o. This year, otters have been seen in three places: Gurez Valley (in May), Heerpora in Shopian, Srigufwara in South Kashmir.
   p. Conservation Status:
      i. IUCN : Near threatened
      ii. WPA : Schedule I
      iii. CITES : Appendix I

Reasons for Extinction:

- Water Pollution: Rivers and lakes became dirty. Pesticides used in farming entered the water and threatened the species .
- Hunting for Fur: People hunted otters for their fur, which caused their numbers to go down.
- Since otters eat fish and other small water animals, the pollution made it harder for them to find food.

What are the Challenges and Way forward?

Challenges	Way Forward
1. Hunting of otters for their fur	1. Enforce strict laws to ban hunting and punish poaching.
2. Water pollution from pesticides and waste	2. Reduce pollution by managing waste and limiting pesticide use.
3. Loss of natural habitat	3. Restore and protect wetlands, rivers, and streams.
4. Lack of awareness among local communities	4. Educate people about the importance of otters in the ecosystem.
5. No regular monitoring of otter population	5. Set up CCTV and field surveys for proper monitoring

13. Revamped Green India Mission

Why in the News?

1. The Government of India has revised the Green India Mission (GIM).
2. The new focus is on restoring fragile and vulnerable landscapes such as the Aravalli Range, the Western Ghats, and the Himalayan region.
3. These areas are very important for biodiversity and climate stability.
4. The revised plan aims to improve these ecosystems while also helping local people.

Green India Mission (GIM)

About:

1. The **Green India Mission (GIM),** also called the National Mission for a Green India, is one of the eight missions under India's **National Action Plan on Climate Change (NAPCC).**
2. This mission was launched to increase green cover, fight climate change, and protect nature. It started its activities in the financial year 2015–16.

Main Aims of the Mission:

1. Increase forest and tree cover by 5 million hectares of land.
2. Improve the quality of forests on another 5 million hectares of forest and non-forest land.
3. Help 3 million rural households by improving their income from forests and tree-based activities.
4. Protect and improve ecosystems like wetlands, mangroves, and forests.
5. Store more carbon, manage water better, and save biodiversity.

What Does the Mission Focus On?

1. GIM works on many natural areas to improve the environment:
   a. Forests
   b. Wetlands
   c. Mangroves
   d. Urban green spaces
   e. Farmlands with trees (Agroforestry)
2. It also helps to reduce the effects of climate change by absorbing carbon dioxide from the air through more green cover.
3. **Five Sub-Missions Under GIM:** To carry out its work, GIM has five small missions (called sub-missions), each with a different focus:
   a. Enhancing Forest Cover: Improving forest quality and helping nature services like clean air, water, and soil.
   b. Ecosystem Restoration: Rebuilding damaged forests and increasing green areas.
   c. Urban Greening: Planting more trees in cities and nearby towns to improve air and life quality.
   d. Agroforestry and Social Forestry: Planting trees on farms and community lands to give more wood, fruit, and income.
   e. Wetland Restoration: Protecting and reviving lakes, ponds, and marshy areas that are important for water and wildlife.

What are the Key Highlights?

1. The Government has revised the **Green India Mission (GIM).**
2. The new focus is on restoring vulnerable landscapes such as the Aravalli Range, Western Ghats, and the Himalayas.
3. There is a clear shift from just planting trees to a more ecological and inclusive approach.
4. The plan also aims to create income-generating opportunities for people living in forest and eco-sensitive areas.

What are the Significances?

1. **Helps fight climate change:** GIM helps to absorb carbon dioxide by increasing forest and tree cover. This supports India's climate goals under the Paris Agreement.
2. **Protects biodiversity:** It restores damaged ecosystems like forests, wetlands, and mangroves. This helps protect plants, animals, and other forms of life.
3. **Improves water security:** Forests and wetlands play a big role in storing and cleaning water. GIM helps in better water management, especially in dry and hilly areas.
4. **Reduces risk of natural disasters:** By restoring forests in landslide and flood-prone areas, it reduces the chances of disasters like those seen in Wayanad and the Himalayas.
5. **Creates green jobs:** The mission supports income-generating activities like eco-tourism, collection of forest produce, and agroforestry, helping rural communities.
6. **Stops desertification:** It helps prevent land from turning into desert, especially in the Aravalli region, which is close to the National Capital Region.
7. **Improves air and soil quality:** Trees and forests help clean the air and protect the soil from erosion, making the environment healthier for people and nature.
8. **Supports sustainable development:** GIM shows that development and environment protection can go hand in hand when local people are involved.

What are the Challenges and Way Forward?

Challenges	Way Forward
1. Past focus on plantations, not full ecosystem restoration.	Adopt a landscape-based approach that restores full ecosystems, not just trees.
2. Local communities not fully involved in planning or execution.	Ensure people's participation and provide livelihood benefits from forest activities.
3. Mission goals on income generation have remained only on paper.	Create real income opportunities through eco-tourism, NTFPs (Non-Timber Forest Products), etc.
4. Important expert recommendations (Gadgil & Kasturirangan reports) ignored.	Implement and enforce expert panel suggestions with political and public support.
5. Illegal mining and deforestation continue in sensitive areas like Aravallis and Western Ghats.	Take strict legal action and improve monitoring and transparency in eco-sensitive zones.
6. Climate change events (e.g. heavy rains, landslides) are increasing disaster risks.	Promote climate-resilient ecosystems and restore green buffers in fragile zones.
7. Development projects continue without environmental care.	Balance development with environmental safeguards through strict impact assessments.

Conclusion

The revised Green India Mission shows the government's renewed commitment to saving India's most valuable natural areas. However, its success depends on careful planning, community involvement, and strict action against activities that harm the environment. With the right balance of development and conservation, India can protect both its nature and its people.

G. Society And Culture

1. Zero Poverty Uttar Pradesh Campaign

Context:

On Dr. B.R. Ambedkar's birth anniversary (14 April, 2025), the Uttar Pradesh (U.P) government officially renamed the Zero Poverty Uttar Pradesh campaign as:"Baba Saheb Dr. Bhimrao Ambedkar Zero Poverty Programme"

1. Reason for Renaming:
   a. Dr. Ambedkar symbolized educational, social, and economic upliftment of the marginalized.
   b. As the chief architect of the Indian Constitution, first Law Minister of India, and a Dalit icon, the naming is seen as a tribute to his legacy of social justice.

Background and Launch

On the occasion of Gandhi Jayanti (October 2, 2024), the U.P Government of Uttar Pradesh (UP) announced a bold and time-bound mission to eliminate extreme poverty from the state within one year.

1. This historic move reflects:
   a. The government's strong resolve and commitment to inclusive development.
   b. Its confidence in the successful execution of the campaign.
   c. The presence of a methodologically sound and tech-driven strategy.

Objective of the Campaign

1. To ensure no individual in Uttar Pradesh is deprived of basic amenities.
2. To link the poorest and most marginalized communities to all relevant government welfare schemes.
3. To uphold the philosophy of "no person left behind" by focusing on last-mile delivery.

Strategy and Implementation

1. Three-Tier, Technology-Driven Identification Process
   a. A transparent and disciplined methodology has been adopted using end-to-end digitized systems.
   b. Automated vulnerability-rating systems will finalize the identification of extremely poor families in each Gram Panchayat based on tangible socio-economic indicators.
2. **Village-Level Committees for Onsite Verification:** Committees will be formed to:
   a. Verify the selected families.
   b. Recommend genuine cases for inclusion.
   c. Ensure community participation and transparency in the process.

Targeted Households and Beneficiaries

1. In each **Gram Panchayat,** around **20–25 ultra-poor families** will be identified who are still deprived of basic government facilities.
2. In the first phase, the campaign aims to cover **14–15 lakh families** across the state.

Priority Communities

1. The scheme gives special focus to: Musahar, Tharu, Vantangiya, Kol, Buksa, Chero, God and Saharia
2. These are among the most marginalized tribal and vulnerable communities in Uttar Pradesh.

Benefits to Be Provided

Each identified family will be linked to the following government schemes and facilities:

1. Pradhan Mantri Awas Yojana (Housing)
2. Toilets (under Swachh Bharat Mission)
3. Drinking water and electricity
4. LPG gas connections (under Ujjwala Yojana)
5. Ayushman Bharat health insurance cards
6. Old age, widow, and disability pensions

Community Engagement and Institutional Strengthening

1. The programme promotes collaborative participation from:
   a. Private sector
   b. Corporate Social Responsibility (CSR) initiatives
   c. Banks and financial institutions
   d. Civil society organizations

2. The aim is to mobilize partnerships across all sectors to support the state's vision of inclusive and sustainable poverty eradication.

Sustainable Development Goals (SDGs) Alignment

This campaign directly contributes to several United Nations SDGs:

SDGs No.	Goal	Alignment
1	No Poverty	Elimination of extreme poverty within one year
2	Zero Hunger	Linking with food and nutrition security schemes
3	Good Health and Well-being	Ayushman Bharat for universal health coverage
4	Quality Education	Indirectly supports access through stability and basic security
6	Clean Water and Sanitation	Access to toilets and drinking water
7	Affordable and Clean Energy	LPG gas and electricity for every household
10	Reduced Inequality	Focus on most marginalized communities
17	Partnerships for the Goals	Multi-stakeholder collaboration encouraged

2. Indore became India's first beggar free city

Context:

1. Recently, Indore was declared India's first beggar-free city after a year-long campaign that began in February 2024.
2. It has been recognised by the **Union Ministry of Social Justice and Empowerment** and **World Bank.**

What is Begging?

1. Begging means asking people for **money, food, or help,** usually on the streets, without giving anything in return.
2. Begging is generally associated with individuals experiencing extreme **poverty, homelessness, or lack of employability.**
3. As per **Census 2011,** there are **4,13,670 beggars** and vagrants in the country.

Historical Context and Legislative Framework

1. **Colonial Begging Laws:** During colonial times, beggars were seen as a **threat to society,** especially by the British.
2. **Vagrancy and Europeans**: Many unemployed Europeans in India became beggars. The term **"vagrant"** was used mainly for them.
3. **First Vagrancy Bill (1869):** Drafted by Henry Maine, it aimed to reduce vagrancy, especially among Europeans, calling it a political danger.
4. **European Vagrancy Act, 1824:** Targeted European beggars. If they begged despite having money, or begged rudely, they were punished with jail time up to **3 months** for repeat offenders.
5. **Bombay City Police Act, 1861:** This law punished all types of begging, including forcing others or children to beg.
6. **Bombay Prevention of Begging Act, 1959:** It tried to reform beggars by teaching them skills, but it still treated begging as a crime and had no support for beggars after release.
7. **Section 125 of CrPC (1973):** This law helps make sure that wives, parents, and children get money for their basic needs if they can't support themselves.
   a. It is meant to stop them from being forced to beg due to poverty.
8. **CrPC Section 363A:** Using children for begging is a serious crime.
   a. Kidnapping or injuring a child to force them to beg can lead to 10 years to life in prison.
9. Other Anti-Begging Laws: Several state laws like the **Madras City Police Act (1888), Bengal Vagrancy Act (1943),** and others punished begging or provided ways to control it.

Operational Framework of the Campaign

1. **Awareness First:** In the first step, the government made people aware that begging is a big problem. People were told not to give money to beggars.
2. **Rehabilitation:** After that, beggars were given help to find jobs and live with dignity. Children were enrolled in schools.

3. **Special Cases**: Officials found that some beggars were coming from Rajasthan just to beg in Indore. Action was taken against such cases.

Strict Rules in the City

1. Begging is now banned in Indore.
2. Even giving money to beggars or buying things from them is not allowed.
3. Three FIRs (police complaints) have already been registered for breaking these rules.

Constitutional Provisions

1. The criminalization of begging raises significant constitutional concerns.
2. Article 21 of the Indian Constitution guarantees the right to life and personal liberty, which encompasses the right to live with dignity.
    a. This article has been interpreted by the **Supreme Court** to include the right to live with dignity and the right to livelihood.
3. Article 14 ensures equality before the law, yet anti-begging laws often lead to **discriminatory practices against marginalized groups.**
    a. The article argues that these laws fail to align with the constitutional mandate of promoting social justice and human dignity.
        i. **Right to Livelihood:** The Constitution gives every citizen the right to earn a decent living and protects their social and economic rights.
        ii. **Human Dignity:** Human rights include the right to live with dignity. Poverty affects human dignity and is linked to basic human rights.
        iii. **International Support:** Like the United Nations works for human rights globally, the Indian Constitution protects the rights of both citizens and non-citizens at the national level.
        iv. **Welfare State:** India is a welfare state, and the Constitution promises every person the right to life and personal liberty.
4. **Article 23:** Protects people from forced labour and exploitation, including beggary and human trafficking.

Judicial Interventions and Recommendations

1. The judiciary has occasionally intervened to address the constitutional issues arising from anti-begging laws.
2. For instance, in the case of Harsh Mander v. Union of India, this article has been interpreted by the Supreme Court to include the right to live with dignity and the right to livelihood.
    a. The court declared certain provisions of the **Bombay Prevention of Begging Act, 1959** unconstitutional, recognizing that criminalizing begging violates fundamental rights.
3. The article advocates for a shift from punitive approaches to rehabilitative and welfare-oriented strategies.
4. It suggests that the government should focus on addressing the root causes of begging, such as poverty, unemployment, and lack of access to education and healthcare.

Law Commission of India's View

1. The **223rd Report of the Law Commission of India** says that poverty is caused by social and economic system failures, not because individuals are incapable.

International and Legal Perspectives on Begging

1. The United Nations Human Rights Council (UNHRC) supports structural solutions (like social support systems) instead of criminalising begging.
2. UNHRC states that excluding people because of poverty violates human rights.

Importance of SMILE Scheme

1. The Ministry of Social Justice and Empowerment has launched an umbrella scheme "SMILE - Support for Marginalized Individuals for Livelihood and Enterprise" on 12th February, 2022.
2. It includes two sub-schemes:
    a. Central Sector Scheme for Comprehensive Rehabilitation for Welfare of Transgender Persons
    b. Central Sector Scheme for Comprehensive Rehabilitation of persons engaged in the act of Begging.

3. This umbrella scheme covers several comprehensive measures including welfare measures for both transgender persons and persons who are engaged in the act of begging with focus extensively on rehabilitation, provision of medical facilities, counseling, education, skill development, economic linkages etc.

Conclusion

Indore's campaign to stop begging focuses on helping people find jobs and sending children to school instead of punishing them. Laws should protect the dignity and rights of all citizens, especially the poor. Instead of criminalizing begging, the government must address poverty and provide social support. Rehabilitation and welfare are the best ways to help marginalized individuals live with dignity.

3. India's Record Internal Displacements in 2024

Context:

- In 2024, India recorded 5.4 million internal displacements, the highest in over a decade, driven primarily by natural disasters such as floods, storms, and landslides.
- The global internal displacement numbers reached an unprecedented 83.4 million, largely due to conflict and climate-related disasters.
- The data was published by the Internal Displacement Monitoring Centre (IDMC), based in Geneva, Switzerland
- Internally Displaced Persons [IDPs] are individuals forced to flee their homes due to conflict or disasters without crossing international borders.

Reasons for Internal Displacement in India:

1. Conflict and Violence

India recorded 1,700 conflict-related displacements in 2024 with Manipur continued to being the hotspot.Armed Conflict: North-east India has experienced long-standing armed conflicts, such as the Naga movement and the Assam movement, leading to displacement. Localized Violence: Caste disputes, religious fundamentalism, and "son-of-the-soil" policies can also trigger localized violence and displacement. For example, Mass exodus of Hindu Pandits in 1990 from Jammu & Kashmir.Communal Violence: Communal or ethnic violence has historically been a cause of internal displacement. Example, the ongoing violence in Manipur has led to widespread displacement.

2. Natural Disasters

1. **Floods:** Floods accounted for two-thirds of all Internal displacements in India in 2024 [IDMC] Report.
2. **Cyclones and storms:** Caused 1.6 million displacements in India in 2024 [IDMC 2024]. For example, Cyclone Dana will affect Odisha and West Bengal in 2024.
3. **Other Disasters:** Earthquakes, droughts & landslides can also lead to internal displacement. For eg. Tripura experienced its worst monsoon in over 40 years, with 315,000 displacements caused by landslides in 2024 [IDMC 2024]

3. Development-Induced Displacement

1. Large-Scale Dams: Construction of large Dams require the acquisition of land, leading to the displacement of people. For Example, the construction of Narmada Valley Project displaced millions of people
2. **Mining Activities:** Mining operations can also cause displacement by disrupting livelihoods and altering the environment.
3. **Land Acquisition:** The acquisition of land for various development projects, including infrastructure and industrialization, can lead to the displacement of communities.

4. Climate Change Induced Displacement

1. Climate change is exacerbating the frequency and intensity of natural disasters, making communities more vulnerable to displacement.
2. Coastal communities are at risk from sea-level rise, leading to displacement and land loss.

5. Other Factors inducing Internal Displacement

1. **Economic Factors:** Poverty and lack of economic opportunities can also contribute to displacement by forcing people to leave their homes.
2. **Discrimination:** Discrimination against minorities and other marginalized groups can lead to displacement.
3. **Demands for Self-Determination:** Movements demanding autonomy or self-determination can also lead to violence and displacement.

4. **Lack of Policy and Protection:** The lack of a comprehensive national policy on internal displacement and inadequate protection mechanisms for IDPs can exacerbate the situation.
5. **State Repression:** State repression and suppression of certain groups can lead to people being forced to flee their homes.

How to 'Prevent' Internal Displacement?

1. **Conflict Resolution and Peacebuilding:** Strengthening **local conflict resolution mechanisms,** promoting dialogue, and building peace are crucial for reducing displacement related to conflict.
2. **Disaster Risk Reduction:** Investing in **early warning systems, community-based disaster management,** and building resilience to extreme weather shocks can significantly reduce disaster-induced displacement.
3. **Poverty Reduction:** Addressing poverty and inequality can reduce vulnerability to displacement and make communities more resilient to shocks.
4. **Climate Action:** Implementing climate action and promoting sustainable development can help mitigate the impact of climate change-related displacement.
5. **Data Collection and Analysis:** Accurate data collection and analysis are essential for identifying vulnerable populations and planning effective interventions.

How to 'Respond' to Internal Displacement?

1. **Relief and Assistance:** Providing immediate assistance to displaced individuals and families, ensuring they have access to basic rights, including housing, food, health, and education.
2. **Protection**: Ensuring the safety and dignity of displaced people, including protection from violence and exploitation, is paramount.
3. **Addressing Development-**Induced Displacement: Development projects should prioritize the needs of displaced communities, ensuring adequate consultation, compensation, and livelihood opportunities.
4. **Documentation and Registration**: Establishing clear procedures for documenting and registering displaced individuals is essential for access to services and support.

How to 'Recover' after Internal Displacement?

1. **Return of IDPs:** When safe and feasible, supporting the return of displaced people to their homes and communities.
2. **Local Integration:** Facilitating the integration of displaced people into their host communities, including access to livelihoods, education, and social services.
3. **Resettlement**: Providing opportunities for displaced people to resettle in new areas, often involving land allocation, housing, and support for livelihood development.

Way Forward: Long Term Solutions to Internal Displacement

- **Community Participation:** Involving displaced communities in the planning and implementation of solutions is crucial for ensuring their needs and preferences are met.
- **Addressing Underlying Causes**: Solutions should not only address the immediate consequences of displacement but also the underlying causes, such as conflict, poverty, and inequality.
- **Long-Term Sustainability:** Solutions should be sustainable and ensure the long-term well-being of displaced individuals and communities.
- **Addressing Legal and Policy Gaps:** India needs to develop a National policy on Internal Displacement and implement the UN Guiding Principles on Internally Displaced Persons.
- **International Cooperation:** Essential for providing resources and expertise to support India's efforts in addressing internal displacement. Example: Trans-boundary water cooperation is essential to manage shared river systems.
- **Public Awareness:** Raising public awareness about the issue of internal displacement can help build support for policy and programmatic initiatives.
- **Collaboration and Coordination:** Strong coordination among government agencies, NGOs, and international organizations is crucial for effective response and long-term solutions.

Conclusion:

Addressing internal displacement in India requires a multifaceted approach focusing on prevention, response, and recovery. We need to focus on long term solutions, encompassing policy reforms, community-based intervention, and addressing the root causes of displacement.

The IDMC's report, along with severe conflict- and disaster-induced internal displacements recorded in the past year, clearly underlines the need for a National policy to tackle internal displacements in India.

4. New Survey Shows Half Of Women's Organizations May Shut Down In Six Months

Context:

- A new **global report** from ***UN Women*** reveals a dire warning: half of women-led and women's rights organisations in humanitarian crisis zones may shut down within six months due to funding cuts.
- This would have **devastating consequences** for millions of women and families who depend on their services.

What are the main reasons behind the 'Funding Cuts' for Women's Organizations?

- **Major Reductions in Foreign Aid by Key Donors:** The United States, historically the largest global donor, has slashed billions in foreign aid as part of a shift toward "America First" policies. This has been compounded by similar cuts from other major international contributors, such as the UK and European countries.
- **Global Economic and Political Priorities Shifting:** Donor countries are increasingly prioritizing domestic issues, cost-cutting, and efficiency, often at the expense of international aid. Recent economic pressures, political changes, and efforts to reduce government spending have led to reduced budgets for overseas development assistance and humanitarian aid.
- **Escalating and Competing Global Crises:** The world is facing multiple, simultaneous crises-such as conflict, climate disasters, food insecurity, and disease outbreaks-which have stretched available humanitarian funding thin. As needs grow, women's organizations are being asked to do more with less, and their work is often deprioritized in favor of other urgent responses.
- **Chronic Underfunding and Lack of Prioritization:** Even before the latest wave of cuts, women's organizations were severely underfunded and often left out of key policy and funding decisions. Gender equality and women's rights programs have historically received a small fraction of aid budgets, and recent reductions have disproportionately impacted these already scarce resources

How is India getting impacted?

- **Reduced Funding and shrinking Budgets**: India, like many countries, is experiencing the effects of global aid cuts and declining domestic allocations for women's welfare. The Union Budget 2025–26 saw a decrease in public spending on social sectors, with the gender budget now only 1.6% of GDP-significantly below the UN-recommended 5%.
  - The Ministry of Women and Child Development received less than 1% of the total budget, and key schemes addressing gender-based violence and women's safety (such as Mission Shakti and Samarthya) saw funding slashed by 50%.
- **Direct Impact on Women's Organizations:** Many Indian women's organizations, especially those supporting marginalized groups in crisis-affected regions, are struggling with reduced grants and operational challenges.
  - Over 60% of such organizations have already reduced their services, disrupting critical support like emergency health care, legal aid, and protection for survivors of gender-based violence.
- **Challenges in Health, Education, and Social Services:** Funding for education and healthcare has declined, affecting grassroots programs for girls' education, reproductive health, and nutrition.
  - Programs like **ICDS, PM Poshan, and Anganwadi services** require more investment to improve outreach and quality, but face stagnant or reduced budgets.

- The pandemic and economic slowdown have further strained resources, with many grassroots women's groups reporting layoffs and suspended projects.

- **Vulnerable Groups:** Poor urban women, women from SC/ST and tribal communities, and the transgender community are particularly at risk as targeted funding and inclusive policies remain inadequate.
  - Women's organizations working in conflict-prone or disaster-affected regions (such as Northeast India, Jammu and Kashmir, and flood-affected states) face even greater uncertainty due to both global and domestic funding cuts.

Way Forward

- **Grassroots Mobilization**: Community members, especially women, often take on leadership roles, organize events, and support vulnerable individuals, helping to build stronger, more resilient local networks through groups like Self-Help Groups (SHGs) and Mahila Mandals.
- **Program Implementation:** Community members like 'Mahila Housing Trust' can run and tailor programs for education, health, livelihood, and protection, ensuring these services reach the most marginalized women, including those in rural and urban poor areas.

1. **Social Support:** Communities like 'Snehalaya', 'Sayodhy' provide emotional support, safe spaces, and solidarity for women facing violence, discrimination, or poverty, and rehabilitate survivors.
2. **Advocacy and Awareness:** Local networks raise awareness about women's rights, influence local policies, and advocate for change, amplifying the impact of organizations such as MAKAAM and North East Network.

5. IIFT to Set Up First Overseas Campus in Dubai

Context

1. Recently, **Indian Institute of Foreign Trade (IIFT)** has announced the establishment of its **1st overseas campus in Dubai, United Arab Emirates.**
2. The move reflects India's push to **globalise higher education**, in line with the vision of the **National Education Policy (NEP) 2020.**

About IIFT

1. **Established:** 1963, as an autonomous body under the **Ministry of Commerce & Industry.**
2. **Status**: Deemed-to-be University.
3. Headquarters and main campus in New Delhi.
4. **Focus Areas**: International Business, Trade Policy, Economics, and Global Commerce.
5. **Academic Offerings:**
   a. MBA in International Business
   b. MA in Economics (specialisation in Trade & Finance)
   c. Executive Diplomas for working professionals
   d. Doctoral programmes in Management

What are the key Highlights of the Dubai Campus Initiative?

1. First foreign campus since IIFT's establishment.
2. Received approvals from:
   a. Ministry of Education
   b. Ministry of External Affairs
   c. Ministry of Home Affairs
   d. University Grants Commission (UGC)
3. Awaiting final permissions from the UAE government.
4. The Dubai campus will offer full-time degree and executive programmes designed to Gulf and global market needs.
5. The new centre is expected to uphold IIFT's academic rigor and serve the Indian diaspora and international students

Government Assurances

1. The Ministry of Education clarified that:
   a. There will be no diversion of **faculty, infrastructure, or financial resources from IIFT's** Indian campuses.
   b. The **domestic academic ecosystem** will remain unaffected.

Policy and Strategic Significance:

A. **Alignment with NEP 2020**

1. **National Education Policy 2020** highlights two dimensions of internationalisation:

1. Indian HEIs setting up campuses abroad.
2. Foreign HEIs establishing campuses in India.
2. Aims to position India as a global knowledge hub.

B. **Education as Soft Power**
1. Strengthens India's academic diplomacy and soft power projection.
2. Promotes India's education model globally, fostering goodwill and cultural influence.

C. **Strategic Trade-Education Linkages**
1. IIFT's focus on international trade aligns with India's foreign policy and **economic diplomacy.**
2. Creates a talent pool trained in **trade, policy, and commerce relevant to regional dynamics.**

What are the Challenges in Internationalisation of Indian HEIs?

1. **Regulatory Complexity:** Multiple-layered clearances deter fast implementation.
2. **Faculty Brain Drain**: Attractive overseas postings may lead to talent migration from Indian campuses.
3. **Cultural & Linguistic Barriers**: Institutions may struggle to adapt to diverse cultural settings abroad.
4. **Limited Foreign HEIs in India**: Despite NEP 2020, no Ivy League university has opened a campus in India yet.

Way Forward

1. Single-Window Clearance: Streamline regulatory approvals for overseas campuses.
2. Private Partnerships: Encourage collaboration between government and private players for global expansion
3. Faculty Retention Policies: Offer incentives to retain talent in domestic campuses.
4. Global Curriculum Development: Align offerings with global standards and industry needs.

6. World Audio Visual and Entertainment Summit (WAVES) 2025

Context

1. The inaugural **WAVES Summit 2025** took place in Mumbai, where the Prime Minister emphasized **India's creative economy** as a key driver for future **GDP growth, innovation,** and **inclusive development.**
2. WAVES aims to unlock a **$50 billion market by 2029,** positioning India as a significant player in the global entertainment industry.
3. During the summit, the government announced the establishment of the **Indian Institute of Creative Technology (IICT)**, aimed at fostering innovation in the creative sector.
4. The **Ministry of Information and Broadcasting**, in collaboration with **FICCI** and **CII**, will set up IICT as a National Centre of Excellence.

Understanding the Creative Economy

1. **Definition:** The creative economy (also known as the orange economy) refers to the sector where creative assets contribute to economic growth and development.
2. **Key Components:** It encompasses industries such as Media & Entertainment, Advertising, Animation, Visual Effects, Gaming, Comics, and Extended Reality (AVGC-XR).
3. The **United Nations declared 2021** as the International Year of Creative Economy for Sustainable Development, highlighting its global significance.

India's Creative Economy Landscape

1. **Contribution to GDP:** The creative economy contributes $30 billion to India's GDP, employing 8% of the workforce.
2. **Exports:** Creative exports from India exceed $11 billion annually.
3. **Challenges:** The sector faces challenges such as misinformation, copyright issues, intellectual property concerns, market monopolization, limited digital access in rural areas, and lack of formal financing.

Initiatives to Promote India's Creative Economy

1. **Creative Economy Fund:** The government has announced a $1 billion fund to support the growth of the creative economy in India.
2. **All India Initiative on Creative Economy (AIICE):** Launched by the Indian Chamber of Commerce to harness the vast potential of India's creative industries.
3. **National Creators Award:** This award recognizes the work of digital content creators in India, promoting online creativity and innovation.

7. Human Development Report 2025

Context:

Key Challenges Hindering Human Development in India

1. Inequality has caused a **30.7%** loss in India's **HDI**, which is among the highest in the region.
   a. India's Gini coefficient (2023): 0.410.
      - The **Gini coefficient** is a measure of income inequality within a population, ranging from **0 to 1,** where 0 represents perfect equality and 1 represents complete inequality.
      - It's derived from the **Lorenz curve,** a graphical representation of income distribution.
      - A higher Gini coefficient indicates greater income disparity.

2. Gender Disparities:

a. **Gender disparities** remain significant. E.g., India ranks **102nd** on the **Gender Inequality Index (GII).**

b. **Female Labor Force Participation (FLFP): 41.7%** (low compared to global standards).

c. **Political Representation:** While progress has been made with the **106th Constitutional Amendment** reserving one-third of legislative seats for women, gender equality remains a significant challenge.

Comparison with Neighbours

Country	Rank
China	78
Sri Lanka	89
Bhutan	125
Bangladesh	130
Nepal	145
Myanmar	150
Pakistan	168

BRICS Comparison: Brazil (89), Russia (59), China (75), South Africa (110) all ahead of India.

Policy Recommendations for India

A. **Gender Equality:**

1. **Strengthen Female Political Representation:** Implement the **106th Constitutional Amendment** for **one-third legislative reservation.**
2. **Encourage Women Entrepreneurship:** Expand access to financial schemes like **PM Mudra Yojana, Stand-Up India,** and **digital platforms.**
3. **Skilling and Employment:** Create flexible jobs and provide skilling support and **crèche facilities.**
4. **Legislative Reform:** Enforce laws against **gender-based violence**, **child marriage,** and **workplace discrimination.**

B. **Reducing Inequality:**

1. Strengthen inclusive schemes like **MGNREGA, PMEGP,** and **Jan Dhan Yojana.**
2. Reforms needed in **land rights, public health, and education.**
3. Support **SDG 10** on reduced inequality and leverage **CSR** for equitable development.

C. **Improving Health & Education:**

1. Increase investment in **primary healthcare** and **ensure universal access** to nutrition (e.g., Poshan Abhiyaan).
2. Reform the **education system** under **NEP 2020** and improve teacher training.

D. **Leveraging AI for Inclusive Development:**

1. Ensure AI supports **e-health, e-learning,** and **agriculture advisories for marginalized populations.**
2. **Expand digital and financial inclusion** through initiatives like **UPI, Jan Dhan,** and **digital literacy.**

8. Delays And Problems Are Hurting Ayushman Bharat In Jharkhand

Context:

1. The **Ayushman Bharat Pradhan Mantri Jan Arogya Yojana (AB PM-JAY)** is India's biggest health insurance scheme.
2. It is facing serious problems in Jharkhand.

3. Many hospitals in the state have not received payments for months. Some hospitals have already stopped offering treatment under the scheme.

Key Highlights:

1. **Scheme Launched:**
   a. **Ayushman Bharat was launched in 2018 . It provides ₹5 lakh per family every year for hospital care.**
2. **Coverage:**
   a. Around **28 lakh families** (1.5 crore people) are covered under **Ayushman Bharat** in Jharkhand. Another **38 lakh families** are covered under the state's own scheme.
3. **Hospital Network:**
   a. About **750 hospitals** are registered under the scheme in Jharkhand.
4. **Significance:**
   a. **Help for Poor Families:**
      i. **Ayushman Bharat** helps poor families in Jharkhand get free hospital treatment.
      ii. It covers expensive surgeries and tests so they don't have to pay from their own pockets.
   b. **Biggest Health Insurance in the World:**
      i. This is the largest government health insurance scheme in the world. Many families in Jharkhand use it for cashless treatment in hospitals.
   c. **Important for Jharkhand:**
      i. The scheme started in Jharkhand, so the state gets special focus. Many people know about it and have joined the scheme here.
   d. **Helping Women and Children:**
      i. Ayushman Bharat helps women and children get the healthcare they need.
      ii. It pays for maternity care, child health **check-ups**, and important treatments.
      iii. This has made health better for many women and children in Jharkhand.

Challenges and Way Forward

Challenges	Way Forward
1. Delayed payments to hospitals, even those not under investigation	Release pending payments to hospitals not flagged for fraud without further delay
2. Hospitals pulling out of the scheme due to financial stress	Provide urgent financial support or advance payments to keep hospitals functional
3. Fraud and misuse (fake beneficiaries, overbilling, etc.)	Speed up ED investigations; punish guilty hospitals without affecting genuine ones
4. Technical issues in HEM 2.0 portal (data missing, slow processing)	Fix and upgrade the portal; provide technical help to hospitals for smooth claim submission
5. First In, First Out (FIFO) system slowing down payments	Allow flexible processing of urgent and high-value claims where needed
6. Lack of communication between government and hospitals	Conduct regular review meetings and feedback sessions with hospital representatives
7. Political blame game delaying resolution	Ensure non-political coordination between Centre and State for effective scheme implementation
8. Pressure from expanding coverage (Rs 15 lakh under state scheme)	Strengthen digital and financial infrastructure before expanding coverage further

Conclusion

Ayushman Bharat is a vital scheme for poor families, but in Jharkhand, it is facing a serious crisis. Payment delays, technical issues, and fraud probes have disrupted hospital services. Immediate corrective steps are needed to restore trust and ensure smooth functioning. Healthcare for the poor must remain a top priority beyond politics and process delays.

9. State of the World's Nursing Report 2025

Context:

1. On International Nurses Day (May 12, 2025), the **World Health Organization (WHO)**, in collaboration with the **International Council of Nurses (ICN),** released the **State of the World's Nursing (SoWN) 2025 report**.
2. The report presents a global overview of the nursing workforce, analyzing data from 194 countries. WHO releases the SoWN report every 5 years (previous in 2020).

Key Findings of SoWN Report:

1. **Growth in Workforce but Unequal Distribution:**
   - The global nursing workforce grew from **27.9 million (2018) to 29.8 million (2023).**
   - However, **78%** of nurses are concentrated in countries representing only **49%** of the global population.
   - Nurse-to-population ratio: 3**7.1 per 10,000,** with Europe having **5 times more** nurses than Africa.
2. **Projected Trends:**
   - The global nursing shortage, which was **5.8 million in 2023,** is projected to reduce to **4.1 million by 2030.**
   - **70%** of future shortages will be in Africa and the Eastern Mediterranean.
3. I**nternational Migration:**
   - 1 in 7 nurses globally is foreign-born.
   - In high-income countries (HICs), **23%** of nurses are migrants, compared to just **1–8%** in low- and middle-income countries.
4. **Ageing Workforce:**
   - 19% of the global nursing workforce is expected to retire by **2035,** creating urgency in workforce planning for HICs.
5. **Working Conditions & Mental Health:**
   - Only 42% of countries provide mental health support to nurses.
   - Despite 94% having minimum wage laws, support systems remain inadequate.
6. **Gender and Equity:**
   - Women constitute **85%** of the **global nursing workforce.**
   - Yet they experience persistent gender pay gaps, limited leadership roles, and underrepresentation in policy-making.
7. **Advanced Practice Nursing (APN):**
   - Recognized in **62%** of countries, APNs play a key role in expanding access to care, especially in underserved areas.

Nursing in India- Status and Challenges:

1. **Nurse-to-Population Ratio:**
   - India has **1.9 nurses** per **1,000** people, below WHO's recommended **3 per 1,000.**
2. **Workforce Data:**
   - Over **3.3 million** nurses registered with the **Indian Nursing Council (INC).**
   - India faces a 2.4 million nurse deficit, with high burnout and compromised healthcare delivery.
3. **Geographical Disparity:**
   - The majority of nurses are based in urban areas; rural and remote regions remain underserved.
4. **Education and Training:**
   - The government plans to open **157** new nursing colleges by **mid-2025,** adding **15,700 B.Sc. Nursing seats.**
   - However, challenges remain in **faculty shortages**, **lack of clinical infrastructure,** and **quality inconsistencies.**
5. **Poor Working Conditions:**
   - Nurses face **low wages, long hours, lack of mental health support,** and **unsafe workplaces.**
6. **Social Stigma and Harassment:**
   - Gender bias and workplace harassment are common; many cases go unreported, contributing to mental stress.
7. **High Migration (Brain Drain):**
   - Over **640,000 Indian** nurses work abroad **(e.g., UK, Gulf, Australia)**.
   - Migration is driven by better pay, working conditions, and career growth opportunities abroad.

Policy Recommendations (2026–2030):

The report outlines a roadmap for countries to address gaps and inequalities in **Nursing Sector** across the globe:

1. **Workforce Investment:**
   a. Create nursing jobs in underserved areas; align education output with health system needs.
2. **Strengthen Education and Upskilling:**
   a. Ensure adequate training **infrastructure, continuous professional development** and integrate **AI/digital tools** into the curriculum.
3. **Improve Working Conditions:**
   a. Offer competitive salaries, ensure mental health support, and improve workplace safety.
4. **Leadership and Governance:**
   a. Appoint **Chief Nursing Officers (CNOs)** at national/state levels and expand nursing leadership training.
5. **Retention and Rural Deployment:**
   a. Introduce bonded **scholarships, rural service incentives,** and **clear career pathways** to retain talent.
6. **International Cooperation:**
   a. Form **bilateral agreements** to compensate source countries for **nurse outmigration (e.g., India–UK MoUs).**
7. **Gender Equity:**
   a. Address gender pay gaps, promote leadership roles for women, and ensure representation in policy making.

Conclusion:

The State of the World's Nursing 2025 report highlights deep global inequities in the nursing workforce, especially affecting Africa and Asia. India, despite increasing its nurse training capacity, continues to face acute shortages, urban-rural imbalances, poor working conditions, and brain drain.

To achieve Universal Health Coverage (UHC) and Sustainable Development Goals (SDGs), India must urgently invest in nursing education, employment, regulation, and leadership. Empowering nurses is critical to building a resilient, equitable, and future-ready healthcare system.

10. Strengthening Women's Role in Green Enterprises

Context:

1. India aims to become a sustainable and developed nation by 2047, and supporting women in green businesses is key to this vision.
2. Green businesses promote clean energy, reduce waste, and protect the environment.
3. The 2025 Budget announced loans for SC and ST women entrepreneurs, which is a good start.

Key Highlights of the article:

1. **Focus on a Green Economy**
   a. India is prioritizing the development of a green economy for a sustainable future.
   b. Green enterprises such as bio-packaging, e-waste recycling, and battery manufacturing offer vast potential.

Green Economy

1. **Definition:** A green economy is a way of growing the economy that focuses on protecting the environment and using resources wisely to avoid harm and shortages.
2. **Key sectors:** Renewable energy, waste management, sustainable agriculture, green technology.
3. **Importance:** Addresses climate change, creates green jobs, ensures resource efficiency.
4. **Challenges:** Financing gaps, policy implementation, technology access, gender inclusion.
5. **Government Initiatives:** National Solar Mission, FAME India, Green India Mission, incentives for clean tech.
6. **Role of Women:** Crucial for inclusive growth; need better access to finance, training, and leadership.

2. **Role of Women in Green Economy:**
   a. Women's participation is essential for a sustainable green economy.
   b. However, they face significant barriers in starting and growing green businesses due to:

i. Lack of finance
ii. Limited access to mentorship and training
iii. Financial bias and systemic discrimination

3. **Current Status of Women in Green Sectors**
   a. Women lead only 18% of start-ups in 2024.
   b. Only 19.2% of engineers in India are women.
   c. 79% of women entrepreneurs are self-financed. Merely 1.1% access formal finance.
   d. Presence of a male co-founder improves creditworthiness, showing systemic bias.
4. **Government and Institutional Support**
   a. Budget 2025:
      i. Term loans up to ₹2 crore for SC/ST/women entrepreneurs.
      ii. It highlights the need for stronger efforts to empower women in this sector.
   b. NITI Aayog's Women Entrepreneurship Platform provides mentorship.
   c. Tata Steel's 'Women of Mettle' scholarship supports women engineers in manufacturing.
   d. Training programs:
   i. BRICS Bootcamp
   ii. IIM-Bangalore–Goldman Sachs partnership
5. **Recommendations for Empowerment**
   a. Boards of banks and private investors should allocate dedicated funds for women-led green businesses.
   b. Expand scholarships and update engineering courses to attract more women.

Significance:

1. Inclusive Growth: Women's participation in the green economy is essential for equitable growth.
2. Climate Action: Women-led innovation can drive climate resilience and sustainable technologies.
3. Economic Opportunity: Leveraging green entrepreneurship can enhance employment and economic growth, particularly in emerging sectors.
4. India@2047 Vision: Essential to achieving sustainable development goals and becoming a developed economy.

Challenges

1. Gender bias in financing: Women are viewed as higher-risk borrowers due to reasons such as:
   a. Women often have less access to property or assets to use as collateral.
   b. Lenders stereotype women as less financially experienced or reliable.
   c. Social norms limit women's business opportunities, increasing associated risk.
2. Women in green sectors often lack mentors and role models to guide and inspire them.
3. Low representation: Only 18% of start-ups are led by women (2024 data).
4. **Awareness ga**p: Women are unaware of or unable to access the government loan schemes due to:
   a. Complex application processes which discourage women from applying.
   b. Limited outreach and communication about schemes in rural or remote areas.
   c. Lack of digital access or literacy to use online resources effectively.

Way forward

1. The government should promote the fast growing economic sectors for women like Renewable energy (like solar and wind power), Battery making (used in electric vehicles), Recycling and reusing (circular economy), Engineered bamboo (used in construction and furniture).
2. Women can explore fields like nanomaterials for better batteries.
3. Ensure equal access to funding: Women should get equal chances of receiving loans without bias. This can be supported by launching women-focused loan schemes and training bank staff to avoid gender bias during loan approvals.
4. Give better guidance: Use training programs and support from government and private groups to guide women entrepreneurs.
5. Make schemes easy to understand: Simplify government loan and support processes so more women can use them.
6. Involve big companies: Encourage large firms to offer scholarships and special support for women in green businesses.

H. ETHICS

1. Ethical Dilemma in Disaster Relief – Choosing Between Immediate Need and Long-Term Integrity

Context

1. As the District Magistrate of a flood-ravaged district facing its worst natural disaster in decades, your primary duty is to ensure timely rescue, relief, and rehabilitation of affected citizens. Despite sincere efforts by the district administration, the **available resources are inadequate** to meet the growing needs of the population.
2. In response to your appeal, there is a **strong inflow of support** from civil society, philanthropists, and volunteers—bringing hope in a time of crisis. However, during the course of operations, it comes to light that **certain well-funded groups, linked with liquor, sand, and land mafias**, are actively distributing relief materials. These groups are suspected of using this humanitarian crisis as an opportunity to build goodwill with the public, **seeking future political favours**.
3. Although their funding sources are unproven and indirect, their presence raises concerns about **the long-term consequences** of accepting their help. Yet, given the shortage of resources, their assistance could make a significant difference to the people in distress.

A. Ethical Issues Involved:

1. **Means vs. Ends Dilemma:** Accepting help from groups backed by criminal elements may serve the immediate need of saving lives but violates ethical norms by using **tainted means for a noble end**.
2. **Misuse of Crisis for Personal Gain:** The attempt by such groups to gain **illegitimate political influence** during a humanitarian crisis is an **exploitative and unethical practice** that undermines the integrity of democratic processes.
3. **Moral Legitimacy and Accountability:** As a public servant, your **moral accountability lies not only in achieving results** but also in ensuring **ethical conduct and transparency** in the process.
4. **Trust and Public Perception:** Associating with questionable actors may erode public trust in the administration and **set a dangerous precedent** for future crises.
5. **Resource Scarcity vs. Ethical Governance:** There is a **moral conflict between the need to mobilize resources rapidly** and the duty to ensure that governance remains free from the influence of criminal or corrupt entities.

B. Course of Action:

1. **Maximize Ethical Resource Mobilization:**
   a. Strengthen and expand current efforts to draw support from:
      i. **Civil society organizations** and NGOs with transparent credentials.
      ii. **State and Central Government** emergency funds.
      iii. **Corporate donors and affluent individuals** with no vested interests.
   b. Establish a **public fund portal** with real-time transparency to encourage more donations from ethical sources.
2. **Leverage Community Participation:** Encourage **local volunteers and community leaders** to assist in distribution and monitoring to build ownership and **minimize dependence on dubious actors.**

3. **Set Clear Guidelines for External Assistance:**
    a. Issue a formal guideline that **all relief activities must be coordinated with the district administration** to ensure accountability and fairness.
    b. Implement **vetting mechanisms** to scrutinize donor backgrounds discreetly without public confrontation.
4. **If Tainted Help Becomes Unavoidable:**
    a. Accept assistance **only in kind**, not in cash, with **strict monitoring and zero branding.**
    b. Ensure that such actors **cannot use the situation for self-promotion or political advantage.**
    c. Maintain a clear public record of contributions to avoid any future claims of favours or quid pro quo.
5. **Preserve Ethical Integrity and Transparency:**
    a. Document every decision and ensure transparency in relief distribution.
    b. Communicate openly with the public regarding how funds and supplies are being sourced and used to **maintain trust in administration.**

Conclusion

1. In times of disaster, a public servant is tested not just by the ability to provide relief, but by the **wisdom to balance compassion with integrity**. While saving lives is paramount, allowing unethical actors to exploit tragedy for future gain can lead to **lasting damage to governance and society.**
2. A conscientious administrator must seek every possible ethical avenue before compromising on moral standards. Relief delivered with integrity strengthens public trust, while hasty decisions involving dubious partnerships can erode the very foundations of ethical governance.
3. Such dilemmas remind us that **leadership in crisis is not just about outcomes—but about the values that guide those outcomes.**

2. Ethical Dilemmas in the Digitization of MGNREGA

Context

Mr. Himanshu, a newly recruited Development Officer, has been posted in a remote district to oversee the implementation of the MGNREGA scheme. In line with the government's vision of *Digital India*, a new attendance app has been introduced to track workers' attendance and compute their wages. However, the digitization drive has met with several operational and ethical roadblocks.

Issues Faced:

1. **Technical Glitches in the App:**
    a. The attendance app frequently malfunctions, leading to **inaccurate wage calculations** and **delayed payments.**
    b. This has caused **financial distress** among workers who depend on timely wages for basic sustenance.
2. **Worker Disillusionment:**
    a. The persistent payment issues have led to **loss of morale and motivation** among MGNREGA workers.
    b. Reduced enthusiasm and productivity are affecting the overall effectiveness of the scheme.
3. **Resistance from Contractors and Middlemen:**
    a. Local intermediaries, who previously manipulated the muster rolls for a commission, are now instigating workers against the new system.
    b. Their **vested interests** are threatened by the transparency of the digital platform, leading to **deliberate misinformation** campaigns.

Ethical Issues Involved

1. **Exploitation and Economic Hardship:**
    a. The most vulnerable section—unskilled rural workers—is being deprived of their rightful earnings due to system errors.
    b. This violates principles of **justice and welfare** under a rights-based scheme like MGNREGA.

2. **Erosion of Trust in Governance:**
    a. Systematic glitches and payment delays diminish **citizens' faith** in the state's ability to deliver services.
    b. A weakening of the **social contract** undermines the democratic ethos of accountability and trust.
3. **Legitimization of Corrupt Practices:**
    a. Workers, who earlier received partial wages through intermediaries, now perceive the **corrupt manual system as more reliable.**
    b. This shift in perception threatens the values of **integrity and ethical governance.**
4. **Exclusion of the Digitally Marginalized:** The digital system unintentionally **excludes those without access to technology or digital literacy,** widening the rural-urban digital divide.
5. **Failure of Institutional Accountability:**
    a. The **Gram Panchayat and Ministry of Rural Development** are morally and administratively responsible for ensuring smooth functioning of welfare schemes.
    b. The app's failure reflects a **lack of preparedness and oversight.**

Suggested Measures to Resolve the Situation

1. **Immediate Rectification and Technical Oversight:**
    a. The app development team must be held accountable and directed to **urgently resolve software bugs.**
    b. Establish a **technical grievance redressal mechanism** to ensure timely corrections.
2. **Human Interface for Verification:**
    a. Engage the **Panchayat Secretary or field-level officials** to cross-verify the attendance and payment records manually until the app stabilizes.
    b. Discrepancies should be corrected through **direct compensation** to affected workers.
3. **Appointment of a Local Digital Facilitator:**
    a. A **local educated youth** can be hired as a contractual overseer to monitor the digital attendance system.
    b. This creates local employment while ensuring **transparency and accountability.**
4. **Bridging the Digital Divide:**
    a. Conduct **training workshops** for workers and contractors to enhance **digital literacy.**
    b. Educating users will empower them to **identify and report errors** confidently.
5. **Institutionalizing Social Audits:**
    a. A **social audit committee** comprising local Panchayat members and community volunteers (with **diverse representation**) should be established.
    b. Their role would include **monitoring digital records, investigating complaints,** and ensuring ethical practices.
6. **Rebuilding Trust:**
    a. Mr. Himanshu should **initiate community meetings** to transparently explain the government's intention behind digitization and the steps being taken to address current issues.
    b. Reinforcing **citizen-government partnership** will restore faith in the system.

Conclusion:

1. The success of *Digital India* lies not merely in the rollout of new technologies, but in **inclusive access**, **trust-building**, and **ethical implementation**. While digitization can enhance transparency, it must be backed by robust infrastructure and responsive governance.
2. In the words of Deendayal Upadhyay, *"Antyodaya leads to Sarvodaya."* Unless the **last person in the queue is empowered and heard,** the larger goals of good governance and inclusive growth will remain unfulfilled. Mr. Himanshu's ethical leadership, guided by empathy and accountability, can turn this crisis into an opportunity for transformative governance.

I. Essay

The empires of the future will be the empires of the mind

Model Answer

Winston Churchill, standing amidst the rubble of a bombed-out London during World War II, declared, "We shall fight on the beaches, we shall fight on the landing grounds, we shall fight in the fields and in the streets, we shall fight in the hills; we shall never surrender." His words, imbued with an indomitable spirit, resonated not just with the British people but also echoed the power of ideas and resolve. Churchill's defiance wasn't merely about military strength; it was a testament to the strength of human will, a powerful illustration of the "empires of the mind." This essay will delve into the multifaceted implications of this profound statement, exploring how the future will be shaped by intellectual prowess, innovation, and the dominion over ideas.

The most fundamental building block of any empire of the mind is education. India's ancient universities like Nalanda and Takshashila were hubs of intellectual exchange, attracting scholars from across the globe. Today, institutions like the Indian Institutes of Technology (IITs) and the Indian Institutes of Management (IIMs) carry forward this legacy, fostering a culture of learning and innovation. Investing in education, particularly in STEM fields (Science, Technology, Engineering, and Mathematics), is crucial for building a nation capable of competing in a knowledge-based economy.

This naturally leads to the significance of scientific research and technological innovation. The development of the Indian Space Research Organisation (ISRO) from humble beginnings to a global space power exemplifies the transformative potential of scientific advancement. From launching satellites for communication and weather forecasting to undertaking interplanetary missions like Chandrayaan and Mangalyaan, ISRO's achievements demonstrate how a nation can leverage its intellectual capital to achieve remarkable feats. Similarly, the growth of the Indian IT sector, driven by innovation and a skilled workforce, showcases the economic power of technological prowess.

Now that we have discussed the crucial role of education, science, and technology, let's delve into the realm of creativity and cultural influence. The vibrant Indian film industry, Bollywood, is a prime example of the soft power that can be wielded through cultural products. Bollywood movies are watched across the globe, disseminating Indian stories, music, and values, creating a cultural connect that transcends geographical boundaries. Similarly, the global popularity of yoga and Ayurveda highlights the influence of Indian traditions and philosophies on the world stage.

Furthermore, the future empires of the mind will be built on the foundations of collaboration and knowledge sharing. The International Solar Alliance (ISA), headquartered in India, is a testament to the power of international cooperation in addressing global challenges like climate change. By bringing together nations to promote solar energy, the ISA exemplifies how shared knowledge and collaborative efforts can pave the way for a sustainable future.

As a result of these advancements, the ability to adapt and learn in a rapidly changing world becomes paramount. The COVID-19 pandemic underscored the importance of agility and adaptability. India's response to the pandemic, from developing indigenous vaccines to implementing large-scale vaccination drives, demonstrated the nation's capacity to respond effectively to unforeseen challenges. This ability to learn, adapt, and innovate will be crucial for navigating the complexities of the 21st century.

On the contrary, some argue that military and economic might will continue to dominate global affairs. They point to ongoing conflicts and the increasing importance of economic power as evidence. While these factors undoubtedly play a role, the rise of cyber warfare and the increasing influence of information technology demonstrate the growing importance of intellectual capital in shaping geopolitical dynamics.

On the other hand, there are concerns about the ethical implications of technological advancements, particularly in areas like artificial intelligence and genetic engineering. The potential for misuse of these technologies raises important questions about responsible innovation and the need for ethical frameworks to guide scientific progress. India's rich philosophical traditions, with their emphasis on dharma and ethical conduct, can provide valuable insights in navigating these complex ethical dilemmas.

A balanced approach is crucial. While technological advancements and intellectual prowess are essential for building the empires of the future, they must be grounded in ethical considerations and a commitment to human well-being. Investing in education, promoting scientific research, fostering creativity, and encouraging international collaboration are all essential steps in building a future where knowledge and innovation are the driving forces of progress.

The essence of Churchill's words lies in the recognition that true power resides not just in physical strength but in the resilience of the human spirit and the power of ideas. The empires of the future will be built on the foundations of knowledge, innovation, and the ability to shape the narrative of our times.

"Where the mind is without fear and the head is held high; Where knowledge is free; Where the world has not been broken up into fragments by narrow domestic walls; Where words come out from the depth of truth; Where tireless striving stretches its arms towards perfection; Where the clear stream of reason has not lost its way into the dreary desert sand of dead habit; Where the mind is led forward by thee into ever-widening thought and action— Into that heaven of freedom, my Father, let my country awake."

This excerpt from Rabindranath Tagore's Gitanjali beautifully captures the spirit of a nation awakened by knowledge and driven by the pursuit of truth and perfection. It encapsulates the vision of an empire of the mind, where intellectual freedom and the pursuit of knowledge are the guiding principles.

J. SCHEME

1. India Launches Green Hydrogen Certification Scheme (GHCI)

Context:

1. The **Government of India** has launched the **Green Hydrogen Certification Scheme of India (GHCI)** under the **National Green Hydrogen Mission (NGHM).**
2. The scheme aims to establish a **robust certification framework** for **green hydrogen (GH)** to **ensure transparency, traceability**, and **market credibility.**

Overview of GHCI:

1. **Nodal Ministry:** The scheme is implemented by the **Ministry of New and Renewable Energy (MNRE).**
2. **Execution Authority:** The **Bureau of Energy Efficiency (BEE)** is the designated nodal body for operationalizing the certification process.
3. GHCI focuses on developing **a detailed methodology** for **measuring, monitoring, reporting,** and **verifying** the production of green hydrogen and its derivatives.

Certification Framework Under GHCI:

1. Certification will be conducted **at the project level**, covering all stages of green hydrogen production up to **compression and purification**.
2. Processes like **storage and transport outside plant boundaries, conversion into hydrogen carriers,** and **end-use applications** are **excluded** from the certification scope.
3. Two types of certificates are defined under the scheme:
   a. **Concept Certificate (Voluntary):** For early-stage or pilot projects.
   b. **Facility-Level Certificate (Mandatory):** Required for operational hydrogen production facilities.
4. Emission intensity calculations will follow the **MNRE Green Hydrogen Emission Calculation Methodology.**
5. To qualify as 'green', the **average emission intensity** must be **≤ 2 kg CO_2eq/kg of H_2 produced.**
6. Certificates are **non-transferable and non-tradeable,** and cannot be used to claim **carbon credits or emission reductions.**

National Green Hydrogen Mission (NGHM): The Umbrella Program

1. Launched in **2023**, NGHM seeks to position India as a **Global Hub** for the **production**, **usage**, and **export** of green hydrogen and its derivatives.
2. The mission sets an ambitious **target of producing 5 million metric tonnes (MMT)** of green hydrogen annually by **2030**.
3. Key components include the **Strategic Interventions for Green Hydrogen Transition (SIGHT)** programme and the development of **Green Hydrogen Hubs.**
4. Core strategies involve **creating domestic and export demand, resolving supply-side issues,** and **establishing a national certification system** like GHCI.

2. Cabinet Approves M-CADWM as Sub-Scheme under PMKSY

Context

1. The Union Cabinet has approved **Modernization of Command Area Development and Water Management (M-CADWM)** as a **sub-scheme of Pradhan Mantri Krishi Sinchayee Yojana (PMKSY)** for **2025–2026.**
2. It aims to **modernize irrigation water supply networks** and create a **robust backend infrastructure** for **micro-irrigation**.
3. The scheme has an **initial total outlay of ₹1600 crore.**

Objective of M-CADWM

1. To **modernize irrigation systems** that supply water from **existing canals or other sources in designated clusters.**
2. To ensure **last-mile connectivity** with **pressurized underground piped irrigation** from source to farm gate (up to 1 hectare).
3. To enhance **Water Use Efficiency (WUE)** at the farm level, thereby improving **agricultural productivity** and **farmers' income.**

Key Features of M-CADWM

1. **Modern Irrigation Infrastructure**
   a. **Underground pressurized piped irrigation systems** up to 1 hectare.
   b. Supports **micro-irrigation readiness** from the backend to the farm gate.
2. **Advanced Technology for Water Management:** Deployment of **SCADA (Supervisory Control and Data Acquisition)** and **Internet of Things (IoT)** for:
   a. Real-time **water accounting.**
   b. Efficient **water distribution and monitoring.**
3. **Sustainable Irrigation Governance**
   a. Adoption of **Irrigation Management Transfer (IMT)** to **Water User Societies (WUS)** for local management of irrigation infrastructure.
   b. WUSs to receive handholding support for 5 years and will be linked to:
      - **Farmer Producer Organizations (FPOs).**
      - **Primary Agricultural Credit Societies (PACS)** and other economic entities.
4. **Youth-Oriented Approach**: Encourages **youth participation** in agriculture by introducing **modern, tech-enabled irrigation practices.**
5. **Pilot Implementation**
   a. Pilot projects will be initiated through **challenge funding** across various **agro-climatic zones** of the country.
   b. Learnings will help in formulating a **National Plan for Command Area Development and Water Management** under the **16th Finance Commission period from April 2026.**

Background: What is the CADWM Programme?

1. **Genesis & Evolution**
   a. Launched as **Command Area Development (CAD)** in **1974-75.**
   b. Restructured in **2004** and renamed as **Command Area Development and Water Management (CADWM).**
   c. Implemented under **PMKSY-Har Khet Ko Pani** since **2015-16.**
2. **Objectives**
   a. To ensure **effective utilization of irrigation potential created.**
   b. To increase agricultural productivity through both **structural** and **non-structural interventions.**
3. **Components**
   a. Structural Interventions:
      - On-Farm Development (OFD) works.
      - Construction of **field, intermediate, and link drains.**
   b. Non-Structural Interventions:
      - **One-time Functional Grant** to registered **Water Users' Associations (WUAs).**
      - **Training, demonstrations,** and **adaptive trials** for improving **water use efficiency.**

3. Odisha Government's Sahajog Initiative to Aid Urban Poor

Context

1. **Launch of Sahajog Initiative:** The Odisha Government has introduced the *Sahajog* initiative to help the urban poor by identifying eligible beneficiaries and connecting them with appropriate schemes. This includes providing mass awareness and doorstep service delivery.

2. **Urban Poverty in India:** Urban poverty is linked to inadequate access to employment, food, healthcare, and education, along with a lack of community representation. It is also worsened by a lack of social networks.
3. **Poverty Statistics:** The extreme poverty rate in urban India stands at 17.2%, compared to only 2.8% in rural areas, as per the *Poverty & Equity Brief* by the World Bank.

Challenges of Urban Poverty:

1. **Living Conditions:** Many urban poor reside in slums that lack basic facilities such as toilets, clean water, and proper ventilation. Access to essential services like healthcare, education, and transport remains scarce and expensive.
2. **Barriers to Welfare**: Migrants often lack proper identification or proof of residency, which hinders their access to welfare schemes. Additionally, there is no urban counterpart to rural welfare programs like MGNREGA, creating a significant income gap.
3. **Visibility of Inequality:** Urban poverty is more visible, leading to feelings of deprivation. An example is Dharavi in Mumbai, where luxury skyscrapers sit beside impoverished slums, highlighting stark inequalities.
4. **Weak Social Support**: Cities generally lack strong community ties, unlike rural areas. This social void exacerbates loneliness and contributes to mental health challenges.
5. **Exclusionary Urbanization:** Urban planning often overlooks informal settlements like slums, further marginalizing their residents.

Government Initiatives to Address Urban Poverty:

1. **Housing**: Under the *Pradhan Mantri Awas Yojana-Urban (PMAY-U)*, the government aims to provide housing for all urban poor.
2. **Sanitation**: *Atal Mission for Rejuvenation and Urban Transformation 2.0 (AMRUT 2.0)* aims to improve sanitation infrastructure in urban areas.
3. **Employment and Skill Development:** The *Deendayal Antyodaya Yojana National Urban Livelihoods Mission (DAY-NULM)* and *PM Street Vendor's AtmaNirbhar Nidhi (PM SVANidhi)* promote employment and entrepreneurship opportunities.
4. **Food Security:** The *One Nation One Ration Card* scheme allows for ration card portability across the country, improving food security for migrants.
5. **Healthcare**: Under *Ayushman Bharat Pradhan Mantri Jan Arogya Yojana*, health benefits are made portable, and self-certification is available for beneficiaries of the *PM Ujjwala Yojana*.

4. Delhi Government Approves State Subsidy Under Pm Surya Ghar: Muft Bijli Yojana

Context

1. The **Delhi Government announced a major rooftop solar subsidy scheme** in May 2025.
   a. PM Surya Ghar Muft Bijli Yojana is also known as **Rooftop Solar Scheme.**
2. The announcement was made during a **cabinet meeting chaired by the Chief Minister.**
3. The aim of the scheme is to **promote clean and affordable solar energy** for domestic households in the city.
4. Under this new initiative, **residents who install rooftop solar panels** will be eligible to receive a **total subsidy of up to ₹1,08,000.**

Subsidy Structure

1. **Total Subsidy per Household:** Up to **₹1,08,000**
2. **Revised State Subsidy:** Standardized at **₹10,000 per kW** (earlier: ₹2,000–₹10,000)
3. **Budget Allocation:** ₹50 crore
4. **Target Installations: 2,30,000 households** in the next **3 years**

Potential Consumer Benefits

1. Households may **save up to ₹4,200/month** on electricity bills (as per government estimates).
2. Access to **easy loans** via partnerships with **financial institutions.**
3. Reduced **dependence on grid electricity** and lowered **carbon footprint.**

Delhi Solar Policy 2023 – Amendment

1. Policy update allows **higher state subsidies** for rooftop solar installations.
2. Introduced **direct benefit transfer** model to simplify access.
3. **Monthly subsidy limit** raised to **₹30,000** under revised scheme.
4. The scheme aligns with **Delhi's vision for clean energy transition** and aims to reduce household energy costs significantly.

What is PM Surya Ghar: Muft Bijli Yojana – 2025

1. PM Surya Ghar Muft Bijli Yojana is a **centrally sponsored scheme.**
2. This means the scheme is funded and implemented by the central government, but states or UTs may be involved in its implementation.
3. It was **Launched in F**ebruary 2024.
4. The scheme focuses on installing solar panels on the roofs of residential buildings to generate electricity.
5. The scheme provides subsidies or financial incentives to households to help them afford the cost of installing rooftop solar systems.
6. **Launched By**: Prime Minister Shri Narendra Modi
7. **Ministry**: Ministry of New and Renewable Energy (MNRE)
8. **Achievement as of 2025:**
   - **10 lakh households** now solar-powered
   - **47.3 lakh applications** received
   - ₹4,770 crore subsidies disbursed to **6.13 lakh beneficiaries**

Objectives

1. Provide **300 units of free electricity per month** to 1 crore households
2. **Reduce household energy bills**
3. **Cut government expenditure** (estimated ₹75,000 crore annual saving)
4. Increase **renewable energy share**
5. **Lower carbon emissions**
6. Strengthen **energy independence** and align with *Aatmanirbhar Bharat*

Collateral-Free Loans:

1. Up to ₹2 lakh
2. 6.75% subsidized interest via 12 Public Sector Banks
3. 3.10 lakh applications; 1.58 lakh sanctioned; 1.28 lakh disbursed

State-wise Progress

1. **100% Target Achievement (Govt Buildings):** Chandigarh, Daman & Diu
2. **High Performance**: Rajasthan, Maharashtra, Gujarat, Tamil Nadu
3. Regular monitoring ensures timely and efficient execution

Impact & Benefits

1. **Household-Level Impact**
   a. **Zero electricity bills** for many
   b. **Extra income** by selling surplus power to DISCOMs
   c. A 3-kW system can generate **300+ units/month**
2. **Environmental Gains**
   a. Each system offsets carbon equal to **100 trees**
   b. Over 25 years:
      i. **1,000 Billion Units** of electricity generated
      ii. 720 million tonnes CO_2 emissions avoided
3. **Economic Impact**
   a. Adds **30 GW solar capacity** in residential sector by 2027

b. Expected to create **17 lakh jobs:**
   i. Manufacturing
   ii. Logistics
   iii. Sales & O&M
   iv. Solar installation services

4. **Support for Domestic Industry**
   a. Mandates **Made-in-India solar modules and cells**
   b. Drives production of:
      i. Inverters
      ii. Balance of Plant (BoP) components
   c. Strengthens **Make in India & energy security**

Challenges

1. **Uptake vs Target**: 10 lakh installations vs 1 crore target
2. **Infrastructure Readiness:** Grid integration still needed
3. **Public Awareness**: Urban–rural adoption gap
4. **DISCOM delays**: Execution bottlenecks

5. Centre Notifies Cashless Treatment of Road Accident Victims Scheme, 2025

Context

1. **Launched by**: Ministry of Road Transport and Highways (MoRTH)
2. The scheme was launched under powers granted by the **Motor Vehicles Act, 1988.**
3. **Eligibility**: Any person injured in a **road accident involving a motor vehicle on any road.**
4. **Coverage**: Victims can get **cashless treatment up to ₹1.5 lakhs** at designated hospitals for **up to 7 days** from the date of the accident.
5. **Nodal Agency**: Implementation is managed by the **State Road Safety Council.**
6. **Designated Hospitals:** States must onboard all capable hospitals, including those **empanelled under Ayushman Bharat PM-JAY**, for trauma and poly-trauma care.
7. **Payments to Hospitals:** Hospitals can raise claims which are verified by the **State Health Agency,** with payments made from the **Motor Vehicle Accident Fund within 10 days.**
8. **Scheme Monitoring:** Monitored by a committee chaired by the **Secretary of MoRTH.**

Why Are Road Safety Measures Crucial in India?

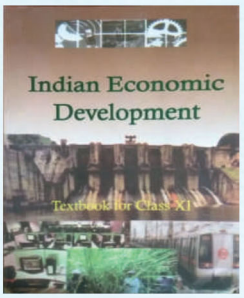
1. In **2022**, India recorded **~4.6 lakh road accidents** leading to **~1.7 lakh deaths.**
2. India has the **highest number of road accidents globally.**
3. The scheme supports India's commitment to the **UN Decade of Action for Road Safety**, aiming to **halve traffic deaths by 2030.**

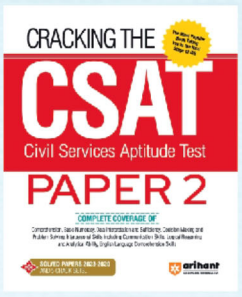
Other Steps Taken by India to Improve Road Safety

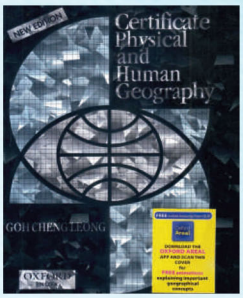
1. **Motor Vehicles (Amendment) Act, 2019** enforces strict penalties and uses technology for better traffic law enforcement.
2. **Road Safety Audits** are mandatory at **design, construction,** and **maintenance stages** of all National Highway projects.
3. **The electronic Detailed Accident Report (e-DAR) Project** aims to create a **centralised road accident data repository.**

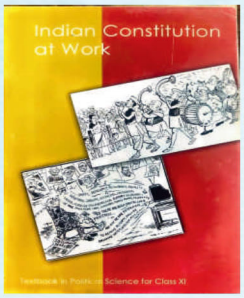
A special **Award Scheme for Good Samaritans** recognises those who help road accident victims within the **Golden Hour** (first 60 minutes after injury).

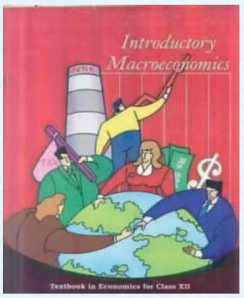
New List of Books to be provided to our classroom students since December 2023

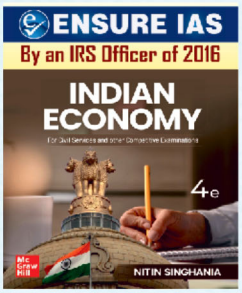


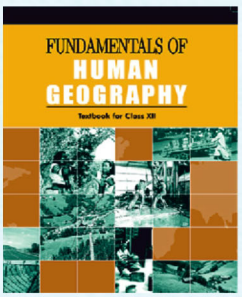


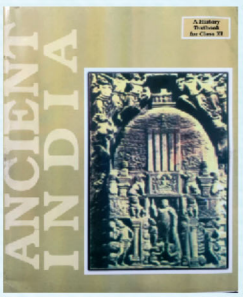


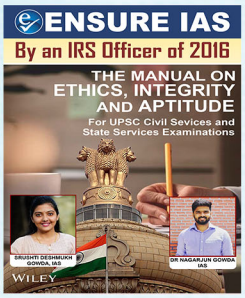


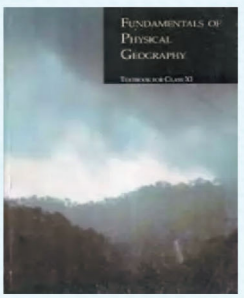


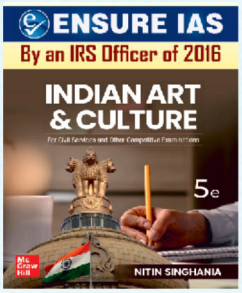


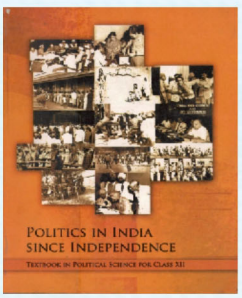


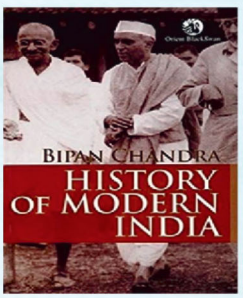


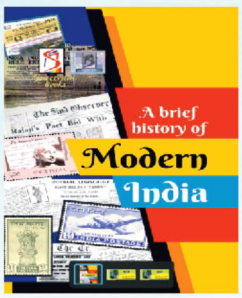


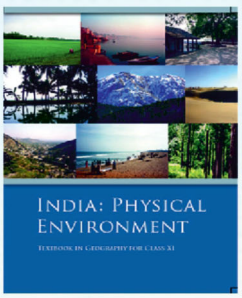


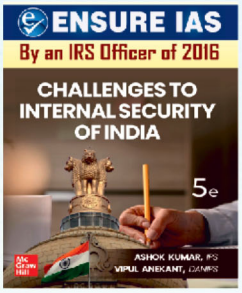


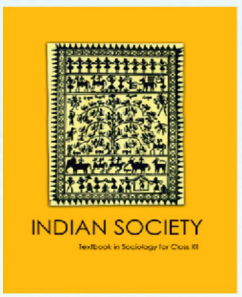


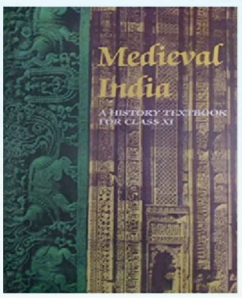


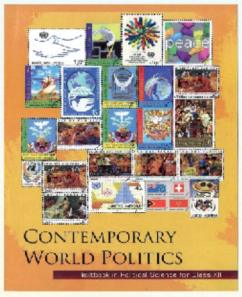


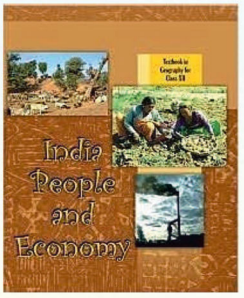


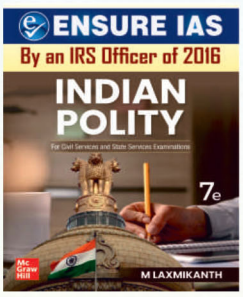


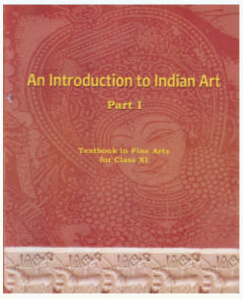


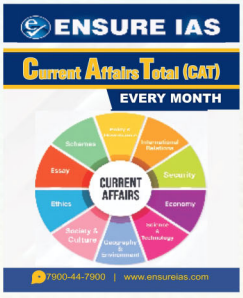












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