

THE IAS GAZETTE

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APTI PLUS

Academy for Civil Services Pvt. Ltd.
CREATING CIVIL SERVANTS FOR THE NATION



TH EDITION

NATIONAL FAMILY HEALTH SURVEY-6

(NFHS-6)

स्वस्थ माँ
स्वस्थ बच्चे



NFHS-6
NATIONAL FAMILY HEALTH SURVEY
2023-24



Better Data. Better Health.
Stronger India.



Other topics

- The Elephant in India's Data Room
- India's Renewable Push needs Storage Solutions
- India-Cyprus Partnership
- SC Mandate on Human Trafficking and Child Protection
- Currency Depreciation

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A MONTHLY PERIODICAL FOR ASPIRANTS OF UPSC CSE

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1. POLITY & GOVERNANCE

1.1 SC MANDATE ON HUMAN TRAFFICKING AND CHILD PROTECTION

Context

- The Supreme Court mandates a nationwide victim protection framework and establishes a legal presumption of kidnapping in missing child cases.

What is Human Trafficking?

- **Section 143 of the Bharatiya Nyaya Sanhita (BNS), 2023** defines trafficking as the recruitment, transportation, harboring, or receipt of persons for exploitation through force, fraud, or abuse of power.
- The law deems victim consent immaterial in determining the offense of trafficking.
- Trafficking functions as a multi-stage process involving **Source** (recruitment), **Transit** (transportation), and **Destination** (exploitation).

Existing Legal Framework

- **Constitutional Pillars:** **Article 23** (prohibits forced labor), **Article 24** (bans child labor), and **Article 39(e) & (f)** (protects children from abuse).
- **Statutory Provisions:** The **Immoral Traffic (Prevention) Act, 1956**, **POCSO Act, 2012**, and **Juvenile Justice Act, 2015** form the core of the anti-trafficking regime.
- **NALSA Scheme 2015:** The **National Legal Services Authority** provides legal aid, facilitates **Victim Compensation** under **Section 357A CrPC**, and ensures access to welfare schemes.

Major Guidelines Issued by the Supreme Court

- Mandates a comprehensive framework covering rescue, identification, rehabilitation, and institutional coordination.
- The Court rules that the right to rehabilitation flows directly from the **Right to Life and Dignity** under **Article 21** of the Constitution.

- Authorities must integrate the **Juvenile Justice (JJ) Act** and **POCSO Act** to ensure seamless coordination between **Child Welfare Committees (CWCs)** and **Anti-Human Trafficking Units (AHTUs)**.
- The **Ministry of Home Affairs** must link police databases "Crime and Criminal Tracking Network & Systems (CCTNS)" with child welfare systems for real-time information sharing.
- Investigating authorities must **treat every missing child report as a case of kidnapping** or abduction immediately upon receipt.
- **District Child Protection Units (DCPUs)** must ensure **Aadhaar** registration for all rescued children to prevent identity duplication and re-trafficking.
- Courts must categorize trafficked children as **injured witnesses** rather than accomplices. Judges may **base convictions on the sole testimony of the victim if the account remains credible**.
- **Courts must disregard minor inconsistencies or hesitation in testimony**, acknowledging that trauma and social stigma often impact a victim's communication.

Challenges in Combating Trafficking

- **Backlog:** As of **May 2026**, approximately **47,000 children** remain untraced, following the **83,350 missing children** reported by the **NCRB in 2022**.
- **Institutional Dormancy:** Many Anti-Human Trafficking Units (AHTUs) exist only on paper, lacking the infrastructure or legal authority to dismantle interstate syndicates.
- **Data Fragmentation:** The lack of unified, real-time tracking systems allows traffickers to move victims across state borders with impunity.

Way Forward

- **Economic Disruption:** Authorities must investigate banking and property records to attach and confiscate the **proceeds of crime**.
- **Source-Area Vigilance:** Panchayati Raj institutions and Village Level Child Protection Committees (VLPCPC) must monitor vulnerable districts to identify children at risk.

- **Organized Crime Focus:** Police must investigate the entire chain of conspirators, from recruitment agents to transit facilitators, rather than focusing solely on the final exploiter.
- **Safe Migration:** Districts must register employment agents and monitor migration patterns to prevent the exploitation of marginalized populations.

1.2 SC UPHOLDS SIR OF ELECTORAL ROLLS

Context

- The Supreme Court affirms the **Election Commission of India's (ECI)** authority to conduct the **Special Intensive Revision (SIR)** of electoral rolls.

What is the Special Intensive Revision (SIR)?

- **Constitutional Basis:** The ECI derives its authority from **Article 324** of the Constitution and **Section 21(3)** of the **Representation of the People Act (RPA), 1950**.
- **Procedural Mechanism:** Unlike standard summary revisions, the **SIR mandates fresh house-to-house verification**, requiring electors to submit enumeration forms and supporting documents to validate their entries.
- **Operational Flexibility:** **Section 21(3)** grants the ECI broad discretion to conduct this exercise at any time and for any constituency to address systemic inaccuracies caused by **urbanization, migration, and duplicate entries**.

Supreme Court on the SIR Exercise

- The Court defines **Article 324** as a “reservoir of power,” enabling the ECI to act in legislative vacuums to ensure **free and fair elections**.
- **Article 324** and **Article 327** operate in tandem, provided the ECI's actions remain consistent with parliamentary law.
- Accepts the **2003 electoral roll** as a rational benchmark, noting it was the last roll produced via intensive house-to-house verification.

- While inclusion on a roll creates a **presumption of citizenship**, it is not absolute; the SIR serves as an **inquisitorial verification tool** rather than a final adjudication of citizenship.

Major Concerns Regarding the SIR

- **Demographic Engineering:** Critics allege “structural rigging” aimed at altering electorate composition ahead of major polls.
- **Mass Disenfranchisement:** Drop in the **Bihar electorate** from **7.89 crore** to **7.24 crore** before the **2025 state election**, with **65 lakh** deletions despite only **3.66 lakh** confirmed ineligibilities.
- **Documentation Barriers:** The ECI's exclusion of previously accepted documents, such as **Ration Cards** and **EPIC**, imposes an evidentiary burden on marginalized populations.
- **Time Constraints:** **Booth Level Officers (BLOs)** face unrealistic timelines, often resulting in data entry without physical verification.
- **Digital Failures:** Frequent glitches in digital infrastructure compromise the accuracy of the revision process.
- **Procedural Inconsistency:** Shifting guidelines regarding document submission create confusion for voters and officials alike.
- **Agency Bias:** The inclusion of politically affiliated **Booth Level Agents (BLAs)** in the verification process raises concerns regarding administrative neutrality.

Way Forward

- **Standardized Documentation:** The ECI must include the common documents like **Aadhaar Card** as a valid identity document per **Section 23(4)** of the **RPA**, while acknowledging it does not prove citizenship.
- **Formal Adjudication:** The ECI must refer citizenship doubts to competent authorities

under the **Citizenship Act** rather than executing summary deletions.

- **Restoration Rights:** Authorities must restore names to the electoral rolls if individuals deleted on citizenship grounds prove their status before elections.
- **Independent Auditing:** Implementing social audits and transparent, statutory scrutiny of draft rolls will prevent opaque administrative interventions.

1.3 SHORT ARTICLES

Supreme Court Verdict on Online Gaming Taxation

Context

- The Supreme Court upholds the constitutional validity of levying a **28% retrospective Goods and Services Tax (GST)** on the full face value of bets placed on online gaming platforms.

What Is the Background of the Online Gaming Tax Dispute?

- **Tax Differentiation:** Government previously levied an **18% GST** on **Gross Gaming Revenue (GGR)** for games of skill, while taxing games of chance at **28%** on total turnover.
- **GST Council Amendments (2023):** Imposed a flat **28% tax** on the full face value of bets, removing the distinction between games of skill and chance.
- **Retrospective Tax Demands:** Tax authorities issue show-cause notices exceeding **₹1 lakh crore** to major platforms, classifying gaming activities as "**actionable claims**" equivalent to betting.
- **Industry Challenge:** Gaming companies argue that **Article 19(1)(g)** of the Constitution protects games of skill and that taxing the entire bet pool renders their business models commercially unviable.

What Is the Supreme Court's Verdict?

- **Validation of Retrospective Tax:** The Court confirms the government's authority to apply the **28% GST** retrospectively on the full face value of bets.
- **Definition of Actionable Claim:** The bench rules that online gaming platforms function as

more than mere intermediaries, as their operations generate taxable **actionable claims**.

- **Blurring Skill and Chance:** The Court declares that wagering money on uncertain outcomes constitutes **betting and gambling** under the GST framework, regardless of the skill involved.
- **State Authority:** The Court affirms the rights of state governments to enact laws prohibiting online money gaming within their respective jurisdictions.

Impacts of the Verdict on Stakeholders

- **Financial Crisis:** Companies face tax liabilities exceeding their total historical revenues, forcing many into **voluntary liquidation** or **bankruptcy**.
- **Job Losses:** The sudden tax burden triggers widespread workforce reductions, hiring freezes, and operational shutdowns.
- **Business Model Shift:** Surviving firms shift away from real-money gaming toward sectors like **stockbroking** or **short-video applications**.
- **Investor Panic:** The verdict erodes investor confidence, causing significant stock market volatility (e.g., **Delta Corp** shares fell **16%**) and stalling **Foreign Direct Investment (FDI)**.

Supreme Court (Number of Judges) Amendment Ordinance 2026

Context

- The President of India promulgates the **Supreme Court (Number of Judges) Amendment Ordinance 2026**, increasing the

sanctioned judicial strength from **33 to 37 judges**, excluding the **Chief Justice of India**.

What is the Constitutional Basis for Ordinances?

- **Article 123:** Empowers the President to promulgate ordinances when Parliament is not in session, acting solely on the advice of the **Council of Ministers**.
- **Legislative Force:** Ordinances carry the same legal effect as an **Act of Parliament** but cannot amend the **Constitution**.
- **Duration:** Ordinances expire **six weeks** after Parliament reassembles or after a maximum of **six months and six weeks** if not approved.

What are the Concerns regarding the Ordinance Route?

- **Bypassing Legislature:** The executive uses ordinances to circumvent essential **legislative debate** and scrutiny.
- **Undermining Separation of Powers:** Frequent use of ordinances disrupts the system of **checks and balances** between the executive and the legislature.
- **Lack of Emergency:** The executive often employs the ordinance route for **routine policy changes** rather than genuine, unforeseen exigencies.
- **Ordinance Raj:** Continued re-promulgation allows the executive to keep laws alive indefinitely without securing a **legislative vote**.

Way Forward

- **Strict Time Limits:** Parliament must enact amendments to mandate a shorter, fixed period for placing ordinances before the legislature.
- **Judicial Vigilance:** The judiciary must eliminate legal loopholes that allow the executive to justify re-promulgation based on **legislative workload**.
- **Mandatory Justification:** The executive must include concrete evidence of **immediate emergency** within the text of every ordinance to ensure transparency and accountability.

Personality Rights

Context

- The Delhi High Court reserves its order on MP Raghav Chadha's plea seeking legal protection

for his personality rights against unauthorized **AI-generated deepfakes**.

What are Personality Rights?

- These rights grant individuals control over the commercial and public use of their **name, image, likeness, voice, and signature**.
- They prevent unauthorized commercial exploitation and protect the **economic value** inherent in a person's identity.
- **Right of Publicity vs Right to Privacy**
 - **Right of Publicity:** This **proprietary right** allows individuals to control and profit from the commercial use of their persona, functioning similarly to a **trademark**.
 - **Right to Privacy:** This **dignitary right** stems from the individual's entitlement to personal autonomy and the right to be left alone.

Legal Framework in India

- **Constitutional Foundations:** Courts derive protection from **Article 21** (Right to Privacy/Dignity) as established in **K.S. Puttaswamy vs Union of India (2017)**, while balancing it against **Article 19(1)(a)** (Freedom of Speech).
- **Copyright Act, 1957:** **Section 57** protects moral rights, while **Sections 38A and 38B** grant performers exclusive rights over their performances.
- **Trade Marks Act, 1999:** **Section 14** prohibits the use of personal names without consent, prompting celebrities to register their names as trademarks.
- **Information Technology Act, 2000:** **Section 66C** penalizes identity theft, while **Sections 67/67A** address obscene content and non-consensual deepfakes.
- **Common Law:** Courts apply the doctrine of "Passing Off" to prevent parties from misleading the public regarding celebrity endorsements.

Key Judicial Precedents

- **Amitabh Bachchan vs Rajat Nagi & Ors (2022):** The court rules that no entity may use a celebrity's identifiable traits for commercial gain without **express permission**.

- **Anil Kapoor vs Simply Life India (2023):** The court issues an injunction against the use of **AI, deepfakes, and voice cloning** to exploit an actor's persona.
- **Arijit Singh vs AI Entities (2024):** The Bombay High Court protects the singer's **vocal traits** against unauthorized AI-generated replicas.
- **Raghav Chadha vs Social Media Entities (2026):** The Delhi High Court distinguishes between personality rights and political criticism, noting that the latter falls under **Defamation law**.

1.4 SNIPPETS

Topics	Details
Justice Prakash Prabhakar Naolekar Committee	<ul style="list-style-type: none"> • The Union Ministry of Home Affairs constitutes a high-level committee to investigate illegal immigration and address unnatural demographic changes across India. • Former Supreme Court Judge Justice Prakash Prabhakar Naolekar chairs the multi-disciplinary panel, which includes the Census Commissioner of India. The panel executes a comprehensive, empirical assessment of abnormal population shifts and illegal infiltration, mathematically analyzing localized demographic variations down to the district and village levels. It will secure national borders, prevent resource diversion, and protect indigenous tribal identities in vulnerable regions like Jharkhand and the Northeast from demographic imbalances and cultural erosion.
BHOJSHALA COMPLEX JUDICIAL VERDICT	<ul style="list-style-type: none"> • The Madhya Pradesh High Court declares the Bhojshala complex a temple dedicated to Goddess Saraswati, granting the Hindu community unrestricted worship rights. • Paramara King Raja Bhoja established the site around 1034 AD as a center for Sanskrit learning and a temple for Goddess Saraswati (Vagdevi). The Archaeological Survey of India (ASI) classifies the 11th-century structure in Dhar, Madhya Pradesh, as a Monument of National Importance. The site features Sanskrit grammatical inscriptions and reused temple pillars, alongside the Kamal Maula Mosque constructed by later Islamic rulers using original temple fragments. British archaeologists removed the original deity idol in 1875, which currently resides in the British Museum, London.
Central Consumer Protection Authority (CCPA)	<ul style="list-style-type: none"> • The Central Consumer Protection Authority (CCPA) enforces the Guidelines for Prevention of Misleading Advertisement in Coaching Sector, 2024, to penalize institutes for deceptive marketing practices. • The CCPA is a statutory regulatory body established under Section 10 of the Consumer Protection Act, 2019 to protect, promote, and enforce the rights of consumers as a class. Operating under the administrative control of the Ministry of Consumer Affairs, Food & Public Distribution, the authority is empowered to crack down on unfair trade practices, misleading advertisements, and safety violations that compromise public interest.
JUDGES INQUIRY COMMITTEE	<ul style="list-style-type: none"> • The Judges Inquiry Committee submits its formal investigation report regarding Justice Yashwant Varma to Lok Sabha Speaker. • The Constitution of India mandates the removal of judges for proved misbehaviour or incapacity under Article 124(4) and Article 217(1)(b). The Judges (Inquiry) Act, 1968 establishes the procedural mechanism to

	investigate these charges while protecting judicial independence. The Speaker or Chairman constitutes a three-member ad-hoc tribunal comprising one Supreme Court Judge , one High Court Chief Justice , and one eminent jurist . This committee exercises Civil Court powers , including summoning witnesses and demanding document production, to ensure adherence to the principles of natural justice .
NATIONAL TECHNOLOGY DAY 2026	<ul style="list-style-type: none"> India celebrates National Technology Day on May 11 to commemorate the anniversary of the 1998 Operation Shakti (Pokhran-II) nuclear tests. Former Prime Minister Atal Bihari Vajpayee established this observance in 1999 to recognize the achievements of engineers and technologists in driving national development. The 2026 edition centers on the theme “Responsible Innovation for Inclusive Growth,” which prioritizes the ethical deployment of technology to bridge the rural-urban economic divide.
'One Case One Data' system and the 'Su Sahay' chatbot	<ul style="list-style-type: none"> The Chief Justice of India launches the 'One Case One Data' system and the 'Su Sahay' AI chatbot. The 'One Case One Data' initiative establishes a unified digital framework that integrates records from the Supreme Court, High Courts, district courts, and taluka courts. The system links all trials, appeals, and judgments into one continuous file, enabling automated data retrieval and reciprocal access for government departments. The 'Su Sahay' (or 'SuSahayak') chatbot, developed by the National Informatics Centre (NIC) in collaboration with the Supreme Court Registry, provides AI-powered guidance to litigants and lawyers.

1.5 ADDITIONAL TOPICS FOR READING FROM IASGYAN WEBSITE

Topic Name	Date
Cow Protection Law: Balancing Faith, Livelihoods, And Constitutional Values	29th May 2026
Assam Government Introduces Uniform Civil Code (Ucc) Bill, 2026	26th May 2026
Sarna Religion Code Demand: Adivasi Identity Struggle	23rd May 2026
Impacts Of The Animal Slaughter Ban In India	22nd May 2026
Supreme Court On Uapa: Balancing National Security And Article 21	20th May 2026
Why Is The National Testing Agency Facing A Credibility Crisis?	15th May 2026
Judicial Modernization In India: Supreme Court Infrastructure Committee	13th May 2026
Viksit Bharat G Ram G Act 2025	12th May 2026
India's Road Safety Crisis: Impacts And Government Interventions	8th May 2026
Governor's Role In A Hung Assembly	7th May 2026

2. INTERNATIONAL RELATIONS

2.1 INDIA-CYPRUS PARTNERSHIP

Why In News?

- India and Cyprus elevated their bilateral ties to a **Strategic Partnership** during the official State Visit of Cypriot President **Nikos Christodoulides** to New Delhi in **May 2026**.

Historical Foundations & Strategic Elevation

- India and the **Republic of Cyprus (RoC)** established formal diplomatic relations in **1962**.
- The partnership rests on the legacy of RoC's first President, **Archbishop Makarios**, and

India's first Prime Minister, **Pandit Jawaharlal Nehru**, both founding pioneers of the **Non-Aligned Movement (NAM)**.

- India consistently backs Cypriot territorial integrity against colonialism, while Cyprus supports India's stance on **Jammu and Kashmir** and aided India during the **1974 crisis**.
- Annual **Foreign Office Consultations (FOC)** and the **Joint Economic Committee (JEC)**, established in **1989**, drive bilateral engagement.

Geographic and Strategic Profile of Cyprus

- Cyprus is the **third largest and third most populous** island in the **Mediterranean Sea**, situated off the Levant coast in West Asia.
- A **United Nations Buffer Zone (Green Line)** partitions the island into the internationally recognized **Republic of Cyprus** in the south and the **Turkish-controlled northern sector**, recognized solely by Turkey.
- Cyprus operates as a high-income economy and maintains active membership in both the **European Union (EU)** and the **eurozone**.



Strategic Importance of Cyprus to India

- Cyprus is located at the maritime crossroads of Europe, Africa, and Asia, serving as a critical hub for the **India-Middle East-Europe Economic Corridor (IMEEC)**.
- Cyprus holds the **presidency of the Council of the European Union** and acts as a primary investment gateway for Indian enterprises entering European markets.
- Cyprus supports India's bid for permanent membership in the **UN Security Council (UNSC)** and supports India's entry into the **Nuclear Suppliers Group (NSG)**.
- Stronger ties provide a diplomatic counterweight to the **Turkey-Pakistan axis**,

neutralizing Ankara's opposition to Indian sovereignty over **Jammu and Kashmir**.

Key Areas of Cooperation

- Defense and Security:** Both nations implement a **5-year Roadmap for Defense Cooperation (2026-2031)**, with Cyprus seeking to procure Indian military hardware, including drones and missiles tested during **Operation Sindoor**.
- Economic and FDI Inflows:** Cyprus ranks as India's **9th largest** source of Foreign Direct Investment (FDI), contributing **USD 16 billion** in cumulative inflows between **April 2000 and June 2025**.

- **Investment Targets:** Both nations target doubling Cypriot investments in India over five years, focusing on infrastructure, energy, and agriculture.
- **Financial Connectivity:** The partners schedule the rollout of the **Unified Payments Interface (UPI)** in Cyprus for **2027** and establish a **Cypriot Trade Center in Mumbai** to boost business-to-business (B2B) ties.
- **Educational Exchange:** India establishes university campuses in Cyprus, while Cyprus explores setting up a campus in **GIFT City** to facilitate academic exchange.
- **Maritime Security:** Cyprus joins the **Indo-Pacific Oceans Initiative (IPOI)** and co-chairs the pillar on trade connectivity and maritime transport.
- **Technology and Space:** Both nations launch a **Cyber Security Dialogue**, establish a **Joint Working Group on Counter-terrorism**, and celebrate the inaugural **India-Cyprus Space Day** in **May 2026**.

Way Forward

- **Migration and Mobility:** Expedite the finalization of the **Migration and Mobility Partnership Agreement (MMPA)** and a **Social Security Agreement** to secure the welfare of **16,000** Indian residents in Cyprus.
- **IMEEC Integration:** Deepen connectivity dialogues to position Cyprus as the primary Mediterranean maritime node for the **IMEEC**.
- **Trade Expansion:** Operationalize the **Mumbai Trade Center** to catalyze cross-border commercial partnerships.
- **Financial Interoperability:** Establish a direct linkage between **UPI** and the European Central Bank's **Target Instant Payment Settlement (TIPS)** system.
- **Direct Air Connectivity:** Launch direct flights between the two nations to boost tourism, business travel, and investment flows.
- **Consular Engagement:** Initiate a dedicated **Consular Dialogue** to streamline visa processes and address the needs of the growing diaspora.

2.2 INDIA-JAPAN PARTNERSHIP

Context

- India and Japan sign new bilateral agreements focusing on **quantum technology** and **medical device cooperation** to bolster their strategic technological partnership.

Evolution of India-Japan Relations

- **Ancient Ties:** Indian monk **Bodhisena** travels to Japan in **752 CE** to consecrate the Great Buddha at **Tōdai-ji**, marking the early exchange of Buddhism.
- **Colonial Era:** Indian merchants established a presence in Japanese ports by the late **19th century**, while the **Indian National Army** collaborated with Japanese forces during **World War II**.
- **Strategic Convergence:** Both nations elevate ties from a "**Global Partnership**" in **2000** to a "**Special Strategic and Global Partnership**" in **2014**, underpinned by the **Japan and India Vision 2025**.

Strategic Importance of Japan to India

- **Foreign Direct Investment (FDI):** Japan ranks as a top-five investor, contributing over **\$43 billion** in the last two decades with a target of **10 trillion Yen** in new private investments.
- **Infrastructure Development:** Japan provides technical expertise and low-interest loans, including **\$10.3 billion** for the **Mumbai-Ahmedabad High-Speed Rail** and support for the **Delhi Metro**.
- **Indo-Pacific Security:** As a key **Quad** partner, Japan collaborates with India to ensure a **Free and Open Indo-Pacific** and mitigate maritime threats.
- **Defense Technology:** Both nations co-develop critical military hardware, such as the **UNICORN stealth antenna mast** for naval warships.
- **Economic Security:** Joint initiatives in **semiconductors**, **clean energy**, and **AI** allow

India to diversify and de-risk global supply chains.

India's Policy Towards JAPAN

- **Act East Policy:** India utilizes Japanese investment to develop critical infrastructure in **Assam** and the Northeast to link domestic markets with **Southeast Asia**.
- **Talent Mobility:** An **Action Plan** targets the deployment of **50,000 skilled Indian professionals** to Japan over five years to address demographic shifts.
- **Civil Nuclear Cooperation:** The **2016 agreement** affirms India's responsible nuclear deterrence and **no-first-use policy** despite India's non-NPT status.
- **Digital Partnership 2.0:** This framework prioritizes collaborative R&D in **Large Language Models (LLMs)**, **semiconductors**, and the startup ecosystem.

Challenges in the Bilateral Relationship

- **Trade Imbalance:** India records a high trade deficit, with **FY25 bilateral trade** totaling **\$25.17 billion**, consisting of **\$18.92 billion** in imports and only **\$6.25 billion** in exports.
- **Regulatory Barriers:** Rigid **phyto-sanitary** and packaging standards restrict Indian seafood and pharmaceutical exports.

- **Project Execution:** The **Bullet Train** project faces significant cost escalations, rising from **\$12.65 billion** to **\$21.5 billion** due to litigation and delays.
- **Bureaucratic Hurdles:** Japanese firms encounter complex legal frameworks, transparency issues, and infrastructure gaps within the Indian market.

Way Forward

- **Defense Co-Production:** Transition from technology transfer to the co-production of advanced systems, including the **UNICORN stealth antenna**.
- **Military Interoperability:** Scale up joint exercises such as **Dharma Guardian**, **Veer Guardian**, **JIMEX**, and **Malabar** to enhance tactical coordination.
- **Clean Energy Transition:** Utilize the **Joint Crediting Mechanism (JCM)** to drive private investment in **green hydrogen**, **ammonia**, and battery storage.
- **Tech Innovation:** Leverage the **AI Cooperation Initiative** to build data centers and develop joint LLMs for a resilient digital ecosystem.
- **Multilateral Engagement:** Strengthen the **Quad** and expand joint development projects in the **Global South**, particularly in **Africa**, to secure maritime and industrial domains.

2.3 SHORT ARTICLES

Quad Critical Minerals Initiative Framework

Context

- Member nations unveil the **Quad Critical Minerals Initiative Framework** and a bilateral **India-US mineral pact** on the sidelines of the **11th Quad Foreign Ministers' Meeting** in **New Delhi** to secure strategic resource supply chains.

What is the Quad Critical Minerals Initiative Framework?

- It is a **multilateral strategic economic and supply-chain insulation pact** between **India**, the **United States**, **Japan**, and **Australia**.

- The framework **establishes stable, resilient, and highly diversified global supply routes** for critical minerals and rare earth elements.
- It directly targets and **plugs vulnerabilities arising from export restrictions imposed by China-dominated supply corridors**, protecting vital technological and defense manufacturing sectors from geopolitical coercion.

What are the Key Features of the Framework?

- The framework **mobilizes nearly \$20 billion through public funding, soft loans, and private investments** to strengthen critical mineral supply chains.

- It mandates that supported projects remain located within Quad countries and operated by companies based in member nations to ensure strategic control.
- The initiative supports the entire mineral value chain, spanning mining, processing, refining, manufacturing inputs, and recycling systems.
- Member nations align customs rules, environmental norms, and legal standards to ease cross-border mineral trade and investments.
- It promotes the recovery of rare earth elements and strategic metals from e-waste and industrial scrap using advanced recycling methods.
- Members jointly develop export controls and monitoring systems to prevent strategic minerals from reaching hostile actors.

11th Review Conference of The Nuclear Non-Proliferation Treaty (NPT)

Context

- The 11th Review Conference of the NPT at the UN Headquarters in New York concluded without a consensus, failing to produce a final declaration.

What is the NPT Review Conference?

- **Diplomatic Forum:** Nearly 190 signatory states convene every five years to evaluate the implementation and structural health of the 1968 NPT.
- **Objectives:** The conference reviews disarmament pledges, inspects IAEA safeguard protocols, and addresses geopolitical threats to the global non-proliferation architecture.

The Nuclear Non-Proliferation Treaty (NPT) is an international agreement aimed at preventing the spread of nuclear weapons, promoting peaceful uses of nuclear energy, and advancing nuclear disarmament. It entered into force in 1970 and has nearly 190 participating states.

Key Features of the NPT

- **Grand Bargain:** Establishes an asymmetric contract where Non-Nuclear Weapon States (NNWS) renounce nuclear weapons in exchange for Nuclear-Weapon States (NWS) pursuing good-faith disarmament.
- **P5 Designation:** Recognizes only five nations—United States, Russia, China, United Kingdom, and France—as legitimate nuclear powers based on a January 1, 1967 cut-off date.
- **IAEA Oversight:** Empowers the International Atomic Energy Agency (IAEA) to conduct mandatory on-site inspections of NNWS facilities to prevent the diversion of civilian nuclear material.

Key Challenges in NPT Framework

- **Enforcement Asymmetry:** The IAEA lacks legal authority to compel P5 disarmament, while it strictly monitors and penalizes non-nuclear states.
- **Non-Signatory Paradox:** The exclusion of India, Pakistan, Israel, and North Korea from the treaty framework leaves significant regional nuclear arsenals outside international oversight.
- **Modernization Risks:** The development of hypersonic delivery systems and the expansion of extended deterrence (nuclear umbrellas) circumvent traditional verification rules.
- **Diplomatic Intimidation:** P5 nations utilize coordinated pressure to remove explicit disarmament timelines from draft declarations.

UN-Habitat Catalogue of Solutions 2026-2029

Context

- UN-Habitat launches the Catalogue of Solutions 2026-2029 to provide governments with actionable frameworks for tackling global housing shortages, urban inequality, and service deficits.

What is the UN-Habitat Catalogue of Solutions?

- It offers 81 verified tools designed to assist governments in implementing sustainable urban development.

- It integrates the **Sustainable Development Goals (SDGs)** and the **New Urban Agenda** to foster inclusive governance and climate-resilient cities.

Why is Housing Inequality Rising Globally?

- Affordable Housing Gap:** Inadequate housing conditions affect **2.8 billion people** worldwide.
- Urbanization Pressure:** Cities must construct **96,000 affordable units daily** to accommodate the needs of **three billion people** by 2030.
- Displacement Crisis:** Conflicts and extreme weather displace over **100 million people**, with climate change potentially forcing **216 million internal migrants** by 2050.
- Governance Failures:** Weak land administration prevents vulnerable populations from securing legal titles, driving the growth of informal settlements.

What Challenges Do Developing Countries Face?

- Urban Heat Islands (UHI):** Rapid concretization caused **17,767 deaths** between 2000 and 2020 due to thermal traps.
- Economic Productivity Loss:** Heat-related stress results in the loss of **259 billion labor hours** annually, costing the global economy **₹46 lakh crore**.
- Service Deficits:** Infrastructure growth lags behind population needs, leaving **2.4 billion people** without safe water and **3.4 billion** without sanitation.
- Environmental Degradation:** Wetland destruction cripples natural drainage, leading to frequent urban flooding and increased pollution.

How Can Sustainable Urbanization Be Achieved?

- Compact City Planning:** Prioritize **mixed-use development** and vertical growth to curb urban sprawl.
- Green Transit:** Invest in **electric mass transit**, cycling infrastructure, and pedestrian-friendly zones.
- Circular Economy:** Mandate **100% source segregation** of waste and repurpose plastic for road infrastructure.
- Nature-Based Solutions:** Restore **urban wetlands and forests** to mitigate flood risks and reduce the **UHI effect**.

- Energy Efficiency:** Enforce building codes requiring **rooftop solar** and passive natural ventilation.
- Inclusive Infrastructure:** Locate **affordable social housing** near employment hubs to reduce carbon-heavy commuting.

The Lipulekh Pass Dispute

Context

- India rejects Nepal's formal protests regarding the resumption of the **Kailash Mansarovar Yatra** through the strategic **Lipulekh Pass** in **Uttarakhand**.

What is the Lipulekh Pass?

- It is a critical meeting point between **Uttarakhand (India)**, **Darchula district (Nepal)**, and the **Tibet Autonomous Region (China)** at **5,334 meters** in the **Western Himalayas**.
- The pass functions as a traditional trans-Himalayan route for barter trade and the most direct overland path for the **Kailash Mansarovar Yatra**.



What is the Origin of the Controversy?

- Treaty of Sugauli (1816):** This colonial-era agreement establishes the **Kali River** as the western boundary of **Nepal** but fails to define its exact source.
- Cartographic Inconsistency:** Early **1816–1820s** British maps place the river's origin at **Limpiyadhura**, while maps from the **1850s** shift the source eastward to **Kalapani**, creating conflicting territorial interpretations.

What are the Core Claims?

- **Nepal's Position:** Nepal identifies **Limpiyadhura** as the source of the **Kali River**, claiming the **335 sq. km** triangular landmass of **Limpiyadhura, Kalapani, and Lipulekh** as sovereign territory.
- **India's Position:** India identifies the river's source near **Kalapani village**, asserting sovereignty based on continuous administrative control, **19th-century revenue records**, and long-standing border security deployments in **Pithoragarh district**.

What is the Role of China?

- **Bilateral Recognition:** China recognizes **Lipulekh** (referred to as **Qiangla Pass**) as a legitimate border crossing with India.
- **Diplomatic Agreements:** India and China have designated the pass as a nodal point for trade and pilgrimage through agreements in **1954, 1992, 2015, and 2025**.
- **Non-Intervention:** Beijing maintains that the territorial dispute remains a strictly bilateral matter between **New Delhi** and **Kathmandu**, refusing to engage in tripartite negotiations.

World Press Freedom Index 2026

Context

- India drops to **157th rank** out of **180 countries** in the **2026 World Press Freedom Index**, falling into the "**very serious**" category.

What is the World Press Freedom Index?

- **Reporters Without Borders (RSF)**, a Paris-based non-governmental organisation, publishes this annual ranking.
- The index evaluates press freedom across **five categories**: political context, legal framework, economic context, sociocultural context, and safety.

- The report measures **pluralism, media independence, self-censorship, transparency, and threats to journalists**.

Global Rankings and Trends

- **Top Performers:** **Norway** (1st), **Netherlands** (2nd), and **Estonia** (3rd) lead the rankings.
- **Bottom Performers:** **Eritrea** (180th), **North Korea** (179th), and **China** (178th) occupy the lowest positions.
- **Historic Decline:** Global press freedom reaches a **25-year historic low**, with **52.2%** of countries classified as "difficult" or "very serious."
- **Shrinking Safe Zones:** Only **1%** of the global population resides in countries with "good" press freedom, a sharp decline from **20%** in **2002**.
- **Structural Threats:** The report identifies **AI disinformation**, reduced fact-checking, and **Strategic Lawsuits Against Public Participation (SLAPPs)** as primary drivers of media erosion.
- **Conflict Impact:** Armed conflicts, specifically in **Gaza**, result in the deaths of over **220 journalists** since **October 2023**.

India's Performance

- **Rank Decline:** India falls **6 places** from its **2025 rank of 151st**.
- **Key Drivers:** The report cites the misuse of **national security laws, defamation laws, and persistent judicial harassment** as reasons for the decline.
- **Structural Issues:** Concentrated media ownership and political alignments further undermine the independence of the press.
- **South Asia Performance:** **Nepal** leads the region at **87th**, while **Afghanistan** remains the lowest-ranked in the region at **175th**.

2.4 SNIPPETS

Topics	Details
Brics Partnership OnThe New Industrial Revolution (PartNIR)	<ul style="list-style-type: none"> Under India's 2026 BRICS Chairship, the Ministry of MSME hosted the 2nd SME Working Group Meeting within the PartNIR framework. BRICS formally establishes the partnership in 2021 as an institutional mechanism within the BRICS framework. BRICS PartNIR functions as a structured, high-level cooperation framework that guides member nations through the economic and technological shifts of the Fourth Industrial Revolution (Industry 4.0). It unifies industrial capabilities, digital systems, and sustainable practices across the expanded BRICS bloc.
Canada-India Trade and Investment Forum	<ul style="list-style-type: none"> India and Canada launched the Canada-India Trade and Investment Forum to institutionalize bilateral economic diplomacy. The forum serves as a strategic steering mechanism to advance negotiations for a mutually beneficial Comprehensive Economic Partnership Agreement (CEPA) with a strict conclusion deadline by the end of 2026.
Yellow Line	<ul style="list-style-type: none"> Israel escalates military ground operations by pushing troops past the "Yellow Line" in southern Lebanon to establish a tactical buffer zone. The Yellow Line functions as a flexible, operational boundary defined by the Israel Defense Forces (IDF) rather than diplomatic consensus. This strategy creates a security perimeter that pushes conflict zones into foreign territory, effectively granting Israel de facto control over occupied areas. In 2025, the IDF bifurcated the Gaza Strip, placing 58% of the enclave under direct military control. The military extended this buffer zone 5 to 10 kilometers into southern Lebanon, reaching toward the Litani River.
Hainan Free Trade Port (FTP)	<ul style="list-style-type: none"> China launches island-wide customs closure operations for the Hainan Free Trade Port, establishing a zero-tariff hub to reshape global supply chains. The Hainan FTP covers the entire island, operating under a "Two-Line" supervision system that eases import duties for goods entering from overseas while maintaining controlled access to the Chinese mainland. The policy expands zero-tariff categories from 1,900 to 6,600 tariff lines, covering 74% of all product categories. To incentivize growth, China caps Corporate Income Tax (CIT) at 15% for encouraging industries and limits Individual Income Tax (IIT) to 15% for high-end talent.
MAGNIFICA HUMANITAS	<ul style="list-style-type: none"> Pope Leo XIV publishes the encyclical "Magnifica Humanitas" to establish global ethical guardrails for Artificial Intelligence and protect human dignity against technological absolutism. The encyclical identifies critical risks, including the reduction of human complexity to data-driven metrics, the cognitive displacement of creative professions, and the moral hazards of lethal autonomous weapons. The document highlights the environmental toll of infinite computation, noting that energy consumption for data centers threatens

<p>UN MILITARY GENDER ADVOCATE OF THE YEAR AWARD</p>	<p>intergenerational justice.</p> <ul style="list-style-type: none"> The United Nations honors Major Abhilasha Barak with the 2025 UN Military Gender Advocate of the Year Award. Major Abhilasha Barak, the Indian Army's first female combat helicopter pilot, earns the recognition for her leadership as Commander of the Female Engagement Team (FET) within the UN Interim Force in Lebanon (UNIFIL). This award, established in 2016 by the Department for Peace Operations (DPO). India currently ranks as the 4th largest personnel contributor to UN missions, with a legacy that includes the deployment of the first-ever all-female Formed Police Unit (FPU) to Liberia in 2007.
<p>Regional Cooperative Agreement (RCA)</p>	<ul style="list-style-type: none"> India assumes the Chairmanship of the Regional Cooperative Agreement (RCA) for 2026. The parties launched this inter-governmental agreement in 1972 under the auspices of the International Atomic Energy Agency (IAEA). The treaty currently binds 22 Government Parties (GPs) from the Asia-Pacific region, including founding member India. The agreement promotes and coordinates cooperative research, development, and training projects in nuclear science and technology to improve living conditions and preserve nature. The framework utilizes Technical Cooperation among Developing Countries (TCDC) to share expertise, technology, resources, and facilities, thereby strengthening collective self-sufficiency.
<p>AFSLUITDIJK DAM</p>	<ul style="list-style-type: none"> Prime Minister Narendra Modi tours the Afsluitdijk dam in the Netherlands to study global models of flood control and water management during his European visit. The 32-kilometre-long dam, constructed between 1927 and 1932, separates the Zuiderzee from inland waters, transforming the saltwater inlet into the freshwater IJsselmeer lake. The structure serves as a global benchmark for flood protection, land reclamation, and climate adaptation strategies. This visit provides a strategic blueprint for India's proposed Kalpasar Project in the Gulf of Khambhat.
<p>Prime Minister Modi Receives 2026 Agricola Medal</p>	<ul style="list-style-type: none"> The Food and Agriculture Organization (FAO) confers its highest honor, the Agricola Medal, upon Prime Minister Narendra Modi in Rome, Italy, for his transformative contributions to global food security and sustainable agriculture. Prime Minister Modi becomes the second Indian leader to receive this award, following Manmohan Singh in 2008, marking the first visit by an Indian Head of Government to the FAO headquarters in 30 years. During the ceremony, PM Modi presents the FAO Director-General with indigenous GI-tagged rice varieties—including Palakkadan Matta, Gobindobhog, Basmati, Joha, and Kalanamak—alongside nutrient-rich millet bars.
<p>Country Strategic Opportunities Programme (COSOP)</p>	<ul style="list-style-type: none"> The Government of India and the International Fund for Agricultural Development (IFAD) launched the COSOP to transform India's rural economy over an eight-year period from 2026 to 2033. This initiative targets 3 million rural households across the 10 poorest states, 112 Aspirational Districts, and climate-vulnerable Himalayan regions. With an initial \$160 million investment, the program aligns with

	<p>the Viksit Bharat@2047 vision by shifting focus from basic poverty alleviation to a market-oriented, climate-resilient rural framework. The strategy leverages a partnership with NABARD to deploy blended finance instruments and integrates Artificial Intelligence (AI) for precision farming and digital credit scoring.</p>
<p>INTERNATIONAL NURSES DAY 2026</p>	<ul style="list-style-type: none"> • The International Council of Nurses (ICN) observes International Nurses Day on May 12 to honor the birth anniversary of Florence Nightingale. • The ICN establishes the 2026 theme as "Our Nurses. Our Future. Empowered Nurses Save Lives," emphasizing the Seven Powers of Empowered Nurses—Trust, Professionalism, Numbers, Practice, Care, Proximity, and Peace—to transform global health systems. Florence Nightingale revolutionized modern healthcare by implementing sanitary reforms at Scutari Hospital during the Crimean War (1853–1856), which reduced mortality rates from 42% to 2%. She founded the world's first secular nursing school at St. Thomas' Hospital in 1860 and authored the seminal text "Notes on Nursing" in 1859, became the first woman to receive the Order of Merit in 1907.
<p>PROJECT FREEDOM</p>	<ul style="list-style-type: none"> • President Donald Trump pauses the U.S.-led military and humanitarian naval mission following diplomatic backlash from Gulf allies. • The U.S. launched Project Freedom in May 2026 to secure the Strait of Hormuz after Iran blocked the chokepoint, which facilitates nearly 20% of the global oil supply. The mission aimed to extract 23,000 stranded civilians from 87 countries currently trapped on merchant vessels in the Persian Gulf. The operation faces suspension after Saudi Arabia and Kuwait deny the U.S. military access to their airspace and bases. Regional partners fear that the U.S. unilateral approach risks triggering a wider conflict with Iran.

2.5 ADDITIONAL TOPICS FOR READING FROM IASGYAN WEBSITE

Topic Name	Date
EU Carbon Border Adjustment Mechanism: Opportunities and Challenges for India	28th May 2026
Impact of West Asia Conflicts on India's Fertilizer Supply Chain	12th May 2026
India-Nordic Summit 2026	12th May 2026

3. ECONOMY

3.1 CURRENCY DEPRECIATION

Context

- The Indian rupee has crossed ₹96 per US dollar and has reached a record low amid the ongoing crisis in West Asia.
- Rising crude oil prices, foreign capital outflows, and growing global uncertainty have increased pressure on India's external sector.

Currency Depreciation

- Currency depreciation refers to a decline in the value of the rupee against foreign currencies, especially the US dollar.
- The value of the rupee depends upon the demand and supply of foreign exchange, capital flows, trade balance, and differences in inflation and interest rates between countries.
- For example, when the exchange rate moves from ₹80 per dollar to ₹96 per dollar, it indicates that the rupee has depreciated significantly.

Why India is Vulnerable

- India imports nearly 85% of its crude oil requirement, which increases the demand for dollars.
- Heavy gold imports also raise the demand for foreign exchange and put pressure on the rupee.
- India's dependence on foreign capital inflows makes the rupee highly sensitive to global economic and geopolitical shocks.

Balance of Payments (BoP)

- The Balance of Payments (BoP) records all economic transactions between India and the rest of the world.
- **Components of BoP**
 - **Current Account:** The current account includes trade in goods and services, remittances, and income flows.
 - **Capital Account:** The capital account includes Foreign Direct Investment (FDI),

Foreign Portfolio Investment (FPI), and external borrowings.

Impact on Rupee

- A BoP surplus strengthens the rupee because foreign exchange inflows exceed outflows.
- A BoP deficit weakens the rupee because foreign exchange outflows exceed inflows.

RBI's Artificial Stabilisation

- The RBI heavily intervened in the forex market during 2023–25 to maintain rupee stability.

Rupee Movement Timeline

- In September 2022, the rupee crossed ₹81 per dollar.
- During 2023–24, the rupee remained largely stable between ₹81–83 per dollar.
- In October 2024, the rupee crossed ₹84 per dollar.
- In December 2024, the rupee crossed ₹85 per dollar.
- In May 2026, the rupee breached ₹96 per dollar.

RBI Intervention

- In 2022–23, the RBI sold \$213 billion to defend the rupee.
- In 2023–24, the RBI purchased \$41 billion and increased forex reserves.
- In 2024–25, the RBI sold a record \$399 billion in the forex market.
- These interventions created pent-up depreciation pressure, leading to a sharper correction later.

West Asia Conflict

Since February 2026, the rupee has fallen sharply due to:

Rising Crude Oil Prices

- Increased import bill,
- Wider Current Account Deficit (CAD).

FII/FPI Outflows: Nearly ₹1.97 lakh crore withdrawn between January–May 2026.

Global Uncertainty: Investors shifted towards safe-haven US assets.

Economic Implications

- **Inflation:** Higher fuel and import costs create imported inflation.
- **Wider CAD:** Costlier imports worsen external balance.
- **Investor Confidence:** Sharp depreciation increases market uncertainty.
- **External Debt Burden:** Dollar-denominated debt becomes expensive to service.

Policy Responses

RBI Measures

- Dollar sales,
- Forward market intervention,
- Restrictions on speculative trading.

Government Measures

- Higher gold import duties,
- Measures to attract foreign investment,
- Fuel price adjustments.

Way Forward

Short-Term

- Continue targeted RBI intervention,
- Encourage FCNR(B) deposits,
- Diversify oil imports,
- Promote gold monetisation.

Long-Term

- Boost exports through PLI and Make in India,
- Strengthen forex reserves,
- Deepen financial markets,
- Accelerate renewable energy transition,
- Implement land, labour, and capital market reforms.

3.2 INDIA'S INFORMAL SECTOR

Context

- According to the Annual Survey of Unincorporated Sector Enterprises (ASUSE) 2025, India's informal sector—contributing around 6.4% of Gross Value Added (GVA)—is witnessing a major financial transition.
- Informal enterprises are reducing debt burdens, but this is simultaneously accompanied by declining investments and weak employment generation.

Debt Reduction and Financial Retrenchment

- Outstanding loans per informal establishment declined by nearly 20% to ₹42,776.
- Annual interest liabilities fell by 16%, reflecting lower borrowing dependence.
- Entrepreneurs are prioritising debt repayment and financial survival instead of expansion due to:
 - Weak consumer demand,
 - Rising operational costs,
 - Persistent economic uncertainty.

Declining Investments and Employment

- Net addition to fixed assets declined by 14% per establishment, indicating weak capital formation.
- Employment generation slowed sharply: New jobs declined from 1.1 crore to 74.5 lakh in 2025.
- Wage growth moderated to only 3.9%, reflecting stress in labour-intensive sectors.

Concerns

- A disconnect exists between:
 - Rapid formal MSME credit growth (33% YoY), and
 - Investment hesitation among small informal enterprises.
- Reduced fixed asset creation weakens long-term productivity and growth potential.
- Economic recovery remains uneven across states:
 - Punjab recorded a sharp rise in investments,
 - Gujarat and Telangana witnessed steep declines.

Way Forward

- Improve affordable institutional credit access for micro-enterprises.
- Strengthen social security support and demand-side stimulus measures.

- Reduce operational burdens through lower compliance and infrastructure costs.
- Promote targeted investment incentives for informal sector modernisation.

3.3 LABOUR CODES OPERATIONALISATION

Context

- The Union Government operationalised four Labour Codes by consolidating 29 labour laws.
- Objectives include:
 - Simplification of labour governance,
 - Improving ease of doing business,
 - Formalisation of employment.
- However, trade unions and labour experts fear weakening of worker protections.

Reforms in Wage and Social Security Systems

- Introduction of:
 - National Floor Wage,
 - Standard 8-hour workday,
 - Mandatory electronic wage slips,
 - Strict timelines for wage payments.
- Social security coverage expanded to:
 - Gig workers,
 - Platform workers,
 - Unorganised labourers.

Dilution in Minimum Wage Framework

- Earlier scientific wage formula based on:
 - 2,700 calorie requirement,
 - Clothing needs,

- Housing expenses, has been removed.
- Wage determination will now depend on separate government notifications.

Concerns

- Removal of objective wage standards may:
 - Increase interstate wage disparities,
 - Suppress wages in poorer regions.
- Restrictive strike provisions weaken collective bargaining rights.
- Self-certification and higher factory thresholds may dilute worker safety oversight.

Way Forward

- Restore scientific and objective criteria in wage determination.
- Ensure a uniform and meaningful national floor wage.
- Strengthen tripartite consultation among:
 - Government,
 - Employers,
 - Labour unions.
- Balance labour flexibility with worker welfare protections.

3.4 INEQUALITY IN INDIA'S GROWTH STORY

Context

- Despite strong economic growth, the Household Consumer Expenditure Survey (HCES) 2023-24 indicates persistent inequality with a Gini Index of 0.29.
- Consumption patterns reveal unequal distribution of growth benefits, especially favouring affluent urban populations.

Growing Urban-Rural Consumption Divide

- Urban non-food expenditure is approximately 1.5 times the national average.
- The richest urban decile spends:
 - Six times more than the poorest urban decile,
 - Nine times more than the poorest rural households.

Structural Concentration of Wealth

- Nearly 90% of urban non-food inequality arises from disparities between income groups.
- High-income urban households capture a disproportionate share of economic gains.
- Rural labourers and informal workers face limited upward mobility.

Concerns

- Surveys may under represent the super-rich, understating actual inequality.

- Debt-driven consumption creates financial vulnerability among poorer households.
- Underestimating inequality may weaken welfare protections and labour safeguards.

Way Forward

- Prioritise equitable distribution alongside economic growth.
- Improve targeting efficiency of welfare schemes.
- Expand social protection for vulnerable groups.
- Promote inclusive employment generation in rural and informal sectors.

3.5 100% FDI IN INSURANCE SECTOR

Context

- The government has allowed 100% Foreign Direct Investment (FDI) in the insurance sector through the automatic route under the Sabka Bima Sabki Raksha Act, 2025.
- Objective:
 - Increase insurance penetration,
 - Attract foreign capital,
 - Improve technological and managerial capabilities.

Evolution of Insurance Liberalisation

- FDI cap progression:
 - 26% (2000),
 - 49% (2015),
 - 74% (2021),
 - 100% (2025).
- Insurance intermediaries are also covered.
- Foreign investment in LIC remains capped at 20% owing to strategic importance.

Potential Benefits

- Greater inflow of long-term capital.

- Improved underwriting practices and risk management.
- Expansion of InsurTech and digital insurance ecosystems.
- Faster approvals due to the automatic route.

Concerns

- Smaller domestic insurers may struggle against large global firms.
- Profit-maximisation may compromise consumer protection.
- Excessive foreign participation raises concerns regarding: Data security, Financial sovereignty.

Way Forward

- Strengthen IRDAI's risk-based supervision and real-time monitoring.
- Ensure strong consumer grievance mechanisms.
- Incentivise insurers to expand rural and low-income coverage.
- Maintain balance between foreign investment and strategic national interests.

3.6 INDIA'S WATER-ENERGY-FOOD NEXUS: THE SILENT CRISIS

Context

- India faces growing stress due to the interlinked challenges of:
 - Water scarcity,

- Energy dependence,
- Food security pressures.
- Climate change and global oil shocks are intensifying vulnerabilities.

Distorted Agricultural and Energy Policies

- Water-intensive crops like rice and sugarcane are cultivated in water-stressed regions.
- Subsidised electricity for agriculture encourages excessive groundwater extraction.
- Annual electricity subsidy burden exceeds ₹1.5 lakh crore.

Energy Dependence and Food Inflation

- India imports nearly 85–90% of its crude oil.
- Oil price shocks increase:
 - Irrigation costs,
 - Diesel expenses,
 - Transportation costs,
 - causing food inflation.

Concerns

- Fragmented governance prevents integrated solutions.
- Climate change acts as a force multiplier for resource stress.
- Unsustainable subsidies distort resource pricing and usage behaviour.

Way Forward

- Replace blanket electricity subsidies with DBT-based targeted support.
- Promote:
 - Crop diversification,
 - Solar irrigation,
 - Precision agriculture.
- Strengthen integrated governance across:
 - Agriculture,
 - Water,
 - Energy sectors.
- Encourage sustainable groundwater management practices.

3.7 RBI'S EXPECTED CREDIT LOSS (ECL) NORMS

Context

- RBI will shift from the “incurred loss” framework to the Expected Credit Loss (ECL) model from April 1, 2027.
- The framework aligns India with global IFRS-9 standards.

Three-Stage Asset Classification

Stage I

- Low-risk loans.
- Require 12-month expected loss provisioning.

Stage II

- Loans with significant increase in risk.
- Require lifetime expected loss provisioning.

Stage III

- NPAs and credit-impaired assets.
- Also require lifetime provisioning.

Impact on Banking Sector

- May reduce banks' CET-1 capital ratios by up to 120 basis points.

- Stage II assets will face the highest provisioning burden.
- Borrower-level NPA recognition strengthens credit discipline.

Concerns

- Banks exposed to:
 - Unsecured retail lending,
 - Microfinance,may face higher credit costs.
- Borrowers may experience higher lending rates.

Way Forward

- Build capital buffers gradually during the transition period.
- Strengthen early-warning systems for credit stress detection.
- Improve risk management and data analytics capabilities.
- Enhance provisioning discipline and prudential regulation.

3.8 ENERGY SECURITY

Context

- West Asian geopolitical conflicts have exposed India's vulnerability to external energy disruptions.
- India imports:
 - 89.4% of crude oil,
 - Large quantities of LNG through strategic chokepoints like the Strait of Hormuz.

Diversification and Storage Measures

- Russian crude now forms nearly 36% of imports in FY2024-25.
- LNG supply disruptions exposed weak domestic storage capacity.
- Expansion plans underway at Dahej and Kochi LNG terminals.

Emerging Strategic Vulnerabilities

- Energy transition may create new dependence on critical minerals dominated by China.
- LNG storage expansion faces:

- High costs,
- Long gestation periods,
- Weak pipeline connectivity.

Concerns

- Existing LNG reserves are inadequate for emergency disruptions.
- External shocks can fuel inflation and macroeconomic instability.
- Maritime chokepoint dependence remains a strategic vulnerability.

Way Forward

- Expand Strategic Petroleum Reserves (SPR).
- Strengthen pipeline and LNG evacuation infrastructure.
- Diversify import sources and energy mix.
- Promote regional energy cooperation mechanisms like AECC.
- Accelerate renewable energy and domestic energy security initiatives.

3.9 SHORT ARTICLES

UDGAM Portal

Context:

- The RBI informed the Supreme Court that 30 banks have been integrated into its centralised web portal, UDGAM, covering 90% of unclaimed deposits.

Details

- Developed by the RBI, it acts as a centralized gateway for registered users to search for unclaimed deposits or accounts across multiple banks
- It provides search facilities and information on the claim process, but actual claims must be settled directly with the respective banks.
- Unclaimed deposits refer to funds in accounts inactive for 10 years or fixed deposits unwithdrawn 10 years post-maturity, which are transferred to the RBI's Depositor Education and Awareness (DEA) Fund.

- Users are assigned an Unclaimed Deposit Reference Number (UDRN) to protect account identity and seamlessly settle claims.

Electronic Gold Receipts (EGRs)

Context:

- The National Stock Exchange of India (NSE) launched Electronic Gold Receipts (EGRs) as a new trading segment to formalise the gold trading ecosystem.

Details

- EGRs are dematerialised securities representing ownership of physical gold, held in demat accounts and backed by actual gold to ensure authenticity.
- Physical gold is deposited at SEBI-regulated vaults managed by registered Vault Managers and converted into tradable EGR units.
- Investors can trade these units on the exchange or convert them back into physical

gold, offering flexibility between digital and physical ownership.

- The ecosystem caters to a wide range of participants, including retail and institutional investors, jewellers, and refiners.

Asian Development Bank (ADB)

Context

- The ADB recently announced a \$70 billion programme to expand energy and digital infrastructure across the Asia-Pacific region by 2035.

Details

- Established in 1966, the ADB is a multilateral development bank headquartered in Manila, Philippines, with 69 member countries.
- Its governance includes a Board of Governors and a Board of Directors, operating on a weighted voting system based on capital contributions.
- Japan and the USA are the largest shareholders at 15.6% each, followed by China and India.
- It provides loans, grants, and technical assistance, and promotes regional cooperation and private-sector development.

Debt Recovery Tribunals (DRTs)

Context

- The Department of Financial Services convened a colloquium in New Delhi for Chairpersons of Debt Recovery Appellate Tribunals and Presiding Officers of DRTs.

Details

- DRTs are quasi-judicial bodies established under the Recovery of Debts Due to Banks and Financial Institutions Act, 1993, to adjudicate debt recovery disputes for banks and financial institutions.
- They handle loan default cases above ₹20 lakh, focusing on secured debts, and hear Securitisation Applications under the SARFAESI Act, 2002.
- India currently has 39 functioning DRTs, each presided over by a judicial officer qualified to be a District Judge.

- DRTs possess powers to summon witnesses, compel document production, and receive evidence on affidavits.

Padma Doree

Context

- The North Eastern Handicrafts and Handlooms Development Corporation (NEHHDC) formally unveiled 'Padma Doree', a cross-cultural textile initiative.

Details

- It merges the Eri (Ahimsa) silk traditions of Northeast India with the Chanderi weaving heritage of Madhya Pradesh.
- Launched by the Ministry of Development of North Eastern Region, it aims to promote sustainable textiles and create new artisan livelihood opportunities.
- The initiative emphasizes environmental integrity by utilizing natural dyes drawn from time-honoured practices.
- It follows an ethical philosophy by adopting a non-violent silk approach where silkworms are not harmed during production.

Past Risk and Return Verification Agency (PaRRVA)

Context

- The Securities and Exchange Board of India (SEBI) has operationalised PaRRVA to bring transparency and standardization to performance claims made by financial intermediaries.

Details

- CARE Ratings Limited is the designated PaRRVA, while the National Stock Exchange (NSE) functions as the PaRRVA Data Centre.
- It enables regulated entities like Investment Advisers and Research Analysts to showcase independently verified performance metrics.
- Regulated entities can use PaRRVA-verified performance data in their advertisements, ensuring compliance with SEBI guidelines.
- The initiative empowers investors to access reliable, standardized data to make informed financial decisions.

Grievance Redressal Assessment and Index (GRAI)

Context

- The Department of Financial Services' (DFS) insurance division secured the top rank in the GRAI Group A category for March 2026.

Details

- GRAI was developed by the Department of Administrative Reforms and Public Grievances (DARPG).
- It provides a comparative analysis of grievance redressal mechanisms across Union Ministries.
- The assessment framework is based on four primary dimensions: Efficiency, Feedback, Domain, Organisational Commitment
- The index utilizes 11 specific performance indicators for evaluation.
- The framework is based on the Centralized Public Grievance Redress and Monitoring System (CPGRAMS).
- CPGRAMS mandates resolution of grievances within a maximum period of 21 days.

National Company Law Tribunal (NCLT)

Context

- The Supreme Court expressed concern over delays in approval of resolution plans by NCLT benches.

Details

- The NCLT is a statutory and quasi-judicial authority established under the Companies Act, 2013.
- It was constituted based on the recommendations of the Eradi Committee.
- It serves as the primary adjudicating authority for insolvency resolution of companies and LLPs under the Insolvency and Bankruptcy Code (IBC), 2016.
- Appeals against NCLT decisions lie before the National Company Law Appellate Tribunal (NCLAT), with further appeals on points of law to the Supreme Court.

Notice to Airmen (NOTAM)

Context

- India issued a NOTAM declaring a danger zone in the Bay of Bengal for a scheduled missile test.

Details

- NOTAM, also known as Notice to Air Mission, is an aviation alert issued to inform pilots about temporary hazards or changes in aeronautical facilities.
- It includes information related to military exercises, closed runways, unserviceable navigational aids, and temporary obstacles such as cranes.
- NOTAMs are highly encoded and transmitted through the fastest communication channels to ensure global interoperability and rapid dissemination.

International Labour Day 2026

Context

- International Labour Day 2026 was observed with the theme "Ensuring a Healthy Psychosocial Working Environment."

Details

- The day commemorates the 1886 Haymarket Affair in Chicago, where workers demanded a standardized eight-hour workday.
- In India, Labour Day was first celebrated in Chennai in 1923.
- The celebration was organized by the Labour Kisan Party of Hindustan under the leadership of Malayapuram Singaravelu Chettiar.
- A key historical fact is that the red flag was raised for the first time in India during the 1923 Labour Day celebration.

Directorate General of Foreign Trade (DGFT)

Context

- The DGFT prohibited the export of raw, white, and refined sugar until September 30 due to the ongoing West Asia conflict.

Details

- It is an attached office of the Ministry of Commerce and Industry responsible for

formulating and implementing India's Foreign Trade Policy.

- It issues the mandatory 10-digit Importer Exporter Code (IEC) required for all Indian importers and exporters.
- It sets standard input-output norms to define the quantity of inputs allowed for exporting specified quantities of outputs.
- Before 1991, it was known as the Chief Controller of Imports & Exports and was later restructured as a trade facilitator.

Withholding Tax

Context

- The government and RBI are considering a cut in the withholding tax rate on government bonds to attract foreign investment inflows.

Details

- Also known as a retention tax, it is deducted at the source from income like interest, wages, or dividends paid to a non-resident individual.
- The tax amount depends on the type of income, the amount earned, and the specific tax laws of the earning country.
- It is directly paid by foreign investors on the interest income they receive from holding Indian bonds.
- The rate is determined by the Income Tax Act, 1961, or the Double Taxation Avoidance Agreement (DTAA), applying whichever is lower.

Mizoram Ginger Mission

Context

- The Union Minister for Development of North Eastern Region launched the ₹189.79-crore Mizoram Ginger Mission to boost global spice exports.

Details

- India is the largest producer of ginger globally, with major cultivation concentrated in states like Kerala, Orissa, Meghalaya, West Bengal, and Arunachal Pradesh.
- The crop requires a warm, humid climate with temperatures between 19°C-28°C and moderate to high rainfall for optimal growth.

- It thrives in loose, fertile, well-drained loam or sandy-loam soils that are highly rich in organic matter.
- Economically, ginger is highly valued for flavoring, traditional medicines, and containing antioxidant compounds that reduce fasting blood sugar.

Agarwood Exports

Context

- The Assam government recently shipped its first legally approved export of agarwood chips to Saudi Arabia and the UAE.

Details

- Agarwood, also known as Oud, is an extremely valuable aromatic raw material produced by the fast-growing *Aquilaria* tree.
- The economically valuable resin forms as a defense mechanism when the tree is infected by a specific mold due to intense stress.
- It is widely utilized in the global economy for manufacturing luxury perfumes, incense, and cosmetics, particularly across the Gulf and Europe.
- Despite its high economic demand, the species is listed as Critically Endangered on the IUCN Red List and is protected under CITES Appendix II.

PM MITRA Park

Context

- The Prime Minister inaugurated India's first PM MITRA (Mega Integrated Textile Region and Apparel) Park in Warangal, Telangana.

Details

- These mega textile hubs integrate the entire value chain—spinning, weaving, dyeing, printing, and garment-making—into one single location to cut transport time and costs.
- The parks operate on a Public-Private Partnership (PPP) model, managed by a Special Purpose Vehicle (SPV) jointly owned by the State and Central governments.
- The Ministry of Textiles offers major financial incentives of up to ₹800 crores for Greenfield projects and ₹500 crores for Brownfield projects.

- The infrastructure allocation strictly mandates 50% area for pure manufacturing, 20% for utilities, and 10% for commercial development.

Coal Gasification

Context

- The Union Cabinet approved a ₹37,500 crore package to boost coal gasification capabilities in India.

Details

- It is a thermo-chemical process that converts finely crushed coal into syngas by reacting it with limited oxygen and steam at 1000-1400°C.
- The resulting synthetic gas is primarily composed of carbon monoxide, hydrogen, carbon dioxide, methane, and water vapor.
- Economically, this process drastically reduces India's reliance on costly imports of natural gas, methanol, and ammonia.
- It serves as a cleaner industrial alternative to burning coal, helping alleviate local pollution and the environmental burden of carbon emissions.

Bharat Maritime Insurance Pool (BMIP)

Context

- The Department of Financial Services formally inaugurated the BMIP to ensure uninterrupted commercial operations amid maritime risks in West Asia.

Details

- It is a \$1.5 billion domestic insurance mechanism financially backed by a \$1.4 billion sovereign guarantee from the Central Government.
- It provides comprehensive coverage for Indian-flagged or controlled vessels, including Hull and Machinery, Cargo, and War Risk insurance.
- Claims up to \$100 million are met through combined pooled capacity from domestic insurers, while higher claims utilize the sovereign guarantee.

- The General Insurance Corporation of India (GIC Re) acts as the pool administrator, overseen by a specifically constituted governing body.

Intellectual Property Catalyst Initiative

Context

- The Ministry of Electronics and IT (MeitY) launched the IP Catalyst initiative alongside a digital platform to accelerate IP commercialization.

Details

- Implemented by C-DAC Pune, it provides a comprehensive digital ecosystem that supports research, patent creation, commercialization, and market deployment.
- It provides direct financial support for IP filing for MeitY organizations and covers international patent filing costs for startups and MSMEs.
- The initiative bridges the economic gap between publicly funded R&D and industry adoption by facilitating technology transfer and licensing.
- It also offers opportunities for industry-academia-startup collaboration and provides support for prototype-to-product market development.

Jute Crop Information System (JCIS)

Context

- The National Jute Board has accelerated the implementation of the JCIS to vastly improve crop monitoring and production assessment in the agricultural sector.

Details

- It is a technology-driven platform developed in 2023 in collaboration with ISRO and the Jute Corporation of India.
- It utilizes satellite imagery, weather analytics, and field-level inputs to provide near real-time economic crop estimation and early warning alerts.

- The system operates via two digital tools: the BHUVAN JUMP mobile app for field monitoring and the PATSAN web analytics platform for surveillance.
- It supports automated reporting, flood impact assessment models, and crop cutting experiments using geospatial smart-sampling to accurately calculate yields and losses.

International Fund for Agricultural Development (IFAD)

Context

- India and IFAD recently launched a new eight-year Country Strategic Opportunities Programme (COSOP) for 2026–2033.

Details

- IFAD is a specialized UN financial institution exclusively dedicated to eradicating poverty and transforming rural economies in developing countries.
- The COSOP strategy aims to structurally strengthen rural incomes, improve economic resilience, and expand sustainable livelihood opportunities across India.
- IFAD provides both global/regional and country-specific financial grants to actively support pro-poor technologies, innovation, and institutional change.
- The strategy prioritizes enhancing climate and economic resilience for rural communities while scaling successful development models to the Global South.

Machkund Hydroelectric Project

Context

- A major fire recently broke out at the project located on the Odisha-Andhra Pradesh border.

Location

- Situated on the Machkund River (a tributary of the Godavari River system) near the Duduma Falls, on the western slopes of the Eastern Ghats. It is supported by the Jalaput Dam.

Mechanism

- It is an inter-state 120 MW hydropower project jointly developed and operated by the Governments of Andhra Pradesh and Odisha.

Hutti Gold Mines Company Limited (HGML)

Context

- The company earned an additional ₹633.34 crores in 2025-26 due to skyrocketing global gold prices.

Founding

- Established in 1947 as a Government of Karnataka undertaking, with its corporate office in Bangalore.

Mechanism

- It processes ore from the ancient Hutti Gold mine (dating back to the Pre-Ashokan period), the Uti opencast mine, and the Heera-Buddinni exploratory underground mine.

Significance

- It holds the unique distinction of being the only producer of primary gold in India.

RAINMUMBAI

Context

- The National Commodities and Derivatives Exchange (NCDEX) recently launched India's first SEBI-approved exchange-traded weather derivatives contract.

Mechanism

- Developed with IIT Bombay, the contract tracks the deviation of actual Mumbai rainfall from the city's long-period average during the monsoon season (June to September). It uses data from the IMD and is traded in lots with a base cost of ₹50 per millimetre of rainfall.

Significance

- Unlike conventional insurance, these weather derivatives are settled directly against observed weather data, enabling faster payouts and allowing sectors like agriculture, power, and logistics to seamlessly hedge losses against unpredictable weather.

Velimalai Pumped Storage Hydro Electric Project

Context

- The 1,100 MW project in the Kanniyakumari district recently received Terms of Reference

(ToR) clearance from the Union Ministry of Environment, Forest, and Climate Change.

Mechanism

- It is planned as a closed-loop off-river system developed under a public-private partnership model on a build-own-operate-transfer basis.

Significance

- It is the first project of its kind in Tamil Nadu, designed to strengthen peak power management and enable round-the-clock integration of renewable energy in the state.

RBI's Record Dividend Transfer

Context

- RBI transferred a record Rs 2.87 lakh crore surplus to the Central Government for FY 2025-26.

Details

- Higher RBI earnings came from forex market interventions, trading gains, and better returns on foreign assets.
- RBI increased the Contingent Risk Buffer (CRB) to 6.5% due to global risks like West Asia conflict and crude oil volatility.
- The surplus transfer provides major fiscal relief, reduces borrowing pressure, and supports infrastructure spending.
- The move highlights RBI's dual role in ensuring macroeconomic stability and financial resilience amid global uncertainty.

Khadi and Village Industries Commission (KVIC)

Context

- The commission achieved a historic milestone in the financial year 2025-26, recording sales of ₹1.87 lakh crore.

Details

- It is a statutory body established under the KVIC Act of 1956, operating as an apex organization under the Ministry of Micro, Small, and Medium Enterprises (MSME).
- It plans, promotes, and organizes village industries by building strategic reserves of raw materials, creating common service facilities, and promoting research in production techniques.
- It serves the crucial socioeconomic objectives of providing rural employment, producing saleable products, and creating self-reliance among economically weaker sections.

PAIMANA Portal

Context

- The Ministry of Statistics and Programme Implementation (MoSPI) continues to strengthen the monitoring of Central Sector infrastructure projects through this platform.

Details

- PAIMANA (Project Assessment, Infrastructure Monitoring & Analytics for Nation-building) functions as a centralized national repository integrated with DPIIT's IPMP portal.
- It features real-time dashboards and advanced data analytics.
- Enhances operational efficiency and data accuracy by providing a single-window interface to track the progress of infrastructure projects worth ₹150 crore and above across different sectors and states.

India's FDI Data

Aspect	Summary
FDI Trends (2025-26)	Gross FDI reached record \$94.53 billion , but net FDI remained very low at \$7.65 billion due to high repatriation and outward investments.
Reasons for	Foreign firms repatriated \$53.58 billion because of global uncertainty, West Asia

Weak Net FDI	war, rupee depreciation, and profit-booking.
Impact on Rupee	Weak capital inflows increased pressure on rupee, which neared 97/\$ before RBI intervention.
RBI Forex Intervention	RBI sold \$29.6 billion in March 2026 to stabilise rupee and adopted a more defensive forex strategy.
FPI Exodus & Concern	Heavy FPI outflows since West Asia conflict pressured India's Balance of Payments, forex reserves, and overall investor confidence.

RBI's State of the Economy Report

Topic	Summary
Key Concern	Outlook affected by West Asia crisis and supply-side pressures.
Growth Driver	Domestic demand remains strong.
Inflation	CPI at 3.5%; WPI rose sharply to 8.3%.
External Risks	Crude oil volatility, FPI outflows, global uncertainty.
FDI & Forex	Net FDI positive; forex reserves cover 11 months of imports.
Trade Trends	Exports to China and US improved.
Sectoral Trends	Agriculture and services resilient; industrial activity sustained.
Labour Market	Unemployment increased; LFPR and WPR declined.
Way Forward	Diversify trade, strengthen manufacturing, renewable energy, and services exports.

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4. DEFENSE & SECURITY

4.1 SHORT ARTICLES

DRDO Missile Advancements: Agni-1 and ULPGM-V3

Context

- The Defence Research and Development Organisation (DRDO) tested tactical missile systems through successful trials.

Details

- **Agni-1** test-fired from **Abdul Kalam Island**, Odisha. It is a solid-fuel, short-range ballistic missile (SRBM) with a range of **700–1200 km**, capable of carrying a **1000 kg** nuclear payload.
- **ULPGM-V3 (UAV-Launched Precision Guided Missile)** completed development trials in air-to-ground and air-to-air modes. Equipped with three warhead types: **Anti-armour**, **Bunker-busting**, and **Fragmentation**.

BrahMos

Context

- Cyprus negotiates a **€1.2 billion** defense procurement package to acquire the **BrahMos** supersonic cruise missile system.

Details

- India's **DRDO** and Russia's **NPO Mashinostroyeniya** co-develop the weapon system, naming it after the **Brahmaputra** and **Moskva** rivers. The missile operates on a "fire-and-forget" principle, achieves speeds of **Mach 2.8 to Mach 3.0**, and utilizes a two-stage propulsion system with a low radar signature to evade interception. The platform carries conventional warheads weighing **200 kg to 300 kg**, offering a standard range of **290 km** and an extended range (ER) of **450 km to 500 km**.

Four-Dimensional Grid' Border Security Model

Context

- The Union Government proposes a new **Four-Dimensional Grid** border security framework along the **India-Pakistan border** to establish a foolproof defense mechanism.

Details:

- The model integrates the operational strengths of the **Border Security Force (BSF)**, the **Indian Army**, district administration, cyber surveillance wings, and local border residents into a single coordinated defense framework. Aligns with the **Vibrant Villages Programme** to upgrade roads, electricity, telecom connectivity, and livelihoods.

Suryastra Rocket System

Context

- The Defence Minister flags off the indigenous '**Suryastra**' **Universal Rocket Launcher System**.

Details:

- Pune-based **NIBE Limited** manufactures the **Suryastra** under a **Technology Collaboration Agreement (TCA)** with Israel's **Elbit Systems**, utilizing the **Precise & Universal Launching System (PULS)** technology. The system executes strikes at ranges of **150 km and 300 km** with high accuracy.

Indigenous Warship Sanghamitra

Context

- The Indian Navy launches '**Sanghamitra**', the first of four indigenously built Next-Generation Offshore Patrol Vessels (NGOPVs).

Details

- Defence PSU **Garden Reach Shipbuilders and Engineers (GRSE)** constructed the **113-meter-long, 3,000-tonne** warship, naming it after the daughter of Emperor Ashoka. The vessel

achieves a top speed of **23 knots** and delivers an operational endurance of **8,500 nautical miles** for extended deployments. Under a **March 2023** Ministry of Defence contract for **11 NGOPVs**, **Goa Shipyard Limited (GSL)** builds seven vessels as the lead shipyard, while **GRSE** manufactures the remaining four.

Operation Antim Prahar

Context

- The **Ministry of Home Affairs (MHA)** declares India free of **Left-Wing Extremism (LWE)** districts following the successful execution of '**Operation Antim Prahar**'.

Details:

- The **Gadchiroli Police's Special Campaign Squad** and the **Central Reserve Police Force (CRPF)** jointly execute **Operation Antim Prahar**, an anti-Naxal drive in **Maharashtra**, successfully clearing the **Gadchiroli district** and leaving zero Maoists on the official "wanted" list.

Exercise Pragati 2026

Context

- The **Indian Army** launches the inaugural multilateral land-based military drill, **Exercise PRAGATI 2026**, at **Umroi Military Station** in **Meghalaya**.

Details:

- This exercise brings together land forces from **India** and **12 partner nations**, including **Bhutan, Cambodia, Indonesia, Laos, Malaysia, Maldives, Myanmar, Nepal, Philippines, Seychelles, Sri Lanka, and Vietnam**. The **Army Design Bureau** and **HQ Eastern Command** lead the initiative to enhance **interoperability** through joint **counter-terrorism** operations, **Humanitarian Assistance and Disaster Relief (HADR)**, and the integration of **AI-enabled battlefield management systems**.

Operation WHITE STRIKE

Context

- The **Narcotics Control Bureau (NCB)** executes **Operation WHITE STRIKE** to dismantle a transnational cocaine trafficking syndicate operating through **Mumbai**.

Details

- The **NCB** seizes **349 kg** of high-grade cocaine with an estimated market value of **₹1,745 crore**. Established under **Section 4(3)** of the **Narcotic Drugs and Psychotropic Substances (NDPS) Act, 1985**, the **NCB** functions under the **Ministry of Home Affairs** to coordinate national drug enforcement.

Exercise CINBAX-II 2026

Context

- The **Indian Army** deploys a contingent to **Kampong Speu Province, Cambodia**, to participate in the second edition of the bilateral military exercise, **CINBAX-II 2026**.

Details:

- The exercise includes personnel from the **Maratha Light Infantry Regiment** and the **Royal Cambodian Army**. This engagement builds upon the inaugural **CINBAX-I**, which took place in **Pune, Maharashtra**, in **2024**.

Op Netra 1.0

Context


- The **Indian Army** completes **Op Netra 1.0**, a high-altitude surgical eye camp, to provide specialized medical care in **Leh, Ladakh**.

Details:


- The mission introduces the indigenous **Op Netra App**, which utilizes **QR code-based identification** to digitize patient records and surgical scheduling, eliminating manual errors in high-stress environments. This operation functions under the **Operation Sadbhavana** framework, the Army's "**Winning Hearts and Minds**" (**WHAM**) strategy.

4.2 ADDITIONAL TOPICS FOR READING FROM IASGYAN WEBSITE

Topic Name	Date
Atmanirbhar Bharat In Defence: Achievements, Challenges, and Reforms	18th May 2026
Dual-Use Satellites and The Blurring Lines Of Modern Space Warfare	7th May 2026



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5. ENVIRONMENT & ECOLOGY

5.1 INDIA'S RENEWABLE PUSH NEEDS STORAGE SOLUTIONS

Why in News?

Key Facts	Details
Renewable Share	Renewables account for 53% of India's installed power capacity
Total Installed Capacity	532 GW
Renewable Capacity	283 GW
Solar Capacity	More than 150 GW
Core Challenge	Solar and wind energy are intermittent while electricity demand is continuous

- This has increased the need for energy storage systems to maintain grid stability and balance supply-demand mismatches.

What is Energy Storage?

- Energy storage refers to systems that store excess electricity generated during periods of high renewable output and release it later when demand rises.
- These systems help balance intermittent renewable energy with continuous electricity demand.

Major Types of Energy Storage Systems

Storage Type	Working Mechanism	Major Use
Pumped Hydro Storage (PHS)	Water is pumped to an upper reservoir and later released through turbines	Long-duration storage
Battery Energy Storage Systems (BESS)	Electricity is stored chemically in batteries	Short-duration balancing
Concentrated Solar Thermal Storage	Heat from sunlight is stored in molten salt	Thermal energy storage
Compressed-Air Energy Storage	Air is compressed and later used to drive turbines	Grid-scale backup
Flywheel Energy Storage	Electricity stored as rotational energy	Instant power supply
Gravity Energy Storage	Heavy weights are lifted and lowered to generate electricity	Mechanical storage

India's Energy Storage Capacity

Storage System	Current Capacity
Battery Energy Storage Systems (BESS)	~0.27 GW
Pumped Hydro Storage (PHS)	~7.2 GW

- India's storage deployment has not kept pace with renewable energy expansion.

India's Expansion Plans

CEA Projections for 2035-36

Technology	Capacity	Energy Storage
BESS	80 GW	321 GWh
PHS	94 GW	567 GWh

Total	174 GW	888 GWh
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- The Central Electricity Authority (CEA) expects 4–6 hour storage systems to become increasingly important after 2030.

Key Challenge

Issue	Details
Lithium-ion Cell Imports	India imports 75–80% of cells
Cost Share	Lithium-ion cells account for ~80% of BESS cost
Strategic Risk	Battery manufacturing is concentrated in one Asian country

Risks

- Geopolitical tensions,
- Trade disruptions,
- Price volatility.

Global Trends in Energy Storage

Pumped Hydro Storage (PHS)

Country/Region	Installed Capacity
China	~66 GW
Japan	21.8 GW
United States	18.9 GW
Europe	~28 GW collectively
Global Total	~160 GW

Growth of Battery Energy Storage Systems (BESS)

Indicator	Details
Global Installed Capacity	~270 GW
New Additions in 2025	108 GW
Growth Over 2024	40% increase
Global Leader	China (~60% of new additions)

- Battery storage deployment is also expanding rapidly in Australia and the Middle East.

Significance of Energy Storage

- Ensures grid stability,
- Balances renewable intermittency,
- Enables round-the-clock clean energy,
- Reduces renewable energy curtailment,
- Strengthens energy security,
- Supports India's net-zero goals.

Way Forward

Short-Term Measures	Long-Term Measures
Expand BESS deployment	Develop domestic battery manufacturing
Accelerate pumped hydro projects	Diversify critical mineral supply chains
Improve grid management	Invest in advanced storage technologies
Promote storage-linked renewable projects	Strengthen smart grid infrastructure

5.2 DELHI EV POLICY 2.0 & CAFE-3 REFORMS: SHIFT TOWARD REGULATION

Context

- India's clean mobility transition is entering a decisive phase through the draft Delhi EV Policy 2.0 and revised CAFE-3 (Corporate Average Fuel Efficiency) norms.
- The policy shift reflects a movement from subsidy-driven EV adoption toward regulation-led transport decarbonisation.

Shift from Incentives to Regulatory Mandates

- Delhi EV Policy 2.0 proposes:
 - Ban on new ICE three-wheelers by January 2027,
 - Ban on ICE two-wheelers by April 2027.
- The policy provides long-term regulatory certainty for manufacturers and investors.
- Revised CAFE-3 norms:
 - Tighten emission standards,
 - Introduce credit pooling mechanisms,

- Reduce earlier preference toward small petrol vehicles.

Concerns

- Continued "super-credit" incentives for hybrids may delay full electrification.
- Freight transport remains neglected despite contributing nearly 44% of transport emissions.
- Delays in finalising CAFE-3 norms are creating market uncertainty and slowing supply-chain investments.

Way Forward

- Finalise CAFE-3 norms urgently and expand fleet-average standards to commercial vehicles.
- Prioritise zero-emission technologies over intermediate hybrid systems.
- Strengthen the regulatory capacity of the Bureau of Energy Efficiency (BEE).

5.3 DELHI'S HEAT CRISIS

Context

- Delhi-NCR is witnessing increasingly intense and prolonged heatwaves, with dangerous temperatures persisting even during nighttime.
- Rapid urbanisation has intensified the Urban Heat Island Effect, creating a "heat re-trap" phenomenon.

Heat-Absorbing Urban Infrastructure

- Concrete, asphalt, and glass structures absorb and re-radiate heat, raising surface temperatures to 50–60°C.
- Dense construction restricts natural ventilation and airflow.
- Vehicular emissions along urban "thermal corridors" worsen microclimatic heating.
- Shrinking green cover and degradation of Yamuna floodplains reduce natural cooling capacity.

Concerns

- Air conditioners create an "Urban Heat Feedback Loop" by expelling waste heat outdoors, increasing local temperatures by 1–2°C.
- Rising electricity demand increases risks of grid failures during heatwaves.
- Heat-related productivity losses and supply-chain disruptions are causing major economic damage.

Way Forward

- Promote cool roofs, high-albedo materials, and passive cooling architecture.
- Expand urban forests, wetlands, and blue-green infrastructure.
- Encourage district cooling systems and energy-efficient technologies.

5.4 COLLAPSE OF THE AMOC

Context

- Scientists have warned about the weakening of the Atlantic Meridional Overturning Circulation (AMOC), a critical global ocean current system.
- AMOC slowdown could severely affect India's monsoon, agriculture, and water security.

Mechanism of the Tipping Point

- AMOC functions as a global conveyor belt moving warm and cold ocean waters.
- Arctic ice melt introduces freshwater that weakens the sinking process essential for circulation.
- Beyond a threshold, AMOC could enter an irreversible weakened state.

Concerns

- Weakening AMOC may intensify and destabilise El Niño events.
- India could witness:
 - Weaker monsoon winds,
 - Southward shift of tropical rain belts,
 - Longer drought periods,
 - More frequent floods.

Way Forward

- Integrate AMOC projections into climate resilience planning.
- Strengthen agricultural and water management systems against drying trends.

5.5 ECOCID

Context

- Environmental destruction during the West Asia conflict has revived debates around recognising "ecocide" as an international crime.
- Activists seek inclusion of ecocide under the International Criminal Court (ICC).

Ecocide and Existing International Law

- Existing laws criminalise environmental destruction mainly when linked to human suffering.
- Ecocide seeks recognition of the environment itself as a victim deserving protection.
- Several countries have already incorporated ecocide into domestic legal frameworks.

Concerns

- Current laws inadequately address peacetime ecological destruction.
- Weak jurisdiction and non-participation of major powers limit ICC enforcement.
- No direct prosecution for wartime environmental destruction has yet occurred.

Way Forward

- Amend the Rome Statute to formally recognise ecocide as a separate crime.
- Build stronger international ethical and legal standards against ecological destruction.

5.6 SUPREMACY OF THE FOREST RIGHTS ACT (FRA), 2006

Context

- The Allahabad High Court ruled that the Forest Rights Act (FRA), 2006 overrides conflicting earlier laws and judicial orders.
- The judgment upheld the forest rights of the Tharu tribe in Uttar Pradesh.

Reaffirmation of Tribal Rights

- FRA aims to correct historical injustices against forest-dwelling communities.
- The court clarified that FRA, being a later and special law, supersedes older laws like the Indian Forest Act, 1927.

Concerns

- Authorities continue to rely on outdated state forest laws for evictions and grazing bans.
- Contradictions persist between FRA provisions and certain judicial decisions restricting traditional rights.

Way Forward

- Strictly enforce FRA safeguards preventing eviction before claim verification.
- Empower Gram Sabhas to use FRA accountability mechanisms against violations.

5.7 COLOMBIA HIPPO CRISIS AND INVASIVE SPECIES MANAGEMENT

Context

- Colombia faces a major ecological crisis due to the rapid spread of invasive hippos descended from animals imported by Pablo Escobar in 1981.
- Some hippos may be relocated to Vantara in Gujarat, India.

Ecological Disruption

- Hippos are damaging the Magdalena River ecosystem through nutrient overload and ecological imbalance.
- Population control is difficult because:
 - Tranquilisation near water risks drowning,
 - Capture causes stress-induced mortality.
- Sterilisation efforts have proven expensive and ineffective.

Concerns

- Experts argue that relocation alone cannot solve the crisis and limited culling may become necessary.
- Relocation to India involves:
 - Climate adaptation challenges,
 - Water management requirements,
 - Aggressive behavioural management.
- International wildlife transfers have faced scrutiny regarding regulatory compliance.

Way Forward

- Ensure strict compliance with CITES regulations during international relocation.
- Adopt a scientific multi-pronged strategy combining:
 - Sterilisation,
 - Relocation,
 - Controlled culling where necessary.

5.8 SHORT ARTICLES

International Big Cat Alliance (IBCA)

Founding

- Launched in 2023 to commemorate the 50th anniversary of Project Tiger; headquartered in New Delhi and implemented by the National Tiger Conservation Authority (NTCA).

Species & Scope

- Covers the "Big Seven": Lion, Tiger, Leopard, Snow Leopard, Cheetah, Jaguar, and Puma.

Membership

- Open to 95 range countries (where cats naturally occur) and non-range countries interested in supporting global conservation efforts.

Methane Alert and Response System (MARS)

Platform

- A data-to-action platform under the UNEP International Methane Emissions Observatory (IMEO) first announced at COP 27.

Expansion

- Originally focused on the fossil fuel industry; now expanded to include coal mines and waste facilities (landfills).

Mechanism

- Uses satellites to detect major methane emission sources and notifies countries/companies to facilitate rapid mitigation actions.

Whitley Awards ("Green Oscars")

Context

- Awarded by the UK-based Whitley Fund for Nature (WFN) to recognize grassroots conservation leaders in the Global South.

2026 Indian Winners

- Barkha Subba (conserving the Himalayan salamander) and Parveen Shaikh (conserving the Indian skimmer).

Significance

- Provides winners with £50,000 in project funding to scale up local solutions to biodiversity loss.

United Nations Forum on Forests

Context

- Recently, the Global Forest Goals Report 2026 was launched during the 21st session of the United Nations Forum on Forests.

Founding

- Established in 2000 as an intergovernmental body by the UN Economic and Social Council (ECOSOC).

Membership

- Composed of all UN Member States, with India being a founding member.

Mechanism

- Holds annual sessions at the UN Headquarters, alternating between technical discussions and policy-level dialogues. It established the Global Forest Financing Facilitation Network (GFFFN) to facilitate access to and effective use of funding for forests.

Fermented Organic Manure

Context

- Recently, the Indian Biogas Association (IBA) has called for 10% mandatory blending of fermented organic manure with chemical fertilizers by 2030.

Mechanism

- It is a byproduct of operational biogas or compressed biogas (CBG) plants, produced through a controlled fermentation process of organic materials like animal manure and crop residues.

Significance

- It improves soil fertility, enhances soil structure, and aids in sustainable farming and waste management.

National Centre for Sustainable Coastal Management (NCSCM)

Context

- The NCSCM recently completed the verification of over 23,000 wetlands in Maharashtra.

Founding

- Established in 2011 by the Ministry of Environment, Forest, and Climate Change (MoEF&CC) as an autonomous institution headquartered in Chennai.

Mechanism

- Operates through six research divisions (including Geospatial Sciences, Social Sciences, and Coastal Environmental Impact Assessment) to undertake studies and research.

Significance

- It advises the Union and State Governments on Integrated Coastal Zone Management (ICZM) and promotes the sustainable management of India's coastal and marine areas.

Uju and Rangkang Forest Systems

Context

- The Anal Naga tribe in Manipur has successfully protected their forests, water sources, and village life for generations using these community-led systems.

Mechanism

- *Uju* are community-managed reserved forests where commercial logging is banned, and forest products can only be gathered carefully for household use. *Rangkang* refers to untouched deep forest areas left entirely undisturbed to allow dense ecosystems to regenerate naturally.

Significance

- Demonstrates the effectiveness of indigenous, community-led ecological conservation and sustainable land-use practices.

India's Cold Water Fisheries

Context

- Emerging as a vital component of India's Blue Economy, promoting eco-tourism and supporting sustainable mountain development.

Mechanism

- Practiced in high-altitude, snow-fed rivers and lakes with temperatures between 5°C and 25°C. It relies on specialized infrastructure like raceways and hatcheries to cultivate species such as rainbow trout and golden mahseer.

Expansion / Policy

- Supported by projects under the Pradhan Mantri Matsya Sampada Yojana (PMMSY) and the Fisheries and Aquaculture Infrastructure Development Fund.

Forest Advisory Committee (FAC)

Context

- The FAC recently granted in-principle approval for the diversion of over 3,000 hectares of forest land across several states for key infrastructure projects.

Details

- It is a statutory body established under the Forest Conservation Act (FCA), 1980, operating under the Ministry of Environment, Forests & Climate Change (MoEF&CC).
- It considers proposals for the diversion of forest land for non-forest uses (mining, industry) and advises state governments. The state must then ensure compliance with the Forest Rights Act, 2006.

Mekedatu Project

Context

- The Supreme Court recently dismissed a petition filed by Tamil Nadu to review a decision that termed the state's challenge to Karnataka's proposed Mekedatu project as "premature".

Details

- Proposed at the confluence of the Cauvery River with its tributary Arkavathi near Kanakapura in Karnataka.

- A multi-purpose project involving a balancing reservoir with a 67 tmcft storage capacity. It is designed to supply drinking water to Bengaluru and generate 400 MW of power.
- Tamil Nadu, the lower riparian state, opposes the dam, arguing it is an attempt by Karnataka to block the last free point from where Cauvery water flows unrestricted into Tamil Nadu.

Babesia

Context

- Two lion cubs recently died in Gujarat's Gir National Park region due to a suspected Babesia infection.

Details

- Babesia is a genus of microscopic parasites transmitted primarily by the bite of the Ixodes tick (deer tick). The parasite infects red blood cells, causing a disease known as babesiosis.
- It can affect both animals (cattle, dogs, lions) and humans, though it is much more common in animals.
- It is not contagious from person to person but requires combination therapy of antimicrobial and antibiotic drugs for treatment.

5.9 SNIPPETS

PROTECTED AREAS IN NEWS

Name of Protected Area	Details
Panna Tiger Reserve (Madhya Pradesh)	<ul style="list-style-type: none"> • Panna Tiger Reserve is an important tiger reserve located in the Vindhyan range of Madhya Pradesh. • The reserve is situated in the Panna and Chhatarpur districts and is characterized by a unique "Table Top" landscape with extensive plateaus and gorges. • The Ken River flows from south to north through the reserve, and it is the only tiger reserve in the Bundelkhand region. • The reserve contains 2,000-year-old rock paintings and is home to the Baiga and Gond tribes. • The vegetation mainly consists of dry deciduous forests dominated by teak and kardhai trees. • The reserve supports tigers, sloth bears, and five species of vultures.
D'Ering Memorial Wildlife Sanctuary (Arunachal Pradesh)	<ul style="list-style-type: none"> • D'Ering Memorial Wildlife Sanctuary recently came into news after a tiger was sighted there after nearly two decades. • The sanctuary is located in the East Siang district along the border of Assam and Arunachal Pradesh and was formerly known as Lali Wildlife Sanctuary. • It lies in the floodplains of the Siang River and is dominated by riverine plains, grasses, and thatch vegetation. • The sanctuary also supports the endangered White-Winged Wood Duck.
Tipeshwar Wildlife Sanctuary (Maharashtra)	<ul style="list-style-type: none"> • Tipeshwar Wildlife Sanctuary has recently come under legal scrutiny due to the construction of illegal resorts within its Eco-Sensitive Zone. • The sanctuary has basaltic soil formed due to ancient volcanic activity. • The Purna, Krishna, Bhima, and Tapti rivers flow through the sanctuary. • It is popularly known as the "Green Oasis of Eastern Maharashtra."

	<ul style="list-style-type: none"> The forest is dominated by teak trees, which constitute nearly 60% of the vegetation, along with Red Sandalwood (<i>Pterocarpus santalinus</i>).
Great Himalayan National Park (Himachal Pradesh)	<ul style="list-style-type: none"> Great Himalayan National Park is a UNESCO World Heritage Site located in Himachal Pradesh. The park was designated as a UNESCO World Heritage Site in 2014 and is situated in the Kullu district. It includes the valleys of Tirthan, Sainj, Parvati, and Jiwa Nal. A new Eco-Sensitive Zone of 326.69 sq. km. was recently declared around the park. The park provides habitat for snow leopards, Himalayan brown bears, and the endangered western tragopan.
Jim Corbett National Park (Uttarakhand)	<ul style="list-style-type: none"> Jim Corbett National Park is India's oldest national park and an important tiger conservation landscape. The park was established in 1936 as Hailey National Park and later became the first national park to come under Project Tiger. It is located in the Bhabar and lower Shivalik regions and contains "Chaur" grasslands formed from abandoned settlements. The Ramganga River and its tributaries, including the Sonanadi and Mandal rivers, are the main water sources for the park.
Tadoba-Andhari Tiger Reserve (Maharashtra)	<ul style="list-style-type: none"> Tadoba-Andhari Tiger Reserve recently conducted its annual "Machan Census on Waterholes" to monitor wildlife populations. It is the oldest and largest tiger reserve in Maharashtra and is located in Chandrapur district. The reserve is connected with the Nagzira-Navegaon and Pench Tiger Reserves. Tadoba Lake and the Andhari River are major geographical features of the reserve.
Kapilash Wildlife Sanctuary (Odisha)	<ul style="list-style-type: none"> Kapilash Wildlife Sanctuary recently came into news after the National Board for Wildlife approved forest land diversion for the Capital Region Ring Road project. The sanctuary is located in Dhenkanal district and contains Eastern Highlands moist deciduous forests dominated by sal trees. It supports elephants, sloth bears, jungle cats, and Indian pangolins.
Chaprala Wildlife Sanctuary (Maharashtra)	<ul style="list-style-type: none"> The irrigation engineers of Telangana say they would ensure that the proposed Pranahita-Chevella barrage on River Pranahita does not submerge the Chaprala wildlife sanctuary located near the barrage site. Located at the confluence of the Wardha and Wainganga rivers. It is dominated by southern tropical dry deciduous forests and is home to the indigenous Gond tribal community.
RakchhamChitkul Wildlife Sanctuary (Himachal Pradesh)	<ul style="list-style-type: none"> Himalayan brown bear sightings in Rakchham-Chitkul Wildlife Sanctuary have revived conservation interest after a female bear and her cubs were photographed recently. Located in the Kinnaur district in a dry zone that does not experience monsoons. Contains Sub-Alpine and Dry Temperate Forests; also known as Sangla Wildlife Sanctuary.
Palamu Tiger Reserve (Jharkhand)	<ul style="list-style-type: none"> The maiden Human-Elephant Conflict Research Centre of the country will be set up at the Palamu Tiger Reserve in Jharkhand. Located on the Chhotanagpur plateau and forms part of Betla National Park. It was one of the first 9 tiger reserves under 'Project Tiger' and is drained by the

	North Koyal, Auranga, and Burha rivers.
Binsar Wildlife Sanctuary (Uttarakhand)	<ul style="list-style-type: none"> The forest department has begun preparations for a scientific wildlife census in Binsar Wildlife Sanctuary to assess the population and movement of key species, including tigers, leopards, bears, deer, and foxes. Situated in the Kumaon region; established to conserve broadleaf oak forests. It was the summer capital of the Chand Dynasty rulers and is an Important Bird Area.
Tholpetty Wildlife Sanctuary (Kerala)	<ul style="list-style-type: none"> A wild gaur that had strayed into densely populated areas of Kannur District, Kerala, was captured by a Forest department expert team and later released into the forest area of the Tholpetty Wildlife Sanctuary recently. It is part of the larger Wayanad Wildlife Sanctuary and the Nilgiri Biosphere Reserve. The forests consist of tropical moist dry deciduous and semi-evergreen vegetation.
Melghat Tiger Reserve (Maharashtra)	<ul style="list-style-type: none"> Two Indian vultures released in the Melghat Tiger Reserve (MTR) in Maharashtra's Amravati district have been recently spotted near Bhopal in Madhya Pradesh after covering a flight distance of over 1,000 km. The first tiger reserve in Maharashtra, perched on the Gavilgarh Hills. The Tapti River flows along its boundary, and the Korkus are the largest tribal community here.
Vembanad Lake (Kerala)	<ul style="list-style-type: none"> Recent actions on houseboats by the Kerala government have sparked conversations regarding the lake's pollution load. It is the longest lake in India and a designated Ramsar site. It is fed by four rivers (Meenachil, Achankovil, Pampa, Manimala) and is home to the Kumarakom Bird Sanctuary.
Katarniaghat Wildlife Sanctuary (Uttar Pradesh)	<ul style="list-style-type: none"> A woman recently died following a tiger attack while gathering firewood in the sanctuary. Located in the Terai belt along the Indo-Nepal border, it forms the Dudhwa Tiger Reserve alongside Kishanpur and Dudhwa. It is predominantly Sal forest and hosts endangered gharials and Gangetic dolphins.
Buxa Tiger Reserve (West Bengal)	<ul style="list-style-type: none"> The Centre recently announced a plan to reintroduce tigers into the reserve. It shares an international border with Bhutan and represents the fragile "Terai Eco-System". It acts as an elephant migration corridor and is drained by the Raidak and Jayanti rivers.
Sohagi Barwa Wildlife Sanctuary (Uttar Pradesh)	<ul style="list-style-type: none"> Officials are investigating the recent death of a leopard found within the sanctuary. It shares borders with Nepal and Bihar's Valmiki Tiger Reserve, forming part of the Terai Arc Landscape. The terrain is heavily waterlogged during rains and consists of 75% Sal forest.
Saraswati Wildlife Sanctuary (Haryana)	<ul style="list-style-type: none"> Haryana's first "constellation garden" has been developed in the sanctuary's Seonsar forest area. Ecologically tied to the mythical Saraswati River, it houses 1,500-year-old archaeological remains from the Kushan and Gupta periods.
Pulicat Lake (Andhra Pradesh)	<ul style="list-style-type: none"> The historic lake is currently drawing birders and photographers to see migrating flamingos.

/ Tamil Nadu)	<ul style="list-style-type: none"> It is India's second-largest brackish water lagoon (after Chilika) and a Ramsar site. It is separated from the Bay of Bengal by Sriharikota island.
Loktak Lake (Manipur)	<ul style="list-style-type: none"> Recognized for its unique circular floating islands of vegetation called <i>phumdis</i>. It is Northeast India's largest freshwater lake and a Ramsar site currently on the Montreux Record. It houses the Keibullamjao National Park, the only home of the endangered Sangai deer.
Barda Wildlife Sanctuary (Gujarat)	<ul style="list-style-type: none"> It is being developed as a crucial second habitat for Asiatic lions to reduce their extinction risk. Located in the Barda Hills, it is the first fully protected satellite lion habitat in Gujarat under the 1979 'Gir-Barda Project'. It is populated by Maldhari, Bharvad, and Rabari ethnic tribes.
Bhimashankar Wildlife Sanctuary (Maharashtra)	<ul style="list-style-type: none"> A survey to estimate the population of the Indian giant squirrel has commenced in this sanctuary. Located in the northern Western Ghats, it is named after a Jyotirlinga. The Bhima and Ghod rivers originate here. It is also famous for unique sacred groves known as "Deorais".
Shendurney Wildlife Sanctuary (Kerala)	<ul style="list-style-type: none"> Researchers discovered a rare new evergreen tree species (<i>Humboldtianairiana</i>) in the riparian forests of this sanctuary. Located in the southern Western Ghats, it forms part of the Agasthyamala Biosphere Reserve. Its vegetation consists primarily of tropical evergreen and moist deciduous forests.
Bhimgad Wildlife Sanctuary (Karnataka)	<ul style="list-style-type: none"> The Karnataka state government recently issued rules to regulate development works around this sanctuary. Located in the Western Ghats (Belagavi), it features limestone caves, notably the Barapede Caves—the only known breeding ground of the threatened Wroughton's Free-tailed Bat. It is the origin point for the Mhadei, Malaprabha, and Tillari rivers.
Saraswati Wildlife Sanctuary (Haryana)	<ul style="list-style-type: none"> Haryana's first "constellation garden" has been developed in the sanctuary's Seonsar forest area. Ecologically tied to the mythical Saraswati River, it houses archaeological remains from the Kushan and Gupta periods (over 1,500 years old). It is a critical habitat for Blue Bull, Wild Boar, and Hog Deer.

FAUNA IN NEWS

Name of Species	Details
Dark Labeo Group (Freshwater Fish)	<ul style="list-style-type: none"> Scientists recently reported several important discoveries and taxonomic studies related to the Dark Labeo group of freshwater fishes in South India. <i>Labeokaage</i> was discovered in the Cauvery basin in Mandya district of Karnataka and was named "kaage" (crow) because of its dark coloration. <i>Labeochekida</i> and <i>Labeouru</i> were discovered respectively in Kerala's Chalakkudy and Chandragiri rivers. Scientists also clarified the taxonomic identity of <i>Labeo nigrescens</i>, an enigmatic species first described in 1870.

<p>Odonata Species (Dragonflies and Damselflies)</p>	<ul style="list-style-type: none"> • A recent survey in the Western Ghats recorded a rich diversity of Odonata species. • Odonates are an ancient group of predatory insects and are considered indicators of wetland health and landscape quality. • The order includes Anisoptera (dragonflies), Zygoptera (damselflies), and the relict group Anisozygoptera.
<p>Buff Tip Moth (<i>Phalera bucephala</i>)</p>	<ul style="list-style-type: none"> • The Buff Tip Moth was recently reported as an invasive species threatening Ladakh's farm-based economy. • The moth is known for its remarkable camouflage, as it resembles a twig of a birch tree. • It is a polyphagous feeder and is capable of stripping entire trees bare within a few weeks.
<p>White-Bellied Heron (<i>Ardea insignis</i>)</p>	<ul style="list-style-type: none"> • The White-Bellied Heron remains a major conservation concern due to its critically endangered status. • It is listed as Critically Endangered on the IUCN Red List and is included in Schedule-I of the Wildlife Protection Act, 1972. • It inhabits the foothills of the eastern Himalayas in India, Bhutan, and Myanmar and is the second-largest living heron species. • Its presence is considered an indicator of healthy river rapids and high water quality.
<p>Rusty Spotted Cat</p>	<ul style="list-style-type: none"> • The Rusty Spotted Cat was recently photographed in the Delhi-NCR region and Haryana. • It is regarded as the world's smallest wild cat. • It is nocturnal, an excellent climber, and mainly preys on rodents and birds. • The species is listed as Near Threatened on the IUCN Red List and is protected under Schedule-I of the Wildlife Protection Act, 1972. • It is distributed across India, Nepal, and Sri Lanka.
<p>Peacock Tarantula (Gooty Sapphire)</p>	<ul style="list-style-type: none"> • The Peacock Tarantula is an endemic spider species facing severe conservation threats in Andhra Pradesh. • It is listed as Critically Endangered on the IUCN Red List. • The species is famous for its striking metallic blue coloration and geometric leg patterns. • It is an arboreal spider that lives in tree holes and is threatened mainly because of habitat loss caused by logging activities.
<p><i>Lutjanus arakan</i>(Snapper)</p>	<ul style="list-style-type: none"> • Scientists recently recorded <i>Lutjanus arakan</i> in Indian waters for the first time. • The species was found at Gopalpur-on-Sea in Odisha. • It has a reddish-silver body marked with four dark reddish-brown horizontal stripes. • It is a mid-level marine predator commonly associated with reef and coastal ecosystems.
<p><i>Indopotamonalipurduar ense</i>(Freshwater Crab)</p>	<ul style="list-style-type: none"> • Researchers discovered a new freshwater crab species in the sub-Himalayan Dooars region of West Bengal. • The species was found beneath agricultural fields and is a highly secretive subterranean animal that emerges only during the heavy rainy season between May and August. • The discovery marks only the second species in the genus <i>Indopotamon</i>, taking the total number of Indian crab species to 183.

<p>Himalayan Salamander</p>	<ul style="list-style-type: none"> • The Himalayan Salamander remains an important amphibian species of the eastern Himalayas. • The species is listed as Vulnerable on the IUCN Red List and is endemic to the Darjeeling region, Nepal, and Bhutan. • It exhibits philopatry, meaning it returns to its natal site for breeding and egg-laying. • The species is culturally associated with wetlands revered by local communities and deities.
<p>Indian Skimmer</p>	<ul style="list-style-type: none"> • The Indian Skimmer remains an endangered riverine bird species in South Asia. • It is listed as Endangered on the IUCN Red List and is mainly found in India, Bangladesh, and Pakistan. • It has a unique feeding mechanism in which it flies low over water and skims the surface for fish. • Large sandy lowland rivers serve as its preferred habitat, and the Chambal River is considered a key spotting site.
<p>Lion-Tailed Macaque</p>	<ul style="list-style-type: none"> • Researchers have warned about the increasing presence of Lion-Tailed Macaques in human settlements. • The species is listed as Endangered on the IUCN Red List and is endemic to the rainforests of the Western Ghats. • It is an arboreal and diurnal primate popularly known as the “beard ape.” • The increased interaction with humans is mainly due to easy access to food in populated areas.
<p>Eublepharisjuma(Leopard Gecko)</p>	<ul style="list-style-type: none"> • Scientists from the Zoological Survey of India recently discovered a new species of leopard gecko named Eublepharisjuma from the rocky hills of Bihar, India. • First of its kind recorded in the state; features large, flat, bumpy scales on its back and a specific pattern of 12 to 13 pores near its tail.
<p>Barn Swallow</p>	<ul style="list-style-type: none"> • Descendants of migratory barn swallows may have gradually stopped making long journeys and settled permanently in Manipur’s Imphal Valley, a new study suggests. • The most abundant and widely distributed swallow species globally, breeding in the Northern Hemisphere. • Listed as Least Concern on the IUCN Red List.
<p>Common Bronzeback</p>	<ul style="list-style-type: none"> • A rare species of snake, identified as the “Common Bronze-back Tree Snake”, has been recently spotted in the Belrayan range of Dudhwa Tiger Reserve in Uttar Pradesh’s Lakhimpur Kheri district. • A non-venomous arboreal tree snake found in South and Southeast Asia. • Listed as Least Concern on the IUCN Red List.
<p>Ganges Soft-shell Turtle</p>	<ul style="list-style-type: none"> • Recently, India’s first satellite-tagged Ganges soft-shell turtle was released in the 1,302 sq. km Kaziranga National Park and Tiger Reserve in Assam. • Omnivorous freshwater turtle that spends most of its time hidden under the sand. • Listed as Endangered (IUCN) and protected under Schedule I.
<p>Himalayan Brown Bear</p>	<ul style="list-style-type: none"> • Himalayan brown bear sightings in Rakchham-Chitkul Wildlife Sanctuary have revived conservation interest after a female bear and her cubs were photographed recently.

	<ul style="list-style-type: none"> • The largest mammal found in the high-altitude regions of the Himalayas. • They hibernate during the winter and are listed as Critically Endangered (IUCN).
Psechrusntu&Psechru sphenshunyu(Spiders)	<ul style="list-style-type: none"> • The Zoological Survey of India (ZSI) has discovered two new spider species named Psechrusntu and Psechrusphenshunyu. • Discovered in Nagaland; they construct large horizontal sheet webs and exhibit specialized anatomical traits adapted for humid forest ecosystems.
Gaur (Indian Bison)	<ul style="list-style-type: none"> • A wild gaur that had strayed into densely populated areas of Kannur District, Kerala, was captured by a Forest department expert team and later released into the forest area of the Tholpetty Wildlife Sanctuary recently. • The largest species among wild cattle, indigenous to South and Southeast Asia. • Listed as Vulnerable on the IUCN Red List.
Indian Vulture	<ul style="list-style-type: none"> • Two Indian vultures released in the Melghat Tiger Reserve (MTR) in Maharashtra's Amravati district have been recently spotted near Bhopal in Madhya Pradesh after covering a flight distance of over 1,000 km. • Experienced a 97-99% population decrease due to poisoning caused by the veterinary drug diclofenac. • Listed as Critically Endangered on the IUCN Red List.
Cyrtodactylusvaradgiri (Ground Gecko)	<ul style="list-style-type: none"> • A relatively uncommon gecko species, <i>Cyrtodactylusvaradgirii</i>, named after noted scientist Varad Giri, was recently spotted in Aarey forest by wildlife enthusiasts and a researcher. • Nocturnal, terrestrial, and endemic to India. • It is unusual for being associated with both natural habitats and urban green spaces.
Himalayan Tricarinate Hill Turtle	<ul style="list-style-type: none"> • Forest officials recently recorded an unusual sighting of this rare Himalayan species in central India's UdantiSitanadi Tiger Reserve (Chhattisgarh). • Listed as Endangered (IUCN), it is a small, terrestrial turtle known for having three distinct keels on its shell. • It typically inhabits the sub-Himalayan belt and temperate forests.
Indian Skimmer	<ul style="list-style-type: none"> • Spotted along the Ganga in the Vikramshila Gangetic Dolphin Sanctuary after nearly 20 years, indicating improved river health. • Listed as Endangered (IUCN), this riverine bird is known for skimming the water's surface with its elongated lower mandible to catch fish. • It acts as an indicator species for healthy riverine ecosystems.
Kashmir Flycatcher	<ul style="list-style-type: none"> • This rare migratory bird was recently spotted at the Chemmattamavayal wetlands in Kerala. • Listed as Vulnerable (IUCN). • It is endemic to the Indian Subcontinent, breeding in the northwest Himalayas and wintering in the high altitudes of the Western Ghats and Sri Lanka.
Actinarctusodissi (Marine Tardigrade)	<ul style="list-style-type: none"> • Scientists discovered this new species of microscopic "water bear" in the shallow waters of the Bay of Bengal, Odisha. • Named after the traditional Odissi dance, it features a dome-shaped body with transparent wing-like flaps. • Tardigrades can survive outer space and extreme conditions by entering a suspended "tun" state.
Red-Necked	<ul style="list-style-type: none"> • The Chandu Budhera wetland recently emerged as a migratory stopover for

Phalarope	<p>this rare bird.</p> <ul style="list-style-type: none"> Listed as Least Concern (IUCN), it is a small shorebird known for spinning frantically on the water to stir up invertebrates.
Microeledone Galapagensis	<ul style="list-style-type: none"> Scientists recently discovered this tiny blue octopus species in the deep sea near the Galapagos Islands. It is roughly the size of a golf ball and features an unusually blue coloration.
Trachischium lalrem sangai	<ul style="list-style-type: none"> A new species of burrowing snake discovered in Mizoram's Murlen National Park near the India-Myanmar border. Named after a local herpetology professor, it features smooth iridescent scales, a brown body, and a white-speckled underside.
Red Sand Boa	<ul style="list-style-type: none"> Live snakes were recently seized by the Directorate of Revenue Intelligence (DRI) from illegal traders in Warangal. Listed as Near Threatened (IUCN). It is a non-venomous, nocturnal snake endemic to the Indian subcontinent, famous for its thick tail that gives it a "double-headed" appearance.
Duttaphyrnus dhara (Toad)	<ul style="list-style-type: none"> A new species of toad was recently recorded in Meghalaya's East Khasi Hills district and named <i>Duttaphyrnus dhara</i>. It is a small, forest-associated toad featuring a brown body with irregular black patches and a creamy white underside. It prefers forest-edge and semi-natural habitats.
Gynacanthakhasiaca (Long-tailed Duskhawker)	<ul style="list-style-type: none"> A rare dragonfly species was recently recorded by citizen scientists in Arunachal Pradesh's Namdapha National Park and Tiger Reserve. This is the first confirmed record of the dragonfly in Arunachal Pradesh in 110 years. Classified as "Data Deficient" (IUCN), it is known for an elusive behavior of settling into a vertical hanging posture beneath dense vegetation.

FLORA IN NEWS

Name of Species	Details
<i>Cyphostemma annamalaii</i>	<ul style="list-style-type: none"> Scientists recently discovered <i>Cyphostemma annamalaii</i>, a new climber species belonging to the Vitaceae (grape) family, in the southern Eastern Ghats of Tamil Nadu. The plant has a tuberous root and produces round yellow fruits. It climbs with the support of surrounding scrubby vegetation. The species belongs to <i>Cyphostemma</i>, which is the second-largest genus in the grape family and contains nearly 250 species worldwide.
Cordyceps ("Himalayan Gold")	<ul style="list-style-type: none"> Cordyceps is a parasitic fungus that has gained importance because of its medicinal and economic value. The fungus grows on insect larvae and gradually replaces the host tissue with slender fungal stems. It is highly valued in traditional medicine because it contains compounds such as cordycepin. The fungus is found in high-altitude regions of Arunachal Pradesh and possesses immunomodulatory, antioxidant, and antiviral properties.
<i>Euphorbia</i>	<ul style="list-style-type: none"> These two newly identified plant species were discovered respectively

<i>ananthapuramensis</i> and <i>Euphorbia chalamensis</i>	<p>in the Nigidi and Chalama forests of Andhra Pradesh.</p> <ul style="list-style-type: none"> Both species are categorized as Critically Endangered on the IUCN Red List. Local tribal communities use these plants for treating wounds, skin diseases, and digestive disorders.
<i>Ceropegia andhrlica</i>	<ul style="list-style-type: none"> <i>Ceropegia andhrlica</i> is a recently discovered plant species found in the Paderu forest region of Andhra Pradesh. The species is listed as Critically Endangered on the IUCN Red List. It is a dwarf tuberous herb that remains leafless during its flowering period in May and June and develops leaves only after the first rains. The plant produces edible tubers resembling small potatoes and is threatened by grazing and habitat loss.
<i>Sonerilaroxburghii</i>	<ul style="list-style-type: none"> Researchers recently identified a new species of flowering plant named <i>Sonerilaroxburghii</i> from the ecologically sensitive Western Ghats in Kerala. Adapted to moist, high-altitude rocky habitats. Placed in the Critically Endangered category due to its highly restricted distribution.
Cacti	<ul style="list-style-type: none"> New research reveals that cacti create new species surprisingly quickly, despite their slow-growing reputation. Native to the Americas; uniquely adapted to store large amounts of water in their stems. They are distinguished by the presence of areoles (modified branches).
<i>MelanoserisPendryi</i>	<ul style="list-style-type: none"> A team of botanists has discovered a new plant species in the Sikkim Himalayas named <i>Melanoserispendryi</i>. Found at altitudes over 4,000m; it features uniquely hairy purple petals and relies on a fleshy root system. Proposed to be classified as Critically Endangered due to habitat pressure from grazing and tourism.
Conocarpus Plant (Buttonwood)	<ul style="list-style-type: none"> Ecologists have warned against planting this species along highways and medians. It is an aggressively invasive mangrove shrub. While highly tolerant of harsh urban climates, its massive root system destroys infrastructure, depletes groundwater, and its airborne pollen causes severe respiratory allergies.
<i>Humboldtianairiana</i>	<ul style="list-style-type: none"> Researchers discovered this new evergreen tree species in the southern Western Ghats of Kerala. It is a medium-sized tree strictly endemic to the Agasthyamala Biosphere Reserve in Kerala. It possesses a unique warty, pale brown bark with larger flowers and comparatively long pedicels.
<i>Interfilumshuklaii</i>(Green Algae)	<ul style="list-style-type: none"> A new species of green algae discovered in the Western Ghats of Kerala, named after Indian Air Force astronaut Group Captain Shubhanshu Shukla. This is the first-ever reported discovery of the genus <i>Interfilum</i> in India. It holds emerging significance in biotechnology, carbon sequestration, and future space life-support systems due to its stress tolerance.

Vaccinium piliferum

- Researchers rediscovered this rare and endangered wild relative of the blueberry in the remote forests of Vijaynagar (Arunachal Pradesh) after 188 years.
- Belonging to the Ericaceae family, it is listed as 'endangered' by the IUCN.
- The species prefers relatively cold climates and well-drained, acidic, sandy loam soils.

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6. SCIENCE & TECHNOLOGY AND HEALTH

6.1 THE ELEPHANT IN INDIA'S DATA ROOM

Context

- Parliament repeatedly seeks basic welfare data such as schools with toilets, pension beneficiaries, and scheme coverage, highlighting weaknesses in India's public data systems.
- Despite generating massive amounts of information, India suffers from fragmented, non-standardised, and non-interoperable datasets.

Major Problems in India's Data Governance

Fragmented Data Ecosystem

- Different Ministries and departments use varying definitions for:
 - Regions,
 - Time periods,
 - Beneficiary categories.
- Lack of common standards prevents interoperability and integration of datasets.

Fiscal Leakages and Governance Losses

- Duplicate and inaccurate beneficiary databases lead to huge public expenditure leakages:
 - **17.1 million** ineligible names removed from PM-KISAN.
 - Expected savings: nearly **₹90 billion** in FY2024.
 - **35 million** bogus LPG connections deleted.
 - **16 million** fake ration cards removed.

Public Health Data Distortions

- Childhood tuberculosis cases are separately recorded in:
 - Health Management Information System,
 - Disease surveillance networks,
 - Immunisation registries.
- This duplication creates conflicting estimates and weakens confidence in official statistics.

Global and Economic Impact

- In the **Global Innovation Index 2024**, India suffered due to missing and outdated indicators caused by weak inter-agency coordination.
- According to the **OECD**, improved public-sector data sharing can raise GDP by up to **1.5%**, with higher gains possible through private-sector data integration.

Key Reform Measures

Strengthening the India Data Management Office (IDMO)

- Proposed under the National Data Governance Framework Policy.
- IDMO should:
 - Enforce common standards,
 - Audit compliance,
 - Resolve inter-agency disputes,
 - Ensure nationwide methodological uniformity.

Alignment with Global Standards

- India should align with frameworks such as:
 - UN System of National Accounts.
- A unified **National Statistical Standards Manual** can improve consistency and comparability.

Expanding Open Data Infrastructure

- Expand **data.gov.in** into a schema-consistent national repository.
- Ministries should regularly upload:
 - Standardised,
 - Real-time,
 - District-level datasets.

Accountability Mechanisms

- NITI Aayog's **Data Governance Quality Index (DGQI)** should become an annual benchmark tied to incentives and performance reviews for Ministries and States.

Conclusion

- “Data is the grammar of governance.”
- Weak data systems lead to:
 - Poor policymaking,
 - Fiscal waste,
 - Reduced accountability,
- Slower economic growth.
- Robust standardisation, interoperability, and transparent data governance are essential for India’s aspiration to become a **\$5 trillion economy**.

6.2 SHORT ARTICLES

CLEAR Technology

Context

- Researchers at the Jawaharlal Nehru Centre for Advanced Scientific Research (JNCASR) recently developed a novel imaging platform called Cleavable Light-Erased Antibody Reporter (CLEAR).

Details

- It enables scientists to visualize a large number of proteins within the same biological sample using a single fluorescent marker.
- After imaging, the fluorescent signal is erased using a 365 nm LED light pulse, allowing researchers to label and image a new set of proteins in the same cell.
- It combines high multiplexing capability with speed and spatial resolution, possessing the potential to improve early disease detection (like cancers and neurological disorders) and contribute to precision medicine.

Indian Association for the Cultivation of Science (IACS)

Context

- The Union Minister of State for Science & Technology recently joined the 150-year celebrations of IACS in Kolkata.

Details

- Founded in 1876 by Mahendra Lal Sircar, it is the oldest institute in India devoted to fundamental research in basic sciences and the first research institution in Asia established by Indians.
- It has served as the intellectual home for legendary scientists like Sir C.V. Raman, who worked here and discovered the Raman Effect (earning the Nobel Prize in Physics in 1930).

- Today, it ventures into emerging multidisciplinary areas such as nanomaterials, chemical biology, and non-conventional energy.

National Health Accounts (NHA) Estimates 2022-23

Context

- The Health Ministry recently released the 10th edition of the NHA estimates, providing a time-series analysis of actual health expenditure.

Details

- Government health expenditure increased from Rs 1.30 lakh crore in 2013-14 to Rs 3.85 lakh crore in 2022-23.
- Expenditure on primary healthcare by the government more than doubled to Rs 1.4 lakh crore.
- This sustained increase in public spending has contributed to a substantial decline in out-of-pocket expenditure incurred by households, which fell from 64.2% (2013-14) to 39.4% (2022-23).

Atomic Energy Regulatory Board (AERB)

Context

- Granted permission for major equipment erection at Kudankulam Nuclear Power Project.

Details

- Constituted in 1983 under the Atomic Energy Act, 1962, it is India’s premier authority for nuclear and radiation safety.

- Develops safety codes and grants consents for the siting, construction, and operation of nuclear facilities.
- Reports to the Atomic Energy Commission and administers the Factories Act, 1948 for Department of Atomic Energy units.

Orbital Data Centres

Context

- Indian startups Pixxel and Sarvam are collaborating to launch India's first orbital data centre satellite, *Pathfinder*, by late 2026, promoting space-based edge computing where AI processes data directly in orbit.

Details

- Orbital computing reduces pressure on terrestrial data centres facing constraints related to energy consumption, land availability, and water usage.
- Space-based systems can utilise near-continuous solar energy, improving energy efficiency for data processing operations.
- Processing Earth observation data onboard satellites reduces transmission costs and minimises communication bottlenecks.
- Major concerns include heat dissipation challenges in vacuum conditions, radiation-induced data corruption, semiconductor damage, and difficulties in maintenance and repair.

SACHET

Context

- India introduced the SACHET Cell Broadcast system for real-time disaster and emergency warnings, developed by the Department of Telecommunications (DoT) and the National Disaster Management Authority (NDMA).

Details

- Unlike traditional SMS systems, Cell Broadcast operates on a one-to-many basis, enabling simultaneous mass delivery of alerts.
- The system remains effective during network congestion and does not require internet connectivity for receiving alerts.

- SACHET supports geo-targeted emergency warnings without storing or tracking personal phone numbers, enhancing privacy protection.
- Traditional SMS-based alerts often face delays, network bottlenecks, and message oversight during emergencies, making broader deployment of SACHET essential.

Brain Death Certification And Organ Donation

Context

- The Supreme Court is reviewing India's brain death certification system amid concerns over subjective diagnostic practices, while India's organ donation rate remains very low at 0.77 per million population.

Details

- Current rules require two separate certifications by a four-member medical board using clinical bedside testing, without mandating advanced imaging techniques.
- Advanced diagnostic tools such as EEGs and Cerebral Angiograms can provide more objective confirmation of brain death.
- Key concerns include inadequate formal training among physicians in brain death certification and the risk that mandatory advanced testing could reduce organ donation in smaller hospitals lacking equipment.
- Suggested reforms include standardising medical education and residency training, while selectively promoting advanced testing in tertiary care centres to improve public trust.

Medical Negligence And Posthumous Liability

Context

- The Supreme Court ruled that medical negligence compensation claims do not automatically abate after the death of the accused doctor, clarifying the interpretation of Section 306 of the Indian Succession Act.

Details

- The Court distinguished between personal claims (pain, suffering, reputation) and

proprietary claims involving financial compensation or monetary loss.

- Financial liability arising from medical negligence can survive and be recovered from the inherited estate assets of the deceased doctor.
- Concerns include the rise of defensive medicine among doctors due to fear of posthumous liability and legal complexities involving multiple heirs or zero-value estates.
- Suggested reforms include limiting liability strictly to the value of inherited estate assets and creating institutional legal support systems for medical professionals.

Semaglutide

Context

- Dr. Reddy's Laboratories recently launched its generic version of the Semaglutide injection in Canada.

Details

- It is a prescription medication primarily utilized to treat type 2 diabetes by lowering excessively high blood glucose (sugar) levels.
- It works by resembling the natural GLP-1 hormone, which increases insulin levels and reduces glucose production in the liver.
- Because it slows down the digestion of food, the drug is also heavily associated with and used for significant weight loss.
- Additionally, it is used to lower the risk of heart attacks and strokes in patients suffering from type 2 diabetes.

Captagon

Context

- The Narcotics Control Bureau (NCB) unearthed an international drug syndicate trafficking Captagon during "Operation RAGEPILL".

Details

- Originally manufactured in Germany in the 1960s for attention deficit disorders, it was banned and discontinued in the 1980s due to its highly addictive nature.

- It is a synthetic amphetamine-type drug (containing fenethylamine) that is now primarily produced illegally in Syria.
- Known colloquially as "poor man's cocaine", it has emerged as the drug of choice for young adults across the Middle East and North Africa.
- The drug metabolizes into two powerful stimulants (amphetamine and theophylline) and is a major funding source in conflict-hit regions.

Indian Pharmacopoeia Commission (IPC)

Context

- The IPC organized a Scientific Conclave on "Indian Pharmacopoeia 2026" at the National Institute of Pharmaceutical Education and Research in Hyderabad.

Details

- The IPC is an autonomous institution under the Ministry of Health and Family Welfare specifically tasked with setting drug standards in India.
- It publishes the Indian Pharmacopoeia (IP), which serves as the official compendium of quality standards for drugs manufactured, imported, or sold in the country.
- It provides IP Reference Substances (IPRS), which act as a chemical fingerprint for testing the identity and purity of medications.
- It also actively promotes the rational use of generic medicines across the country by regularly publishing the National Formulary of India.

AI Model Collapse

Context

- Researchers have demonstrated that introducing just one real-world data point can reliably prevent "model collapse" in complex AI systems.

Details

- Model collapse occurs when AI models are trained recursively on synthetic (model-

generated) data rather than human-generated data.

- Over time, models drift away from original data distributions, compounding errors and resulting in outputs that are distorted and unreliable.
- It causes limited creativity, stagnation in AI development, and risks the perpetuation of existing biases found in original training data.
- Solutions involve tracking data provenance, preserving original sources, and constantly combining accumulated AI-generated data with real-world data.

ABHAY System

Context

- The Central Bureau of Investigation (CBI) launched an AI-based helpbot called "Abhay" to verify the authenticity of CBI notices.

Details

- It is India's first real-time notice verification system designed specifically to protect citizens from cyber-enabled fraud and "digital arrest" scams.
- The platform was created to counter the rising use of fake law enforcement notices and deepfake technology intended to intimidate victims.
- Users upload scanned documents via the portal (after OTP verification), and the AI immediately flags them as genuine or potentially fraudulent.
- The system is highly accessible, running round-the-clock through the official CBI website and its dedicated verification platform.

National Technology Day 2026

Context

- The Prime Minister greeted the nation on National Technology Day, celebrating the scientific theme 'Responsible Innovation for Inclusive Growth'.

Details

- Observed annually on May 11, it commemorates the highly successful

Operation Shakti underground nuclear tests conducted at Pokhran in 1998.

- The 1998 tests, spearheaded by Dr. A.P.J. Abdul Kalam, officially established India as the sixth country to join the 'Nuclear Club'.
- The day also marks the successful 1998 test firing of the Trishul surface-to-air missile and the flight of the indigenous 'Hansa-3' aircraft.
- Every year, the Technology Development Board awards individuals for their outstanding contributions to science and technology in India.

National Test House (NTH)

Context

- The NTH (Northern Region) in Ghaziabad recently established a state-of-the-art Shoe Testing Laboratory.

Details

- Established originally under the Railway Board in 1912, NTH is a premier scientific organization functioning under the Ministry of Consumer Affairs.
- It serves as India's largest multi-location, multidisciplinary industrial testing laboratory for testing, calibration, and quality evaluation.
- It plays an active role in supporting the National Accreditation Board for Testing and Calibration Laboratories (NABL) and BIS.
- Technologically, it also stands as the pioneering governmental entity in India responsible for comprehensive drone certification.

Information Agents

Context

- Google recently unveiled this feature to monitor the web on behalf of users.

Details

- They are computational software entities (intelligent agents) that proactively acquire, mediate, and maintain relevant information from multiple sources.
- They help cope with user information overload by providing pro-active resource discovery and offering value-added information services.

Rumen Fluke

Context

- Around 70 cattle died in Odisha recently due to this parasite, locally known as 'Kurmi'.

Details

- They are parasites of ruminants with a snail intermediate host. Adult flukes live in the stomach, while larvae live in the small intestine, causing severe intestinal damage.
- Symptoms include severe diarrhea, rapid weight loss, and "bottle jaw," but the disease can be treated with targeted anthelmintic medicines.

Public Health Emergency of International Concern (PHEIC)

Context

- The WHO declared the Ebola outbreak in Central Africa a PHEIC.

Details

- The WHO's highest level of global health alert, subject to the International Health Regulations (IHR) of 2005.
- Requires immediate, coordinated international action against outbreaks of infectious diseases, chemical agents, or radioactive materials.

Indian Cybercrime Coordination Centre (I4C)

Context

- The agency recently identified a sophisticated phishing campaign targeting users of lost or stolen Apple iPhones.

Details

- Established under the Ministry of Home Affairs (MHA) in New Delhi as the national nodal point against cybercrime.
- Operates key ecosystem components like the National Cybercrime Reporting Portal, the '1930' toll-free helpline, and the *Pratibimb* geospatial crime mapping platform.

6.3 SNIPPETS

CONCEPTS IN NEWS

Name	Details
Rainbow Clouds	<ul style="list-style-type: none"> • Spotted in Indonesia, captivating residents online. • Occurs due to cloud iridescence, where sunlight is diffracted by highly uniform water droplets or ice crystals • Commonly seen in newly forming, semi-transparent altocumulus, cirrocumulus, cirrus, and lenticular clouds. • Unlike real rainbows formed by refraction and reflection, iridescence is caused by diffraction and spreads colours unevenly.
Gut Microbiome	<ul style="list-style-type: none"> • A study maps how the gut microbiome substantially influences health and disease. • Refers to trillions of microbes like bacteria, fungi, and viruses dwelling in the human GI tract. • Assists in harvesting energy, regulating immunity, and strengthening the biochemical barriers of the gut. • Low microbial diversity and disruptions are linked to obesity, type 2 diabetes, and inflammatory bowel diseases like Crohn's.
Vitamin B12	<ul style="list-style-type: none"> • Specially grown blue-green algae can now produce it sustainably. • Also called cobalamin, it is a water-soluble vitamin essential for making nerve cells, red blood cells, and DNA.

	<ul style="list-style-type: none"> • Cannot be produced by the human body; typically obtained from animal foods unless a plant source is fortified. • It is stored in the liver for 2 to 5 years; deficiency can cause anemia, numbness, and dementia.
Notice to Airmen (NOTAM)	<ul style="list-style-type: none"> • Issued by India declaring a danger zone over the Bay of Bengal for a test. • An official notification alerting airspace users to hazards along their route, both in the air and on the ground. • Issued by national aviation authorities for closed runways, unserviceable navigational aids, and temporary obstacles. • Typically accessible through electronic flight planning tools and aviation weather services.
Allele	<ul style="list-style-type: none"> • Study shows protective HLA-B alleles aided HIV survival before Antiretroviral Therapy became widespread. • An allele is a variant form of a gene located at the same genetic locus on a chromosome. • Humans are diploid, meaning they inherit two alleles per locus (homozygous if identical, heterozygous if different) • An organism's outward appearance (phenotype) is determined by the interactions between dominant and recessive alleles.

MATERIALS IN NEWS

Name	Details
Geocell	<ul style="list-style-type: none"> • Recognized in record books for innovative use of end-of-life plastic in road infrastructure. • A 3D cellular confinement system used in geotechnical engineering to improve soil stability and load-bearing capacity. • Made from interconnected geosynthetic materials like high-density polyethylene (HDPE) or polyester. • Expanded on-site and filled with soil/aggregate; used for pavement support, steep slope protection, and earth retention.
Germanium	<ul style="list-style-type: none"> • Used in a breakthrough to develop India's first germanium-free thermal imaging payload. • A highly reactive silvery-gray metalloid with a diamond-like crystalline structure, sharing properties with silicon. • Unaffected by alkalis and acids (except nitric acid) and is extracted mainly as a byproduct of zinc production and coal fly ash. • Primarily used to produce solid-state electronics, semiconductors, and fiber optic systems.
Dimethyl Ether (DME)	<ul style="list-style-type: none"> • ONGC and CSIR-NCL launched a pilot project to produce DME in Pune. • A synthetically produced alternative to diesel for use in specially designed compression ignition diesel engines. • Exhibits a high cetane number and is clean-burning, emitting minimal soot, NOx, SOx, and particulate matter. • Offers thermal efficiency comparable to traditional fuels and is widely used in chemical industries and as aerosol propellants.
Ferrocene	<ul style="list-style-type: none"> • Indian researchers achieved a breakthrough by synthesizing a new carbon-free

	<p>molecule that copies its unusual 'sandwich' structure.</p> <ul style="list-style-type: none"> It is a highly stable, orange crystalline organometallic compound consisting of an iron atom sandwiched between two flat carbon ringed-molecules. Its discovery in 1951 launched the field of organometallic chemistry, and it is widely used today in medicines, batteries, advanced materials, and electronics.
Pyrite (Fool's Gold)	<ul style="list-style-type: none"> Geologists discovered rare, microscopic sunflower-shaped pyrite within the lignite coal reserves of Gujarat. It is a naturally occurring, brass-yellow iron disulfide mineral (FeS₂) that forms in oxygen-poor sedimentary rocks like coal and black shale. It emits sparks when struck and mimics gold's color. Industrially, it is used as a source of iron and sulfur to produce sulfuric acid and iron sulfate (used to treat iron-deficiency anemia).
Ammonium Sulphate	<ul style="list-style-type: none"> The ICAR has recommended using ammonium sulphate instead of urea. A white, water-soluble solid containing 21% nitrogen and 24% sulphur. It is widely used as a nitrogen fertilizer for alkaline soils, as well as in water treatment, textile dyeing, and as a food additive.

SPACE IN NEWS

Name	Details
ISO 'Space Systems and Operations'	<ul style="list-style-type: none"> BIS organised the 35th ISO subcommittee meetings in New Delhi. Develops global common standards of safety, reliability, and quality for space operations and systems. ISO is a non-governmental organization established in 1947, consisting of standards bodies from 177 countries. It is governed by a General Assembly and an ISO Council, with a Technical Management Board handling operational standards.
Mission Drishti	<ul style="list-style-type: none"> Successfully launched by space start-up GalaxEye aboard Falcon 9. India's largest privately built and highest-resolution Earth observation satellite. The world's first OptoSAR satellite, merging electro-optical (EO) and synthetic aperture radar (SAR) on a single platform. Enables high-precision, all-weather imaging for geospatial analysis, disaster management, and agriculture.
DAMPE Satellite	<ul style="list-style-type: none"> Found that cosmic radiation intensity decreases rapidly upon reaching high-energy thresholds. DAMPE (Dark Matter Particle Explorer), also known as "Wukong", is China's first astronomical satellite. Launched in 2015 into a polar, sun-synchronous orbit at an altitude of 500 km. Designed to measure high-energy gamma rays, electrons, and cosmic rays to identify potential dark matter signatures.
Project Garud	<ul style="list-style-type: none"> Hyderabad-based space startup Dhruva Space secured ₹105 crore to power 'Project Garud', significantly boosting India's private-sector satellite capabilities. It is an advanced satellite platform program aimed at developing a 500 kg-class spacecraft tailored for scalable, high-volume manufacturing.

	<ul style="list-style-type: none"> • The platform utilizes a unique flat-pack architecture that allows for highly efficient launch stacking and rapid system integration. • It effectively bridges the gap between small experimental satellites and traditional larger systems for telecommunications, security, and earth observation. • The manufacturing roadmap establishes infrastructure designed to support the production of up to two satellites per day, or 500-600 annually.
Psyche Spacecraft	<ul style="list-style-type: none"> • NASA's Psyche spacecraft recently captured a stunning crescent image of Mars from nearly 5 million kilometres away. • Launched in 2023, the van-sized spacecraft is on an extensive mission to explore a unique, metal-rich asteroid (also named Psyche). • It operates using a highly efficient solar-electric propulsion system powered by xenon gas to slowly gain speed over time. • It carries a highly sensitive Magnetometer instrument to look for evidence of an ancient magnetic field on the asteroid's surface. • It is also equipped with a Gamma-ray and neutron spectrometer to determine chemical elements, and a Multispectral Imager to photograph the surface.
Zwan-Wolf Effect	<ul style="list-style-type: none"> • NASA's MAVEN spacecraft observed this effect deep within Mars' atmosphere for the first time. • A process where charged particles are squeezed along magnetic flux tubes due to a pressure gradient created when solar winds compress near magnetic boundaries. • Proves that Mars experiences similar solar wind interactions as Earth to distribute electrically charged particles, despite lacking a global magnetic field.
Blue Straggler Star	<ul style="list-style-type: none"> • Researchers made the world's first confirmed discovery of a blue straggler hosting a brown dwarf companion in a compact binary system. • These are hot, blue, massive stars in old stellar systems that lag behind their peers in evolution. Instead of cooling and expanding, they grow brighter and hotter. • They achieve this anomalous state by drawing matter from a giant companion star.
SMILE Mission	<ul style="list-style-type: none"> • The Chinese and European space agencies are launching this joint mission to investigate Earth's defenses against the Sun. • The Solar wind Magnetosphere Ionosphere Link Explorer (SMILE) carries four scientific instruments operating on X-ray and ultraviolet wavelengths. • Aims to capture the first X-ray images of Earth's magnetic shield in action deflecting solar winds, aiding in the forecasting of solar storms and space weather.
IN-SPACe	<ul style="list-style-type: none"> • The agency led an Indian delegation to the Space Meetings Veneto 2026 in Italy, signing multiple space-tech partnerships. • An autonomous, single-window nodal agency under the Department of Space (DOS), headquartered in Ahmedabad. • Acts as an interface between ISRO and private players to promote, authorize, and supervise the space activities of non-governmental entities (NGEs).

Nereid Moon	<ul style="list-style-type: none"> The James Webb Space Telescope revealed that Neptune's moon Nereid may not have originated from the Kuiper Belt. It is Neptune's third-largest moon, featuring a highly eccentric 360-day orbit. Previously thought to be a captured Kuiper Belt Object, recent data shows its composition has too much ice, suggesting it was part of Neptune's system all along.
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DISEASES IN NEWS

Name	Details
Hantavirus	<ul style="list-style-type: none"> A suspected outbreak caused illnesses and deaths on a Netherlands-based cruise ship. A rodent-borne virus transmitted to humans via the inhalation of airborne particles from dried rodent droppings, saliva, and urine. Causes two severe illnesses: Hantavirus Pulmonary Syndrome (attacking lungs, ~40% fatality) and Haemorrhagic Fever with Renal Syndrome. Lacks a specific antiviral therapy; treatment heavily relies on supportive care and fluids.
Spinal Muscular Atrophy (SMA)	<ul style="list-style-type: none"> Patients seek access to generic Risdiplam under the National Policy for Rare Diseases. A rare genetic, progressive neuromuscular disorder causing debilitating muscle weakness. Caused by mutations of the SMN1 gene on the fifth chromosome, leading to low survival motor neuron protein. Categorised into five subtypes based on onset age and severity; no cure exists, and treatments only manage symptoms.
Leprosy	<ul style="list-style-type: none"> To be declared a notifiable disease under the Delhi Epidemic Diseases Act. Also known as Hansen's disease, it is a neglected tropical disease caused by <i>Mycobacterium leprae</i>. Primarily affects the skin, peripheral nerves, and upper respiratory mucosa. Transmitted via droplets following prolonged close contact and is curable using multi-drug therapy (dapson, rifampicin, clofazimine).
Hepatitis	<ul style="list-style-type: none"> WHO reports India remains among the highest burden countries for hepatitis-related deaths. Defined as an inflammation of the liver caused by autoimmune issues, toxins, or viral infections (A, B, C, D, E). Hepatitis B and C cause long-term chronic conditions and are bloodborne, whereas A and E are water/foodborne. Vaccines exist to prevent Hepatitis A, B, and D, but there is no vaccine for Hepatitis C or E.
Canine Distemper	<ul style="list-style-type: none"> Confirmed as the cause of death of a tigress and four cubs in Kanha Tiger Reserve. A highly contagious viral disease affecting the respiratory, gastrointestinal, and nervous systems of carnivores (dogs, felids, etc.). Transmitted through direct contact or airborne exposure; significantly weakens the immune system. The virus has a high mortality rate and no cure exists; vaccination is the only viable

	preventative measure.
Ebola Outbreak	<ul style="list-style-type: none"> • A new outbreak has emerged in the Democratic Republic of Congo's eastern Ituri province, with a reported 65 deaths so far. • It is a severe, highly contagious, and often deadly hemorrhagic fever caused by orthoebolaviruses (formerly ebolavirus). • The virus transmits from wild animals (like fruit bats and primates) to humans, and then spreads via direct contact with infected bodily fluids. • Infected individuals only become contagious once symptoms develop, and the virus cannot be transmitted through the air. • There are no approved cures or vaccines; treatment relies on early supportive care, including fluid maintenance and blood or plasma administration to control internal bleeding.
Meningitis Outbreak	<ul style="list-style-type: none"> • Health officials in England are scrambling to stop a new meningitis outbreak following the death of a student in the Home Counties. • Meningitis is a dangerous inflammation and swelling of the protective membranes (meninges) that cover the brain and spinal cord. • It can be caused by bacteria, viruses, fungi, or parasites, with bacterial meningitis being the most severe and life-threatening form. • Infections that cause the disease can easily spread from person to person through sneezing and coughing. • It is a medical emergency requiring urgent antibiotic treatment, though vaccines offer the best protection against common bacterial strains.
Valley Fever	<ul style="list-style-type: none"> • A 37-year-old Indian tech professional in California died after a battle with Valley fever, which caused severe lung damage and respiratory failure. • Also known as acute coccidioidomycosis, it is a rare fungal infection that primarily damages the lungs. • It is caused by the <i>Coccidioides</i> fungus, which thrives in the dry, dusty soils of the southwestern US, Mexico, and Central/South America. • Spores are stirred into the air by farming, wind, or construction and breathed in; however, the disease does not spread from person to person. • There is no vaccine available; mild cases may resolve naturally, while severe cases require intense antifungal medications or surgical removal of infected lung tissue.
Lupus Disease	<ul style="list-style-type: none"> • World Lupus Day was observed globally on May 10 to raise awareness about this severe autoimmune condition. • It is a chronic disease where the immune system mistakenly attacks healthy tissues, heavily damaging the skin, kidneys, brain, heart, and lungs. • Systemic lupus erythematosus (SLE) is the most common form (70% of cases), while other types include discoid, subacute, and drug-induced lupus. • The exact causes remain unknown but are linked to genetics, hormones, and environmental factors; it is significantly more common in women aged 20 to 40. • There is currently no cure, but medications and lifestyle adjustments help control periods of "flare-ups" and maintain symptom-free remission.
Stroke	<ul style="list-style-type: none"> • The World Health Assembly passed its first-ever resolution urging member states to recognize strokes as a public health priority. • A medical emergency occurring when blood flow to the brain is interrupted by a blood clot (Ischaemic) or a ruptured blood vessel (Haemorrhagic), leading to brain cell death.

	<ul style="list-style-type: none"> It causes lasting brain damage or death, with primary modifiable risk factors including high blood pressure, air pollution, smoking, and a high-sodium diet.
Myopia	<ul style="list-style-type: none"> A major global public health concern, with estimates suggesting nearly half the world's population will be myopic by 2050. Nearsightedness caused when eyeballs are too long from front to back, causing light to focus in front of the retina instead of on its surface. Treated using negative (minus) powered lenses or refractive surgeries for adults.
Sickle Cell Disease (SCD)	<ul style="list-style-type: none"> An AIIMS Bhopal study stressed the need for early health screening in children suffering from this disease. An inherited genetic disorder causing atypical hemoglobin S molecules. This distorts red blood cells into a flexible sickle (crescent) shape, causing them to block blood flow in vessels. A bone marrow transplant can cure SCD, and the UK recently became the first country to approve gene therapy for it.



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7. CULTURE & HISTORY

7.1 TAGORE AND GANDHI'S DEBATE OVER THE CHARKHA

Context

- Rabindranath Tagore and Mahatma Gandhi shared a long intellectual relationship marked by deep mutual respect despite major ideological disagreements.
- Their debate over the charkha became symbolic of wider differences regarding nationalism, individual liberty, and India's development path.

Contrasting Philosophical Perspectives

- Gandhi viewed the charkha as:
 - A symbol of self-reliance,
 - Moral discipline,
 - Rural economic upliftment.
- Tagore criticised the "cult of the charkha," arguing that it encouraged conformity and blind obedience under moral pressure.

Mechanical Labour vs Intellectual Development

- Tagore argued that repetitive spinning utilised "muscles and not the mind," limiting creativity and intellectual growth.

- He defended science, openness, and modern technological progress using examples such as Athens and Sparta.
- Gandhi defended the charkha as:
 - A source of dignity for manual labour,
 - A means of connecting elites with the poor,
 - A resistance tool against exploitative industrialisation.

Concerns

- Tagore feared that excessive moralisation of the charkha diluted its practical economic purpose.
- He opposed making spinning a compulsory moral duty for every Indian.

Way Forward

- Encourage democratic intellectual disagreement within political and social movements.
- Balance self-reliance and rural development with:
 - Scientific advancement,
 - Creativity,
 - Individual freedom.

7.2 THE KOMAGATA MARU INCIDENT (1914)

Context

- In 1914, 376 Punjabi migrants chartered the Japanese ship *Komagata Maru* from Hong Kong to Canada seeking better opportunities within the British Empire.
- The incident exposed the racial discrimination embedded within imperial governance.

Institutional Racism and Immigration Restrictions

- Canada used the Continuous Journey Regulation (1908) to indirectly block South Asian immigration.

- Passengers were denied docking at Vancouver and endured:
 - Restricted food supply,
 - Isolation,
 - Two months of standoff.
- Ultimately, only 22 passengers with prior Canadian residence were allowed entry.

Budge Budge Massacre and Radicalisation

- British authorities attempted forced deportation upon the ship's arrival near Calcutta.

- Police firing during resistance killed 20 passengers and imprisoned many others.
- The incident strengthened support for the Ghadar Movement.

Concerns

- The incident exposed the hypocrisy of imperial citizenship and racial equality claims.

- Legal systems were weaponised to institutionalise racial exclusion.

Way Forward

- Ensure that migration laws are grounded in dignity, equality, and justice.
- Promote historical acknowledgement and reconciliation regarding colonial injustices.

7.3 HOW B. R. AMBEDKAR SHAPED INDIA'S MODERN LABOUR LAWS

Context

- B. R. Ambedkar played a transformative role in shaping labour welfare and industrial rights in colonial India.
- He viewed labour rights as essential for human dignity and holistic development.

Landmark Labour Reforms

- As Labour Member of the Viceroy's Executive Council (1942–46), Ambedkar introduced major reforms.
- Key reforms included:
 - Reduction of working hours from 12 to 8 hours,
 - Maternity benefits,
 - Provident Funds,
 - Foundation of Employee State Insurance (ESI).
- He also promoted dignity at workplaces through gender-sensitive welfare measures.

Institutionalising Labour Dialogue

- Ambedkar chaired the first Tripartite Labour Conference in 1942.
- He established:
 - Labour Investigation Committee (1944),
 - Sector-specific welfare funds such as the Mica Mines Labour Welfare Fund (1946).

Concerns

- Early industrialisation neglected labour welfare in pursuit of economic growth.
- Lack of central legislation risked uneven labour standards across provinces.

Way Forward

- Uphold constitutional principles under Articles 39 and 43 promoting:
 - Living wages,
 - Decent working conditions,
 - Equal pay for equal work.
- Strengthen political participation and representation of workers.

7.4 SHORT ARTICLES

Dhow

Context

- An Indian sailor was killed after a wooden dhow caught fire near the Strait of Hormuz.

Details

- A dhow is a traditional wooden sailing vessel with a long, narrow hull propelled solely by sails, heavily used in the Indian Ocean and Arabian Sea.

- While historians are unsure if Indians or Arabs invented the dhow, they appeared before 600 C.E. and were central to maritime trade.
- Beypore Uru are Kerala's version of the dhow, purely handcrafted without modern techniques by skilled carpenters and artisans known as Khalasis.
- The Uru-making tradition in Beypore is centuries old, dating back to India's early maritime trade with Mesopotamia.

Somnath Temple

Context:

- The Prime Minister visited the iconic Somnath Temple in Gujarat to mark the 75th anniversary of its restoration by President Rajendra Prasad in 1951.

Details

- Dedicated to Lord Shiva, it is the first of India's 12 *jyotirlinga* shrines and sits at a Triveni Sangam (confluence) of the Kapila, Hiran, and Saraswati rivers.
- The temple faced multiple historical invasions, most notably by Mahmud Ghazni in the 11th century, and was rebuilt by dynasties such as the Paramaras, Chalukyas, and Marathas.
- The current structure was completed under the leadership of Vallabhbhai Patel and showcases the Chalukya style of Hindu temple architecture.
- Geographically unique, the temple is positioned so that no landmass is visible from its seashore in a straight line all the way to Antarctica.

Ichak (Temple Town)

Context

- Ichak, once a flourishing capital and now a fading symbol of Jharkhand's rich cultural past, is facing alarming neglect.

Details

- Its origins date back over two centuries when it was established as a prominent capital by the Singh dynasty under the Ramgarh Raj.
- The town contains a unique blend of Nagara, Bengal, and Mughal architectural styles, prominently visible in the mosque-type domes of its temples.
- Significant structures include the imposing Singh Dwar (royal gateway), the Bhagwati Math Temple, and the Budhiya Mata Temple, where devotees worship a formless deity.

Udayan Fort

Context

- The historic Udayan Fort in Kaushambi (Uttar Pradesh), dating back nearly 2,500 years, is set to undergo official restoration.

Details

- It served as the capital fort of the ancient Vatsa kingdom, one of the 16 Mahajanapadas in the 6th century BCE, under the rule of King Udayana.
- Buddhist and Jain texts record that King Udayana had connections with both Lord Buddha and Mahavira, both of whom visited Kaushambi.
- Architectural evidence reveals a highly planned administrative and residential zone, complete with thick brick walls, moats, and defensive bastions rising up to 50 to 60 feet.

Kanheri Caves

Context

- A proposal to increase entry fees brought the Sanjay Gandhi National Park, home to the ancient Kanheri Caves, into the news.

Details

- Sculpted by Buddhist monks between the 9th and 1st centuries BCE, these caves were an important Buddhist learning center and pilgrimage site.
- They were chiseled out of massive basaltic rock outcroppings deep inside what is now Mumbai's city limits.
- The caves are a prime example of ancient rock-cut Buddhist architecture, featuring viharas, stupas, and prayer halls.

Easter Island

Context

- A study suggests that the ancient, undeciphered Rongorongo script of Easter Island was independently developed before European contact.

Details

- Easter Island (Rapa Nui) is a remote, volcanic Chilean dependency in the Pacific, famous for massive stone statues known as *Moai* .

- Built between the 13th and 16th centuries, the Moai feature carved human heads with soft red stone coverings called "Pukao," created to revere ancestors.
- Rongorongo is the island's writing system consisting of carved glyphs on wooden tablets, which experts believe may be a rare example of an independent invention of writing.

Ru-Soam Bridges

Context

- UNESCO partnered with the Sikkim government to document the indigenous engineering of Ru-Soam bridges.

Details

- Ru-Soam are traditional cane and bamboo suspension bridges built by the Lepcha community in the Khangchendzonga Biosphere Reserve.
- They are constructed entirely from locally available flora, utilizing parallel canes (soamgyang) tied to trees and swinging cane loops (ahool) to create the bridge structure.
- This living engineering practice reflects an advanced indigenous understanding of structural resilience and ecological balance.

Anaimangalam Copper Plates (Leiden Plates)

Context

- The Netherlands returned the 11th-century Anaimangalam Copper Plates to India during the Prime Minister's recent visit.

Historical Significance

- These inscriptions restore a monumental Chola-era record of maritime trade, religious pluralism, and cultural exchanges between South India and Southeast Asia.

Origin & Structure

- The plates date back to the reign of Emperor Rajaraja Chola I (985–1014 CE) and his son Rajendra Chola I, and are locked with a royal seal. They contain a Sanskrit section detailing the genealogy of the Chola rulers, and a Tamil

section documenting administrative and grant details.

Key Grants

- The Tamil inscriptions record Rajaraja's grant of land revenues to the Chudamani Vihara, a Buddhist monastery in Nagapattinam built by Sri Mara Vijayotunga Varman, the ruler of the Srivijaya kingdom (present-day Indonesia).

Journey

- The plates were acquired by Dutch missionary Florentius Camper around 1700 and were housed at Leiden University Library in the Netherlands until their return to India.

Tughlaqabad Fort

Context

- Work on a survey to weed out encroachers and preserve the historic Tughlaqabad Fort has stalled, despite being monitored by the Delhi High Court and occasionally the Supreme Court.

Founding

- Located in South Delhi, it was built in 1321 by Ghiyas-ud-din-Tughlaq (Ghazi Malik), who founded the Tughlaq Dynasty.

Architecture & Layout

- It was established as the 3rd historic city of Delhi and is divided into three sections: a main city area, a citadel with a high tower called Bijai-Mandal, and a royal palace area.

Abandonment & Later Additions

- The fort was abandoned in 1327 after a curse by the Sufi saint Nizamuddin Auliya. The site features Ghiyas-ud-din's tomb, built in 1325, and the adjacent 'Adilabad fortress, which was added by his successor, Muhammad Tughluq.

Kukke Subrahmanya Temple

Context

- The Kukke Sri Subrahmanya temple recently registered an all-time high revenue of ₹167.89 crore during the 2025-26 period.

Background

- It is a 5000-year-old Hindu temple situated on the banks of the Kumaradhara River in the Western Ghats of Dakshina Kannada district, Karnataka.

Religious Significance

- Dedicated to Lord Subramanya (also known as Kartikeya or Murugan), who is worshipped here as the lord of all serpents, making it one of India's foremost centers for Sarpa worship.

Cultural Heritage

- According to Puranic origin, it is one of the seven holy places created by Saint Parashurama, and it is built featuring classic Dravidian design.

Fort St. George

Context

- The Chief Minister of Tamil Nadu recently toured the Secretariat campus and iconic spots within this historic complex.

Details

- Built by the British East India Company in 1644, serving as the first English fortress in India.
- Constructed of brick and stone with tall, thick walls, it houses St. Mary's Church (the oldest Anglican church in India) and the Fort Museum, which displays colonial artifacts.
- The fortified settlement that grew around the fort eventually evolved into modern Chennai.
- Today, it serves as the administrative center of Tamil Nadu, housing the Secretariat and Legislative Assembly.

Pashupatinath Temple

Context

- India recently gifted a special type of sandalwood to the Nepal government for use at this temple.

Details

- Located on the banks of the Bagmati River in Kathmandu, Nepal, and dedicated to Lord Shiva (Pashupati, protector of animals).
- The oldest recorded temple dates from 400 CE, with the current structure built in the 15th century.
- It is designed in the Nepalese pagoda style, featuring a two-storied gold-covered copper roof, four silver-covered main doors, and a huge golden statue of Nandi (Shiva's bull).

- It is a designated UNESCO World Heritage Site.

Daishoin Temple and Itsukushima Shrine

Context

- A fire recently destroyed the Reikado Hall of the Daishoin temple complex, which housed Japan's 'eternal flame' for 1,200 years.

Details

- Located on Miyajima Island (Itsukushima) in Japan, the Buddhist temple of the Shingon School was founded by Kobo Daishi in 806 C.E.
- The island is also home to the UNESCO World Heritage Itsukushima Shrine (built around 1168 C.E.), famous for its "floating" red torii gate and buildings uniquely supported by stilts over the water.

Muga Silk and Shirui Lily Silk

Context

- The Prime Minister of India recently gifted a Muga silk stole and a Shirui Lily silk stole to the Italian Prime Minister.

Details

- Muga silk (the "golden silk" of Assam) is produced by the semi-domesticated *Antheraea assamensis* silkworm.
- The Shirui Lily stole is inspired by the rare bell-shaped flower found only on Manipur's ShiruiKashong peak.
- Muga silk, which received a GI tag in 2007, is prized for its natural golden hue and eco-friendly, dye-free production.
- The Shirui Lily holds deep cultural resonance as a symbol of purity for Manipur's Tangkhul Naga community.

Rupa Tarakasi (Silver Filigree)

Context

- Cuttack's centuries-old silver filigree industry is facing a crisis due to soaring silver prices and import curbs.

Details

- The craft dates back as early as the 12th century and flourished under considerable Mughal patronage.
- Silver bricks are transformed into fine wires or foils to create intricate jewelry and artifacts by traditional craftsmen known as “Rupa Banias” or “Roupyakaras”.
- This highly sophisticated craft of Odisha was awarded a Geographical Indication (GI) tag in 2024.

Kumbhalgarh Fort

Context

- A UNESCO survey recently named the Kumbhalgarh Fort Wall in Rajasthan the second-longest surviving wall in the world.

Details

- Constructed in the 15th century AD by Rana Kumbha, the ruler of the Kingdom of Mewar, in the Aravalli hills.
- Spanning over 36 kilometers, its walls are second only to the Great Wall of China, earning it the title “the Great Wall of India.”
- It is a UNESCO World Heritage Site, the birthplace of legendary King Maharana Pratap, and houses numerous ancient Hindu and Jain temples.

Sanchi Stupa

Context

- Sacred relics belonging to two of Lord Buddha’s most prominent disciples, Sariputra and Maudgalyayana, from the Sanchi Stupa are being sent to Mongolia.

Details

- It was built by the Mauryan emperor Ashoka in the third century BC, and its development

was supported by patronage from Vidisha’s mercantile community.

- It was discovered in abject ruins by British officer Henry Taylor in 1818, and Alexander Cunningham led the first formal survey and excavations in 1851.
- The stupa consists of a base bearing a hemispherical dome (*anda*), surmounted by a squared rail unit (*harmika*) representing the world mountain, and a mast (*yashti*) bearing umbrellas (*chatras*) representing various heavens.
- The entire structure is enclosed by a massive stone railing pierced by four elaborately carved gateways.

Algoza

Context

- Rajasthan’s celebrated folk artist Taga Ram Bheel recently received the Padma Shri in Art for preserving and promoting the traditional music of the Thar Desert through the Algoza.

Details

- It is one of India’s oldest surviving folk wind instruments, consisting of a traditional pair of woodwind flutes played simultaneously.
- One flute plays the melody while the other provides a continuous drone or rhythmic base, creating a hypnotic, layered sound.
- Sound is generated by rapidly breathing into it, requiring musicians to master “circular breathing”—a demanding technique to blow continuously without stopping for breath.
- It is widely associated with the desert folk music of Rajasthan, Punjab, Sindh, and parts of western India and Pakistan, creating performances that sound seamless and meditative.

8. GEOGRAPHY AND DISASTER MANAGEMENT

8.1 SHORT ARTICLES

Cell Broadcast System (CBS)

Context

- The Union Government launched the **Cell Broadcast System (CBS)** to deliver real-time emergency alerts directly to mobile devices during disaster events.

What is the Cell Broadcast System?

- The **Centre for Development of Telematics (C-DOT)**, under the **Department of Telecommunications (DoT)**, develops this technology in collaboration with the **National Disaster Management Authority (NDMA)** and the **Ministry of Home Affairs (MHA)**.
- The system integrates with the **SACHET (National Disaster Alert Platform)** to disseminate critical warnings across specific geographical zones.
- The system broadcasts messages from a central platform to **Base Transceiver Stations (cell towers)**, which push alerts to all mobile handsets within a signal radius without requiring **mobile data** or **internet connectivity**.
- The system utilizes the **Common Alerting Protocol (CAP)**, as recommended by the **International Telecommunication Union (ITU)**.

Key Features

- **Precise Geo-Targeting:** Authorities target alerts to specific districts or neighborhoods, preventing unnecessary panic in unaffected areas.
- **Unmissable Alerts:** Messages override **silent** or **"Do Not Disturb" (DND)** modes, triggering loud siren tones and screen pop-ups.
- **Inclusivity:** The platform supports over **19 regional Indian languages** and provides **read-aloud capabilities** for visually impaired citizens.
- **Privacy-Friendly:** The network-independent architecture functions without collecting **personal data, phone numbers**, or requiring user registration.

Salaya Port

Context

- The **Union Government** temporarily designates **Porbandar** as an **Immigration Check Post (ICP)** for the non-notified ports of **Salaya** and **Okha** to counter escalating Middle East conflicts and rough monsoon conditions.

Details

- Situated in the **Devbhoomi Dwarka** district of **Gujarat** within the sheltered contours of the **Gulf of Kutch**. The port accommodates **100–200 wooden dhows** simultaneously, offering a safe tidal harbor protected by natural creeks and mangroves alongside cost-effective dry-dock repair and maintenance services. Salaya facilitates nearly **5 lakh tonnes** of annual exports—including livestock, rice, sugar, and onions—connecting the western Indian seaboard with **West Asia** and **East Africa**.

Gulmarg Gondola

Context

- Rescuers safely evacuate over **300 tourists** during a **joint operation** after a technical snag halts the **Gulmarg Gondola** ropeway in **Jammu and Kashmir**.

Details

- The ropeway operates in the alpine resort town of **Gulmarg** within the **Baramulla** district of **Jammu and Kashmir**, serving as a core anchor of the regional tourism economy. It ranks as **Asia's longest and highest** gondola ride, and the **second longest and highest** globally, ascending to a maximum altitude of **4,200 meters** near **Apharwat Peak**.

Kalai-II Hydro Electric Project


Context

- The Cabinet Committee on Economic Affairs approves a **₹14,105.83 crore** investment to construct the **1200 MW Kalai-II Hydro Electric Project** in **Arunachal Pradesh**.

Details:

- The project, situated on the **Lohit River** in the **Anjaw District**, marks the first major hydro development in the **Lohit Basin**. A joint venture between **THDC India Limited** and the **Government of Arunachal Pradesh** executes

the construction, which includes **29 kilometers** of new roads and bridges. The facility features **six 190 MW units** and **one 60 MW unit**, targeting an annual generation of **4852.95 MU**.



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9. GOVERNMENT SCHEMES

9.1 NATIONAL FAMILY HEALTH SURVEY-6 (NFHS-6)

Context

- The Ministry of Health and Family Welfare (MoHFW) released the National Family Health Survey-6 (NFHS-6) report for the 2023-24 period.

Key Positive Trends & Achievements

- **Population & Fertility:** Stable Total Fertility Rate (TFR) at 2.0, below the replacement threshold of 2.1.
- **Maternal Health:** Institutional deliveries rise to 90.6%..
- **Antenatal Care (ANC):** Overall ANC registration hits 95.9%..
- **Child Nutrition:** Child stunting drops to 29.3%, and severe acute wasting falls to 5.2%.
- **Childhood Immunization:** Health workers fully vaccinate 87.1% of children aged 12-23 months. The Universal Immunization Programme doubles rotavirus vaccine coverage to 85.4% using digital tracking and cold-chain logistics.
- **Public Healthcare Trust:** Government hospitals administer 95.6% of all childhood immunizations.
- **Financial Protection:** Household health insurance coverage jumps to 60.2%, driven heavily by the rapid expansion of Ayushman Bharat (PM-JAY).
- **Women's Empowerment:** Women internet usage increased to 64.3%, and women utilizing functional bank accounts reached 89.0%.

Emerging Challenges

- **Caesarean Deliveries:** Increase in C-Section births, jumping to 27.2%.
- **Infant Feeding Gaps:** Over one-third of infants lack proper nutrition transitions; 40.5% of

children aged 6-8 months fail to receive vital solid or semi-solid foods alongside breastmilk.

- **Immunization Shortfalls:** Institutional gaps leave 12.9% of children (12-23 months) under-vaccinated and missing full, multi-dose schedules.
- **Non-Communicable Diseases (NCDs):** Changing dietary habits and lifestyle shifts drive a rapid spread of unchecked chronic illnesses.
- **The Dual Burden:** India faces public health contradiction where rising adult overweight and obesity conditions expand alongside persistent childhood under nutrition.
- **Micronutrient Non-Compliance:** Only 37.8% of pregnant mothers consistently consume necessary Iron Folic Acid supplements for the required 180 days.

Policy Recommendations

- **Digital Micro-Planning:** Deploy AI-driven local micro-planning via the U-WIN digital dashboard to trace and vaccinate under-immunized sub-district populations.
- **Nutrition Scale-Up:** Scale up Saksham Anganwadi and POSHAN 2.0 to provide infant feeding counseling through local community networks.
- **Disease Screening:** Enforce comprehensive NCD screening protocols via Health & Wellness Centres to tackle lifestyle diseases early.
- **Behavioral Change:** Launch targeted behavioral change campaigns to educate pregnant women on strict prenatal care and continuous iron supplementation.
- **Insurance Integration:** Automate onboarding processes for Ayushman Bharat PM-JAY to provide immediate financial protection for the remaining 39.8% of uninsured households.

9.2 SHORT ARTICLES

Logistics Port Performance Index (LPPI)

Context

- The Union Minister launched the **Logistics Port Performance Index (LPPI)** for FY 2024-25 during the 37th Foundation Day of the **Jawaharlal Nehru Port Authority (JNPA)**.

About Logistics Port Performance Index (LPPI)

Core Framework

- Authorities **base** the LPPI on the national **Sagar Aankalan** framework.
- The index **aligns** directly with the **PM Gati Shakti Master Plan** to streamline national infrastructure and connectivity.

Key Functions and Evaluation Metrics

- The LPPI **benchmarks** Indian ports across three specific cargo verticals: **Dry Bulk, Liquid Bulk, and Container Cargo**.
- The system **evaluates** real-time port performance using strict operational indicators.
- Administrators **measure** efficiency using metrics that include **vessel turnaround time, berth idle time, pre-berthing waiting time, and ship berth day output**.
- The evaluation methodology **balances** absolute performance scores with **year-on-year improvement metrics**.

The SARTHAK-PDS Scheme

Context

- The **Cabinet Committee on Economic Affairs (CCEA)** approves the continuation and integration of public distribution programs into a unified, technology-driven umbrella scheme called **SARTHAK-PDS**.

What is the SARTHAK-PDS Scheme?

- The **Scheme for Assistance in Ration Transport and Handling-Income with Automation in PDS (SARTHAK-PDS)** consolidates public distribution components to streamline the implementation of the **National Food Security Act, 2013 (NFSA)**.

- It integrates **Assistance to State Agencies** for intra-state foodgrain movement and **Fair Price Shop (FPS)** dealer margins with the **Scheme for Modernization and Reforms through Technology in Public Distribution System (SMART PDS)**.
- The **Department of Food and Public Distribution** under the **Ministry of Consumer Affairs, Food and Public Distribution** administers the scheme.

Key Features of the Scheme

- Financial Restructuring:** Streamlines Central financial assistance to meet the actual operational expenditures of States and Union Territories for intra-state grain handling, storage, and transport.
- Dealer Commission Standardization:** Guarantees higher, standardized commissions for **FPS dealers** linked with mandatory automation frameworks to sustain local ration shops.
- Advanced Technological Core:** Deploys **Artificial Intelligence (AI)** and **Machine Learning (ML)** for predictive supply-chain tracking, **Natural Language Processing (NLP)** for multi-lingual grievance redressal, and **Blockchain Technology** for secure, unalterable ledger tracking.
- AI-Enabled Modules:** Launches three specialized AI modules named **NIRMAL, ASHA, and SAKSHAM** to optimize daily operations and detect fraud.
- Unified Data Architecture:** Mandates a standardized, interoperable database across all **36 States and UTs** by integrating existing platforms like **IM-PDS, Mera Ration, Anna Mitra, and Anna Sahayata**.
- State Command Control Centres:** Establishes centralized state-level hubs to provide real-time administrative oversight of supply chains, inventory levels, and **Electronic Point of Sale (e-PoS)** devices.
- Quality Standardization:** Enforces **ISO-Certified** process guidelines across all supply

depots to ensure material safety and institutional accountability.

PM-WANI (Prime Minister's Wi-Fi Access Network Interface) Scheme

Context

- The **Department of Telecommunications (DoT)** introduces a series of user-friendly reforms under the **PM-WANI** framework to accelerate public Wi-Fi adoption and improve digital connectivity across India.

What is PM-WANI?

- Launched in 2020, it is a digital public infrastructure framework that expands broadband internet access through unlicensed public Wi-Fi networks.
- The **Department of Telecommunications (DoT)** under the **Ministry of Communications** administers the scheme.
- **Objective:** Democratizes internet access by enabling small local shops, tea stalls, and neighborhood establishments to act as last-mile internet service providers.

Core Elements of the PM-WANI Ecosystem

- **Public Data Office (PDO):** Delivers last-mile services by purchasing commercial internet bandwidth from local telecom or internet service providers (TSPs/ISPs) and operating compliant Wi-Fi hotspots.
- **Public Data Office Aggregator (PDOA):** Manages the backend central layer, aggregates multiple PDOs, and provides technical services including user authorization, network security, and accounting.
- **App Provider:** Develops and maintains mobile applications for user registration, consumer authentication, and discovering nearby PM-WANI hotspots.
- **Central Registry:** Maintains the master directory of all certified App Providers, PDOAs, and PDOs to ensure interoperability, managed by the **Centre for Development of Telematics (C-DoT)**.

Key Structural Features

- **Zero Licensing and Fees:** Exempts last-mile PDOs from licenses, registrations, and fees to promote ease of doing business.

- **Open Interoperability:** Allows users authenticated through one App Provider to access public Wi-Fi across any PDO hotspot nationwide without multiple registrations.

Recent 2026 Upgrades

- **QR-Based Laptop Connection:** Eliminates manual log-ins by allowing users to link laptops to secure networks by scanning a dynamic QR code via an authenticated smartphone app.
- **Sachet Data Plans:** Advises hotspot operators to offer affordable, short-duration validity plans of **15, 30, and 60 minutes** to target transient users.

Bharat Audyogik Vikas Yojna (BHAVYA) Scheme

Context

- The **Department for Promotion of Industry and Internal Trade (DPIIT)**, under the **Ministry of Commerce and Industry**, releases the operational guidelines for the **BHAVYA Scheme**.

What is the BHAVYA Scheme?

- **Objective:** Develops **100 globally competitive industrial parks** featuring **plug-and-play facilities** to boost manufacturing capacity.
- **Financial Outlay:** Government allocates **₹33,660 crore**, including **₹60 crore** for administrative expenses.
- **Duration:** Program spans **six years**, running from **FY 2026-27 to 2031-32**.
- **Strategic Alignment:** Integrates **PM Gati Shakti** principles to ensure multi-modal connectivity and proximity to logistics hubs.

Key Features and Eligibility

- **Challenge-Based Selection:** Government selects projects through a competitive model rather than discretionary allocation, targeting **50 proposals** in the first phase.
- **Land Requirements:** Non-hilly states must provide at least **100 acres**, while hilly states, the **North-East Region**, and **Union Territories** require a minimum of **25 acres**.
- **Land Ownership:** Sponsoring agencies must secure **90% encumbrance-free land** before applying.

- **Implementation Framework:** Each park operates under a **Special Purpose Vehicle (SPV)** incorporated under the **Companies Act, 2013**, involving the **National Industrial Corridor Development and Investment Trust (NICDIT)** and state agencies.
- **Private Participation:** Private developers act as co-promoters and may self-allot up to **25% of the land**.

Significance

- **Operational Efficiency:** The scheme provides pre-certified, fully serviced factory sheds, reducing **gestation periods** for investors.
- **Sustainability:** Mandates include **Common Effluent Treatment Plants (CETPs)** and **renewable energy infrastructure** to meet green supply-chain standards.
- **Digital Governance:** Utilizes **GIS-based tracking** and **digital single-window clearance** to streamline land management and construction approvals.
- **Worker-Centric Design:** Incorporates on-site worker housing, day-care facilities, and skill development centers to stabilize the labor force.

National Mission for Sustainable Agriculture (NMSA)

Context

- The Government has set a target of bringing 100 lakh hectares under micro-irrigation over the five-year period from 2025-26 to 2029

under the National Mission for Sustainable Agriculture.

Founding

- Launched in 2014-15 under the National Action Plan on Climate Change (NAPCC) and included under the Pradhan Mantri Rashtriya Krishi Vikas Yojana (PMRKVY) umbrella since 2022-23.

Mechanism

- Promotes climate-resilient farming through interventions like Rainfed Area Development (RAD), Per Drop More Crop (PDMC), and Soil Health Management (SHM).

Mission Queen Pineapple

Context

- The Union Minister for the Development of North Eastern Region (MDoNER) recently launched this mission to promote Tripura's GI-tagged Queen Pineapple.

Details

- Designed as a three-year implementation roadmap running from Q2 FY2026 to Q4 FY2028.
- It aims to establish an integrated pineapple value-chain ecosystem within Tripura to address structural gaps and utilize discarded leaves to generate wealth.
- Unlocks the premium market potential of the state fruit of Tripura. The Queen Pineapple is renowned for its sweet-tart flavor, pleasant aroma, and rich nutritional profile (vitamins A, B, C, and minerals).

9.3 SNIPPETS

Topics	Details
Mission Mausam	<ul style="list-style-type: none"> • Under the Mission Mausam initiative, the Union Government launched SkyCast: an integrated atmospheric sensing system for aviation weather. • "Mission Mausam" is a national initiative launched by the Ministry of Earth Sciences (MoES) in 2024. Its core objective is to improve the country's weather forecasting accuracy and make India a "Weather-Ready and Climate-Smart" nation capable of mitigating extreme climate events.
Nirbhay Raho Initiative	<ul style="list-style-type: none"> • The Ministry of Panchayati Raj conducts a three-day national Training of Trainers (ToT) program to implement legal provisions for women's security under the 'Nirbhay Raho' initiative. • The Ministry of Panchayati Raj funds this gender-responsive governance

	<p>program through the non-lapsable Nirbhaya Fund to eliminate rural gender-based violence. Nirbhay Netri empowers 14.5 lakh Elected Women Representatives (EWRs) through intensive capacity building and legal literacy. Nirbhay Chetna sensitizes 17.5 lakh Male Elected Representatives to dismantle patriarchal biases and support local safety campaigns. Nirbhay Drishti strengthens rural surveillance infrastructure by funding CCTV security camera installations at strategic locations within Gram Panchayats.</p>
<p>National e-Governance Service Delivery Assessment (NeSDA) 2025 Portal</p>	<ul style="list-style-type: none"> • The Department of Administrative Reforms and Public Grievances (DARPG) launches the National e-Governance Service Delivery Assessment (NeSDA) 2025 Portal. • DARPG deploys this biennial assessment framework, modeled on the United Nations e-Government Survey's Online Service Index (OSI), to measure the maturity and delivery of Government-to-Citizen (G2C) and Government-to-Business (G2B) digital services.
<p>PRADHAN MANTRI ANUSUCHIT JAATI ABHYUDAY YOJNA (PM-AJAY)</p>	<ul style="list-style-type: none"> • The Ministry of Social Justice and Empowerment launches the centralized PM-AJAY Portal and AJAY Mobile Application to streamline the implementation of welfare schemes. • The PM-AJAY functions as a 100% Centrally Sponsored umbrella initiative, consolidating the Pradhan Mantri Adarsh Gram Yojana (PMAGY), Special Central Assistance to Scheduled Castes Sub Plan (SCA to SCSP), and Babu Jagjivan Ram Chhatrawas Yojana (BJRCY). Launched in FY 2021-22, the scheme targets poverty reduction among Scheduled Caste (SC) communities through three core pillars: developing Adarsh Grams (villages with >40% SC population), providing grants for livelihood and skill development, and constructing hostels in NIRF-ranked educational institutions. The new digital infrastructure mandates geo-tagged and time-stamped reporting via the AJAY Mobile App, ensuring real-time validation.
<p>Mission Mausam</p>	<ul style="list-style-type: none"> • The Union Government inaugurates the SkyCast system at Indira Gandhi International (IGI) Airport to modernize atmospheric monitoring and enhance aviation safety under the Mission Mausam initiative. • The system utilizes high-resolution sensors including Radar Wind Profiler (RWP), Microwave Profiling Radiometer (MPR), SODAR, Ground-based Fog Aerosol Spectrometer (GFAS), and CL61 Lidar-based Ceilometer to profile atmospheric conditions up to 10 kilometers. The system builds upon research from the Winter Fog Experiment (WiFEX), a joint initiative launched in 2015 by the Indian Institute of Tropical Meteorology (IITM) and the India Meteorological Department (IMD). Mission Mausam is a ₹2,000-crore national initiative to improve weather forecasting accuracy, early warning systems, and climate resilience through advanced AI, supercomputing, and next-generation radar networks.
<p>ULLAS INITIATIVE</p>	<ul style="list-style-type: none"> • The Ministry of Education declares Sikkim as India's fifth "fully literate" state under the ULLAS (Understanding Lifelong Learning for All in Society) initiative. • The ULLAS initiative, launched in 2022 to implement National Education Policy (NEP) 2020 recommendations, targets 5 crore non-literate learners aged 15 years and above by 2027. By achieving an adult literacy rate exceeding 95%, Sikkim joins Mizoram, Goa, Tripura, and Himachal Pradesh

	<p>in reaching this milestone. To sustain this momentum, the government promotes the ULLAS App for digital tracking, integrates the DIKSHA portal for learning resources, and encourages a community-led mass movement through Samajik Chetna Kendras.</p>
JEEVAN APP	<ul style="list-style-type: none"> The Ministry of Social Justice and Empowerment (MoSJE) launched the JEEVAN App to digitally empower senior citizens and formalize the rapidly growing eldercare economy. JEEVAN Application is a single-window digital ecosystem providing senior citizens with safety and welfare support. It features a Unified Welfare Gateway for healthcare and pensions, an Emergency Matrix with a one-touch panic button linked to the national helpline, and geo-tagged Senior Citizen Homes.
SHATAYU DASHBOARD	<ul style="list-style-type: none"> The Ministry of Social Justice and Empowerment (MoSJE) launched the SHATAYU Dashboard to digitally empower senior citizens and formalize the rapidly growing eldercare economy. SHATAYU Dashboard is a data-driven platform formalizing elderly caregiving into a regulated professional economy. It facilitates District-Level Micro-Mapping for real-time caregiver tracking, monitors certification benchmarks, and identifies geographical gaps to deploy skill-development camps in underserved rural areas.
AYUSHMAN BHARAT DIGITAL MISSION	<ul style="list-style-type: none"> The Ayushman Bharat Digital Mission (ABDM) links over 100 crore health records with Ayushman Bharat Health Accounts (ABHA) to digitize the healthcare ecosystem. ABHA assigns a 14-digit unique health number to citizens, enabling secure sharing of medical records across hospitals, clinics, and laboratories. Citizens enroll for free using Aadhaar or a driving license; this enrollment does not automatically register users in AB-PMJAY or replace the Central Government Health Scheme (CGHS). The system stores health records at their creation site while the ABDM platform facilitates secure linking and access.
PM Vishwakarma Scheme	<ul style="list-style-type: none"> The West Bengal government initiates the rollout of the PM Vishwakarma Yojana. Launched by the Prime Minister in 2023, this Central Sector Scheme integrates traditional practitioners into the formal economy. The Ministry of Micro, Small and Medium Enterprises (MSME) oversees the program, which supports 18 identified traditional trades—ranging from carpentry and blacksmithing to pottery and tailoring—by preserving the Guru-Shishya Parampara. Beneficiaries receive comprehensive support, including a PM Vishwakarma Certificate, basic and advanced skill training with a ₹500 daily stipend, and a ₹15,000 toolkit incentive. The government provides collateral-free enterprise development loans of up to ₹3 lakh at a concessional 5% interest rate.
PADMA AWARDS 2026	<ul style="list-style-type: none"> President Droupadi Murmu confers Padma Awards for the year 2026. The President approves 131 awards for 2026, comprising 5 Padma Vibhushan, 13 Padma Bhushan, and 113 Padma Shri awards. The selection features 19 women, 16 posthumous awardees, and 6 individuals from the

	<p>Foreigner/NRI/PIO/OCI category. Padma Vibhushan is nation's second-highest civilian honor goes to Dharmendra Singh Deol (Posthumous, Maharashtra), Shri K T Thomas (Kerala), Ms. N Rajam (Uttar Pradesh), Shri P Narayanan (Kerala), and Shri V S Achuthanandhan (Posthumous, Kerala).</p>
<p>AYUSH ANUDAN PORTAL</p>	<ul style="list-style-type: none"> The Union Ministry of Ayush launches the Ayush Anudan Portal to digitize and streamline the management of funding grants for Central Sector Schemes. The platform operates under the Ayush Grid initiative to provide a 100% paperless environment for the submission, processing, and tracking of financial grants. It integrates with NITI Aayog's NGO Darpan to automate applicant authentication and utilizes a Single-Window Access system via the My Ayush Integrated Services Portal (MAISP) to ensure operational transparency and accountability.
<p>PROJECT SAKSHAM</p>	<ul style="list-style-type: none"> The National Highway Authority of India (NHAI) partners with the Vertis Foundation to launch Project Saksham. The program operates 12 training centers across India, providing market-aligned vocational training in sectors such as electrical work, plumbing, appliance repair, tailoring, and nursing. By bridging the gap between infrastructure expansion and community welfare, the project empowers participants to achieve economic self-reliance, women constitute over 80% of the beneficiaries.
<p>SEEDS Initiative</p>	<ul style="list-style-type: none"> The Ministry of External Affairs (MEA) deploys the SEEDS (Supply of Equipment for Efficient Development of SMEs) initiative to provide technical machinery and infrastructure support to Trinidad and Tobago (T&T). India leverages SEEDS to strengthen South-South cooperation and advance UN Sustainable Development Goals (SDGs) by enhancing productivity for SMEs and farmers. The initiative recently delivered a modern agro-processing facility in South Trinidad to help reduce the nation's \$7.3 billion food import bill.
<p>SEHAT Mission</p>	<ul style="list-style-type: none"> The Indian Council of Medical Research (ICMR) and the Indian Council of Agricultural Research (ICAR) launch the SEHAT (Science Excellence for Health through Agricultural Transformation) mission. The initiative targets the dual disease burden by utilizing biofortified crops to eliminate malnutrition and functional foods to combat non-communicable diseases (NCDs) like diabetes and hypertension. The mission strengthens the One Health approach by improving disease surveillance at the human-animal-environment interface.
<p>JANANI PLATFORM</p>	<ul style="list-style-type: none"> The Union Ministry of Health and Family Welfare (MoHFW) launches the JANANI (Journey of Antenatal, Natal and Neonatal Integrated Care) platform. The JANANI platform replaces the legacy Reproductive and Child Health (RCH) portal, providing a unified, service-oriented digital ecosystem for tracking health records throughout a woman's reproductive lifecycle. ASHAs, ANMs, and Anganwadi workers manage real-time data entry, while automated alerts for high-risk pregnancies and due-date reminders facilitate proactive care.

Topics	Details
Prime Minister's Employment Generation Programme (PMEGP)	<ul style="list-style-type: none"> It facilitated the establishment of over 4 lakh micro-enterprises and generated employment for over 36 lakh people during the 15th Finance Commission cycle. A central sector, credit-linked subsidy scheme launched in 2008 and administered by the Ministry of MSME. Implemented by the Khadi and Village Industries Commission (KVIC) to create self-employment for first-generation entrepreneurs. No income ceiling applies; however, individuals must be 18+ and possess at least an VIII standard pass for larger projects.
SVAMITVA Scheme	<ul style="list-style-type: none"> An IIM Ahmedabad survey highlighted SVAMITVA as a potent tool for formalising rural residential land and improving gram panchayat finances. A central sector scheme of the Ministry of Panchayati Raj launched on National Panchayati Raj Day in 2021. Provides a 'Record of Rights' and property cards to village household owners by mapping rural inhabited (Abadi) land using drone technology. Aims to enable rural citizens to use property for credit, reduce legal disputes, and support property tax determination. Implemented by the Survey of India; agricultural lands are excluded.
ECLGS 5.0	<p>The Union Cabinet approved Emergency Credit Line Guarantee Scheme (ECLGS) 5.0 with a ₹2.55 lakh crore package. It aims to support MSMEs and the aviation sector amid economic stress caused by the West Asia conflict.</p> <p>Features of the Scheme</p> <ul style="list-style-type: none"> Collateral-free, government-guaranteed loans. Zero guarantee fee. Sovereign guarantee: <ul style="list-style-type: none"> 100% for MSMEs, 90% for airlines. Loan tenure: <ul style="list-style-type: none"> 5 years for MSMEs, 7 years for airlines.
Advance Authorization (AA) Scheme	<ul style="list-style-type: none"> The government recently capped the quantity of gold that can be imported under the Advance Authorisation Scheme. It facilitates physical exports by allowing the duty-free import of inputs, packaging, and fuel used to manufacture export products. Imported inputs are exempted from Basic Customs Duty, Anti-dumping duty, Integrated tax, and Compensation Cess. The authorization is valid for 12 months and is overseen by the Directorate General of Foreign Trade (DGFT). It is issued to both Manufacturer Exporters and Merchant Exporters who are tied to supporting manufacturers.
BHAVYA Scheme (Bharat Audyogik Vikas Yojna)	<ul style="list-style-type: none"> The central government recently announced the launch of guidelines for this Central Sector Scheme. A six-year initiative running from 2026-27 to 2031-32, implemented through Special Purpose Vehicles (SPVs) incorporated under the Companies Act, 2013. Provides for the development of both greenfield and eligible brownfield industrial parks.

	<ul style="list-style-type: none"> • Minimum land requirements are fixed at 100 acres for non-hilly states and 25 acres for hilly/smaller states. • Designed to support the Make in India and PM Gati Shakti programmes by creating investment-ready, world-class manufacturing zones equipped with plug-and-play infrastructure and multimodal logistics connectivity.
SHE-MART Initiative	<ul style="list-style-type: none"> • The Ministry of Rural Development (MoRD) has initiated a nationwide roadmap to create women-led rural marketing ecosystems. • Implemented under the Deendayal Antyodaya Yojana-National Rural Livelihoods Mission. • Establishes permanent, community-owned retail outlets managed by local women's groups within cluster-level federations of self-help groups (SHGs). • Provides direct formal market access for SHG-made goods (handicrafts, food products, agricultural produce) without intermediaries, moving women up the economic value chain from income earners to sustainable business owners.
PM-AJAY Scheme (Pradhan Mantri Anusuchit Jaati Abhyuday Yojana)	<ul style="list-style-type: none"> • The Ministry of Social Justice and Empowerment launched the PM-AJAY portal and mobile app to fully digitize the scheme's implementation across 47,000 villages. • Launched in FY 2021-22 as a merger of three former Centrally Sponsored Schemes: Pradhan Mantri Adarsh Gram Yojana, Special Central Assistance to Scheduled Caste Sub Plan, and Babu Jagjivan Ram Chhatrawas Yojana. • Focuses on villages with 50% or more Scheduled Caste (SC) population, transforming them into 'Adarsh Grams'. • It provides grants-in-aid for socio-economic projects, comprehensive livelihood projects, skill development, and the construction of hostels in higher educational institutions. • Aims at the comprehensive socio-economic upliftment of SC communities by reducing poverty, enhancing educational opportunities, and filling critical gaps in infrastructure.
SARTHAK Public Distribution System Scheme	<ul style="list-style-type: none"> • The Cabinet Committee on Economic Affairs approved the SARTHAK (Scheme for Assistance in Ration Transport and Handling-Income with Automation in PDS) scheme. • Set to run until 2031, it aims to create a single administrative structure to strengthen the implementation of the National Food Security Act, 2013. • It integrates two ongoing initiatives and creates a unified database using advanced technologies such as Artificial Intelligence (AI), Machine Learning (ML), Natural Language Processing (NLP), and Blockchain. It introduces ISO-certified process frameworks. • Streamlines operations in the PDS, strengthens transparency and security standards, and introduces AI-enabled analytics and grievance redressal systems for real-time monitoring.
JANANI Platform	<ul style="list-style-type: none"> • Launched by the Union Ministry of Health and Family Welfare. • A digital platform tracking maternal and child health services (antenatal care, delivery, immunization) for women of reproductive age. • Introduces QR-enabled digital Maternal Child Health cards, automated alerts for high-risk pregnancies, and self-registration. • Built with interoperability features to integrate with national platforms like U-WIN and POSHAN.

<p>Swasth Bharat Portal</p>	<ul style="list-style-type: none"> • Launched to unify fragmented health programme systems across India. • A one-stop aggregator platform enabling interoperability via APIs and reducing redundant data entry. • Provides easy access to data visualization tools for evidence-based planning and monitoring at local levels. • Ayushman Bharat Digital Mission -compliant, enabling seamless and secure exchange of patient health records through the Ayushman Bharat Health Account (ABHA).
<p>Rashtriya Bal Swasthya Karyakram (RBSK 2.0)</p>	<ul style="list-style-type: none"> • The Health Ministry released revised guidelines for the scheme. • Screens children (birth to 18 years) for "4Ds": Defects at birth, Diseases, Deficiencies, and Development delays. • The expanded 2.0 scope covers mental health issues, behavioural concerns, and non-communicable diseases (diabetes, hypertension). • Introduces digital health cards, real-time data tracking, and provides free tertiary management at District Early Intervention Centres.
<p>Aarogya Maitri (BHISHM)</p>	<ul style="list-style-type: none"> • India deployed this portable healthcare infrastructure in Jamaica. • A humanitarian emergency medical aid program reflecting India's commitment to global health and disaster relief. • Operates using compact, portable "mini cubes" packed with essential medicines and equipment. • Specifically designed for rapid deployment across various disaster situations and emergencies.
<p>Incentive Scheme for Promotion of Critical Mineral Recycling</p>	<ul style="list-style-type: none"> • The Ministry of Mines approved 58 companies to participate. • Part of the National Critical Mineral Mission aiming to build supply chain resilience and domestic extraction capacity. • Eligible feedstock includes e-waste and Lithium-Ion Battery (LIB) scrap. • Spans 6 years (FY 2025-26 to 2030-31), offering a 20% capital subsidy on machinery and tranches of operational subsidies tied to sales.
<p>SEHAT Mission</p>	<ul style="list-style-type: none"> • The Union Ministers for Health and Agriculture jointly launched the 'SEHAT Mission' to translate agricultural advancements into tangible health outcomes. • Standing for "Science Excellence for Health through Agricultural Transformation", it is a joint initiative by ICAR and ICMR. • It focuses heavily on developing and evaluating biofortified, nutrient-dense crop varieties to actively combat malnutrition. • It addresses occupational health risks for farm workers and promotes "functional foods" to prevent and manage non-communicable diseases. • It strengthens "One Health" preparedness by integrating surveillance, diagnostics, and research across the human-animal-environment interface.
<p>Ayushman Bharat Digital Mission (ABDM)</p>	<ul style="list-style-type: none"> • Achieved a major milestone with over 100 crore health records successfully linked with Ayushman Bharat Health Accounts (ABHA). • Implemented by the National Health Authority (Ministry of Health and Family Welfare) with a 5-year timeline from 2021-22 to 2025-26. • Builds a comprehensive digital health ecosystem through key components: the 14-digit ABHA number, Healthcare Professionals Registry (HPR), Health Facility Registry (HFR), and the Unified Health Interface (UHI).

	<ul style="list-style-type: none"> • Empowers citizens to securely access and share their health records digitally, ensuring informed consent-driven data exchange.
<p>UMMID Programme</p>	<ul style="list-style-type: none"> • The Union Minister for Science & Technology dedicated the UMMID Programme to the nation. • A national initiative led by the Department of Biotechnology (Ministry of Science & Technology). • Functions through three major pillars: NIDAN Kendras for diagnostics and counseling, outreach programs in aspirational districts, and specialized capacity-building training centers. • Represents India's first comprehensive effort to address inherited rare genetic disorders through early intervention and affordable healthcare, supporting the National Policy for Rare Diseases 2021.
<p>National One Health Mission</p>	<ul style="list-style-type: none"> • The Fifth Meeting of the Scientific Steering Committee on the National One Health mission was recently held in New Delhi. • Launched in 2024, with the Indian Council of Medical Research (ICMR) serving as the nodal agency under the Office of the Principal Scientific Adviser (PSA). • Follows a two-tiered governance structure consisting of an Executive Committee (chaired by the MoHFW) and a Scientific Steering Committee (chaired by the PSA). • Safeguards national health by unifying human, animal, and environmental surveillance systems to ensure robust pandemic preparedness and integrated disease control.
<p>PM-WANI (Prime Minister Wi-Fi Access Network Interface)</p>	<ul style="list-style-type: none"> • The Department of Telecommunications (DoT) recently introduced a series of user-friendly reforms under this framework. • Launched by the Department of Telecommunication in 2020. • Overcomes the digital divide by proliferating public Wi-Fi hotspots, enabling local shopkeepers to become Public Data Office (PDO) operators without needing a DoT license, registration, or fees. These are managed by PDO Aggregators and accessed via an App. • Creates robust digital communications infrastructure in rural areas and empowers individuals and businesses to participate in the digital economy.