01-04-2026

PRELIMS ARTICLES:

1. Yard 1280 (Shachi):

Context: Yard 1280 (Shachi), the first of eleven Next Generation Offshore Patrol Vessels (NGOPVs), was launched at M/s GSL, Goa.

About Yard 1280 (Shachi):

- Next Generation Offshore Patrol Vessels (NGOPVs) are being built simultaneously at Goa Shipyard Limited and Garden Reach Shipbuilders & Engineers.
- These indigenous ships will strengthen the existing fleet of Offshore Patrol Vessels (OPVs/NOPVs).
- NGOPVs are designed for multi-domain roles including defence, surveillance, search & rescue, HADR, anti-piracy, and protection of offshore assets.
- The ships are named after Indian mythological themes.
- The first NGOPV (ex-GSL) is named 'Shachi', meaning "one who renders assistance."
- The crest of NGOPVs features the constellation Ursa Major and a red-white lighthouse symbolizing guidance and vigilance.

2. Malwan:

Context: 'Malwan', the second of eight Anti-Submarine Warfare Shallow Water Craft (ASW SWC) built by Cochin Shipyard Limited (CSL), Kochi, was delivered to the Indian Navy on 31 Mar 2026.

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About Malwan:

- 'Malwan' is an indigenously designed and built naval vessel by Cochin Shipyard Limited at Kochi as per Indian Navy specifications.
- It complies with classification standards of DNV.
- The ship is named after Malwan, reflecting the maritime legacy of Chhatrapati Shivaji Maharaj.
- It continues the legacy of the earlier INS Malwan, a naval minesweeper decommissioned in 2003.
- The vessel is designed for underwater surveillance, Anti-Submarine Warfare (ASW), Low Intensity Maritime Operations (LIMO), and mine warfare.
- It is about 80 metres long with a displacement of around 1,100 tonnes.
- Equipped with waterjet propulsion, torpedoes, anti-submarine rockets, advanced radars, and sonar systems.
- With over 80% indigenous content, it strengthens India's self-reliance under the 'Aatmanirbhar Bharat' initiative.

3. Sanshodhak (Yard 3028):

Context: Sanshodhak (Yard 3028), the last Survey Vessel (Large) ship steered by the Indian Navy's Warship Design Bureau, being built at Garden Reach Shipbuilders & Engineers Ltd (GRSE), Kolkata was delivered to the Indian Navy on 30 Mar 2026.

About Sanshodhak (Yard 3028):

- Contract for four Survey Vessel (Large) ships was signed on 30 October 2018.
- Earlier ships of the class—INS Sandhayak, INS Nirdeshak, and INS Ikshak—were commissioned in 2024–2025.
- The vessels are designed as per rules of Indian Register of Shipping.
- Built by Garden Reach Shipbuilders & Engineers, Kolkata.

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- The ships are capable of coastal and deep-water hydrographic surveys, including port and harbour approaches.
- They help in determining navigational routes and channels.
- Also used for collecting oceanographic and geophysical data for defence and civilian purposes.
- 'Sanshodhak' has a displacement of about 3400 tonnes and length of 110 metres.
- Equipped with advanced systems like AUV, ROV, DGPS, and Digital Side Scan Sonar.
- Powered by two diesel engines, capable of speeds exceeding 18 knots.

4. Dunagiri (Yard 3023):

Context: Dunagiri (Yard 3023), the fifth ship of Nilgiri Class (Project 17A) and second of the class built at Garden Reach Shipbuilding and Engineers Ltd (GRSE), was delivered to the Indian Navy on 30 Mar 2026 at GRSE, Kolkata.

About Dunagiri (Yard 3023):

- INS Dunagiri is a modern reincarnation of the earlier INS Dunagiri, which served for 33 years.
- It is a Project 17A (P17A) stealth frigate, representing a major leap in indigenous warship design under India's Aatmanirbhar Bharat initiative.
- Designed by the Warship Design Bureau (WDB) and overseen by the Warship Overseeing Team (Kolkata).
- Built using the philosophy of Integrated Construction, enabling faster and more efficient shipbuilding.
- It features advanced stealth, survivability, automation, and combat capabilities compared to the earlier Shivalik-class frigate.
- Propulsion system: Combined Diesel or Gas (CODOG) with controllable pitch propellers and Integrated Platform Management System (IPMS).

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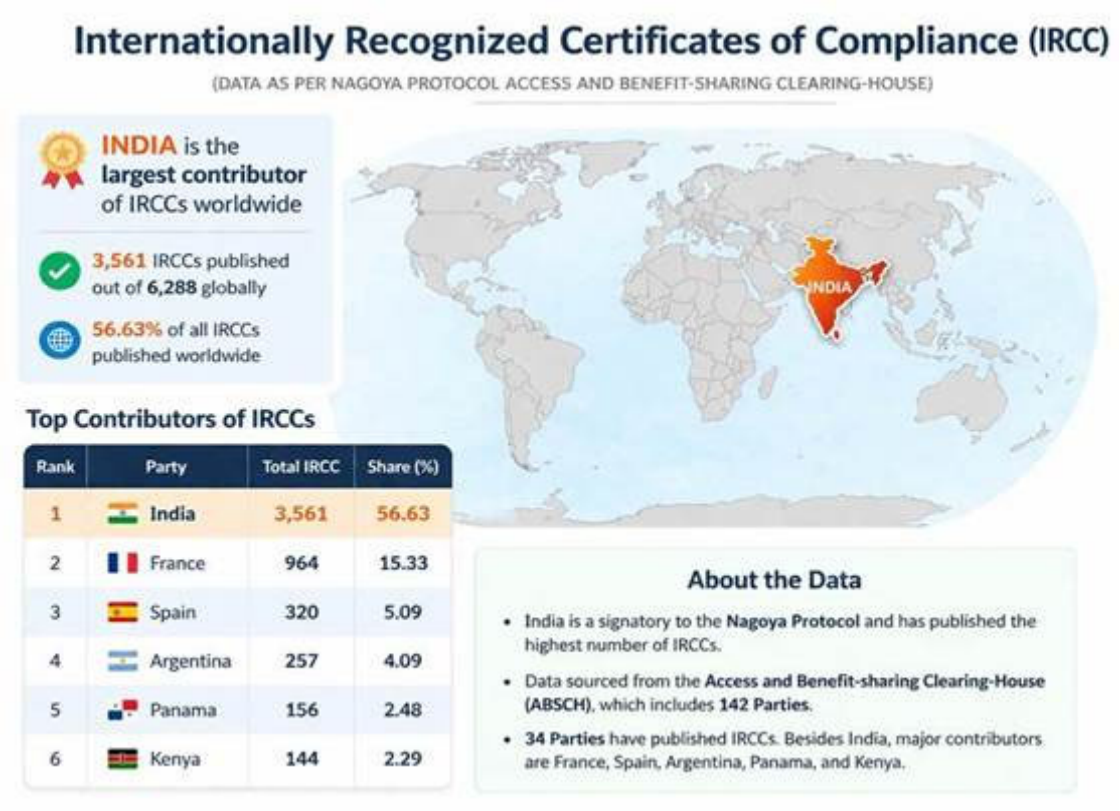
- Weapon systems include BrahMos anti-ship missiles, MFSTAR radar, MRSAM air defence system, 76 mm gun, CIWS (30 mm/12.7 mm), torpedoes, and ASW rockets.
- It is the fifth P17A ship delivered to the Indian Navy within 16 months, reflecting accelerated indigenous shipbuilding.

5. Nagoya Protocol:

Context: India has emerged as the global leader in issuing Internationally Recognized Certificates of Compliance (IRCCs) under the Nagoya Protocol on Access and Benefit-sharing (ABS), accounting for over 56 per cent of all certificates issued worldwide.

More about:



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- Out of 142 countries registered on the ABS Clearing-House, a global platform that promotes transparency and accountability, only 34 have issued IRCCs so far.
- Under the Nagoya Protocol, countries granting access to genetic resources and associated traditional knowledge are required to issue IRCCs.
- These certificates serve as official evidence that Prior Informed Consent has been obtained and that Mutually Agreed Terms have been established between users and providers of resources.
- IRCCs play a crucial role in tracking how genetic resources are used, from research and innovation to eventual commercial applications, ensuring that benefits are shared fairly with the provider country.

About Nagoya Protocol:

- Nagoya Protocol on Access and Benefit Sharing is a supplementary agreement to the Convention on Biological Diversity.
- It was adopted on 29 October 2010 in Nagoya, Japan.
- The protocol entered into force on 12 October 2014, after the 50th instrument of ratification was deposited.
- It establishes a transparent legal framework for fair and equitable sharing of benefits arising from the use of genetic resources.
- India ratified the Nagoya Protocol on Access and Benefit Sharing in 2012.
- The protocol applies to genetic resources covered under the Convention on Biological Diversity.
- It also covers benefits arising from the utilization of these genetic resources.
- The protocol includes traditional knowledge associated with genetic resources and ensures benefit sharing from their use.

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About Convention on Biological Diversity:

- The Convention on Biological Diversity (CBD) is a legally binding international agreement that came into force in 1993.
- It was the first global treaty to recognize biodiversity conservation as essential for human welfare.
- The CBD covers ecosystems, species, and genetic resources comprehensively.
- It was opened for signature at the Earth Summit 1992.
- The CBD Secretariat is located in Montreal.
- It operates under the United Nations Environment Programme.
- Almost all UN member states have ratified it, except the United States.
- The Conference of the Parties (COP) is the governing body and meets biennially to guide implementation.
- The CBD has three core objectives: conservation, sustainable use, and equitable benefit-sharing of biodiversity.

6. Sādhana Saptah:

Context: In a first of its kind national initiative, the Capacity Building Commission will launch Sādhana Saptah, 2026 from 2 to 8 April 2026, marking one of the largest collaborative capacity building efforts across India's civil services ecosystem.

About Sādhana Saptah:

- Sādhana Saptah stands for Strengthening Adaptive Development and Humane Aptitude for National Advancement.
- It is a national capacity-building initiative for civil servants.
- It brings together Central Ministries, Departments, Organisations (MDOs), States, Union Territories, and over 250 Civil Services Training Institutions (CSTIs).
- It aims to strengthen coordination in civil service training and development across India.

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- It focuses on structured training programmes to build modern governance competencies.
- It is aligned with the vision of Viksit Bharat 2047.
- It seeks to enhance adaptive, humane, and development-oriented administrative capacity in civil servants.

About Capacity Building Commission:

- The Capacity Building Commission (CBC) was constituted through a Gazette notification of India in 2021 by the Department of Personnel and Training (DoPT).
- It is an independent body with full executive and financial autonomy.
- CBC consists of three Members supported by an internal Secretariat headed by a Joint Secretary-level officer designated as Secretary to CBC.
- Its members are drawn from diverse backgrounds including government, states, PSUs, private sector, and academia.
- The core objective of CBC is to strengthen and standardise capacity building in civil services through a collaborative approach.
- It aims to build credibility and ensure a uniform, coordinated framework for capacity development across government institutions.
- It facilitates preparation of Annual Capacity Building Plans for ministries, departments, and agencies.
- It prepares the Annual State of Civil Services Report.
- It approves Knowledge Partners for national capacity-building missions.
- It promotes a de-siloed and integrated approach to capacity-building initiatives across government.

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7. 20 Cities Towards Zero Waste initiative:

Context: Varkala, a coastal town in Kerala, has been included in the inaugural "20 Cities Towards Zero Waste" initiative, highlighting India's growing commitment to sustainable urban development.

About 20 Cities Towards Zero Waste initiative:

- The "20 Cities Towards Zero Waste" initiative is led by the UN Secretary-General's Advisory Board on Zero Waste.
- It is supported by UN-Habitat and the United Nations Environment Programme (UNEP).
- The initiative aims to highlight cities demonstrating strong efforts in waste reduction and resource efficiency.
- It promotes sustainable urban systems through zero-waste practices.
- A key objective is to encourage global cooperation and knowledge-sharing among cities.
- It recognises innovation and leadership in urban waste management.
- It promotes adoption of circular economy models at the local level.
- It focuses on reducing, reusing, and recycling resources instead of discarding them.
- It seeks to inspire other cities to transition towards sustainable waste management systems.

MAINS SPECIFIC ARTICLES:

1. Earth's orbits are filling up because governance hasn't kept pace:

Context: The Hindu Explainer.

- **Changing Nature of Space:** Orbital space, once seen as free and open, is now crowded, fragile, and vulnerable due to governance failures rather than just technical limits

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- **Gap Between Policy & Practice:** Growing space activity and private participation have widened the gap between commitments and actual implementation, leading to under-governed orbital use
- **Challenges in Debris Governance:** Space debris is hard to track and attribute; damage identification is often uncertain and occurs only after incidents
- **Information Asymmetry:** Unequal access to orbital data and restrictions due to commercial and security concerns hinder effective risk management
- **Weak Monitoring Mechanisms:** No robust system to verify whether satellite operators follow end-of-life safety and disposal commitments
- **Regulatory Limitations:** Regulators rely on pre-launch declarations rather than post-launch verification, leading to unclear accountability
- **Rising Risk of Collisions:** Even small debris can destroy satellites; collisions create cascading debris, increasing long-term risks
- **Legal Framework Gaps:** Existing treaties like the Outer Space Treaty assign responsibility and liability but fail to address cumulative harm and prevention effectively
- **Absence of Duty-of-Care Standards:** No global standard defining acceptable congestion levels or ethical limits in orbital use
- **Issues in Licensing Regimes:** Variations in national regulations allow operators to exploit lenient jurisdictions, weakening global governance
- **Need for Standardisation:** Calls for uniform licensing norms, measurable debris mitigation, mandatory data sharing, and verifiable disposal strategies
- **Ethical Concerns:** Increasing private and new national actors risk continuing permissive practices unless responsibility norms are redefined
- **Guiding Environmental Principles:** Concepts like precaution, proportionality, and intergenerational equity should guide space governance
- **India's Opportunity:** India can shape ethical space governance through strong national legislation and responsible licensing frameworks

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- **Need for Enforceable Governance:** Voluntary guidelines are insufficient; binding rules, monitoring, and sanctions are necessary for sustainability
- **Core Questions:** Raises issues of responsibility, negligence, and obligations to future generations in managing orbital space
- **Conclusion:** Sustainable space use requires proactive ethical governance; delayed action will make damage irreversible

2. On global tensions and India's economy:

Context: The Hindu Explainer.

- **Context – Geopolitical Shock:** Rising instability in West Asia is creating macroeconomic stress for India, exposing vulnerabilities beyond GDP growth
- **Current Macroeconomic Stress:** Rupee at ₹95/$, crude at $156/barrel, and Reserve Bank of India using forex reserves to stabilise markets
- **Growth vs Vulnerability Paradox:** Strong GDP (~8.1%), high public capex (~4% of GDP), and fiscal consolidation coexist with weakening external buffers
- **External Sector Pressure:** Forex reserves decline (~$709.76 billion) and FPI outflows (> $8 billion) increasing currency volatility
- **Weak Income Dynamics:** Subdued real wages, rising household debt (~41% of GDP), and slow private investment despite state-led capex
- **Shift in Fiscal Structure:** Revenue growth driven by transaction-based taxes (GST, financial transactions) rather than income expansion
- **Revenue Vulnerability:** GST dependence makes revenues sensitive to shocks affecting consumption and economic activity
- **Past Evidence of Stress:** During COVID-19, GST shortfalls forced borrowing (~₹2.69 lakh crore) to compensate states.

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- **Oil Dependency Risk:** India imports 85–87% of crude oil, making economy highly exposed to global price fluctuations
- **Impact of Oil Price Rise:** $10/barrel increase → higher inflation, wider CAD (~0.4% GDP), and reduced growth (~0.5%)
- **Fiscal Impact of Oil Shock:** Higher subsidies (fertiliser, LPG), reduced fuel taxes, and increased expenditure burden
- **Ukraine War Example:** Oil >$120 led to excise duty cuts (₹2.2 lakh crore loss) and subsidies rising to ~₹3.2 lakh crore
- **Current Risk Estimates:** At $100 oil, CAD may rise to ~1% GDP and expenditure increase by ₹3.6 trillion
- **Fiscal Squeeze Mechanism:** Oil shocks reduce consumption, weaken GST, and increase subsidies simultaneously
- **Household Sector Stress:** High consumption share (61.4% of GDP) but rising debt and volatile savings increase vulnerability
- **Energy Inflation Impact:** LPG import dependence (>60%) leading to shortages, higher costs, and pressure on household budgets
- **Capex-Led Growth Strategy:** ₹17.15 lakh crore capital expenditure boosts long-term growth but limits welfare spending
- **Decline in Welfare Buffer:** Reduced allocation to Mahatma Gandhi National Rural Employment Guarantee Act weakens income support during shocks
- **Industrial Sector Trends:** Growth led by capital-intensive sectors; high-tech industries contribute ~46% of manufacturing
- **Weak Labour-Intensive Sectors:** Informal and service sectors remain vulnerable to demand shocks and energy disruptions
- **Private Investment Concern:** Low project completion (~9%) despite high announcements indicates cautious investment climate

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- **Impact on Informal Economy:** LPG shortages hit small businesses; food delivery demand fell 50–60%, affecting gig workers
- **Structural Challenge:** Fiscal space constrained due to capex focus and reliance on transaction-based revenues
- **Way Forward:** Need for income-led demand, diversified energy sources, and resilient revenue systems to manage external shocks

Quick Bites:

- The Prime Minister inaugurated the Kaynes Technology semiconductor plant in Sanand, Gujarat, marking the commencement of production at the facility.
- The Prime Minister inaugurated the Samrat Samprati Sangrahalay, Jain Heritage Museum at Koba Tirth in Gandhinagar, Gujarat, on the auspicious occasion of Bhagwan Mahavir Jayanti.
- The Nyaya Setu AI Chatbot, along with its official mascot "Dishika", was unveiled at the DISHA programme organised by the Department of Justice. Nyaya Setu is a voice-first, multimodal, multilingual AI-powered legal assistant designed to democratise access to justice by helping citizens understand legal processes, rights, and next steps through simple voice and text interactions across multiple Indian languages.
- The 4th edition of the India Sporting Goods Fair (ISGF) 2026 opened in Yashobhoomi is a convention center located in Sector 25, Dwarka, Delhi with a strong focus on transforming India into a global hub for sports goods manufacturing, exports and trade.
- More than 200 global business organisations have jointly urged the extension of the World Trade Organization (WTO) E-commerce Moratorium, as its expiry approaches at the upcoming 14th Ministerial Conference in Yaoundé, Cameroon. The E-commerce Moratorium is a longstanding
- WTO agreement that prohibits member countries from imposing customs duties on electronic transmissions.

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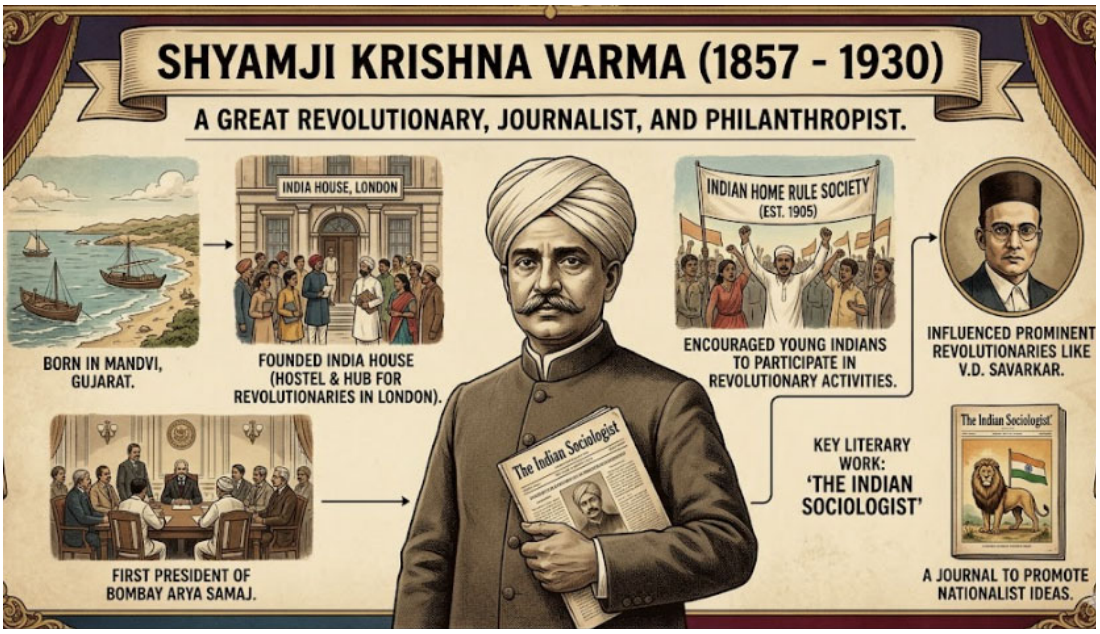
- India recently conducted Exercise Dweep Shakti, a high-intensity Tri-Service drill from 24 to 28 March 2026 aimed at strengthening coastal and island defence capabilities.



- At least nine people have lost their lives in a stampede at the Sheetla Mata Temple in Bihar's Nalanda district on March 31, 2026.
- Andhra Pradesh is set to achieve a major technological milestone with the launch of India's first quantum computer on April 14, 2026, in Amaravati.
- Navegaon-Nagzira Tiger Reserve is located in Maharashtra and forms a crucial part of the central Indian Tiger Landscape, which supports nearly one-sixth of India's tiger population. Declared a tiger reserve in 2013, it is the fifth such reserve in the state. Its strategic location allows ecological connectivity with major reserves like Kanha, Pench, and Tadoba, facilitating wildlife movement and genetic diversity.
- A newly observed COVID-19 variant, BA.3.2—commonly referred to as "Cicada"—is gradually increasing in detection across several regions worldwide.

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02-04-2026

PRELIMS ARTICLES:

1. Yuva Vigyani Karyakram (YUVIKA):

Context: Responding to an Unstarred Question in the Lok Sabha during the ongoing Budget Session of Parliament, raised by Smt. Anita Nagarsingh Chouhan, Dr. Jitendra Singh informed that YUVIKA has been specifically designed to develop interest in space science among students at an early stage.

About Yuva Vigyani Karyakram (YUVIKA):

- YUVIKA (Young Scientist Programme) is an initiative by Indian Space Research Organisation to promote space science awareness among school students.
- **Full form:** YUva VIgyani KAryakram.
- **Objective:** "Catch them young" by encouraging early interest in STEM fields.
- **Focus:** Impart basic knowledge of space technology, space science, and applications.
- **Target group:** Students who completed Class 8 and are studying in Class 9.
- **Selection basis:** Academic performance (Class 8) and extracurricular activities.
- Special weightage is given to students from rural areas.
- **Participation:** 3 students selected from each State/UT annually.
- Covers students from CBSE, ICSE, and State Boards.
- **Tie-break rule:** Younger students are given preference.
- **Programme duration:** Two-week residential training.
- Activities include lectures, lab visits, scientist interactions, and practical sessions.

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- Ensures minimum representation from each State/UT.
- Aim: Encourage students to pursue careers in science, technology, engineering, and mathematics (STEM).

2. E20 Fuel:

Context: Directive from the Ministry of Petroleum and Natural Gas force (1st April 2026), requiring to dispense E20 fuel with a minimum 95 RON octane rating in the country. RON (Research Octane Number) serves as an indicator of fuel stability and indicates the level of pressure generated during fuel combustion within a vehicle's engine.

About E20 Fuel:

- Ethanol (C2H5OH), considered a renewable fuel, is an anhydrous ethyl alcohol produced fromsugarcane, maize, wheat, and other crops with high starch content.
- It is naturally produced by the fermentation of sugars by yeasts or via petrochemical processessuch as ethylene hydration.
- Ethanol blending programme was started in 2003 to promote ethanol blending in petrol.
- **Definition:** Mixing ethanol with petrol to make fuel cleaner and more sustainable.
- **Blending Types:** E10 (10% ethanol), E20 (20%), E85 (85%).
- **E20 Benefits:** Better acceleration, improved ride quality, and 30% lower carbon emissions vs.E10.
- **Target:** 20% ethanol blending in petrol by 2025-26 (advanced from 2030).

3. Remotely Piloted Strike Aircraft (RPSA) programme:

Context: Indian Air Force (IAF) is preparing to induct unmanned stealth fighters under the Remotely Piloted Strike Aircraft (RPSA) programme.

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About Remotely Piloted Strike Aircraft (RPSA) programme:

- Aeronautical Development Agency leads the RPSA (Remotely Piloted Strike Aircraft) programme.
- RPSA aims to develop indigenous UCAVs (Unmanned Combat Aerial Vehicles).
- The UCAV under development is called Ghatak UCAV.
- UCAVs are armed drones carrying missiles and bombs for combat operations.
- Used for precision strikes, surveillance, and high-risk military missions.
- Ghatak is a stealth-capable drone designed to avoid radar detection.
- It is based on a flying-wing configuration for reduced radar signature.
- Capable of conducting deep-strike missions inside enemy territory.
- Designed to penetrate heavily defended airspace.
- Eliminates risk to human pilots during dangerous missions.
- Enhances India's autonomous warfare and strategic strike capabilities.

4. Artemis II Mission:

Context: NASA has successfully launched its historic Artemis II mission, marking the first crewed journey towards the Moon in more than 50 years.

About Artemis II Mission:

- Artemis II will be the first human mission to the Moon's vicinity since 1972
- It is the second mission under the Artemis program and the first crewed flight
- First mission to carry astronauts on Space Launch System and Orion spacecraft
- Follows Artemis I (2022) which was an uncrewed test flight around the Moon
- Marks the first human journey beyond low Earth orbit in over 50 years
- Four astronauts will undertake a 10 day mission around the Moon and return to Earth
- Crew includes three NASA astronauts and one from Canadian Space Agency

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- Mission aims to test life support systems crew performance and deep space capabilities
- Carries scientific payloads to study space radiation human health behavior and communication systems
- Data collected will help assess readiness for future lunar missions
- Prepares for Artemis III mission aimed at landing humans on the Moon by 2028
- Orion spacecraft will perform high speed reentry and splashdown in the Pacific Ocean near San Diego

5. Piped natural gas (PNG):

Context: Recently, Anjan Kumar Mishra, Secretary at the Petroleum and Natural Gas Regulatory Board, said that domestic natural gas production alone could cater to 30 crore connections if all were to switch to piped natural gas (PNG).

What is the difference between LPG, LNG, PNG, and CNG?

- LPG is a co-product of oil refining and natural gas processing. That is, its production depends on the processing of both crude oil and natural gas.
- Liquefied Natural Gas (LNG), as the name suggests, is natural gas that has been cooled to below –160 degrees Celsius to turn it into a liquid for shipping. Liquefaction reduces its volume by 1,000 times.
- Compressed Natural Gas (CNG) is primarily used as a vehicular fuel. It involves compressing natural gas to a pressure of 200-250 kg/cm² (g) to reduce its volume and enable efficient distribution.
- LPG consists mainly of propane and butane gases that are compressed cooled and transported in liquid form
- LPG is filled in cylinders and delivered directly to households
- Natural gas is transported through pipelines as piped natural gas (PNG)

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- Imported natural gas is first converted into Liquefied Natural Gas for transport via ships
- LNG carriers use specialized tanks to maintain extremely low temperatures
- At the destination LNG is regasified into natural gas
- Regasified gas is then supplied to consumers through pipelines
- LPG has easier last mile delivery through cylinders using trucks and small vehicles
- PNG requires extensive pipeline infrastructure to reach households
- India prefers LPG for domestic cooking due to easier distribution and lower infrastructure requirements

Increasing demand for PNG:

- Import Dependence: India imports a higher share of LPG compared to natural gas with around 3/5th of LPG demand met through imports
- Supply Sources: LPG imports are concentrated mainly from Saudi Arabia and Qatar while Liquefied Natural Gas has diversified global sources
- Strategic Risk: Around 90% of LPG imports pass through Strait of Hormuz making supply vulnerable to disruptions
- Consumption Pattern: India consumes about 34 million tonnes of LPG annually but produces only around 12 million tonnes domestically
- Natural Gas Balance: LNG imports and domestic natural gas production are roughly equal at about 27 million tonnes each
- Future Availability: Global LNG supply expected to improve with new liquefaction capacities coming up
- Energy Efficiency: Natural gas provides more energy per kg compared to LPG
- Domestic Use: PNG can act as a near substitute for LPG in household cooking with minimal differences

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- Industrial Use: Switching from LPG to PNG in industries may require equipment modification or recalibration
- Adoption Challenges: Lack of awareness and technical expertise may slow down transition in MSME sector

6. TAK-003 (called 'Qdenga'):

Context: India's long wait for a dengue vaccine may finally be coming to an end. Takeda's tetravalent dengue vaccine, TAK-003 (called 'Qdenga'), recently received clearance from the Subject Expert Committee (SEC) under the Drugs Controller General of India (DCGI) for use among individuals aged 4 to 60 years.

More about:

- **Shift in Strategy:** Introduction of TAK-003 marks a shift from reactive vector control to preventive vaccination against Dengue
- **Key Advantages:** Proven in large global trials safe and effective especially in reducing severe dengue and hospitalisation without need for pre-screening
- **Public Health Impact:** Can reduce hospital burden mortality and pressure on healthcare system even if it only lowers severe cases
- **Serotype Challenge:** Dengue has four serotypes (DENV-1 to DENV-4) making vaccine development complex due to uneven immunity
- **Major Limitation:** Strong protection against DENV-2 moderate for DENV-1 but weaker for DENV-3 and DENV-4 especially in first-time infections
- **Epidemiological Concern:** Rising share of DENV-3 in India may reduce overall effectiveness of the vaccine
- **Nature of Protection:** Vaccine reduces severity rather than preventing infection so outbreaks may continue and vector control remains essential

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- **Cost & Accessibility:** Expensive (₹6,000–12,000 full course) with two doses raising concerns about affordability and coverage
- **Future Outlook:** Indigenous vaccines like DengiAll, developed by Panacea Biotec in collaboration with the Indian Council of Medical Research and next-gen candidates may offer broader protection and better suitability for mass use.

About TAK-003 (called 'Qdenga'):

- TAK-003 (Qdenga) is a live attenuated tetravalent vaccine designed to protect against all four dengue virus serotypes
- Developed by Takeda Pharmaceutical Company using DENV-2 as the genetic backbone for all serotypes
- Administered in two doses given three months apart for effective immunity
- Approved in multiple regions including European Union UK and several dengue endemic countries
- Can be given irrespective of prior dengue infection unlike earlier vaccine Dengvaxia
- Tested in large global trials involving more than 28,000 participants across multiple countries
- Shows around 80% efficacy against dengue infection and over 84–90% protection against hospitalisation
- Provides long term protection with effectiveness sustained up to about 4.5 years though it declines over time

About Dengue:

- It is caused by the dengue virus (DENV).
- It is transmitted to humans through the bites of infected female mosquitoes, primarily the Aedes aegypti mosquito.
- The severe form of dengue fever, also called dengue hemorrhagic fever which can cause serious

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bleeding, a sudden drop in blood pressure.

- It is more common in tropical and subtropical climates.
- The most common symptoms are high fever, headache, body aches, nausea and rash.
- There is no specific treatment for dengue.
- The dengue vaccine CYD-TDV or Dengvaxia was approved by the US Food & Drug Administration in 2019, the first dengue vaccine to get the regulatory nod in the US.
- The key driver behind the rising dengue cases is soaring temperatures.

MAINS SPECIFIC ARTICLES:

1. Biological Diversity (Amendment) Act, 2023:

Context: Regulatory reforms under Biological Diversity (Amendment) Act, 2023 lead to surge in IPR filings.

About Biological Diversity (Amendment) Act, 2023:

- The Biological Diversity (Amendment) Bill, 2021 seeks to amend the Biological Diversity Act, 2002 to promote the Indian system of medicine and cultivation of wild medicinal plants, facilitate faster processes for research, patent applications, and transfer of research outcomes, decriminalise offences by replacing criminal penalties with monetary fines, and encourage greater foreign investment in the biodiversity and bio-resource sector.
- Amends provisions of the Biological Diversity Act, 2002 to simplify access and promote ease of doing research.
- Revises classification of entities and modifies rules for access to biological resources and traditional knowledge.
- Introduces exemptions and reduces compliance requirements for certain users of biological resources.

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- Prior approval / intimation requirements for accessing biological resources are rationalised.
- Approval from National Biodiversity Authority is now required before grant of IPR, not at the application stage.
- Aims to facilitate faster patent filing while retaining regulatory oversight.
- Narrows scope of benefit sharing by excluding research, bio-survey, and bio-utilisation from its applicability.
- Benefit sharing continues for commercial utilisation with local communities and traditional knowledge holders.
- Recognises benefit claimers as conservers of biodiversity and holders of traditional knowledge.
- Decriminalises offences under the Act to promote ease of compliance.
- Replaces imprisonment provisions with monetary penalties.
- Prescribes penalties ranging from ₹1 lakh to ₹50 lakh for violations.

2. R.S. Mooshahary committee recommendations:

Context: The Government had constituted a Review Committee headed by Shri R.S. Mooshahary to review the recommendations of earlier Commissions/ Committees on police reforms. The Committee had shortlisted 49 recommendations.

Major recommendations:

- Strengthen police infrastructure and manpower in conflict-prone and sensitive areas.
- Increase recruitment of local youth into police forces to improve trust and intelligence gathering.
- Establish specialised battalions trained for handling ethnic and communal violence.
- Improve coordination between police, intelligence agencies, and local administration.
- Modernise policing with better equipment, mobility, and communication systems.
- Ensure community policing to build confidence among different ethnic groups.

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- Set up fast-track mechanisms for investigation and prosecution of violence-related cases.
- Enhance training of police in conflict resolution and human rights.
- Strengthen border policing to check illegal migration and related security issues.
- Ensure accountability and transparency in police functioning to improve public trust.

Quick Bites:

- Union Budget 2026–27 has announced the establishment of dedicated Rare Earth Corridors in the states of Odisha, Kerala, Andhra Pradesh, and Tamil Nadu. These corridors will focus on mining, processing, research, and manufacturing.
- The Ministry of Textiles has extended the Rebate of State and Central Taxes and Levies (RoSCTL) Scheme for exports of apparel/garments and made-ups up to 30th September 2026 or until approval of the Scheme for the 16th Finance Commission cycle by the competent authority, whichever is earlier. The extension is without any change in existing guidelines. Operational since 7th March 2019, the RoSCTL Scheme aims to rebate all embedded State and Central taxes and levies not covered under any other scheme, thereby enhancing the global competitiveness of India's apparel and made-ups exports.
- The European Space Agency has advanced satellite navigation by successfully launching the first two satellites of the Celeste in-orbit demonstration mission, namely Celeste IOD-1 and IOD-2, aboard the Electron rocket from New Zealand on 28 March, with the satellites separating about an hour after launch, marking Europe's effort to strengthen the resilience and performance of its navigation systems.

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03-04-2026

PRELIMS ARTICLES:

1. Prime Minister Wi-Fi Access Network Interface (PM-WANI) Scheme:

Context: Hon'ble Union Minister of Communications Shri Jyotiraditya M. Scindia, informed the Rajya Sabha that the Government is promoting the expansion of public Wi-Fi access across the country through the Prime Minister Wi-Fi Access Network Interface (PM-WANI) Scheme, aimed at accelerating the proliferation of broadband services through public Wi-Fi networks across the country.

About Prime Minister Wi-Fi Access Network Interface (PM-WANI) Scheme:

- It aims to bring large scale deployment of Wi-Fi hotspots through the country to drive up connectivity options and improve digital access.
- The scheme envisages setting up of public Wi-Fi networks and access points by local Kirana without any licence, fee or registration.
- A person, who wants to use public Wi-Fi, can do so via an app and will make payments as per usage.
- A central registry will be maintained by the Centre for Development of Telematics.
- Department of Telecom (DoT), Ministry of Communications is the nodal agency to proliferate Broadband through Public Wi-Fi networks.

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2. SAMPANN (System for Accounting and Management of Pension):

Context: GoI Signs Agreement to provide SAMPANN 'platform-as-a—service' to State Government of Goa and Cochin Port Authority.

About SAMPANN (System for Accounting and Management of Pension):

- It is the flagship digital pension and financial management platform of the Department of Telecommunications.
- It is dedicated to the nation by the Hon'ble Prime Minister on 29th December 2018.
- It is a cloud-based, end-to-end pension management system of the Department of Telecommunications, managed by the Office of the Controller General of Communication Accounts (CGCA).
- It was designed to streamline pension sanction, authorisation, accounting and payment through a single digital platform.

3. The Trade Enablement and Marketing (TEAM) Initiative:

Context: The Trade Enablement and Marketing (TEAM) Initiative has been launched by the Ministry of Micro, Small and Medium Enterprises (MoMSME) under the Raising and Accelerating MSME Performance (RAMP) Programme.

About The Trade Enablement and Marketing (TEAM) Initiative:

- Its objective is to enhance market access, branding, digital marketing capabilities, e-commerce integration and export opportunities for Micro and Small Enterprises (MSEs) through the Open Network for Digital Commerce (ONDC).
- National Small Industries Corporation (NSIC), a Schedule 'A' CPSE under the Ministry of MSME conducts MSME TEAM Workshops in various districts/Venues across the country including

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Maharashtra, thereby mobilising MSMEs through awareness workshops, hand-holding support and facilitation for on boarding on the TEAM portal and ONDC platform.

4. National Anubhav Awards Scheme:

Context: National Anubhav Awards Outreach Campaign, 2025-26 concludes with all time high participation.

More about National Anubhav Awards Scheme:

- The Anubhav initiative, launched in March 2015 by the Department of Pension & Pensioners' Welfare (DoPPW) which provides a platform for documenting the administrative history of the country through sharing of knowledge, best practices, and administrative insights by retired and retiring employees.
- The National Anubhav Awards Scheme was introduced to recognize and incentivize outstanding contributions. To date, 63 National Anubhav Awards and 29 Jury Certificates have been conferred.

5. Energy distribution of top states as of Feb 2026:

Category	Top State	Capacity (MW)	2nd Place	3rd Place
Wind Energy	Gujarat	31,404.95	Tamil Nadu	Karnataka
Solar Energy	Rajasthan	54,226.99	Gujarat	Tamil Nadu
Biomass	Chhattisgarh	1,327.09	Punjab	Rajasthan
Bagasse (Cogeneration)	Maharashtra	3,044.52	Karnataka	Uttar Pradesh
Small Hydro	Himachal Pradesh	2,605.70	Karnataka	Kerala
Others (Waste to Energy)	West Bengal	1,334.66	Delhi	Andhra Pradesh
Total Renewable	Gujarat	54,974.48	Tamil Nadu	Karnataka

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6. Ammonium Nitrate:

Context: Recently, Bharat Coal Gasification and Chemicals ltd. and Mahanadi Coalfields ltd. signed an agreement for coal to the Ammonium Nitrate Project.

About Ammonium Nitrate:

- **Appearance:** Ammonium nitrate is a white, crystalline, water-soluble solid.
- **Occurrence:** It is not found naturally and is manufactured by reacting ammonia with nitric acid.
- **Explosive Nature:** It is classified as an explosive (above 45% concentration) due to its use in IEDs.
- **Chemical Nature:** It acts as an oxidizer, supplying oxygen to accelerate combustion.
- **Fire Hazard:** Fires involving ammonium nitrate are difficult to extinguish as it provides its own oxygen.
- **Legal Status:** It is listed as a hazardous chemical under the Hazardous Chemicals Rules, 1989.
- **Import Regulation:** Import requires prior permission for specific grades.
- **Regulatory Authority:** It is regulated by the Petroleum & Explosives Safety Organization (PESO) under DPIIT.
- **Hygroscopic Property:** It absorbs moisture from air and can harden into a rock-like mass.
- **Thermal Decomposition:** On high heating, it decomposes explosively releasing nitrogen dioxide (orange fumes).
- **Applications:** Used in fertilizers, instant cold packs (endothermic dissolution), and various industrial and medical uses.

7. Kugti Wildlife Sanctuary:

Context: A rare sighting of a white female albino Himalayan tahr has recently been recorded in Kugti Wildlife Sanctuary.

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About Kugti Wildlife Sanctuary:

- It is located in the Bharmour region of Chamba district, Himachal Pradesh.
- Kugti Wildlife Sanctuary is the second largest sanctuary in Himachal Pradesh.
- It lies between the Ravi and Chenab rivers and is characterised by high-altitude terrain.
- It is bordered by Dhauladhar Wildlife Sanctuary in the south-east and Tundah Wildlife Sanctuary in the north-west.
- The sanctuary is also known for the revered Manimahesh Temple, which attracts thousands of pilgrims despite its difficult access and extreme cold.
- This dual significance—ecological and religious—makes the region particularly important for both conservation and cultural heritage.
- The sanctuary supports a rich variety of fauna, including endangered and notable species such as ibex, musk deer, Himalayan tahr, monal snowcock, pheasants, red-vented bulbul, and white-cheeked bulbul.

8. Pardoning powers of Governor:

Context: A Full Bench of the Madras High Court held that the Governor, whether he/she likes it or not, is bound by the advice of the Council of Ministers while exercising powers under Article 161 of the Constitution in matters relating to remission and premature release of convicts.

What is a mercy petition?

- Mercy petition to the President or Governor is last constitutional resort a convict can take when he is sentenced by court of law.
- Mercy pleas and pardons are discretionary acts of grace, not legal rights.
- Mercy is exercised through clemency power, which is also known as the pardoning power.

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Pardoning powers of Governor:

- The Governor of a State shall have the power to grant pardons, reprieves, respites or remissions of punishment or to suspend, remit or commute the sentence of any person convicted of any offence against any law relating to a matter to which the executive power of the State extends.
- **Pardon:** Complete absolution from punishment.
- **Respite:** Lesser punishment due to special circumstances like disability or pregnancy.
- **Reprieve:** Temporary stay of execution, allowing time for appeal.
- **Remit:** Reduces duration of sentence while keeping its nature the same.
- **Commute:** Replace the punishment with a lesser form, e.g., death to life imprisonment

MAINS SPECIFIC ARTICLES:

1. Artemis II: what is at stake for U.S.?:

Context & Significance - NASA launched Artemis II on April 2 (IST); first human mission beyond low-earth orbit since Apollo 17; major milestone for U.S. space programme.

- **Crew & Historic Firsts -** Commander Reid Wiseman; Pilot Victor Glover (first person of colour on lunar trajectory); Mission Specialist Christina Koch (first woman); Astronaut Jeremy Hansen (first non-U.S. citizen).
- **Mission Objective -** Test mission (no landing); validate rocket, crew capsule, ground systems; ensure readiness for future lunar landing.
- **Launch System & Trajectory** - Uses Space Launch System (SLS) and Orion capsule; follows free-return trajectory around far side of Moon (~7,500 km); returns to Earth for Pacific splashdown in ~10 days.
- **Mission Profile** - 24-hour Earth orbit check of life-support systems; trans-lunar injection burn; testing manual piloting, navigation, communication, and data relay; study human physiological responses in deep space.

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- **Re-entry & Heat Shield** - Re-entry speed ~40,000 km/hr; heat shield faces ~5,000°C; improvements made after Artemis I erosion issue by modifying trajectory.
- **Programme Restructuring** - Led by Jared Isaacman; Artemis III (2027) to test docking with SpaceX & Blue Origin landers; Artemis IV (2028) planned for actual lunar landing.
- **Operational Changes** - Avoided SLS upgrade to reduce delays; increased launch frequency; addressed workforce attrition and loss of institutional memory.
- **Lunar Gateway Decision** - Cancellation of planned lunar space station; resources redirected to infrastructure at Moon's south pole.
- **China Factor** - Competition with China accelerated timeline; China developing Mengzhou spacecraft, Long March-10 rocket, Lanyue lander; plans human landing by 2030 and International Lunar Research Station.
- **Strategic Importance of Moon** - Focus on south pole water ice in permanently shadowed craters; key for future habitation and fuel; first mover advantage has geopolitical implications.
- **Challenges & Delays** - Artemis I and II faced multiple delays; high cost (~$93 billion total, ~$2 billion per launch); dependence on private partners like SpaceX and Blue Origin.
- **Success vs Failure Impact** - Success boosts confidence, partnerships, and political support; failure could delay programme, reduce trust, and shift strategy amid U.S.-China space race.

2. Education Ministry notifies NCERT as deemed university:

- **Context & Decision** - Ministry of Education granted "deemed to be university" status to National Council of Educational Research and Training via notification dated March 30; based on approval by University Grants Commission expert panel (January).
- **What the Status Means** - NCERT can now offer academic programmes, courses, and grant degrees independently.
- **Institutional Coverage** - Status applies to NCERT along with its six regional institutes.

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- **Regulatory Conditions** - Must strictly follow norms of UGC and other statutory bodies; cannot engage in commercial or profit-making activities.
- **Academic Expansion** - Allowed to start new programmes, including off-campus/offshore centres, only as per UGC guidelines.
- **Research Focus** - Directed to initiate research, doctoral (PhD) programmes, and innovative academic courses.
- **Alignment with Policy** - Expansion should align with National Education Policy 2020 and not be limited to emerging areas alone.
- **Quality Assurance** - Mandatory accreditation: programmes by National Board of Accreditation and institution by National Assessment and Accreditation Council.

About National Council of Educational Research and Training (NCERT):

- National Council of Educational Research and Training is an autonomous body set up in 1961 to advise governments on improving school education.
- It undertakes, promotes, and coordinates research in school education.
- It develops and publishes textbooks, supplementary materials, journals, and educational literature.
- It conducts pre-service and in-service teacher training programmes.
- It promotes and disseminates innovative teaching methods and practices.
- It collaborates with state departments, universities, NGOs, and educational institutions.
- It acts as a clearing house for ideas and information in school education.
- It serves as a nodal agency for universalisation of elementary education.
- It implements bilateral cultural exchange programmes in school education.
- It collaborates with international organisations and trains educators from developing countries.
- Under National Education Policy 2020, it develops National Curriculum Frameworks (NCFs) for ECCE, school, and adult education.
- Its headquarters is located at Sri Aurobindo Marg, New Delhi.

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Quick Bites:

- In a significant step to reinforcing India's commitment to regional maritime security and international cooperation, INS Sunayna, an Offshore Patrol Vessel of the Indian Navy, set sail from Mumbai as Indian Ocean Ship (IOS) SAGAR, on April 2, 2026.
- Defence exports have touched an all-time high of Rs 38,424 crore in the Financial Year (FY) 2025-26, marking a massive rise of Rs 14,802 crore (62.66%) over the previous fiscal year's figure of Rs 23,622 crore.
- India's space sector is set to receive a significant push with the steady progress of the Antariksh Venture Capital Fund. Recently, the Union Minister announced that investments under this dedicated fund are expected to begin from the first quarter of FY2027.

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04-04-2026

1. India's Seafood Exports statistics:

Context: India's Seafood Exports: From Growth to Global Competitiveness.

Details:

- India's fisheries sector is a key contributor to food security, employment, exports, and livelihoods with ₹39,272 crore investment since 2015.
- It supports ~30 million primary fishers and nearly double across the value chain.
- India is the 2nd largest aquaculture producer globally with ~8% share in global fish production.
- Fish production rose from 141.64 lakh tonnes (2019–20) to 197.75 lakh tonnes (2024–25) with ~7% annual growth.
- Seafood exports grew at ~7% annually over 11 years, doubling from ₹30,213 crore to ₹62,408 crore.
- Shrimp dominates exports, contributing ₹43,334 crore.
- India exports 350+ seafood products to ~130 global markets.
- USA is the largest export destination (36.42%), followed by China, EU, Southeast Asia, Japan, and the Middle East.
- Export basket is led by frozen shrimp, followed by fish, squid, cuttlefish, surimi, and live/chilled seafood.
- Value-added products share increased from 2.5% to 11% (USD 742 million).

2. Great Nicobar Project:

Context: A draft plan "Comprehensive Tribal Welfare Plan" outlining the "relocation" of Nicobarese tribal communities affected by the Union government's Great Nicobar Island (GNI)

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mega-infrastructure project "to their ancestral lands" has created confusion and is exacerbating existing apprehensions among locals.

What is the issue?

- A draft "Comprehensive Tribal Welfare Plan" proposes ₹42.52 crore for relocation of tribal communities from project-affected areas.
- Contradiction exists as the government earlier stated the project would not displace tribal communities.
- Lack of clarity on who will be relocated and where, causing confusion among the Tribal Council.
- Ambiguity in relocation sites (Rajiv Nagar, New Chingenh, Pulobhabi, ancestral villages) and inconsistent housing details in the draft.
- Tribal communities have been protesting since 2022 after withdrawing consent, citing unsettled forest rights.
- **Demand of tribes:** return to all ancestral villages on the west coast destroyed in the 2004 Indian Ocean Tsunami.
- Government plan appears to limit relocation to select sites instead of full restoration of ancestral lands.

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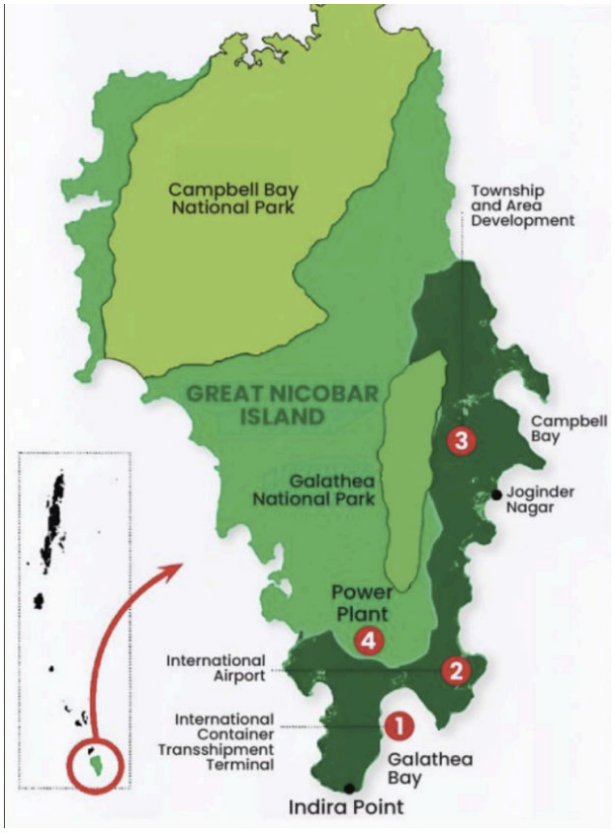
About Great Nicobar Project:



- The Great Nicobar Island Project is a major Greenfield infrastructure initiative conceptualised by NITI Aayog and approved in 2021.
- Andaman and Nicobar Islands Integrated Development Corporation (ANIIDCO) is the nodal agency responsible for implementing the project.
- Key components include a deep-sea international transshipment port at Galathea Bay (overseen by Ministry of Ports, Shipping and Waterways), a Greenfield international airport, a 450 MW power plant, and a modern township.

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About Great Nicobar Island:

- Great Nicobar Island is India's southernmost island located in the Bay of Bengal near Indonesia, with Indira Point as the southern tip.
- It is strategically located near the Strait of Malacca, enhancing India's maritime security and Indo-Pacific presence.
- The island hosts the Great Nicobar Biosphere Reserve with rich biodiversity including endemic and endangered species.
- It is inhabited by indigenous tribes like Nicobarese and Shompen, classified as PVTGs dependent on natural resources.
- The island is highly disaster-prone, having been severely impacted by the 2004 Indian Ocean Tsunami and lies in a seismic zone.
- Administratively, it is part of Nicobar district with headquarters at Campbell Bay.

3. Namo Drone Didi Yojana (NDDY):

Context: Karnataka, which is one of the leading aviation hubs in the country, also has the most number of women self-help groups (SHGs) to have undergone training as drone pilots under the 'Namo Drone Didi Yojana' (NDDY).

About Namo Drone Didi Yojana (NDDY):

- The Namo Drone Didi Scheme is a Central Sector Scheme with an outlay of ₹1,261 crore (2023–26).
- It aims to distribute 15,000 drones to Women Self Help Groups (SHGs).
- The scheme promotes advanced agricultural technology to improve efficiency and crop yield.
- It seeks to reduce cost of operations in farming.
- It empowers SHGs as drone service providers for income generation and livelihood support.
- Provides Central Financial Assistance (CFA) of 80% of drone cost (up to ₹8 lakh).

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- Includes 15-day drone pilot training for one SHG member.
- Provides 5-day drone assistant training for another member or family member.
- This scheme will be implemented through Krishi Vigyan Kendras (KVKs) across the country.
- It is implemented by the Ministry of Agriculture & Farmers Welfare.

4. Home Ministry revises classification of districts affected by left-wing extremism:

Context: The Union Home Ministry has re-categorised the total number of districts affected by left-wing extremism (LWE) in the country.

More about:

- **Re-categorisation:** The Ministry of Home Affairs has revised LWE district classification into three categories: LWE affected, districts of concern, and legacy & thrust districts.

Category	Description
LWE Affected Districts	Districts currently experiencing significant Left Wing Extremism activities and requiring focused security and development interventions.
Districts of Concern	Districts with declining but still notable LWE presence; need continuous monitoring and targeted measures.
Legacy & Thrust Districts	Districts where LWE has reduced considerably but require sustained development efforts to prevent resurgence.

- **Number of Districts:** Total LWE-affected districts remain 38, but classification reflects reduced intensity of violence.
- **Red Corridor Trend:** The LWE "red corridor" has shrunk drastically from over 200 districts (2005) to just 2 districts in 2026.

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- **Severely Affected Districts:** Only Bijapur (Chhattisgarh) and West Singbhum (Jharkhand) are now classified as "LWE affected".
- **District of Concern:** Kanker (Chhattisgarh) is categorized as a district of concern with declining but present LWE activity.
- **Legacy & Thrust Districts:** 35 districts across 9 States fall under this category, requiring continued development focus to prevent resurgence.
- **States Covered:** Andhra Pradesh, Bihar, Chhattisgarh, Jharkhand, Madhya Pradesh, Maharashtra, Odisha, Telangana, and West Bengal.
- **Earlier Classification Change:** Previous "most affected" category has been removed and replaced with the new classification.
- **Improvement Indicator:** Earlier highly affected districts like Sukma and Narayanpur have moved out of the most severe category.
- **Policy Purpose:** Categorisation helps in targeted deployment of resources and security measures.
- **Schemes Linkage:** Revised classification aligns with implementation of schemes like Security Related Expenditure (SRE).
- **Overall Assessment:** Reflects significant decline in LWE influence and progress towards a "Naxal-free" India goal.

5. INS Taragiri:

Context: In a significant boost to India's maritime security and the 'Aatmanirbharta' initiative, the guided-missile stealth frigate INS Taragiri was commissioned into the Indian Navy at the Eastern Naval Command base in Visakhapatnam

About INS Taragiri:

- **INS Taragiri:** Fourth frigate of the Project 17A class of the Indian Navy.
- Built by Mazagon Dock Shipbuilders Limited with over 75% indigenous content.

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- Displacement of 6,670 tonnes showcasing advanced indigenous shipbuilding capability.
- Designed with reduced Radar Cross-Section for enhanced stealth operations.
- Powered by Combined Diesel or Gas (CODOG) propulsion for high-speed and endurance.
- Equipped with supersonic surface-to-surface missiles and medium-range surface-to-air missiles.
- Features advanced anti-submarine warfare (ASW) capabilities.
- Integrated with a modern Combat Management System for real-time threat response.
- Supported by a domestic ecosystem of 200+ MSMEs under Aatmanirbhar Bharat.
- Capable of multi-role operations including combat and humanitarian assistance (HADR).

6. INS Aridhaman (S4):

Context: INS Aridhaman, nuclear-powered submarine, enters India's naval fleet.

About INS Aridhaman(S4):

- It is India's third indigenously built nuclear-powered ballistic missile submarine.
- It is the second submarine in the Arihant class.
- It was built under the Advanced Technology Vessel (ATV) project to build nuclear submarines at the Ship Building Centre in Visakhapatnam.
- INS Arihant was the first vessel under the nuclear-powered ballistic missile submarine (SSBN) project.
- INS Arihant is India's first home-made nuclear submarine. It was launched in July 2009 and was quietly commissioned in 2016.
- The Navy commissioned its second indigenous SSBN, INS Arighaat, in August 2024.
- While Arihant and Arighaat are smaller vessels of about 6,000 tonnes, Aridhaman (S4) and S4* are bigger vessels of about 7,000 tonnes.

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- The S4* (which may be named Arisudan) is currently undergoing sea trials. Compared to its predecessors, Aridhaman and its successor S4* will have more firepower.

7. Mission Mitra:

Context: India's human spaceflight programme has advanced with the launch of Mission Mitra in Ladakh, involving four astronauts selected for the Gaganyaan mission.

About Mission Mitra:

- Mission Mitra evaluates human performance in extreme, space-like environments.
- Conducted in Ladakh due to its low oxygen, extreme cold, and isolation resembling space conditions.
- Led by ISRO Human Space Flight Centre with support from multidisciplinary experts.
- Focuses on psychological resilience rather than just technical astronaut training.
- Studies stress, hypoxia, isolation, and human adaptability in harsh conditions.
- Examines team dynamics, decision-making, and emotional stability under pressure.
- Provides data for improving astronaut training for long-duration missions.
- Aligns with global practices like simulation-based training used by international space agencies.
- Highlights shift towards holistic approach combining technology with human factors in space missions.

8. Arab League:

Context: Arab League held an emergency session in Cairo over Al-Aqsa closure. Al-Aqsa Mosque (Aqsa Mosque) is the main congregational mosque within the Al-Aqsa compound located in the Old City of Jerusalem.

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About Arab league:

- Arab League is an intergovernmental body of 22 Arab countries in the Middle East and North Africa aimed at cooperation and policy coordination.
- Established on March 22, 1945 (after the Alexandria Protocol, 1944) with founding members including Egypt, Iraq, Lebanon, Saudi Arabia, Syria, Jordan, and Yemen.
- Headquarters located in Cairo, focusing on strengthening relations while preserving sovereignty of member states.

Quick Bites:

- MoPSW Signs Implementation Plan with Korea International Cooperation Agency (KOICA) to Boost Skill Development in India's Shipbuilding Sector.
- The 13th Asian Textile Conference (ATEXCON 2026) is being held in Hyderabad, organised by the Confederation of Indian Textile Industry in association with the Telangana government, bringing together industry leaders, policymakers, researchers, and stakeholders from across Asia to discuss advancements in textile technology.
- Recent reports indicate the spread of Newcastle Disease across Europe, prompting poultry producers in the United Kingdom to enhance surveillance and biosecurity measures. Newcastle disease (ND) is a highly contagious, often fatal viral infection affecting domestic poultry and wild birds worldwide, caused by virulent strains of avian paramyxovirus type 1.
- The Khelo India Tribal Games concluded in Chhattisgarh with a vibrant closing ceremony. Medal toppers are:

Rank	State	Gold (G)	Silver (S)	Bronze (B)	Total
1	Karnataka	23	8	7	38
2	Odisha	21	15	21	57
3	Jharkhand	16	8	11	35

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05-04-2026

1. BioNEST:

Context: Union Minister for Science and Technology Dr. Jitendra Singh inaugurated the BIRAC-BioNEST Incubation Centre at "Central Food Technology & Research Institute" (CFTRI).

About BioNEST:

- BioNEST Incubation Centre is a state-of-the-art facility with dedicated incubation suites and shared infrastructure.
- Aims to boost food startups and support advanced research in food bioprocessing and biotechnology.
- Facilitates scale-up validation and regulatory support for startups.
- Focuses on converting scientific ideas into market-ready products.
- As of March 2026, it has supported 26 startups (physical, hybrid, and graduated).

2. Ad Valorem Tax:

Context: The US announced a 100% ad valorem duty on the import of patented pharmaceuticals and associated ingredients but this will not include generic drugs “at this time,” having a limited impact on India.

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About Ad Valorem Tax:

- An ad valorem tariff is a customs duty levied as a percentage of the value of imported goods, unlike fixed tariffs based on quantity or weight.
- It is used to regulate trade, protect domestic industries, and generate government revenue, with the duty varying according to product value.

3. Western disturbances:

Context: Western disturbances to impact northwest India this week, rain likely to occur: Met department

What are Western disturbances?

- Western Disturbances originate over the Mediterranean due to interaction of contrasting air masses.
- They move eastward under the influence of the Subtropical Westerly Jet (SWJ).
- Occur mainly in winter (December–March), affecting north-west India, the Himalayas, Pakistan, and the Tibetan Plateau.
- Play a crucial role in supporting Rabi crops like wheat and mustard and replenishing Himalayan glaciers.
- Associated with hazards such as snowfall, hailstorms, fog, avalanches, frost, and cold waves.

4. Bharat Stage (BS) Emission Standards:

Context: Under Delhi Air Pollution Mitigation Action Plan, 2026, entry of non-BS-VI, non-CNG and non-electric goods vehicles will be restricted from November 1 to curb vehicular pollution.

About Bharat Stage (BS) Emission Standards:

- **Definition** → Bharat Stage emission norms regulate vehicular pollution by limiting emissions from motor vehicles.

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- **Regulatory Framework** → Framed by the Ministry of Environment, Forest and Climate Change and implemented by the Central Pollution Control Board.
- **Global Alignment** → Based on European (Euro) emission standards.
- **Pollutants Covered** → Controls CO, HC, NOx, and particulate matter (PM).
- **Technological Push** → Requires cleaner fuels, improved engines, and advanced exhaust-treatment systems.
- **Mashelkar Committee (2002)** → Recommended phased nationwide adoption of Euro-equivalent norms.
- **Judicial Mandate (1999)** → Supreme Court of India mandated BS I (India 2000) standards.
- **Evolution Path** → Progressed from BS I (2000) to BS IV (2017), then directly to BS VI (2020), skipping BS V.
- **BS VI Phase-II (2023)** → Introduced Real Driving Emissions (RDE) testing for real-world compliance.
- **Future Norms** → BS VII likely to be implemented by 2026–27.
- **Delhi's Early Adoption** → Delhi adopted stricter norms earlier due to severe air pollution.
- The main difference is in the amount of sulphur in the fuel, which is reduced from 50 ppm in BS IV fuel to 10 ppm in BS VI fuel for both gasoline and diesel. Hence, BSVI engines produce less harmful emissions and pollutants

5. Coal Gasification:

Context: Union Minister unveils India's roadmap to reduce dependency on imported petroleum, ammonia, and fertilizers, highlighting the coal gasification incentive scheme. What is Coal Gasification?

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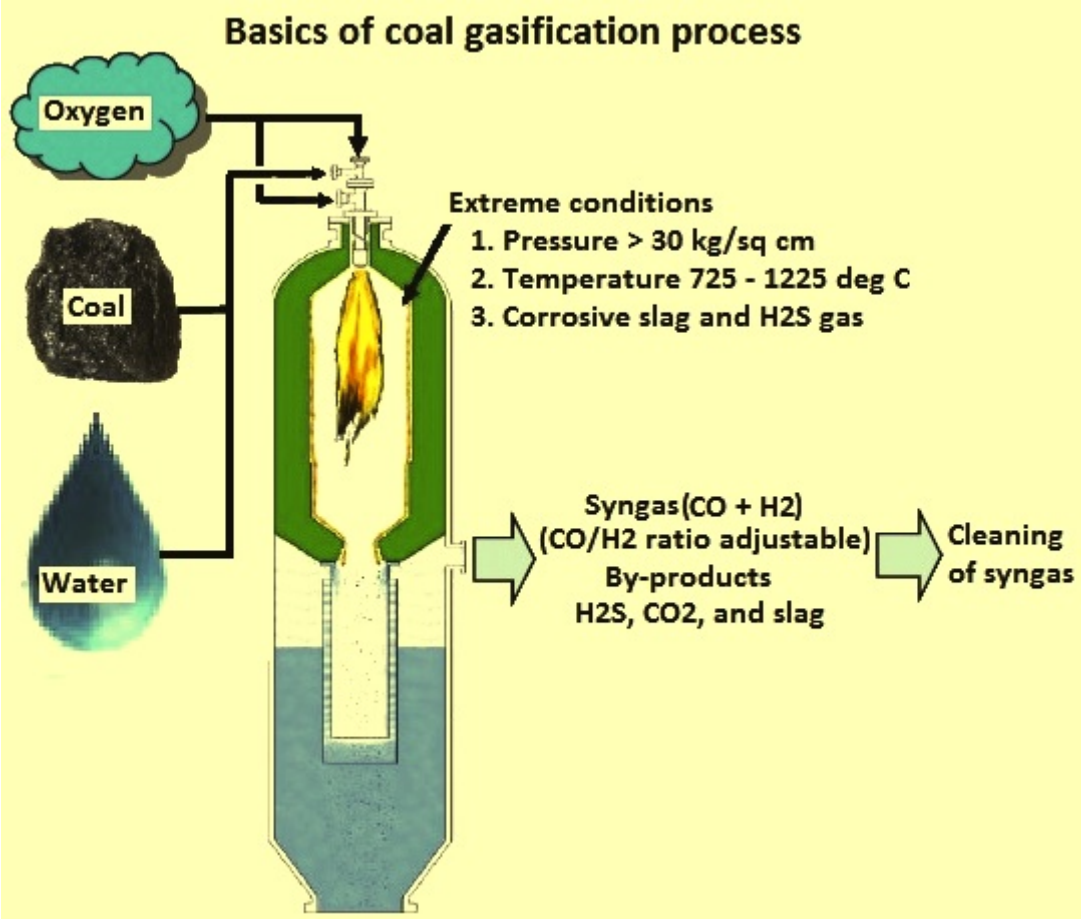

- It is a process to convert underground coal into valuable gasses like methane, hydrogen, carbon monoxide (CO), and carbon dioxide (CO_2).
- In this process, coal is partially oxidised by air, oxygen, steam, or CO_2 under controlled conditions to produce a liquid fuel known as syngas.
- Syngas (synthesis gas) can be used for power generation, making methanol etc.
- Syngas is a mixture of CO and hydrogen and produces gaseous fuels like Methane etc.
- It offers a cleaner alternative to directly burning coal for energy generation.
- Syngas can be used to produce cleaner-burning fuels like hydrogen and compressed natural gas (CNG).

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- Large-scale coal gasification projects can stimulate the development of associated industries like manufacturing of gasification plants and production of chemicals from syngas.

National Coal Gasification Mission:

- It was launched by the Ministry of coal with the aim of promoting the utilization of coal through gasification.
- It also aims to achieve large-scale production of synthetic gas (syngas) from coal by 2030.
- The mission aims to gasify 100 Million Tonnes (MT) of coal per year by 2030.

About Coal Gasification Incentive Scheme:

- **Approval** → Coal Gasification Incentive Scheme approved in 2024 with ₹8,500 crore outlay.
- **Objective** → Reduce import dependence on petroleum, ammonia, and fertilisers through coal-based syngas production.
- **Focus Area** → Promote coal and lignite gasification in both public and private sectors.
  - ➢ Category I → PSU-led coal gasification projects.
  - ➢ Category II → Joint participation of private sector and PSUs.
  - ➢ Category III → Support for demonstration and small-scale projects.
- **End Goal** → Boost domestic energy security and value-added chemical production from coal.

Quick Bites:

➢ Atal Innovation Mission (AIM), NITI Aayog, launched the ATL Sarthi and Mentor India Academy in Telangana, reinforcing its commitment to nurturing innovation from the school level. The initiative will extend structured mentorship and institutional support to 379 Atal Tinkering Labs (ATLs), enabling young innovators to translate ideas into solutions that contribute to India's development journey and position Telangana as a key node in India's expanding grassroots innovation ecosystem.

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- The FAO Food Price Index, published by the Food and Agriculture Organization, rose to 128.5 points in March 2026 due to rising energy costs amid Middle East tensions, and serves as a measure of monthly changes in international prices of a basket of food commodities (base year 2014–16), covering five major groups—cereals, vegetable oils, dairy, meat, and sugar.
- Iraq closed the Shalamcheh border crossing with Iran after air strikes on the Iranian side killed an Iraqi citizen.
- Israel's military renewed its strikes on the southern Lebanese city of Tyre.

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06-04-2026

1. Babu Jagjivan Ram:

Context: Prime Minister pays tribute to Babu Jagjivan Ram on his Birth Anniversary.

About Babu Jagjivan Ram:

- Born on 5 April 1908 at Chandwa, Bihar, in a Dalit family.
- Faced untouchability in school; protested by breaking the separate water pot.
- Inspired by Madan Mohan Malaviya and joined Banaras Hindu University.
- Continued anti-caste protests during his education, later graduated from University of Calcutta (B.Sc., 1931).
- Organised Ravidas Sammelans and celebrated Guru Ravidas Jayanti in Calcutta.
- Joined Indian National Congress in 1931.
- Founded the All India Depressed Classes League (1934–35) for Dalit rights.
- Advocated opening of wells and temples to untouchables (1935).
- Demanded voting rights for Dalits before the Hammond Commission (1935).
- Imprisoned during the Quit India Movement.
- Became the youngest minister in Jawaharlal Nehru's interim government.
- Served as Labour Minister till 1952; later held key portfolios (communications, railways, agriculture, defence).
- Was Defence Minister during the Indo-Pakistan War of 1971.
- Left Congress in 1977; joined Janata Party and became Deputy Prime Minister (1977–79).
- Member of Parliament continuously for about 40 years (1936–1986).
- Longest-serving Union Cabinet Minister (~30 years) in India.

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- Died on 6 July 1986 in New Delhi.
- Memorial named Samta Sthal (Place of Equality).

2. Pneumonia:

Context: Researchers at the BITS Pilani-Hyderabad campus claim to have developed and tested a new experimental vaccine against Streptococcus pneumoniae, the bacterium responsible for some of the world's deadliest infections, raising hopes for more effective protection against pneumonia and related diseases.

More about:

- Streptococcus pneumoniae is a major cause of pneumonia, meningitis, and sepsis, responsible for ~740,000 child deaths (2019).
- Existing vaccines like PPV23 and PCVs target limited serotypes, allowing other strains to spread.
- BITS Pilani Hyderabad Campus researchers developed a synthetic multiepitope vaccine targeting multiple strains.
- The vaccine uses AI-based immunoinformatics, combining epitopes from proteins (Ply, PspA, PsaA) for broader and safer protection.

About Pneumonia:

- Pneumonia is an acute respiratory infection affecting the lungs, often caused by Streptococcus pneumoniae.
- Pneumonia can be caused by bacteria, viruses, or fungi present in the air.
- Newborns, undernourished children, and those with weak immunity (e.g., HIV) are more vulnerable.
- It spreads through coughing, sneezing, bodily fluids, and contaminated surfaces.
- Bacterial pneumonia is preventable with the Pneumococcal Conjugate Vaccine, given in 3 doses.

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- A new vaccine for viral pneumonia is currently under development.
- India has included PCV in the Universal Immunisation Programme for nationwide coverage.

3. Benchmark Issuance Strategy (BIS):

Context: The Reserve Bank of India (RBI) has introduced a pilot Benchmark Issuance Strategy (BIS) for State Development Loans (SDLs) starting in Q1 FY27.

Background:

- State Development Loans (SDLs) are debt securities issued by State Governments to meet budgetary needs like infrastructure and welfare spending.
- SDLs are managed and auctioned by the Reserve Bank of India.
- They are considered safe investments due to implicit backing by State Governments.
- SDLs generally offer higher yields than G-Secs to compensate for lower liquidity.
- Compared to Government Securities, SDLs are less liquid in secondary markets.
- States issue bonds with irregular maturities, creating multiple small and scattered debt instruments.
- This leads to fragmentation in the State Development Loan (SDL) market.
- Fragmentation results in many small pools instead of large, standardised bonds.
- Investors find it difficult to buy and sell these bonds easily.
- It reduces liquidity and efficient price discovery in the bond market.

What is Benchmark Issuance Strategy (BIS) ?

- The Benchmark Issuance Strategy (BIS) aligns State borrowing with Central Government practices.
- States will issue bonds in predefined maturity buckets (e.g., 5, 10, 30 years).
- Borrowing will follow a pre-announced calendar for better predictability.

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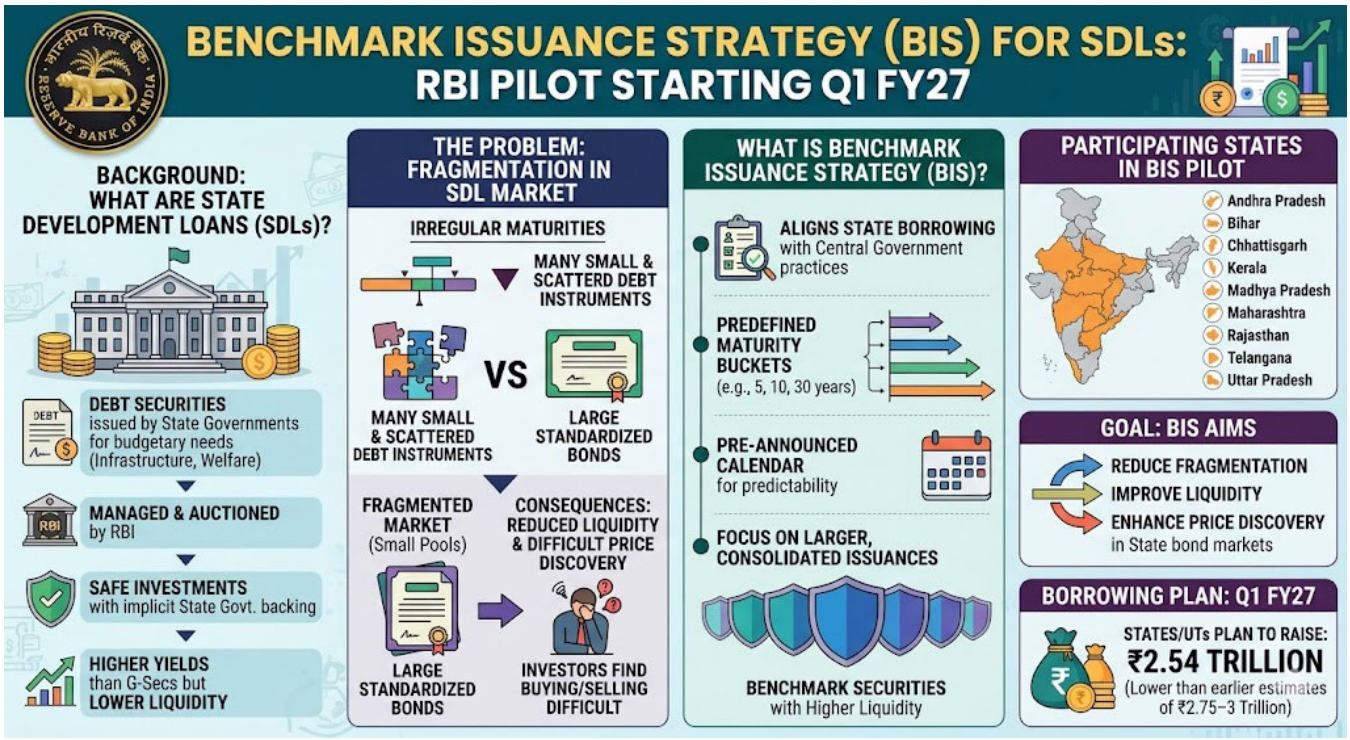
- Focus is on larger, consolidated bond issuances instead of fragmented ones.
- This creates benchmark securities with higher liquidity and easier tradability.
- **Participating States:** Nine States—Andhra Pradesh, Bihar, Chhattisgarh, Kerala, Madhya Pradesh, Maharashtra, Rajasthan, Telangana, and Uttar Pradesh—will take part in the BIS pilot.
- **Goal:** BIS aims to reduce fragmentation, improve liquidity, and enhance price discovery in State bond markets.
- **Borrowing Plan:** States/UTs plan to raise ₹2.54 trillion in Q1 FY27, lower than earlier estimates of ₹2.75–3 trillion.



4. Measles:

Context: Bangladesh said it suspected measles killed at least 98 children in the past three weeks, official data showed on Sunday, with Dhaka ramping up vaccination efforts in the worst-affected areas.

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About Measles:

- Measles virus is an enveloped, RNA virus of the genus Morbillivirus.
- Measles is highly contagious, and an infected person will often transmit the virus to over 90% of unprotected close contacts.
- The virus infects the respiratory tract, then spreads throughout the body.
- Measles is a human disease and is not known to occur in animals.
- Measles can be entirely prevented through a two-dose vaccine and has been officially eliminated in many countries with advanced healthcare systems.

5. Tenure of executive:

Context: Prime Minister Narendra Modi completed 8,931 days in elected office, surpassing Pawan Kumar Chamling.

More about:

- **Core Issue:** Raises question of absence of term limits for executive leadership in India.
- **Global Comparison:** Countries like the United States, Brazil, and Indonesia impose presidential term limits, unlike India.
- **Constitutional Logic:** B. R. Ambedkar argued parliamentary accountability (daily checks) makes term limits unnecessary.
- **Accountability Tools:** Mechanisms include questions, adjournment motions, and no-confidence motions.
- **Anti-Defection Impact:** Tenth Schedule of Indian Constitution restricts legislators from voting against party, weakening accountability.
- **Judicial Backing:** Kihoto Hollohan vs Zachillhu upheld anti-defection law.
- **Systemic Effect:** No-confidence motions become ineffective when ruling party has majority.
- **Party Structure Issue:** Lack of intra-party democracy reinforces leadership dominance.

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- **Comparative Research:** Scholars highlight term-limit evasion and gradual democratic decline globally.
- **Presidential Contrast:** Indian Presidents follow informal two-term convention despite limited powers.
- **Democratic Concern:** Long incumbency may give institutional and electoral advantages to leaders.
- **Counter Argument:** Repeated electoral victories reflect popular mandate and democratic choice.
- **Reform Suggestion 1:** Exempt confidence votes from anti-defection law to restore legislative control.
- **Reform Suggestion 2:** Consider constitutional term limits for PM/CM with possible gap-based return.
- **Conclusion:** Debate centres on whether India's system retains effective checks on executive power.

Quick Bites:

- Observed on April 5, National Maritime Day highlights India's maritime heritage and the role of shipping in trade and security. It traces its origin to the 1919 voyage of SS Loyalty and recognises seafarers and port workers. The 63rd National Maritime Day in India on April 5, 2026, is celebrated under the theme "Maritime India – Empowering Progress".
- INS Trikand, frontline guided missile frigate of the Indian Navy, arrived at Dar-es-Salaam, Tanzania on 03 Apr 2026, as part of its ongoing deployment in the South West Indian Ocean Region. The visit aims to strengthen maritime cooperation and enhance bilateral ties between India and Tanzania.
- Bharat Tribes Fest 2026, a flagship initiative of the Ministry of Tribal Affairs organised in association with TRIFED, concluded today with a grand closing ceremony at Sunder Nursery, New

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Delhi, marking the culmination of a 19-day celebration of tribal culture, craftsmanship, and enterprise.

- The vibrant festival of Rongali Bihu has recently brought festive enthusiasm across Assam, marking the beginning of the Assamese New Year and the arrival of spring.
- Explosives of "devastating power" were found near the Turkstream pipeline in Serbia that carries Russian natural gas to Hungary and beyond, leaders from the two countries said.

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07-04-2026

1. Government e Marketplace (GeM):

Context: The Government e Marketplace (GeM) has achieved a cumulative Gross Merchandise Value (GMV) of ₹18.4 lakh crore, including crossing ₹5 lakh crore GMV in the financial year 2025–26.

About Government e Marketplace (GeM):



- It is an online platform for public procurement.
- It was launched in 2016 by the Ministry of Commerce and Industry (MoC&I).

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- It was created with the objective to create an open and transparent procurement platform for government buyers to facilitate the online procurement of goods and services.
- The purchases through GeM by Government users have been authorised and made mandatory by the Ministry of Finance under the General Financial Rules, 2017.
- The platform is owned by GeM SPV (Special Purpose Vehicle) which is a 100% Government-owned, non-profit company under the MoC&I.

2. Annual Survey of Incorporated Services Sector Enterprises (ASISSE):

Context: NSO launches the first ever Annual Survey of Incorporated Services Sector Enterprises (ASISSE) covering incorporated services sector enterprises across India with the reference period being the financial year 2024-25.

More about:

- The survey is aimed at developing a comprehensive database of the incorporated services sector of the country.
- The survey uses GSTN database as sampling frame. More than 1.21 lakh enterprises will be surveyed in ASISSE.
- NSO publishes "Know Your Survey: A User Guide to the Annual Survey of Incorporated Services Sector Enterprises (ASISSE)" as part of MoSPI's broader outreach efforts to engage with users and communicate survey processes in a more transparent and user-friendly manner.

3. Market for Textiles & Clothing: National Household Survey 2024:

Context: The Union Minister of Textiles Shri Giriraj Singh, today released study report on Domestic Demand of Textiles "Market for Textiles and Clothing: National Household Survey 2024"

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Major highlights:

- **Market Growth:** India's textile market expanded from ₹4.89 lakh crore (2010) to ₹14.95 lakh crore (2024), registering ~8.3% CAGR.
- **Household Demand:** Household consumption rose from ₹4.18 lakh crore to ₹8.77 lakh crore, driving domestic demand.
- **Per Capita Demand:** Increased from ₹2,119 (2010) to ₹6,066 (2024) with ~7.8% CAGR, indicating rising individual consumption.
- **Fiber Share:** Man Made Fibers & blended fibers lead with 52.2%, followed by cotton (41.2%), silk (5.2%), and wool (1.3%).
- **MMF Growth:** Demand grew from ₹1.47 lakh crore to ₹4.47 lakh crore (~8.28% CAGR).
- **Cotton Growth:** Demand increased from ₹0.87 lakh crore to ₹3.53 lakh crore (~10.53% CAGR).
- **Silk & Wool:** Silk grew at ~8.93% CAGR and wool at ~7.02% CAGR.
- The study furthers shows that women consumers, who are the major buyers of textile products have contributed 55.5% of textile purchases as compared to 44.5% by men.

4. Startlink project:

Context: Meghalaya becomes the third Indian state after Maharashtra and Gujarat to partner with Starlink formally.

About Starlink project:

- It is a SpaceX project, launched in 2019, to build a broadband network with a cluster of thousands of orbiting satellites.
- The goal of the project is to create a low-cost, satellite-based broadband network that can provide global internet access.
- The Starlink satellites will be placed in an altitude range between 350 km and 1,200 km in Low Earth Orbit (LEO).

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- Starlink satellites operate in Low-Earth Orbit (LEO) which results in lower latency and faster data transfer rates than typical geostationary satellites orbit at much higher altitudes.

5. Per and polyfluoroalkyl substances (PFAS):

Context: The European Union has tightened water pollution norms to target pollutants like PFAS.

What are Per and polyfluoroalkyl substances (PFAS):

- **Definition:** PFAS are a group of over 4,700 persistent, man-made toxic chemicals known as "forever chemicals."
- **Origin & Use:** Widely used since the 1950s in consumer products like non-stick cookware, stain-resistant fabrics, and firefighting foams.
- **Chemical Nature:** Strong carbon–fluorine bonds make PFAS extremely resistant to environmental degradation.
- **Exposure Sources:** Humans are exposed through contaminated water, food, air, and everyday products.
- **Industrial Use:** Used in aerospace, automotive, construction, and electronics industries.
- **Persistence:** PFAS accumulate in the environment and build up in human and animal bodies over time.
- **Health Impacts:** Linked to reduced fertility, developmental issues, hormonal disruption, high cholesterol, and cancer risks.
- **Global Regulation:** Stockholm Convention lists some PFAS like PFOS and PFOA as persistent organic pollutants.

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6. 'Ghatak' programme:

Context: India has taken a significant step towards strengthening its air combat capabilities with the planned induction of indigenous stealth unmanned combat aerial vehicles (UCAVs) under the 'Ghatak' programme.

About 'Ghatak' programme:

- The Ghatak UCAV, earlier known as the Autonomous Unmanned Research Aircraft (AURA), is being developed by the Defence Research and Development Organisation (DRDO).
- Designed as a stealth combat drone, it represents India's push for self-reliance in advanced military technologies.
- The programme aims to deliver a next-generation unmanned platform capable of executing high-risk missions without endangering human pilots.
- The Ghatak is a 13-tonne class, jet-powered unmanned aircraft featuring a tailless flying-wing configuration. This design significantly reduces radar cross-section, enhancing stealth capabilities.
- The airframe is expected to use 80–90% carbon-fibre prepreg composites, further aiding low observability.
- Powered by the indigenous Kaveri engine, the UCAV can carry up to 1.5 tonnes of weapons in internal bays, ensuring stealth during operations.
- The UCAV is intended for deep strike missions, suppression of enemy air defences (SEAD), and coordinated operations alongside manned fighter aircraft such as the LCA Tejas.

7. Rove beetles:

Context: Researchers have recently identified three new species of rove beetles in Arunachal Pradesh.

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About Rove beetles:

- Rove beetles belong to the family Staphylinidae, one of the largest beetle families in the animal kingdom. They are typically elongate, fast-moving insects characterised by shortened wing covers (elytra), which leave much of their flexible abdomen exposed.
- A distinctive feature is their ability to raise the abdomen in a scorpion-like posture as a defensive mechanism, although they do not possess a true sting.
- Rove beetles possess chemical defence mechanisms through abdominal glands, releasing irritant or antimicrobial secretions to deter predators.

8. Indian Softshell Turtle (Nilssonia gangetica):

Context: In a recent incident, police rescued 16 Indian Softshell turtles in Greater Noida during a routine check, drawing attention to the persistent issue of illegal wildlife trade in India.

About Indian Softshell Turtle (Nilssonia gangetica):

- The Indian Softshell Turtle is one of the largest freshwater turtle species in the world.
- It has a green, oval soft shell with yellow border, long neck, and tube-like snout for breathing underwater.
- Its soft, compressed carapace allows fast swimming and efficient movement.
- Found in rivers, lakes, ponds, canals, and streams with sandy or muddy bottoms.
- Prefers turbid waters and can remain buried in sand for long durations.
- Distributed across Afghanistan, India, Bangladesh, and Pakistan.
- In India, occurs in major basins like Ganga, Brahmaputra, Indus, Yamuna, Narmada, and Mahanadi.
- It is omnivorous, feeding on fish, amphibians, insects, molluscs, carrion, and plants.
- Plays an important role in maintaining aquatic ecosystem balance.
- Breeding season is from February to April.

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- Considered sacred in some regions (e.g., Odisha) and protected in temple ponds.

Quick Bites:

- The Tri-Service seminar Ran Samwad is scheduled to be held on April 09-10, 2026 at the Air Force Training Command, Bengaluru. This edition marks the beginning of a continued and structured dialogue on emerging paradigms of warfare, with the theme "Multi Domain Operations: An Imperative for Addressing Conventional and Irregular Threats".
- India achieved its highest-ever annual wind capacity addition of 6.05 GW during FY 2025-26 crossing the landmark of 5.5 GW capacity addition in FY 2016-17. With this addition, India's cumulative installed wind power capacity has crossed 56 GW.
- The Technology Development Board (TDB), Department of Science & Technology (DST), Government of India, has signed an agreement with M/s Scharge Pvt Limited for the project titled "Powering EV Charging Innovation." The project is supported under the India–UK Collaborative R&D Programme for Industrial Sustainability, in partnership with UK-based Albright Product Design Limited, aimed at developing advanced and efficient solutions for electric vehicle (EV) charging infrastructure.
- Project Maven is a U.S. military AI programme that uses machine learning and computer vision to analyse large volumes of drone imagery, enabling automatic detection of objects, movements, and targets. It reduces the burden on human analysts and provides real-time intelligence to support faster and more accurate military operations.
- The No-Cloning Theorem is a fundamental principle in Quantum Mechanics which states that it is impossible to create an exact copy of an arbitrary unknown quantum state. Unlike classical systems where data can be duplicated freely, this theorem ensures that quantum information cannot be perfectly replicated, thereby placing intrinsic limits on quantum computing and forming the basis for secure quantum communication.

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- A major palaeontological discovery in the Shivalik foothills near Dehradun has revealed freshwater fish fossils, Gourami Fish Fossils, for the first time in the region, previously known only for terrestrial remains.
- The indigenous Appemidi mango, known for its unique flavour and cultural significance, is facing increasing threats due to climate change in Karnataka's Aghanashini valley. Appemidi mango is a renowned tender raw mango variety from Karnataka's Western Ghats region, granted a Geographical Indication (GI) tag in 2009. Primarily grown in Uttara Kannada and Shimoga, it is famous for its distinct aroma, thin skin, and excellent pickling qualities.
- The 7th National Sub-Junior (Under-17) Boxing Championship commenced in Nagpur, marking a significant event in India's youth sporting calendar.
- On World Health Day 2026, celebrated on 7 April WHO unites and mobilizes the world under the theme "Together for health. Stand with science."

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08-04-2026

1. Guru Tegh Bahadur:

Context: Prime Minister offers respectful homage to Sri Guru Tegh Bahadur Ji on the occasion of Parkash Purab.

About Guru Tegh Bahadur:

- Born in 1621 at Amritsar.
- Youngest son of Guru Hargobind.
- Served as the 9th Sikh Guru.
- Founded Chak Nanki, later developed into Anandpur Sahib.
- Revered as "Hind Di Chadar" (Protector of India).
- Championed universal brotherhood and religious freedom.
- Opposed superstition, caste discrimination, and untouchability.
- His hymns in Guru Granth Sahib emphasize equality, peace, and courage.

2. Biological Diversity Act, 2002:

Context: Government notifies Two Key Institutions as Repositories under Biological Diversity Act, 2002.

More about:

- The National Biodiversity Authority notified two institutions as designated repositories under Section 39 of the Biological Diversity Act 2002.
- Decision taken in consultation with the Ministry of Environment Forest and Climate Change.
- Institutions notified:

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- Referral Centre Bhavasagara at Centre for Marine Living Resources and Ecology
- MACS Collection of Microorganisms & National Fungal Culture Collection at Agharkar Research Institute

- **Section 39 provision:** Central Government can designate institutions as repositories for biological resources.
- **Purpose:** Ensure safe custody, documentation, and preservation of biological materials (including voucher specimens).
- **Mandatory requirement:** Discoverers of new species must inform repositories and deposit specimens.
- **Selection process:** Proposals → examined by expert committee → recommended by NBA → notified by Ministry.
- **Bhavasagara Centre (CMLRE):** Focus on deep-sea biodiversity; maintains 3,500+ geo-referenced marine specimens.
- **MACS Collection:** Specialised in microbial preservation, including rare and extremophilic organisms.
- **National Fungal Culture Collection:** Repository for fungal diversity, supports research, industry, and training.
- **Overall significance:** Strengthens biodiversity conservation, research, and bio-resource management in India.

About Biological Diversity Act, 2002:

- Enacted in 2002 to conserve biodiversity and ensure sustainable use with equitable benefit sharing.
- Aims to protect biological resources and associated traditional knowledge of local communities.
- Prior approval of National Biodiversity Authority is mandatory for accessing biological resources for research or commercial use.

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- Approval required for transfer of research results related to Indian biological resources.
- Prior permission needed for claiming intellectual property rights based on Indian biological resources.
- Establishes a three-tier structure: NBA (national), State Biodiversity Boards (state), and Biodiversity Management Committees (local).
- Provides dedicated funds and budgets for biodiversity conservation and research.
- Regulates access, sustainable use, and benefit sharing of biological resources.
- Empowers authorities to monitor financial investments and ensure fair returns from bio-resources.
- Central Government (with NBA) can notify threatened species and regulate their conservation.
- Allows designation of repositories for biological resources.
- Offences under the Act are cognizable and non-bailable.
- Appeals and disputes are handled by the National Green Tribunal.

3. Dedicated Freight corridors:

Context: Western Dedicated Freight Corridor (DFC) fully completed by Ministry of Railways

What is Dedicated Freight Corridor?

- It is a high speed and high capacity railway corridor that is exclusively meant for the transportation of freight.
- India's Dedicated Freight Corridors:
- DFC is a major rail freight infrastructure project aimed at improving freight transport efficiency in India.
- It is implemented by Dedicated Freight Corridor Corporation of India Limited.
- DFCCIL was established in October 2006.
- It functions as a Special Purpose Vehicle under the Ministry of Railways.

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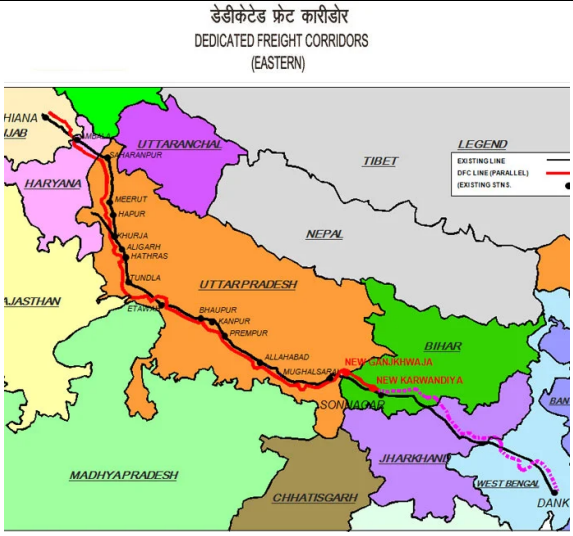
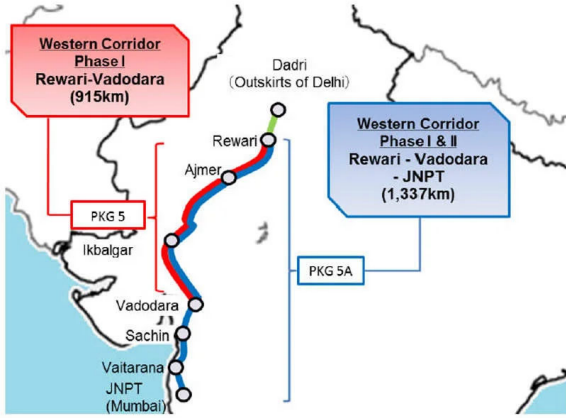
- The total planned length of DFCs is 3,306 km.
- The total estimated project cost exceeds ₹81,000 crore.
- DFC consists of two corridors: Eastern DFC and Western DFC.

Eastern Dedicated Freight Corridor (EDFC)	Western Dedicated Freight Corridor (WDFC)
	
Runs from Ludhiana to Dankuni	Runs from Jawaharlal Nehru Port to Dadri
Total length: 1,337 km	Total length: 1,506 km
Passes through Punjab, Haryana, Uttar Pradesh, Bihar, West Bengal	Passes through Maharashtra, Gujarat, Rajasthan, Haryana, Uttar Pradesh
Focuses on coal, steel, and bulk cargo transport	Focuses on containerized cargo and port connectivity
Funded mainly by World Bank	Funded by Japan International Cooperation Agency
Connects industrial belt of North India to Eastern ports	Connects Western ports to Northern hinterland
High relevance for power plants and heavy industries	High relevance for EXIM trade and logistics

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4. Angola:

Context: India is negotiating with Angola, an important alternative to West Asia for gas supplies.

Details about Angola:

- Angola is the seventh-largest country in Africa by land area.
- It is located on the southwestern coast of Africa.
- It shares borders with Democratic Republic of the Congo (north & east), Republic of the Congo (northwest via Cabinda), Zambia (east), and Namibia (south).
- It is bordered by the Atlantic Ocean to the west
- Major rivers include Cuanza, Cunene, Cubango (Okavango), and Zambezi River.
- Angola is rich in resources such as crude oil, natural gas, diamonds, iron ore, copper, gold, and uranium.
- India accounts for about 10% of Angola's external trade.
- India imports crude oil, diamonds, and raw minerals from Angola.
- India exports pharmaceuticals, machinery, vehicles, and agricultural goods to Angola.

5. Fast Breeder Reactor (PFBR) at Kalpakkam:

Context: Indigenously developed Prototype Fast Breeder Reactor (PFBR) at Kalpakkam attains Criticality. Criticality refers to a situation when each fission event releases a sufficient number of neutron to sustain an ongoing series of reactions, in other words, it is point when nuclear reactor achieves a self-sustaining chain reaction.

More about Fast Breeder Reactor:

- A Fast Breeder Reactor (FBR) is a nuclear reactor that uses fast neutrons to produce more fuel than it consumes.
- India's FBR is located at Kalpakkam.

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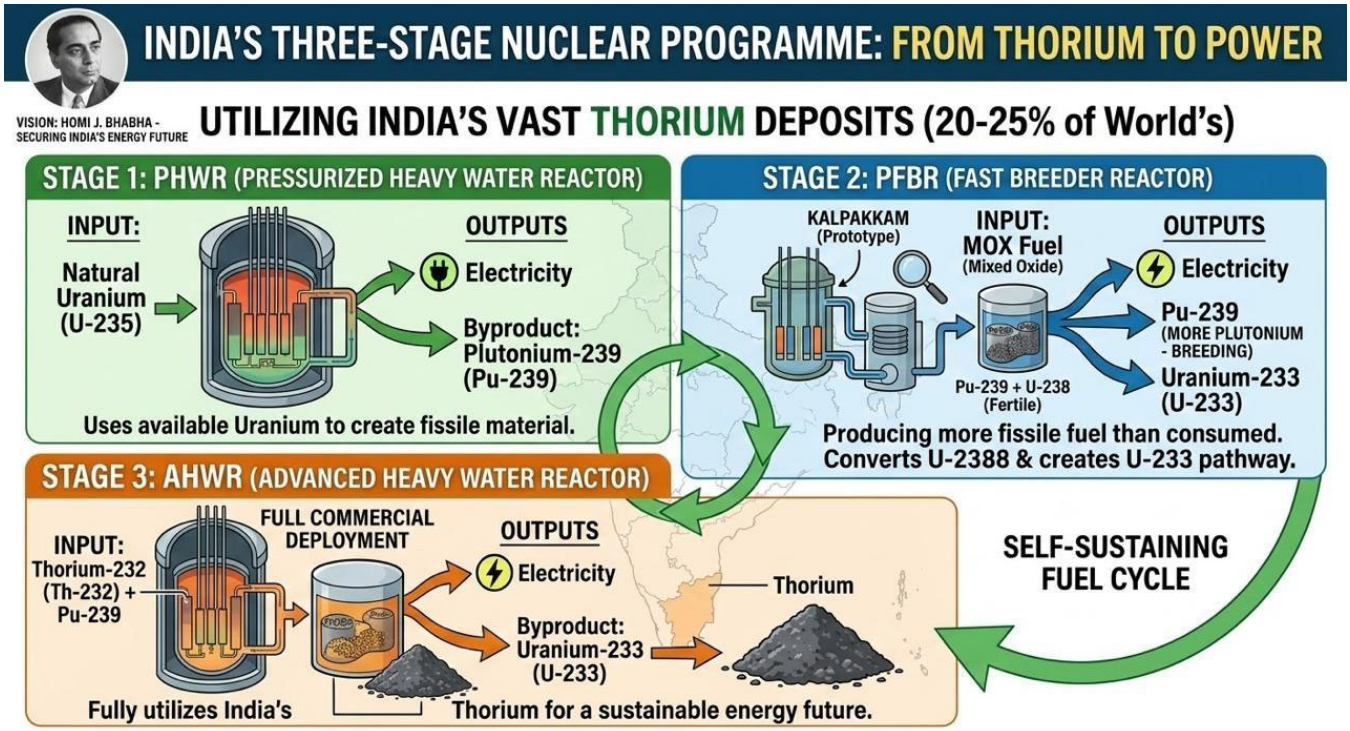
- It is operated by Bharatiya Nabhikiya Vidyut Nigam Limited.
- The reactor has a power capacity of 500 MW.
- Once operational, India will become the second country after Russia to have a commercial FBR.
- It uses indigenously developed Uranium-Plutonium Mixed Oxide (MOX) fuel.
- It employs liquid sodium as a coolant instead of water.
- A Uranium-238 blanket surrounds the core and converts into more fuel through nuclear transmutation.
- The ability to generate more fuel gives it the name "Breeder Reactor."

India's Three stage Nuclear Programme:



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6. Tar Balls:

Context: The Centre notified the draft Tar-balls Management Rules, 2026, to combat marine pollution caused by toxic oil leak residue.

Important provisions:

- Covers the entire lifecycle of oil spill management: generation, collection, storage, transport, treatment, and disposal.
- Applies the "polluter pays" principle, making oil operators liable for environmental damage and compensation.
- Clearly defines stakeholder responsibilities, including agencies like Central Pollution Control Board and Indian Coast Guard.
- Mandates monitoring, reporting, and allows declaration of "State disaster" in severe cases.

About Tar Balls:

- Tar balls are sticky lumps formed due to weathering of oil after spills and marine accidents.
- They are created through physical, chemical, and biological processes when oil mixes with water and contaminants.
- They are classified as hazardous waste requiring safe handling and disposal.

Quick Bites:

➢ Indian Navy's INS Sunayna, deployed under Indian Ocean Ship (IOS) SAGAR initiative, arrived at Male on 06 Apr 2026, marking the first port call of her operational deployment. IOS SAGAR, with international crew from 16 Friendly Foreign Countries (FFCs), is on deployment to the South East Indian Ocean Region, reinforcing India's Neighbourhood First policy and the vision of MAHASAGAR (Mutual and Holistic Advancement for Security and Growth Across Regions).

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- Bank of Baroda launched bob SAMVAD on March 28, 2026 in Mumbai, unveiled by M. Nagaraju. It is an industry-first AI-powered multilingual conversational platform designed to transform customer interactions at bank branches by enabling seamless communication between customers and staff in their preferred languages, thereby eliminating language barriers.
- The Ravindra H. Dholakia Committee is a Sub-Committee on Regional Accounts constituted under ACNAS and chaired by Ravindra H. Dholakia to review and improve the methodology for compiling State Domestic Product (SDP) and District Domestic Product (DDP).
- In a remarkable story of resilience and determination, Payal Nag, an 18-year-old archer from Odisha, has scripted history by becoming the world's first quadruple amputee to win an international archery gold medal.
- Researchers from the Zoological Survey of India have recently discovered two new species of free-living marine nematodes—Corononema dhriti and Epacanthion indica—off the coast of Tamil Nadu, highlighting the rich and still underexplored marine biodiversity of India's coastal ecosystems.

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09-04-2026

1. Nutrient Based Subsidy (NBS):

Context: The Union Cabinet, chaired by Narendra Modi, has approved the Nutrient Based Subsidy (NBS) rates for Phosphatic and Potassic (P&K) fertilizers for the Kharif Season 2026, based on a proposal from the Department of Fertilizers, with the objective of ensuring adequate availability of essential nutrients to farmers at affordable prices, and has allocated an estimated budgetary outlay of ₹41,533.81 crore for this purpose.

Background:

- Fertilisers are basically food for crops, containing nutrients necessary for plant growth and grain yields.
- Balanced fertilisation means supplying these primary (N, phosphorus-P and potassium-K), secondary (sulphur-S, calcium, magnesium) and micro (iron, zinc, copper, manganese, boron, molybdenum) nutrients in the right proportion, based on soil type and the crop's own requirement at different growth stages.
- All-India NPK use ratio widened from 7.7:3.1:1 during 2021-22 to 11.8:4.6:1 during 2022-23.
- A NPK ratio of 4:2:1 is generally considered ideal and accepted for macro-level monitoring of consumption of plant nutrients for the country as a whole.

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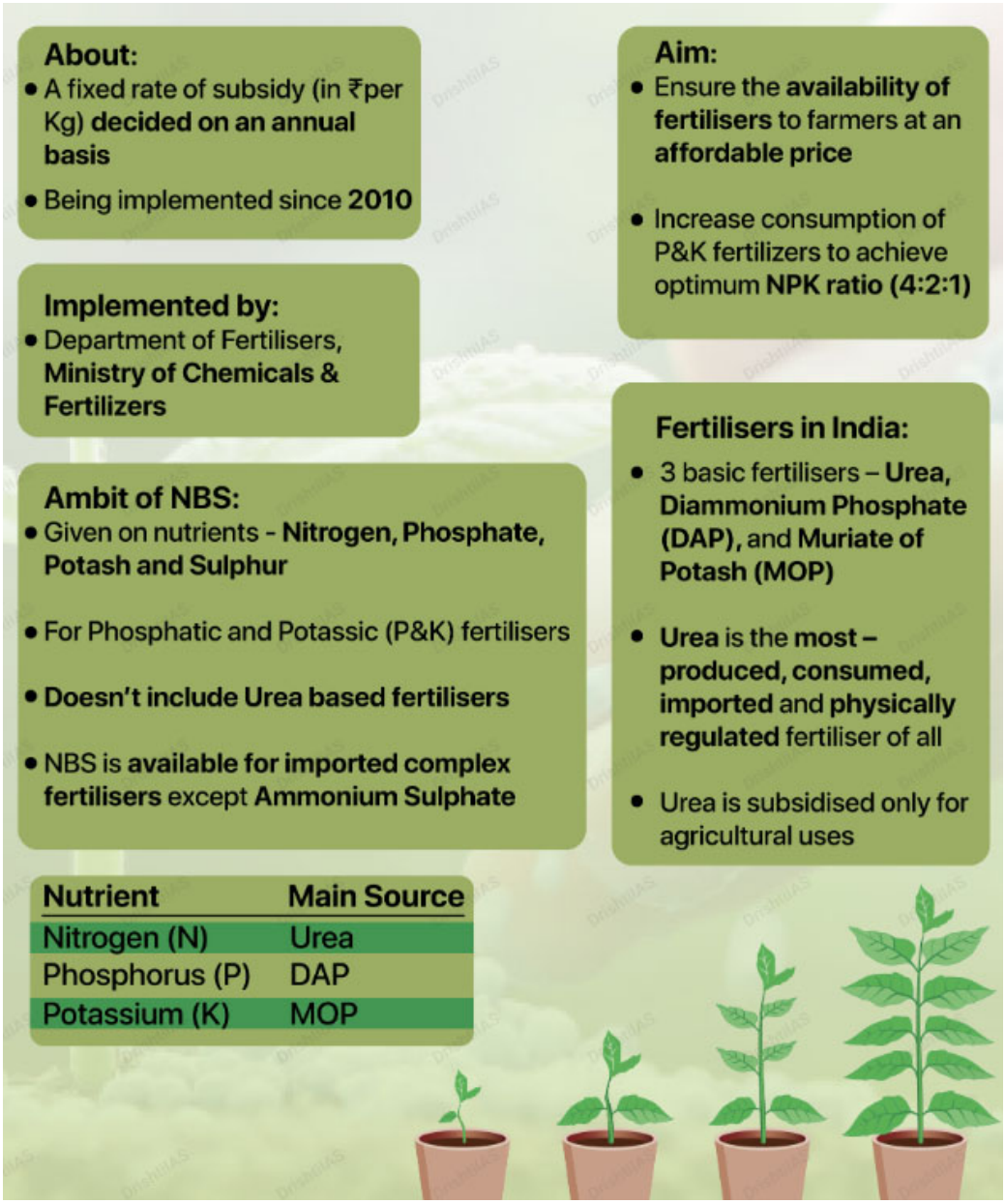
About Nutrient Based Subsidy (NBS):



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- The nutrient-based subsidy (NBS) system, instituted in April 2010, was expected to promote balanced fertilisation.
- Under it, the government fixed a per-kg subsidy for N, P, K and S.
- The subsidy on any fertiliser was, thereby, linked to its nutrient content.
- The underlying idea was to induce product innovation and wean away farmers from urea, DAP (18% N and 46% P content) and MOP (60% K), in favour of complex fertilisers containing N, P, K, S and other nutrients in balanced proportions with lower concentrations.
- The subsidy amount is provided directly to fertilizer manufacturers, who then sell the fertilizers to farmers at a reduced price.

2. India's renewable energy statistics:

Context: India Ranks third globally in Renewable Energy Installed Capacity.

More details:

Total Renewable Energy Installed Capacity (GW)	
Country	**Capacity**
China	2258.02
USA	467.92
India	250.52
Brazil	228.20
Germany	199.92
Japan	134.53
Canada	110.51
World	5149.28

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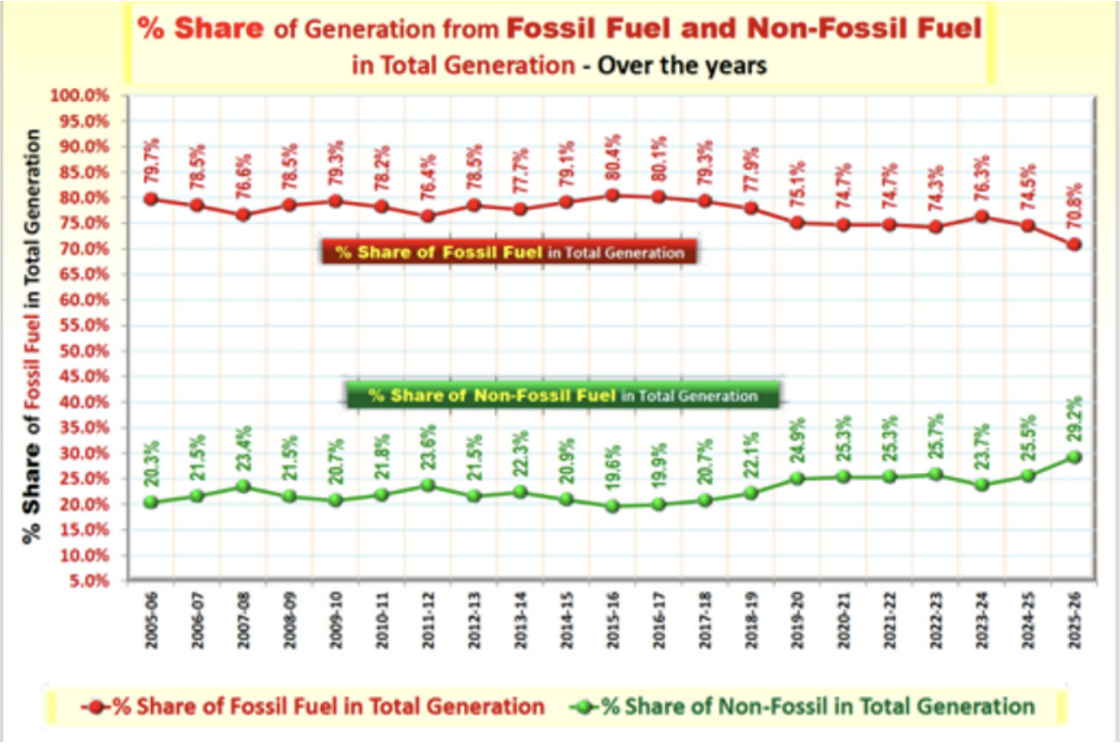
- So far, a total of 283.46 GW of capacity from non-fossil fuel sources has been installed in the country as on 31.03.2026. This includes 274.68 GW Renewable Energy (150.26 GW Solar Power, 56.09 GW Wind Power, 11.75 GW Bio Energy, 5.17 GW Small Hydro Power, 51.41 GW Large Hydro Power) and 8.78 GW Nuclear Power capacity.
- India stands 3rd globally in Renewable Energy Installed Capacity (as per IRENA RE Statistics 2026 with data as on December, 2025).
- Installed capacity is the maximum potential power output of a generator under ideal conditions, measured in megawatts (MW).
- Generation (or actual output) is the amount of electricity actually produced over time, measured in megawatt-hours (MWh).
- They differ because of maintenance, fuel availability, or lower renewable resource availability, a ratio defined as the capacity factor.



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Generation Performance during April-March 2026 (Prov.)

Category-wise :	Target Generation during Current Year 2025-26 (Upto March 2026) (BU)	Generation during Current Year 2025-26 (Upto March 2026) * (BU)	Ach. w.r.t Targets (%)	Generation during Previous Year 2024-25 (Upto March 2025) (BU)	Growth w.r.t. Previous Year Generation (%)	% of Total Generation
Generation from Fossil Fuel :						
Coal	1429.000	1250.189	87.49	1298.052	-3.69	67.7
Gas	37.262	26.009	69.80	31.580	-17.64	1.4
Lignite	37.000	30.323	81.95	32.995	-8.10	1.6
Diesel	0.400	0.430	107.42	0.443	-2.93	0.0
Total (Fossil Fuel) :	1503.662	1306.951	86.92	1363.069	-4.12	70.8

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Generation from Non-Fossil Fuel :						
Generation from Renewable Sources (Including Hydro) :						
Wind	91.712	106.089	115.68	83.347	27.29	5.7
Solar	152.499	173.525	113.79	144.150	20.38	9.4
BioPower & Others	30.789	29.199	94.84	27.512	6.13	1.6
Total : Solar, Wind & Other RE	**275.000**	**308.813**	**112.30**	**255.009**	**21.10**	**16.7**
Hydro	**155.674**	**167.163**	**107.38**	**148.634**	**12.47**	**9.1**
Bhutan Import	**9.472**	**7.813**	**82.48**	**5.484**	**42.46**	**0.4**
Total RE Generation (Incl. Hydro)	440.146	483.789	109.92	409.127	18.25	26.2
Nuclear	56.592	55.181	97.51	56.681	-2.65	3.0
Total (Non-Fossil Fuel) :	496.738	538.970	108.50	465.808	15.71	29.2

Total Generation (Fossil Fuel & Non-Fossil Fuel) :						
Total Generation :	2,000.400	1,845.921	92.28	1,828.877	0.93	100.0

3. Skills Outcomes Fund:

Context: Union Minister Shri Jayant Chaudhary initiates campaign to build 'Skills Outcomes Fund' to unlock aspirational livelihood opportunities for youths across India.

About Skills Outcomes Fund:

- Skills Outcomes Fund, a first-of-its-kind initiative aimed at unlocking aspirational livelihoods for youth from low-income backgrounds.
- The fund envisages to mobilise public and private capital to scale outcomes-based financing (OBF) in India's skilling ecosystem, linking investments directly to verified employment outcomes.

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- The proposed Skills Outcomes Fund will be anchored by the National Skill Development Corporation (NSDC) under the aegis of the Ministry of Skill Development and Entrepreneurship (MSDE), in partnership with not-for-profit and philanthropic organizations /stakeholders.
- It creates a unique opportunity for government and industry to work together in advancing innovative financing approaches and strengthen the skilling ecosystem with a clear and measurable focus on outcomes.

4. Repo rate:

Context: Monetary Policy Committee (MPC) of India unanimously voted to hold the repo rate at 5.25%. It also decided to continue with the neutral stance.

What is the repo rate?

- Repo Rate (Repurchase Agreement Rate): Interest rate at which commercial banks borrow from the central bank.
- Purpose: Helps banks meet short-term liquidity needs.
- Functioning: Banks provide securities as collateral and repurchase them later at a higher price (including interest).
- Higher Repo Rate: Increases borrowing cost → reduces loans, spending, and inflation.
- Lower Repo Rate: Decreases borrowing cost → boosts loans, spending, and economic activity.
- Monetary Policy Role: Key tool used by the Reserve Bank of India to control money supply, inflation, and growth.

About Monetary Policy Committee:

- **Monetary Policy Committee (MPC):** Constituted under Section 45ZB to determine policy interest rates.

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- **Core Function of MPC:** Fix repo rate to control inflation within the target range.
- **Replacement:** MPC replaced the earlier Technical Advisory Committee.
- **Composition:** 6 members – RBI Governor (Chairperson), RBI Deputy Governor (Monetary Policy), 1 RBI nominee, and 3 Government nominees.
- **Tenure:** External members serve for 4 years.
- **Quorum:** Minimum 4 members, including Governor or Deputy Governor.
- **Decision-Making:** Based on majority vote; Governor has casting vote in case of a tie.
- ❖ Binding Nature: MPC decisions are binding on RBI.
- ❖ Support: RBI's Monetary Policy Department assists MPC.
- ❖ Meetings: MPC meets at least four times a year.

5. 1,500-year-old reservoir unearthed on Elephanta Island near Mumbai:

Context: A major archaeological find of a stepped reservoir was made on Elephanta Island by the Archaeological Survey of India.

More details:

- **Structure Details:** The reservoir is about 1,500 years old, T-shaped, measuring ~14.7 m in length and 6.7 m & 10.8 m in width, with 20 exposed stone steps and a depth of 5 m.
- **Engineering Significance:** Built using imported stone blocks, it reflects advanced water management to conserve rainwater on the rocky island.
- **Excavation Work:** Initiated in November 2025 by ASI's Mumbai Circle, covering 19 trenches (10×10 m each).
- **Other Archaeological Finds:** Includes a brick structure (possibly a dyeing vat), storage pots, terracotta figurines, bangles, beads (carnelian, quartz), and stone anchors.

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- **Evidence of Trade:** Discovery of ~3,000 amphorae and torpedo jar sherds from Mediterranean and West Asian regions indicates long-distance maritime trade.
- **Coins and Dynasty Link:** Around 60 coins (copper, lead, silver) found; several linked to Krishnaraja of the Kalachuri dynasty (6th century CE).
- **Cultural Insight:** Coin motifs (seated bull and temple symbol) and artefacts highlight the island's historical, economic, and cultural significance.

About Elephanta Island/Caves:

- Elephanta Caves were constructed between the 5th–7th centuries CE, likely under regional dynasties like the Chalukyas and Rashtrakutas.
- The island had earlier habitation with Buddhist stupa mounds dating back to the 2nd century BCE.
- Portugal named it "Elephanta" after a stone elephant statue and ended its role as an active Hindu worship site.
- Declared a UNESCO World Heritage Site in 1987.
- Located about 11 km from the Gateway of India, covering around 10–16 km².
- The complex has 7 caves: 5 Hindu caves on the western hill and 2 Buddhist caves on the eastern hill.
- Cave 1 (Great Cave) features a 39 m deep structure with a 27 m square mandapa supported by columns.
- Layout follows mandala-based planning reflecting cosmic order and symmetry.
- Major sculptures include Trimurti Sadashiva, Nataraja, Yogishvara, Ardhanarishvara, and Ravanaanugrahamurti.
- The Trimurti (7 m high) represents Shiva's three aspects: creation, preservation, and destruction.
- Architectural elements include mandapas, garbhagriha, dvarapalas, and rock-cut corridors showing advanced Hindu temple design.

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Quick Bites:

- The second edition of the International Conference on "Spacecraft Mission Operations: SMOPS-2026" with theme of "Innovative Operations for Smart and Sustainable Space Mission Management – Next Generation" is being held during 8-10 April, 2026 in Bangalore, India. The conference, jointly organized by Indian Space Research Organization (ISRO), Astronautical Society of India (ASI) and International Academy of Astronautics (IAA), is aimed to cover a wide range of topics related to mission operations.
- The Indian Army contingent has departed for Egypt to participate in the fourth edition of the India - Egypt Joint Special Forces Exercise, Cyclone - IV, scheduled to be conducted at Anshas from 09 to 17 April 2026.
- INS Sudarshini, the Indian Navy's Sail Training Ship, departed the port city of Sète on 07 Apr 2026, marking successful culmination of her participation in the renowned Escale à Sète. This biennial festival is amongst the largest maritime gatherings in the Mediterranean, celebrating global seafaring heritage.
- In a significant step towards enhancing biodiversity and integrating ecological sustainability in National Highway development, NHAI has taken the initiative to develop 'Arogya Van', the thematic medicinal tree plantations on vacant land parcels along the National Highways. The initiative aims to enrich biodiversity along the National Highways by introducing medicinal tree species that support pollinators, birds and microfauna, thereby strengthening ecosystem resilience.
- Navi Mumbai Municipal Corporation (NMMC) established India's first Municipal Textile Recovery Facility (TRF) in Belapur, Navi Mumbai. By integrating decentralised collection, scientific sorting, traceability and women-led livelihood generation, the TRF repositions textile waste from an overlooked stream to a valuable component of the urban circular economy.
- 2026 Partnership for Healthy Cities (PHC) Summit held in Rio de Janeiro, brought together health officials, urban planners and global experts from 55 cities. PHC is a global network of 74 cities

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committed to prevent Non-Communicable Diseases (NCDs) and injuries. Indian cities of Mumbai, Ahmedabad and Bengaluru are part of the PHC network.

- The Comptroller and Auditor General of India has highlighted a severe ecological decline in the lakes of Jammu and Kashmir over the past decade, noting that out of 697 lakes, 315 have disappeared, 203 have shrunk, and a total of 518 have been degraded; prominent lakes include Dal Lake in Srinagar, known for its floating gardens called Raad, Wular Lake, the second largest freshwater lake in Asia fed by the Jhelum River and located at the foothills of Haramuk Mountain, Hokersar Lake, also called the Queen of Wetlands and a key habitat for migratory birds, and Manasbal Lake, overlooked by the Mughal garden Jaroka built by Nur Jahan.
- Scientists find evidence for pair instability supernovas which leave nothing behind after exploding. A supernova — the explosive death of a star — is always violent, blasting material into space while typically leaving behind a compact stellar remnant like a neutron star or black hole.
- The United Arab Emirates has marked a significant milestone in global digital infrastructure by launching the world's first commercial upper 6GHz (U6GHz) internet network.
- In a boost to hydro-electric power in Arunachal Pradesh, the Cabinet Committee on Economic Affairs approved an investment of ₹26,069.5 crore in the construction of Kamala Hydro Electric project alongside a sum of ₹14,105.83 crore to build the Kalai-II hydro-electric project. The Kamala Hydro-electric project would account for a total installed capacity of 1,720 megawatts and expected to generate 6,870 million units of energy a year. The Kalai-II hydro-electric project, would have an installed capacity of 1,200 MW and generate 4,852.95 million units annually.

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10-04-2026

1. Methanol bunkering:

Context: Deendayal Port Authority (Kandla Port) has advanced its methanol bunkering capabilities, positioning itself as a key player in India's energy transition efforts and global green shipping corridors.

What is Methanol bunkering?

- **Methanol bunkering:** Refueling ships with methanol instead of conventional marine fuels.
- **Fuel type:** Methanol is a cleaner-burning alternative fuel used in maritime transport.
- **Process:** Involves safe storage, handling, and transfer of methanol to ships at ports.
- **Purpose:** Reduces greenhouse gas emissions and air pollutants compared to traditional fuels.
- **Significance:** Supports green shipping and decarbonization of the maritime sector.

About Kandla port:

- Deendayal Port (formerly Kandla Port) is the second largest seaport of India.
- Located in Kachchh district in western India.
- Situated in the Kandla Creek, about 90 km from the Gulf of Kachchh.
- It is a protected natural harbor.
- Recognized as one of India's major ports.
- Developed in the 1950s after the Partition of India to replace reliance on Karachi Port.
- Located ~256 nautical miles southeast of Karachi Port and ~430 nautical miles north-northwest of Mumbai Port.
- Specializes in handling bulk cargo, including liquid cargo.

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- Has 18 berths (12 dry cargo berths and 6 oil jetties).
- Handles cargo like petroleum, chemicals, iron ore, salt, and containers.
- It is India's largest state-owned cargo handling port by volume.
- Faces competition from Mundra Port, a major private port nearby.

2. Hydrofluorocarbons (HFCs):

Context: Ministry of Environment, Forest and Climate Change directed all state and Central authorities to stop granting environmental clearances for HFCs production for new or additional HFC production beyond December 31, 2027. This direction is in line with India's commitments under the Kigali Amendment.

What are Hydrofluorocarbons (HFCs)?

- Hydrofluorocarbons (HFCs) are man-made organic compounds containing carbon, hydrogen, and fluorine.
- They are widely used in refrigeration, air conditioning, insulating foams, aerosols, and fire suppression systems.
- HFCs were introduced as substitutes for ozone-depleting substances under the Montreal Protocol.
- They do not significantly deplete the ozone layer compared to CFCs.
- However, HFCs are potent greenhouse gases with very high global warming potential (GWP).
- Some HFCs can have warming effects thousands of times greater than carbon dioxide.
- They are short-lived climate pollutants with atmospheric lifetimes of about 15–29 years.
- Emissions mainly occur due to leakage, poor maintenance, or disposal of equipment.
- Their increasing concentration is a growing concern for global warming and climate change.

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About Kigali Amendment:

- The Kigali Amendment is a legally binding agreement to phase down Hydrofluorocarbons (HFCs).
- It was adopted on 15 October 2016 in Kigali and came into force on 1 January 2019.
- As of 2025, over 170 countries and the European Union are parties to the agreement.
- It emerged from concerns about the high global warming potential of HFCs, despite their low ozone depletion impact.
- Builds upon the Montreal Protocol (1987), which phased out CFCs.
- Aims to reduce global HFC consumption and production by 80–85% by the late 2040s.
- Expected to help avoid up to 0.5°C of global temperature rise by 2100.
- Provides differentiated timelines for developed and developing countries (equity-based approach).
- Supports transition to low-global-warming refrigerants with financial assistance via the Multilateral Fund.
- Includes compliance mechanisms, periodic reviews, and flexibility provisions (e.g., temperature waiver for hot countries).

3. "Land inequality in India: Nature, history, and markets" report:

Context: It is the report released by World Inequality Lab on Land Inequality in India.

Highlights of the report:

- **Extreme Wealth Concentration:** Top 10% of rural households own about 44% of total land.
- **High Landlessness:** Nearly 46% of rural households are completely landless.
- **Severe Inequality:** Village-level land Gini coefficient is very high at 71.1.
- **Dominant Landholders:** Largest landowner in a village controls around 12.4% of land.
- **Regional Variation:** Kerala shows highest inequality (Gini ~90), while Karnataka and Rajasthan have relatively lower inequality (below 65).

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- **Landlessness Rate:** Punjab has the highest landlessness (~73%).
- **Natural Factors:** High agricultural productivity areas tend to have larger landholdings and more inequality.
- **Historical Factors:** Regions under the colonial zamindari system show higher inequality than former princely states.
- **Social Factors:** Higher Scheduled Caste population areas face greater inequality due to historical land deprivation.
- **Market Factors:** Proximity to towns, highways, and mandis increases inequality as small farmers sell land to larger landowners.

4. Muse Spark:

Context: Meta Platforms has introduced Muse Spark, a new artificial intelligence model aimed at strengthening its position in the global AI race.

What is Muse Spark?

- Meta launched Muse Spark as its first product from a specialised advanced AI team.
- It is part of Meta's strategy to accelerate innovation in advanced machine intelligence.
- Developed after major investments in talent acquisition and strategic AI initiatives.
- Muse Spark is a lightweight yet powerful model optimized for speed and efficiency.
- Capable of handling complex reasoning tasks across domains like science, mathematics, and healthcare.
- Designed as a foundational AI system with more advanced versions under development.
- Supports practical applications such as image analysis, nutrition estimation, and travel planning.
- Introduces a "Contemplating mode" where multiple AI agents collaborate for better reasoning.
- Aims to scale using Meta's large user base and compete with global AI leaders.

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5. National Quantum Mission:

Context: National Quantum Mission achieves 1,000-km secure communication. The development is expected to strengthen India's secure communication capabilities across defence, financial systems and critical infrastructure.

What is Quantum computing?

- Quantum Communication: Involves encoding and transmitting information between distant quantum systems.
- Physical Basis: Utilizes quantum properties like superposition and entanglement.
- Quantum Key Distribution (QKD): A technique to securely generate and share encryption keys.
- Security Feature: Any interception disturbs quantum states, enabling detection of eavesdropping.

About National Quantum Mission:

- It'll be implemented by the Department of Science & Technology (DST) under the Ministry of Science & Technology.
- The mission launched in 2023 at a cost of Rs 6,000 crore, planned for 2023-2031 time period.
- It aims to seed, nurture, and scale up scientific and industrial R&D and create a vibrant & innovative ecosystem in Quantum Technology (QT).
- With the launch of this mission, India will be the seventh country to have a dedicated quantum mission after the US, Austria, Finland, France, Canada and China.
- To develop quantum computers with 50-1000 qubits in 8 years on various platforms such as superconducting and photonic technology.
- To develop secure Satellite-based quantum communications between ground stations over 2000 kilometres range within India.
- To develop secure long-distance quantum communications with other countries.

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- To develop inter-city quantum key distribution over a 2000 km range as well as multi-node Quantum networks.

6. The India Development Update report:

Context: The World Bank has revised downwards India's growth outlook for 2026-27 to 6.6% from 7.2%, citing the impact of the war in West Asia on household and government consumption, as well as on industrial activity.

Major observations:

- World Bank projected India's GDP growth at 7.2% (baseline, without conflict).
- Growth revised to 6.6% in FY27 due to Middle East conflict–induced energy disruptions.
- Strong growth driven by momentum in Q4 of 2025-26 and pro-growth reforms.
- Companion report: South Asia growth expected to slow to 6.3% in 2026 (from 7% in 2025).
- Private sector-led growth is key for employment generation and resilience.
- Industrial growth likely to slow to 7.5% (from 8.8%).
- Manufacturing (electronics, automobiles, tradables) will support industrial activity.
- Higher input costs + weak Gulf demand will dampen industrial growth.
- Services sector (business, food, accommodation) affected by global slowdown and LPG costs.
- **Major downside risk:** prolonged West Asia conflict.
- High dependence on energy imports → risks to inflation, fiscal balance, and external sector.
- Lower remittances possible due to labor market disruption in Gulf countries.
- Fuel subsidies/excise cuts may hurt fiscal consolidation efforts.

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7. Gaganayan Project:

Context: The HLVM3 G1/ OM1 mission, which is the first uncrewed mission of Gaganyaan, was scheduled to be launched in the first quarter of 2026.

About Gaganyan Mission:

- It is India's ongoing project to send a 3-day manned mission to the Low Earth Orbit (LEO) with a crew of 4 members and bring them safely back to Earth.
- It will circle Earth at a low-earth-orbit at an altitude of 300-400 km from earth for 5-7 days.
- Its immediate aim is to demonstrate indigenous capability to undertake human space flights.
- Launch Vehicle Mark 3 (LVM-3): It is a 3-stage space launch vehicle operated by the ISRO to launch satellites and other space objects into Geosynchronous Transfer Orbits.
- The third stage of this vehicle uses a Cryogenic engine, which uses liquefied oxygen and hydrogen as fuel.
- It has been designed for launching communication satellites.
- GSLV delivers satellites into a higher elliptical orbit - GTO.

8. Bullet train project:

Context: The lowering and assembly of the tunnel boring machine (TBM) has commenced for the construction of a 16-km-long tunnel between Bandra Kurla Complex (BKC) and Sawli (near Ghansoli) in Maharashtra for the MumbaiAhmedabad Bullet Train Project, National High Speed Rail Corporation Limited (NHSRCL)

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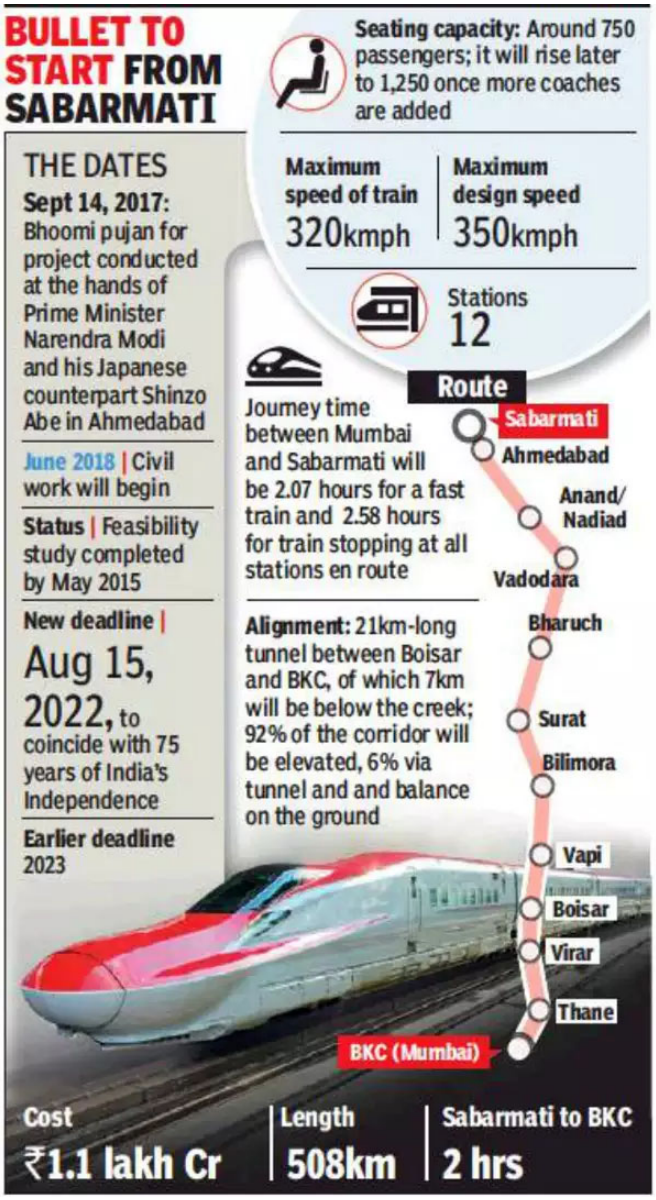
About Mumbai-Ahmedabad High Speed Rail Project:





- The Mumbai-Ahmedabad High Speed Rail Corridor, often referred to as the Bullet Train project, is an ambitious infrastructure undertaking in India.

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- It aims to connect the financial capital, Mumbai, with the industrial hub, Ahmedabad, through a high-speed rail network.
- The length of the project is 508 Km with 12 stations planned at Mumbai, Thane, Virar, Boisar, Vapi, Bilimora, Surat, Bharuch, Vadodara, Anand, Ahmedabad and Sabarmati.
- The train is expected to take around 2 hours and 58 minutes to travel between Ahmedabad and Mumbai, covering eight stations in Gujarat and four in Maharashtra.
- The sanctioned cost of the project is ₹1,08,000 Crore.
- It passes through the States of Gujarat, Maharashtra and Union Territory of Dadra & Nagar Haveli.
- The project utilizes Japanese Shinkansen technology, renowned for its speed, safety, and comfort.

Quick Bites:

- World Homoeopathy Day 2026 is celebrated on April 10 with the theme "Homoeopathy for Sustainable Health," emphasizing its holistic, cost-effective, and eco-friendly approach aligned with Universal Health Coverage and the United Nations Sustainable Development Goals, particularly SDG 3 on Good Health and Well-being.
- World Navkar Mahamantra Day, celebrated on April 9th, is a global initiative dedicated to the collective chanting of the revered Jain Navkar Mantra to promote peace, non-violence, and spiritual harmony. Theme of "One World, One Mantra"
- NITI Aayog released the report "From Borrowers to Builders: Women and India's Evolving Credit Market", highlighting the increasing participation of women in formal credit systems and their transition from mere borrowers to active economic contributors, reflecting improved financial inclusion, greater access to institutional finance, and a growing role in entrepreneurship and asset creation.
- India has reportedly withdrawn its bid to host the 33rd Conference of Parties (COP33) scheduled for 2028, marking a significant shift in its recent climate diplomacy stance. India hosted only one CoP in 2002 which was CoP 8, UNFCCC.

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11-04-2026

1. RBI issues draft NBFC upper-layer review:

Context: Reserve Bank of India has invited public comments on revised norms for identifying NBFC-Upper Layer (NBFC-UL).

Background and proposal:

- **Current Methodology** – Under the Scale Based Regulatory (SBR) framework, NBFC-ULs are identified using a dual approach: top 10 NBFCs by asset size and a parametric scoring system.
- **Proposed Change** – RBI plans to replace the existing method with a single, clear asset-size criterion.
- **New Threshold** – NBFCs with assets of ₹1,00,000 crore and above will qualify as NBFC-UL.
- **Inclusion of Government NBFCs** – Government-owned NBFCs will also be considered for NBFC-UL classification under the revised criteria.

Current classification:

Layer	Criteria	Key Features	Share in NBFC Assets
Base Layer (NBFC-BL)	Non-deposit taking NBFCs with assets below ₹1,000 crore	Includes P2P platforms, Account Aggregators, NOFHC; lowest regulatory intensity	5.2%
Middle Layer (NBFC-ML)	All deposit-taking NBFCs + non-deposit taking NBFCs with assets ≥ ₹1,000 crore	Largest category; moderate regulation; includes major lending NBFCs	64.6%

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Upper Layer (NBFC-UL)	Identified by Reserve Bank of India based on size, risk, and interconnectedness	Higher regulatory scrutiny; systemically important NBFCs	30.2%
Top Layer	NBFCs with extreme systemic risk (identified by RBI)	Highest level of supervision; ideally remains empty	Nil

About Non_banking Financial Companies (NBFCs):

- **Definition** – A Non-Banking Financial Company (NBFC) is a company registered under the Companies Act, 1956 engaged in lending, investments, leasing, hire-purchase, insurance, and chit business.
- **Exclusions** – It excludes entities primarily engaged in agriculture, industry, trade of goods (other than securities), services, or real estate activities.
- **Residuary NBFCs** – Institutions accepting deposits in lump sum or installments under schemes are classified as residuary NBFCs.
- **Deposit Nature** – NBFCs cannot accept demand deposits; they can only accept time deposits.
- **Deposit Tenure** – Deposits must be between 12 months and 60 months.
- **Interest Ceiling** – NBFCs cannot offer interest rates beyond the limit set by the Reserve Bank of India (currently 12.5% p.a.).
- **Services** – Provide loans, investments, and financial advisory services like chit funds and advances.
- **Bank-like Functions** – Their activities are similar to banks in lending and investment.
- **No Banking License** – NBFCs operate without a banking license.
- **No Demand Deposits** – They cannot accept savings or current account deposits.
- **No Payment System Role** – NBFCs cannot issue cheques or be part of the payment and settlement system.
- **No Deposit Insurance** – Deposits are not insured by Deposit Insurance and Credit Guarantee Corporation.

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- ❖ **Regulation** – Regulated jointly by the Ministry of Corporate Affairs and the RBI.
- ❖ RBI Role – RBI licenses, regulates, and supervises NBFC operations.

2. BHASHa INterface for India (BHASHINI):

Context: In a significant step towards strengthening minority language preservation through AI-led innovation, the BHASHINI Sanchalan/Seva Workshop on Pali Language Preservation and Digital AI Model Development was conducted on 10 April 2026 at the Faculty of Arts, University of Delhi.

About BHASHa INterface for India (BHASHINI):

- **Definition** – BHASHINI is an AI-powered language translation platform under the National Language Translation Mission.
- **Nodal Ministry** – Developed by Ministry of Electronics and Information Technology.
- **Objective** – To create a National Public Digital Platform for languages using AI and emerging technologies.
- **Core Aim** – To enable translation of content across multiple Indian languages.
- **Digital Inclusion** – Promotes access to internet content in regional languages, especially in governance, policy, and science domains.
- **Technology Base** – Uses Artificial Intelligence and Natural Language Processing (NLP) to bridge language barriers.
- **Implementation Agency** – Implemented by Digital India BHASHINI Division under Digital India Corporation.
- **Language Coverage** – Supports 22+ Indian languages to ensure linguistic inclusivity.
- **Key Features** – Offers text-to-text translation, speech recognition, text-to-speech, OCR, video and document translation, and language detection.
- **Innovative Use** – Enables voice-based payments and multilingual digital services.

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- **User Access** – Available as a mobile application for public use.
- **API Integration** – Provides APIs for startups to integrate language tools into platforms like chatbots.
- **Crowdsourcing** – Includes 'Bhasadaan' feature for public participation in language data contribution.

3. INDIA PHARMA conference:

Context: The 9th edition of INDIA PHARMA will be held on 13th–14th April 2026 in New Delhi.

About Indian Pharma:

- **Concept & Launch** – INDIA PHARMA was conceptualized in 2016 by Federation of Indian Chambers of Commerce and Industry with the Department of Pharmaceuticals as a platform for industry–government dialogue.
- **Core Objective** – To identify growth opportunities, address sectoral challenges, and develop a roadmap for India's pharmaceutical ecosystem.
- **Global Forum** – Evolved into a premier international platform involving policymakers, regulators, industry leaders, academia, and global stakeholders.
- **Policy Impact** – Plays a key role in shaping pharma policies through discussions, collaborations, and issue resolution.
- **Themes Evolution** – Each edition reflects sector priorities such as Make in India, affordable healthcare, innovation, global positioning, and Vision 2047.
- **Flagship Feature** – CEOs' Roundtable enables high-level interaction between government and industry for policy and regulatory discussions.
- **9th Edition Theme (2026)** – "Discover in India: Leapfrogging Life-Sciences Innovation" focusing on global leadership and innovation.

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- **Organisers' Role** – DoP handles policy and sector development, while FICCI acts as industry interface and advocacy body.
- **Sector Significance** – India ranks 3rd globally in pharma volume, valued at ~$50 billion, projected to reach $130 billion by 2030 with strong export performance.
- **Event Details** – 9th edition scheduled on 13–14 April 2026 in New Delhi, continuing its role in shaping future sector growth.

4. Project Glasswing:

Context: Anthropic PBC is an American artificial intelligence company announced Project Glasswing to use AI to find to detect cybersecurity vulnerabilities

About Project Glasswing:

- **Context** – Project Glasswing addresses the global shortage of cybersecurity professionals and rising cyberattacks.
- **Nature** – It is a multi-company coalition involving tech giants like Amazon Web Services, Apple, Google, and Microsoft.
- **Core Aim** – To secure critical global software infrastructure using advanced AI models.
- **AI Model Used** – Utilises Claude Mythos Preview, a frontier AI system with high vulnerability-detection capability.
- **Key Capability** – The AI model can potentially outperform skilled humans in identifying software vulnerabilities.
- **Primary Function** – To autonomously detect zero-day vulnerabilities and generate patches to fix them.
- **Zero-Day Vulnerabilities** – These are undiscovered and hard-to-detect software flaws exploited before developers can fix them.

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- **Cybersecurity Importance** – Helps in proactive threat detection and strengthening digital infrastructure globally.

5. Financing for Sustainable Development Report 2026:

Context: UN Department of Economic and Social Affairs (DESA), released the report "Financing for Sustainable Development Report 2026" highlighting the role of Sevilla Commitment to reverse current trends in financing for development.

Major highlights of the report:

- **Global Economic Fragility** – The world economy faces significant downside risks due to low per capita incomes in developing countries and geopolitical conflicts affecting energy prices and trade.
- **Financing Constraints** – Developing nations are experiencing high borrowing costs, rollover risks, and limited growth in tax revenues.
- **Rising Fragmentation** – Increasing global fragmentation is impacting financial cooperation, including alternatives emerging to systems like SWIFT.
- **Scaling Financing Needs** – Urgent requirement to bridge the $4 trillion SDG financing gap by strengthening domestic private sectors and economic diversification.
- **Resilience & Alignment** – Need to align finance with sustainable development goals while building resilient institutions and integrating climate and disaster risks.
- **Strengthening Multilateralism** – Emphasis on coordinated global cooperation through development banks and a rules-based international system to promote stability and investment.

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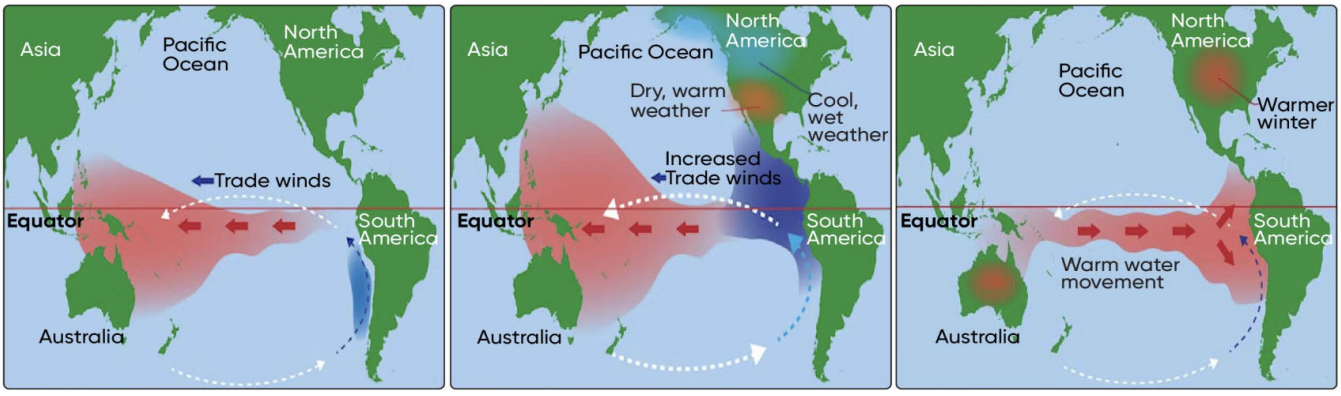
About Sevilla Commitment:

- **Adoption** – The Sevilla Commitment was adopted at the Fourth International Conference on Financing for Development to address the $4 trillion annual SDG financing gap in developing countries.
- **Key Feature** – It includes around 280 actionable measures across the global financing framework.

6. El Nino and La Nina:

Context: Global climate indicators for March 2026 have raised concerns, with record heat levels and rising sea surface temperatures pointing towards a possible El Niño event by mid-year.

About El Nino and La Nina:



Normal Condition | La Nina Condition | El Nino Condition

El Niño (Warm Phase)	La Niña (Cold Phase)
Warm waters shift eastward toward central & eastern Pacific	Cooler-than-normal waters spread across central & eastern Pacific
Weakening of trade winds	Stronger-than-normal trade winds
Reduced or reversed trade winds	Enhanced east-to-west water movement

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Increased rainfall in Peru & South America; drought in Australia/Indonesia	Increased rainfall in Australia/Indonesia; drier conditions in western Americas
Warm phase of ENSO cycle	Cold phase of ENSO cycle

Quick Bites:

- World Homoeopathy Day 2026 is celebrated on April 10th centred on the theme "Homoeopathy for Sustainable Health."
- NITI Aayog released two reports titled "Ease of Doing Research & Development in India" and the "Survey Report on Ease of Doing R&D in India"
- India and Bhutan have signed the Tariff Protocol for the Punatsangchhu-II Hydroelectric Project, a 1020 MW run-of-the-river project on the Punatsangchhu River. The river originates from the confluence of the Phochhu and Mochhu rivers in Bhutan and flows southward into the Indian plains of West Bengal, eventually joining the Brahmaputra River as a tributary.
- Scientists at SKUAST-Kashmir have achieved controlled cultivation of Morchella Mushroom, a rare edible fungus earlier found only in wild Himalayan forests. Known for its distinctive honeycomb-like cap, earthy flavor, and high nutritional and medicinal value, morels are rich in protein and antioxidants. Traditionally difficult to cultivate due to their complex life cycle and specific ecological requirements, they are locally called Gucchi, Kanaguchhi, or Chhatri and are mainly found in the Himalayan regions of Jammu & Kashmir, Himachal Pradesh, and Uttarakhand.
- Researchers have identified a new plant species, Fimbristylis wayanadensis, in the high-altitude regions of the Western Ghats.

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12-04-2026

1. Mahatma Phule:

Context: Prime Minister Shri Narendra Modi paid homage to Mahatma Phule in the Parliament complex on the occasion of his birth anniversary.

About Mahatma Phule:

- Born on 11 April 1827 in present-day Maharashtra, belonged to the Mali caste.
- Educated at Scottish Missionary High School, Pune (1841).
- Ideology based on Liberty, Equality (Egalitarianism), and Social Justice (Socialism).
- Influenced by Thomas Paine's book The Rights of Man.
- Advocated education of women and lower castes as the key to social reform.
- Founded Satyashodhak Samaj (1873) to promote social equality.
- Major works: Gulamgiri (1873), Shetkarayacha Aasud (1881), Tritiya Ratna (1855).
- Served as Commissioner of Poona Municipality till 1883.
- Conferred the title "Mahatma" in 1888 by Vithalrao Krishnaji Vandekar.
- Along with Savitribai Phule, started the first indigenous girls' school in Pune (1848).
- Strong advocate of women's education and gender equality.
- Established schools for girls (by 1852); later closed due to post-1857 financial crisis.
- Worked for widow welfare and supported widow remarriage.
- Criticized orthodox Brahminical practices and caste hierarchy.
- Built a common water tank (1868) open to all castes.
- Early proponent of abolition of untouchability and caste system.
- Considered among the first to use the term "Dalit" for oppressed classes.

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- Inspired leaders like B. R. Ambedkar and Mahatma Gandhi.

2. Kuno National Park:

Context: Indian-born Female Cheetah at Kuno National Park gives Birth to Four Cubs in the Wild; a Historic Moment in India's Cheetah Conservation Journey.

About Kuno National Park:

- Kuno National Park is a national park and wildlife sanctuary in the Gwalior Chambal region of Madhya Pradesh, India. It derives its name from the Kuno River.
- **Location:** Situated in Sheopur district of Madhya Pradesh, near the Vindhyan Hills.
- **History:** Established as a Wildlife Sanctuary (1981) and upgraded to a National Park in 2018.
- **Area & River:** Covers ~750 sq. km; named after the Kuno River (tributary of Chambal River) dividing the park into two parts.
- **Terrain & Ecosystem:** Features plateaus, valleys, and seasonal rivers, creating diverse habitats.
- **Vegetation:** Dominated by tropical dry deciduous forests, savannah grasslands, and riverine forests.
- **Biodiversity:** Home to species like leopard, sloth bear, wolf, striped hyena, dhole, and 120+ bird species.
- **Conservation Significance:** Selected for Asiatic Lion Reintroduction Project and Cheetah Reintroduction Project in India, with 20 cheetahs introduced (2022–23).

About Cheetah Reintroduction Programme:

- Project Cheetah is the world's first intercontinental large wild carnivore translocation project.
- The project aimed at the reintroduction of Cheetahs in the country which had become extinct in the country.

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- The project involves translocation of cheetahs from source countries in Africa.
- Kuno National Park in Madhya Pradesh has been chosen as the first reintroduction site due to its suitable grasslands and prey base.
- The first batch of eight cheetahs (five females and three males) arrived in India from South Africa in September 2022.
- In February 2023, an additional 12 cheetahs were translocated from South Africa under an agreement for further introductions over the next 8-10 years.
- On February 28, 2026, nine cheetahs (six females and three males) arrived from Botswana under Project Cheetah.

3. Standing Deposit Facility (SDF):

Context: Indian lenders have parked a record amount of 5.6 lakh crores in the RBI's Standing Deposit Facility (SDF).

What is a Standing Deposit Facility (SDF)?

- Introduced by Reserve Bank of India in April 2022 to manage liquidity.
- Used to absorb excess liquidity from commercial banks.
- No collateral required, unlike reverse repo (no government securities involved).
- Acts as the floor of the Liquidity Adjustment Facility (LAF) corridor, replacing reverse repo.
- Allows banks to park surplus funds with RBI and earn interest, especially during liquidity surplus.

4. Plankton, Aerosol, Cloud, and ocean Ecosystem (PACE) satellite:

Context: Recent findings reveal that NASA's Plankton, Aerosol, Cloud, and ocean Ecosystem (PACE) satellite can now detect nitrogen dioxide pollution at a highly refined scale.

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About Plankton, Aerosol, Cloud, and ocean Ecosystem (PACE) satellite:

- **Full Form:** Plankton, Aerosol, Cloud, and ocean Ecosystem (PACE) mission by NASA.
- **Launch:** Launched in February 2024 into a Sun-synchronous orbit.
- **Objective:** Studies ocean biology, aerosols, and clouds to understand Earth's climate system.
- **Unique Feature:** Provides hyperspectral global coverage every 1–2 days (first of its kind).
- **Primary Instrument:** Ocean Color Instrument (OCI) – measures ocean colour from UV to shortwave infrared.
- **Advanced Capability:** Offers higher wavelength resolution than earlier satellites, improving climate data records.
- **Polarimeters:** Equipped with SPEXone and HARP2 to study light polarization affected by clouds, aerosols, and oceans.
- **Applications:** Helps analyse plankton, air particles, fisheries health, algal blooms, pollution, and wildfire smoke.
- **Climate Role:** Enhances understanding of ocean–atmosphere interactions and climate change impacts.

5. Windfall gains tax:

Context: With global crude prices still elevated, the Finance Ministry on Saturday hiked the windfall gains tax on export bound diesel and aviation turbine fuel (ATF) by 158% and 42%, respectively, with immediate effect.

What is the Windfall gains tax?

- A windfall tax is a higher tax imposed on specific industries when they make unusual and above-average profits.
- A higher tax on abnormal or super-normal profits earned by certain industries.
- "Windfall" refers to unexpected gains not due to business effort.

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- Levied when profits arise from external factors like wars, pandemics, or policy changes.
- Targets sectors like oil, gas, and mining with sudden profit surges.
- Not linked to investment, innovation, or expansion by firms.
- Can also apply to inheritance, lottery, or game-show winnings.
- Aims to redistribute excess profits for public welfare.
- Justified as gains arise from favourable external conditions, not company efficiency.
- Acts as a supplementary revenue source for governments.

Quick Bites:

- In a significant milestone for quality-assured healthcare under the Ministry of Ayush, the Clinical Laboratory at the Central Ayurveda Research Institute (CARI), Bengaluru, has been awarded ISO 15189:2022 accreditation for both Biochemistry and Haematology—becoming the first institute under the Central Council for Research in Ayurvedic Sciences (CCRAS) to achieve this distinction.
- India's seafood exports have recorded strong and sustained growth, expanding at an average annual rate of 7% over the past 11 years. Marine product exports have more than doubled during the period, rising from ₹30,213 crore in 2013-14 to ₹62,408 crore in 2024-25, driven largely by shrimp exports valued at ₹43,334 crore.
- Recently, Vice-President of India, released the updated version of the Constitution of India in Sindhi language. Sindhi is one of the 22 official languages enlisted in the Eighth Schedule of the Constitution. Sindhi language was added by the 21st Constitutional Amendment Act 1967. Indian Constitution, the world's longest-written constitution, was originally drafted in English. Constituent Assembly then formed a Translation Committee led by Ghansyam Das Gupta to translate the Constitution into Hindi.
- McGill University study finds high microbial methane emissions from inactive oil wells Microbial (biogenic) methane is methane gas produced by microorganisms, specifically archaea known as

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methanogens — through the decomposition of organic matter in oxygen-depleted (anaerobic) environments.

- The Government has extended the Minimum Import Price (MIP) for natural honey, which is a trade policy measure used to protect domestic producers. Minimum Import Price (MIP) is a temporary mechanism that sets a floor price on imports, ensuring that goods cannot be imported below a specified price.

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13-04-2026

1. Exercise DUSTLIK:

Context: The Indian Army contingent departed for the 7th edition of India-Uzbekistan joint military Exercise DUSTLIK. The Exercise is scheduled to be conducted at Gurumsaray Field Training Area, Namangam, Uzbekistan from 12 to 25 April 2026.

About Exercise DUSTLIK:

- Exercise DUSTLIK is a yearly event conducted alternatively in India and Uzbekistan.
- Last edition was conducted at Foreign Training Node, Aundh (Pune) in April 2025.
- Aim of Exercise DUSTLIK is to foster military cooperation and enhance combined capabilities to execute joint operations in semi-mountainous terrain.
- It would focus on high degree of physical fitness, joint planning, joint tactical drills and basics of special arms skills.

2. Sentinel species:

Context: On April 9, the International Union for Conservation of Nature declared the emperor penguin to be an endangered species. Emperor penguins are sentinel species for warming in the Antarctic region.

About Sentinel species:

- **Definition of Sentinel Species** - Species whose health reflects the condition of the ecosystem they inhabit
- **Early Warning Indicators** - They respond quickly to environmental stressors like pollution and disease, providing early signals of ecosystem decline

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- **Reason for Monitoring** - Their responses are more visible and occur earlier than in most other species
- **Key Characteristics** - Usually have fixed habitats, long lifespans, and accumulate toxins over time
- **Physiological Sensitivity** - Their biology amplifies environmental changes, making impacts easier to detect
- **Frogs as Indicators** - Frog are highly sensitive due to permeable skin, indicating pollution and disease in ecosystems
- **Canary Example -** Canary used in coal mines to detect carbon monoxide due to rapid response
- **Honeybees Role -** Honeybee help track pesticide and chemical exposure in agriculture
- **Polar Bears as Indicators** - Polar Bear used to monitor accumulation of pollutants in Arctic ecosystems
- **Fish as Indicators** - Certain Fish species detect industrial runoff and water pollution

3. Biomass stoves:

Context: Owing to the LPG crisis, many areas—especially rural regions—have reported going back to firewood that are generally seen as increasing drudgery for women, while also causing pollution and health hazards.

More details:

- Biomass stoves are devices that burn biomass fuels (firewood, crop waste, dung, charcoal) to produce heat for cooking
- They are designed structures that control air–fuel combustion and direct heat efficiently to cooking vessels
- Modern biomass stoves (improved cookstoves) use scientific design to increase efficiency and reduce smoke and emissions

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- They aim to provide safer, cleaner, and more fuel-efficient cooking compared to traditional open fires or chulhas

4. China-Pakistan Economic Corridor:

Context: China created a new region called Cenling near the Karakoram range, close to PoK and the Wakhan Corridor, aimed at securing Xinjiang and CPEC amid Uyghur unrest and concerns over groups like ETIM.

About China-Pakistan Economic Corridor (CPEC):



- It is a 3,000-km long route of infrastructure projects connecting China's northwest Xinjiang Uygur Autonomous Region and the Gwadar Port in the western province of Balochistan in Pakistan.
- It is a bilateral project between Pakistan and China, intended to promote connectivity across Pakistan with a network of highways, railways, and pipelines accompanied by energy, industrial, and other infrastructure development projects.

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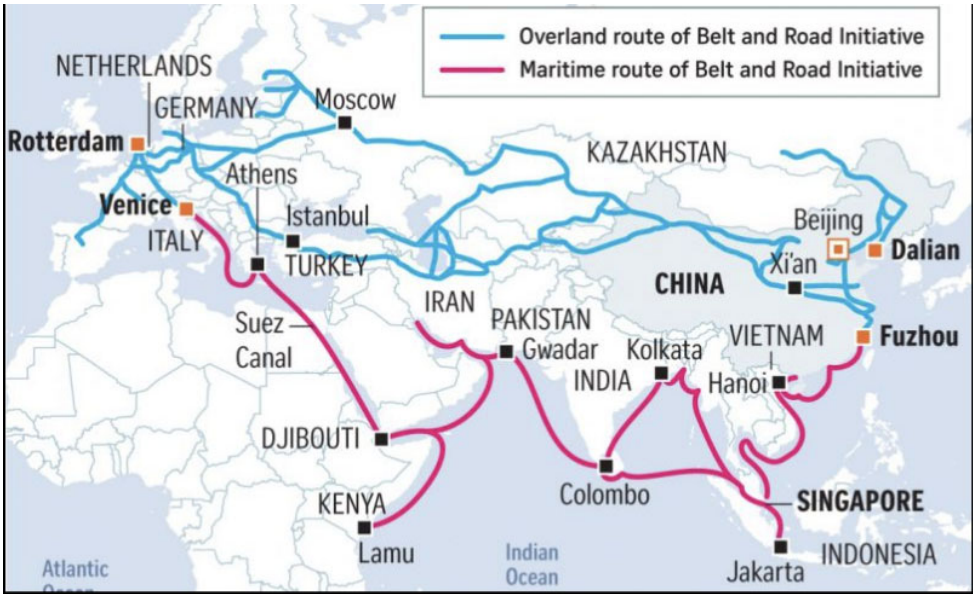
- It will pave the way for China to access the Middle East and Africa from Gwadar Port, enabling China to access the Indian Ocean
- In return China will support development projects in Pakistan to overcome the latter's energy crises and stabilising its faltering economy.
- It is a part of the Belt and Road Initiative launched in 2015.

About Belt and Road initiative:



- It represents a multifaceted development strategy aimed at enhancing global connectivity and cooperation.
- It was launched in 2013 with the aim to link Southeast Asia, Central Asia, the Gulf region, Africa and Europe with a network of land and sea routes.
- The initiative includes two principal components: the Silk Road Economic Belt and the Maritime Silk Road.

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India's stand:



- India opposes the project on the grounds of sovereignty and transparency.
- India has boycotted the BRI summits held by China in 2017, and 2019.
- India has not endorsed the BRI joint statements issued by the Shanghai Cooperation Organisation (SCO).
- India's main objection to the BRI is that it includes the China-Pakistan Economic Corridor (CPEC), which passes through the Pakistan-occupied Kashmir (PoK).
- India also argues that the BRI projects should respect the international norms, rule of law, and financial sustainability, and should not create debt traps or environmental and social risks for the host countries.

5. Amarnath Yatra:

Context: The annual pilgrimage to the holy cave shrine of Amarnath in south Kashmir will commence on July 3 and conclude after 57 days on August 28.

About Amarnath Yatra:

- **Location and Nature** - Amarnath Temple is a Hindu cave shrine located in Pahalgam tehsil of Anantnag district at 3,888 m altitude

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- **Accessibility** - Situated about 141 km from Srinagar and 168 km from Anantnag, reachable via Pahalgam or Sonamarg routes
- **Geographical Setting** - Located in the Sind Valley, surrounded by glaciers and snow-covered mountains; accessible only during a short summer period
- **Religious Significance** - One of the holiest Hindu shrines and also considered a Shakti Peetha (associated with Sati)
- **Duration of Yatra** - Annual pilgrimage duration varies between 20 to 60 days depending on conditions
- **Pilgrimage Season** - Amarnath Yatra is held during July–August when the ice lingam forms fully.
- **Duration of Yatra** - The pilgrimage typically lasts around 45 days, aligned with the holy month of Shraavana.
- **Religious Significance** - It coincides with the festival of Shravani Mela and peak formation (waxing phase) of the ice lingam

6. Corporate Average Fuel Efficiency-3 (CAFE-3) norms:

Context: The government has proposed a flexible compliance framework under the draft Corporate Average Fuel Efficiency-3 (CAFE-3) norms, easing penalty provisions and introducing carbon credit trading for the automobile sector. The move aims to reduce overall fleet emissions while encouraging a transition towards cleaner mobility solutions in line with India's net-zero target for 2070.

About Corporate Average Fuel Efficiency-3 (CAFE-3) norms:

- **Overview:** Corporate Average Fuel Economy (CAFE) regulations aim to improve fuel efficiency and reduce carbon emissions from vehicles.
- **Global Presence:** CAFE norms are implemented in many developed and developing countries, including India.

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- **Objective:** Reduce fuel consumption and CO_2 emissions, thereby lowering oil dependence and controlling pollution.
- **Meaning of Corporate Average:** Refers to the sales-volume weighted average emissions of vehicles produced by each manufacturer.
- **Applicability:** Covers petrol, diesel, LPG and CNG passenger vehicles.
- **Implementation in India:** Came into force from April 1, 2017.
- **Emission Targets:** Average corporate CO_2 emissions must be below 130 g/km till 2022 and below 113 g/km thereafter.
- **Comparison with BS6:** CAFE focuses mainly on COx emissions, while BS6 regulates overall emissions including NOx and SOx.
- **Environmental Impact:** Reduction in COx emissions lowers carbon footprint and improves fuel economy.

Quick Bites:

- First edition of Indian Navy's biannual Commanders' Conference 2026 is scheduled over a period of three days at Nausena Bhawan, New Delhi, from 14 Apr to 16 Apr 2026.
- Legendary playback singer Asha Bhosle passed away at the age of 92, marking the end of an era in Indian music. She breathed her last at Mumbai's Breach Candy Hospital after battling exhaustion and a chest infection. Asha Bhosle recorded over 12,000 songs in more than 20 languages. She was the sister of , known as the 'Nightingale of India'. Recipient of India's highest cinema honour, the Dadasaheb Phalke Award.
- The first-ever life-size statue of Swami Vivekananda in the United States was unveiled in Seattle, marking a significant milestone in India's cultural diplomacy efforts.
- The Indian Army has launched "Sikkim Sundari", the first community radio station in a border village of Sikkim, marking a significant step towards improving communication in remote high-

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altitude regions. The initiative, led by the Trishakti Corps, aims to bridge information gaps and empower local communities living near sensitive border areas.

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14-04-2026

1. Jallianwala Bagh Massacre:

Context: Prime Minister pays homage to the martyrs of Jallianwala Bagh.

About Jallianwala Bagh Massacre:

- The Jallianwala Bagh massacre occurred on 13 April 1919 in Amritsar.
- Ordered by Reginald Edward Harry Dyer, troops fired on an unarmed gathering.
- Protest was against the Rowlatt Act allowing detention without trial.
- Mahatma Gandhi had called for nationwide satyagraha and hartal (6 April 1919).
- The arrest of Dr. Satyapal and Saifuddin Kitchlew triggered protests in Punjab.
- Martial law was imposed in Punjab before the incident.
- On Baisakhi (13 April), villagers gathered unaware of restrictions at Jallianwala Bagh.
- Dyer blocked the only exit and ordered indiscriminate firing on the crowd.
- Over 1,000 people were killed, including men, women, and children.
- The massacre became a turning point in India's freedom struggle.
- It led to the launch of the Non-Cooperation Movement.
- Gandhi renounced the Kaiser-i-Hind title in protest.
- Rabindranath Tagore returned his knighthood.
- Hunter Commission condemned Dyer but took no strict action.
- Congress inquiry led by Motilal Nehru criticized British repression.
- Udham Singh assassinated Michael O'Dwyer in 1940.
- Udham Singh was executed in 1940, and his ashes were brought back to India in 1974.

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About Rowlatt Act 1919:

- Rowlatt Act was a repressive law to curb nationalist activities in India.
- Enacted during/after World War I, making emergency wartime measures permanent.
- Based on recommendations of the Sedition Committee led by Sir Sidney Rowlatt.
- Replaced the Defence of India Act.
- Allowed detention without trial up to 2 years and arrest on suspicion.
- Imposed strict censorship on press and restrictions on speech & assembly.
- Provided for secret trials by special courts with no right to appeal.
- Suspended habeas corpus and civil liberties, intensifying colonial repression and triggering mass protests led by Mahatma Gandhi.

2. Startup India Fund of Funds 2.0:

Context: The Government has notified the Startup India Fund of Funds 2.0 (Startup India FoF 2.0) with a total corpus of ₹10,000 crore for the purpose of mobilizing venture and growth capital for the startup ecosystem of the country.

About Startup India Fund of Funds 2.0:

- The Startup India FoF 2.0 builds upon the strong performance of the Fund of Funds for Startups (FFS 1.0), which was launched in 2016 under the Startup India Action Plan to address funding gaps and catalyse the domestic capital for startups.
- Startup India FoF 2.0 will have a total corpus of ₹10,000 crore for commitments to eligible Alternative Investment Funds (AIFs) spread across the 16th and 17th Finance Commission cycles.
- The Small Industries Development Bank of India (SIDBI) will commence operationalization of the scheme as the Implementation Agency (IA) with effect from the date of notification, and in

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addition, another domestic Implementation Agency will also be selected to implement the proposed Scheme.

- The Startup India FoF 2.0 will contribute to the corpus of SEBI-registered Alternative Investment Funds (AIFs) for investing in entities recognised as 'startups' by the Central Government.

3. SARAL AI:

Context: ANRF developing AI-based platform 'SARAL AI' to convert complex research publications into simplified rich social media content in many Indian languages.

What is 'SARAL AI'?

- 'SARAL AI', an AI-based platform that demystifies and converts complex research publications and patents into podcasts, short videos, posters, business briefs, presentations and rich social media content.
- It is made in 18 Indian languages, enabling wider dissemination of scientific knowledge across the country.

About About Anusandhan National Research Foundation (ANRF):

- Established under the ANRF Act, 2023 to promote research and innovation across India.
- Aims to seed, grow, and foster a research culture as envisaged in the National Education Policy (NEP).
- The Science and Engineering Research Board (SERB) has been subsumed into ANRF.
- Funding target: ₹50,000 crore for the period 2023–2028.

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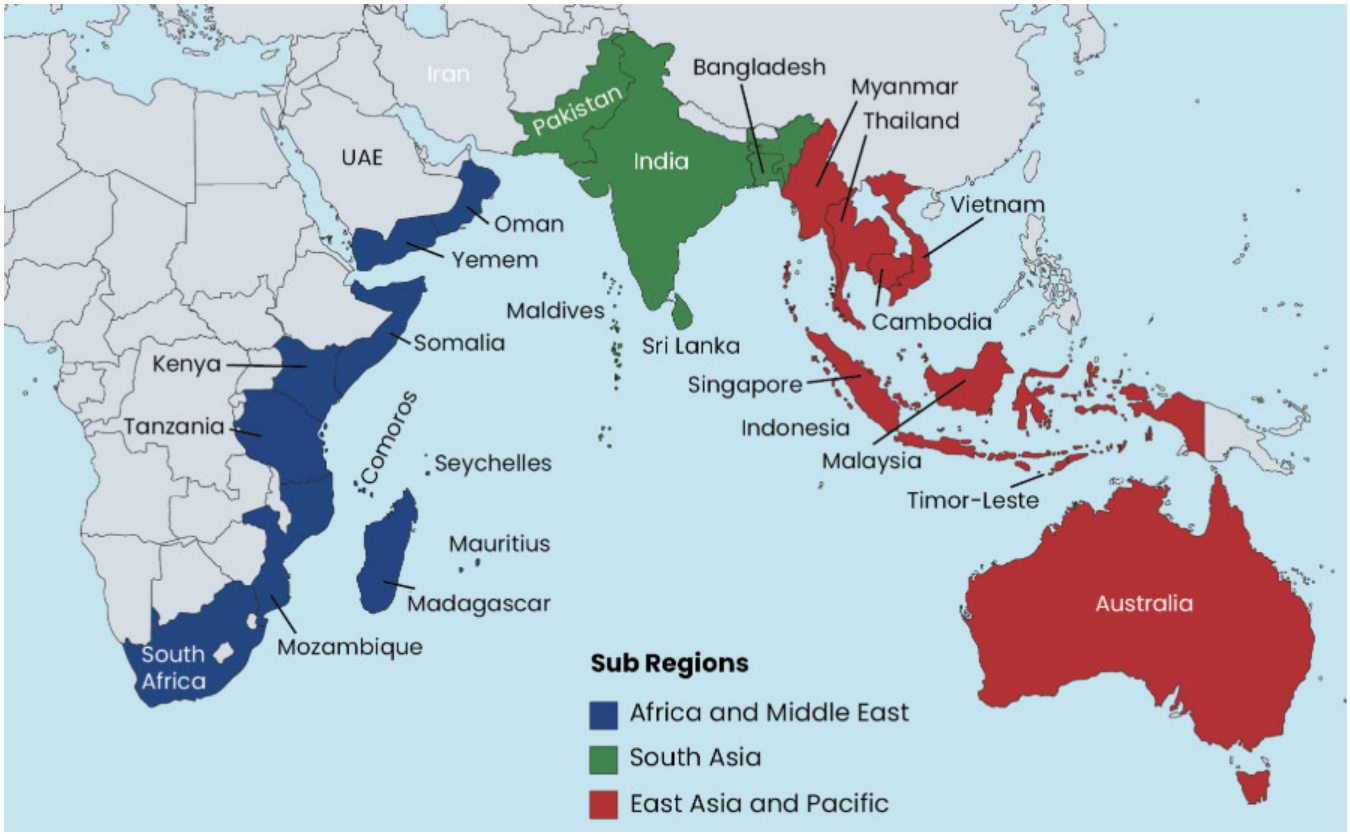
4. Indian Ocean Conference (IOC):

Context: India Foundation, in association with the Government of Mauritius, organised the 9th Indian Ocean Conference—IOC 2026—in Mauritius from April 10 to 12, 2026.

About Indian Ocean Conference (IOC):

- The Indian Ocean Conference was started in 2016 by India Foundation in association with think tanks and institutions from the region, with participation from 30 countries.
- In the last 8 years, the Conference has emerged as the flagship forum for countries to discuss and deliberate on issues of mutual interest.



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- The Conference endeavours to bring together critical states and principal maritime partners on a common platform to deliberate upon the prospects of regional cooperation for Security And Growth for All in the Region (SAGAR).
- The participants include official representatives from countries, regional and international organizations, along with policy experts and academics.

5. Whip:

Context: The Congress on Monday issued a three-line whip to all its Lok Sabha members to "be present without fail and support the party stand" during the three-day special session of Parliament, which has been convened to amend the women's reservation law and carry out a delimitation exercise on the basis of the 2011 Census.

What is a Whip?

- A whip is a written order that party members be present for an important vote, or that they vote only in a particular way. In India all parties can issue a whip to their members.
- Parties appoint a senior member from among their House contingents to issue whips.
- One-line whip: A one-line whip, underlined once, is usually issued to inform party members of a vote, and allows them to abstain in case they decide not to follow the party line.
- Two-line whip: A two-line whip directs them to be present during the vote.
- Three-line whip: A three-line whip is the strongest, employed on important occasions such as the second reading of a Bill or a no-confidence motion, and places an obligation on members to toe the party line.
- In India, rebelling against a three-line whip can put a lawmaker's membership of the House at risk.
- The anti-defection law allows the Speaker/Chairperson to disqualify such a member.
- Whips are not issued for the Rajya Sabha elections.

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6. Delimitation:

Context: The Centre is proposing expansion of Lok Sabha seats from 543 to 816, retaining States' existing proportional share, with 33% reservation for women and delimitation within States based on the 2011 Census. Similar expansion and delimitation are proposed for State Legislative Assemblies.

What is Delimitation?

- Delimitation means the process of fixing the number of seats and boundaries of territorial constituencies in each State for the Lok Sabha and Legislative assemblies.
- This 'delimitation process' is performed by the 'Delimitation Commission' that is set up under an act of Parliament.
- Article 82 and 170 of the Constitution provide that the number of seats in the Lok Sabha and State Legislative assemblies as well as its division into territorial constituencies.
- It also envisage that they shall be readjusted after each Census.
- The seat distribution was frozen as per the 1971 Census.
- This because to encourage population control measures so that States with higher population growth do not end up having higher number of seats.
- This was done through the 42nd Amendment Act till the year 2000 and was extended by the 84th Amendment Act till 2026.
- The boundaries of territorial constituencies were readjusted and seats for SC and ST were determined as per the 2001 Census and will again be carried out after 2026.

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About Delimitation commission:

- **Constitutional Basis:** Delimitation in India is guided by constitutional provisions ensuring population-based representation. Article 82: Parliament must enact a Delimitation Act after every Census. Article 170: Provides for readjustment of State Assembly seats after each Census. Articles 330 and 332: Mandate reservation of seats for SCs and STs based on population. Article 327: Empowers Parliament to make laws regarding elections. Article 329(a): Bars judicial review of delimitation orders.
- **Composition:** The Delimitation Commission is an independent body ensuring neutral boundary redrawing. Chairperson: A retired Supreme Court judge heads the Commission. Core Members: Chief Election Commissioner and State Election Commissioners participate. Associate Members: MPs/MLAs assist in a consultative role without voting rights. Final Authority: Decisions of the Commission are final and legally binding.
- **Objectives:** The Commission aims to ensure fair and equal representation across constituencies. Population Equality: Seeks uniform population distribution across constituencies. Social Justice: Allocates SC/ST reserved seats proportionately. Electoral Fairness: Prevents over- or under-representation. Federal Balance: Promotes balanced representation among States.
- **Functions:** The Commission undertakes delimitation and seat allocation tasks. Boundary Redrawing: Redefines Lok Sabha and Assembly constituencies. Seat Allocation: Determines number of seats for each State.
- **Reservation Fixation:** Assigns SC/ST reserved seats based on Census data. Administrative Coherence: Ensures constituencies are compact and contiguous. Public Participation: Publishes drafts, invites objections, and finalises orders. Rotation System: Rotates reserved constituencies where applicable.
- **Legal Framework:** Delimitation Acts provide the statutory basis for the Commission's work.
    - Delimitation Act, 1952: Based on 1951 Census; created initial constituencies and SC/ST

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reservations.

- Delimitation Act, 1962: Based on 1961 Census; redefined constituencies with updated reservations.
- Delimitation Act, 1972: Based on 1971 Census; boundaries revised; later seat freeze introduced via 42nd Amendment.
- Delimitation Act, 2002: Based on 2001 Census; updated boundaries and reservations without increasing total seats due to freeze till 2026.

Quick Bites:

- In a major step towards empowering cadets with structured training in cyber awareness, digital hygiene and practical cyber defence skills, National Cadet Corps (NCC), in collaboration with the National Institute of Electronics and Information Technology (NIELIT) has launched a comprehensive Cyber Security Capacity Building Programme.
- The Union Minister of Youth Affairs and Sports, Dr. Mansukh Mandaviya, met and felicitated the Indian contingent for delivering an outstanding performance at the Bangkok 2026 World Archery Para Series held from March 30 to April 4, 2026, in Bangkok, Thailand. India emerged as the top-performing nation, finishing first on the medal table with a total of 13 medals, including 7 gold, 3 silver, and 3 bronze. Indonesia secured the second position with 6 medals, followed by Thailand with 5.
- The Project Him Sarovar is a recent initiative of the Government of India aimed at ensuring year-round water security in Ladakh by conserving snowmelt and rainwater through the creation of artificial water bodies. The project focuses on addressing the region's chronic water scarcity by developing around 50 such water storage structures based on local, ground-level experience, thereby improving water availability throughout the year and supporting irrigation needs of farmers in this cold desert region.

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- India's rising badminton star Ayush Shetty clinched a historic silver medal at the Badminton Asia Championships 2026 after losing the men's singles final to China's Shi Yu Qi.
- India's long-distance runner Sawan Barwal scripted history by breaking the country's longest-standing national record at the Rotterdam Marathon 2026.

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15-04-2026

1. Delhi–Dehradun Economic Corridor:

Context: Prime Minister Shri Narendra Modi today inaugurated the Delhi-Dehradun Economic Corridor.

About Delhi–Dehradun Economic Corridor:

- The Delhi-Dehradun Expressway is a 210 km highway built at a cost of ₹11,868 crore, inaugurated by Narendra Modi.
- It reduces travel time between Delhi and Dehradun from 6.5 hours to 2.5 hours and distance from 235 km to 210 km.
- The expressway is designed for speeds of at least 100 kmph and includes a spur connecting to Haridwar and the Char Dham highway.
- The project was initiated with its foundation stone laid on December 4, 2021.
- The first section decongests northeast Delhi with six lanes and major elevated stretches in Delhi and Uttar Pradesh.
- The second section passes through Baghpat, Shamli, Muzaffarnagar, and Saharanpur districts.
- The third section is a four-lane stretch from Saharanpur Bypass to Ganeshpur.
- The fourth section is a six-lane stretch passing through forests of Uttar Pradesh and Uttarakhand, including Rajaji National Park.
- It features a 10.97 km-long animal underpass and one of Asia's longest elevated wildlife corridors.
- The corridor includes the 340 m Daat Kali tunnel and supports safe movement of large animals like elephants.

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2. Glufosinate:

Context: Directorate General of Foreign Trade (DGFT) has restricted imports of the herbicide Glufosinate and its salts.

What is Glufosinate?

- Glufosinate is a broad-spectrum, non-selective contact herbicide used for weed control in agriculture.
- It is widely used as an alternative to glyphosate-based herbicides.
- It acts by irreversibly inhibiting glutamine synthetase, a key enzyme in nitrogen metabolism.
- This inhibition leads to toxic ammonia accumulation in plant cells.
- The buildup of ammonia causes rapid destruction of weed tissues and plant death.
- It poses environmental risks, especially to aquatic life and non-target plant species.
- There is potential for water contamination due to its usage in fields.

3. Right to Vote:

Context: The Supreme Court of India observed that the right to remain enrolled in the rolls and to vote in one's country of birth is not merely a constitutional entitlement but also holds deep sentimental value.

About Right to Vote:

- The right to vote and to be elected in India is a constitutional right.
- Article 325 ensures no person is excluded from electoral rolls on grounds of religion, race, caste, or sex.
- Article 326 provides for elections based on adult suffrage.
- Section 62, of RPA 1951 deals with the right to vote.
- Section 16 of RPA 1950 specifies disqualifications for registration in electoral rolls.

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4. Article 142:

Context: Supreme Court dissolved a marriage by invoking its extraordinary powers under Article 142 of the Constitution.

Background of the case:

- The couple reached a mediated divorce settlement where the husband paid ₹75 lakh, ₹14 lakh for a car, and returned listed jewellery, but the wife later violated the agreement and filed a domestic violence case.
- The wife alleged non-return of jewellery and gold worth crores, claiming they were omitted to evade tax scrutiny, but the Court found no evidence in the agreement or communications.
- The Court termed her claims "highly egregious" and criticised her for misuse of legal process.

About Article 142:

- Article 142(1) empowers the Supreme Court to pass any decree or order necessary to ensure complete justice in a case.
- Such orders are enforceable across the entire territory of India.
- Enforcement is carried out as per laws made by Parliament or as prescribed by the President until such laws exist.
- Article 142(2) gives the Supreme Court powers to secure attendance of persons and production of documents.
- It also empowers the Court to investigate and punish for contempt of itself.

5. Hubble tension:

Context: On April 10, astronomers narrowed down the local expansion of the universe to be 73.5 km/s per megaparsec.

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What is Hubble tension?

- Scientists measure the universe's expansion using the Hubble constant.
- Two main methods give different results:
  - ➤ Local Method (Cosmic Distance Ladder): Uses nearby stars (Cepheids) and supernovae → gives ~73–73.5 km/s/Mpc.
  - ➤ Early Universe Method (Cosmic Microwave Background): Uses leftover radiation from the Big Bang → gives ~67 km/s/Mpc.
- **The Problem (Hubble Tension):** Both methods are very accurate but give conflicting values.
- **Recent Finding:** New measurements confirm the higher value (~73.5), strengthening the disagreement instead of resolving it.
- **Implication:** Suggests our current understanding of the universe may be incomplete.
- **Possible Reasons:**
  - ➤ Measurement errors (less likely now)
  - ➤ New physics (e.g., unknown properties of dark energy or changes in cosmic models)

6. The Constitution (One Hundred and Thirty-First Amendment) Bill, 2026:

Context: The Constitution (One Hundred and Thirty-First Amendment) Bill, 2026 proposes significant changes to the size and composition of the Assemblies by restarting the process of delimitation and removing the long-standing constitutional freeze, in effect since 1976, on readjustment of seats based on population.

Details about The Constitution (One Hundred and Thirty-First Amendment) Bill, 2026:

- The Constitution (Amendment) Bill to be introduced in Parliament proposes to restart delimitation based on a future Census after ending the long-standing freeze since 1976.
- It amends Article 170 to allow revision of the number of Assembly seats and redrawing of constituency boundaries in States according to updated population data.

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- The Bill removes the existing restriction that had postponed delimitation and links seat allocation to the Census decided by Parliament, likely the post-2026 Census.
- It replaces earlier provisions by mandating a Delimitation Commission to carry out the exercise, instead of leaving the mechanism open.
- The Commission will be chaired by a Supreme Court judge and include Election Commission and State Election Commission representatives.
- It also introduces a revised definition of "population" based on the relevant Census adopted by Parliament for delimitation purposes.
- A key provision is enabling 33% reservation for women in State Assemblies through a new Article 334A, but only after delimitation based on the latest Census.
- Special safeguards are included to ensure tribal representation, particularly in Northeastern States, is not reduced during the redrawing of constituencies.

Quick Bites:

- World Quantum Day 2026, celebrated on April 14, focuses on "Quantum Readiness" and shaping the future workforce, highlighting the shift from theoretical research to practical, industrial quantum technologies.
- Researchers from Nagaland University have identified a traditional polyherbal formulation used by the Konyak tribe for its potential anti-cancer properties, comprising five plants—Persicaria maculosa (Redshank), Acorus calamus (Sweet Flag), Erythrina variegata (Indian Coral Tree), Stereospermum chelonoides (Padri Tree), and Oroxylum indicum (Indian Trumpet Flower); the formulation's bioactive compounds are found to target VEGFR2, a key protein involved in tumour blood vessel formation, thereby indicating its potential role in cancer treatment.
- The International Monetary Fund has lowered global growth forecasts due to rising energy prices and supply disruptions from the Iran conflict. In its World Economic Outlook, it outlined scenarios ranging from moderate slowdown (3.1% growth in 2026) to a severe case with prolonged conflict

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and high oil prices, reducing growth to 2.0%. The IMF warned that such a scenario could push the global economy close to recession levels.

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16-04-2026

1. Scarborough shoal:

Context: China is employing ships and a barrier to tighten control of the entrance to the Scarborough Shoal in the South China Sea amid roiling tension with the Philippines over the disputed feature.

About Scarborough shoal:



- **Location:** A disputed atoll in the South China Sea, about 220 km west of the Philippines' Luzon Island.
- **Geography:** Largest atoll in the South China Sea, mostly submerged at high tide with few rocks visible.
- **China's Claim:** China asserts historical ownership dating back to the Yuan Dynasty (1200s), calling it Huangyan Island.

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- **Philippines' Claim:** Philippines bases its claim on proximity and UNCLOS, as the shoal lies within its 200-nautical-mile EEZ.
- **Legal Basis:** The Philippines relies on the 1982 UNCLOS provisions supporting its maritime rights.
- **Economic Importance:** Waters around the shoal are rich in fish, shellfish, and sea cucumbers, making it a key fishing zone.

2. Andaman Sea:

Context: At least 250 people, including Rohingya refugees and Bangladeshi nationals, were missing after a boat capsized in the Andaman Sea recently on the way to Malaysia, according to the United Nations' refugee and migration agencies.

About Andaman Sea:



- **Location & Type:** Andaman Sea is a marginal sea of the northeastern Indian Ocean
- **Boundaries:** Bordered by Myanmar and Thailand (north & east), Malay Peninsula and Sumatra (south), and separated from Bay of Bengal by Andaman and Nicobar Islands (west)

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- **Strategic Link:** Southern end connects to Strait of Malacca, a key corridor between Indian and Pacific Oceans
- **Geographical Features:** Includes Gulf of Martaban and receives rivers like Irrawaddy River, Salween River, and Sittang River
- **Tectonic Activity:** Seafloor is tectonically active along the Burma–Sunda plate boundary
- **Strategic Importance:** Enhances India's maritime leverage through Andaman and Nicobar Command
- **Economic Role:** Crucial for global shipping, fisheries, and marine resources
- **Environmental Concern:** Rich biodiversity under threat from increasing environmental pressures.

3. Asia Zero-Emission Community (AZEC) Plus:

Context: EAM S. Jaishankar reaffirms India's commitment to safe & unimpeded maritime transit in the meeting of Asia Zero-Emission Community (AZEC) Plus.

About Asia Zero-Emission Community (AZEC) Plus:

- **Overview:** Asia Zero-Emission Community (AZEC) Plus is an expanded framework led by Japan to promote clean energy transition, energy security, and regional resilience in Asia
- **What is AZEC?:** Regional platform (launched in 2023) for cooperation on carbon neutrality (net-zero emissions) and sustainable energy transition in Asia
- **Member Countries:** Includes ASEAN nations (Indonesia, Vietnam, Malaysia, etc.), along with Japan, Australia, and partners South Korea
- **What is AZEC Plus?:** Expanded and more strategic version of AZEC focusing on energy security + decarbonization, combining climate goals with stable energy supply
- **Wider Participation:** Includes additional countries such as India, Bangladesh and Sri Lanka
- **Crisis Response Mechanism:** Addresses oil supply disruptions and ensures maritime route security during global crises

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- **Supply Chain Resilience:** Focus on strengthening energy supply chains across the region
- **New Initiative – POWERR Asia:** Partnership on Energy & Resources Resilience for emergency fuel financing, creation of strategic reserves, and supply chain strengthening
- **Financial Support:** Japan announced ~$10 billion support for energy procurement and stabilizing Asian economies during crises
- **Key Objectives:** Ensure energy security in Asia; promote clean energy (hydrogen, ammonia, renewables); strengthen supply chains; support economic growth with decarbonization; enhance Indo-Pacific cooperation

4. India's exports in 2025-26 financial year:

Context: The cumulative exports (merchandise & services) during FY 2025-26 (April-March) is estimated at US$ 860.09 Billion, as compared to US$ 825.26 Billion in FY 2024-25 (April-March), an estimated growth of 4.22%.

More details:

		FY 2025-26 (US$ Billion)	FY 2024-25 (US$ Billion)
Merchandise	Exports	441.78	437.70
	Imports	774.98	721.20
Services*	Exports	418.31	387.55
	Imports	204.42	198.72
Total Trade (Merchandise + Services) *	Exports	860.09	825.26
	Imports	979.40	919.92
	Trade Balance	–119.30	–94.66

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	FY 2025-26 (US$ billion)	FY 2024-25 (US$ billion)
Non-petroleum exports	387.88	374.32
Non-petroleum imports	601.03	535.42
Non-petroleum & Non Gems & Jewellery exports	359.67	344.50
Non-petroleum & Non Gems & Jewellery imports	498.56	454.59

- Services exports is estimated to grow by 7.94 percent during FY 2025-26 (April-March)* over FY 2024-25 (April-March).
- Top 5 export destinations, in terms of change in value, exhibiting positive growth in FY 2025-26 (April-March) vis a vis FY 2024-25 (April-March) are China P Rp (36.66%), Spain (46.33%), Hong Kong (33.22%), Vietnam Soc Rep (22.78%) & Sri Lanka Dsr (21.14%).
- Top 5 import sources, in terms of change in value, exhibiting growth in FY 2025-26 (April-March) vis a vis FY 2024-25 (April-March) are China P Rp (16.03%), U S A (15.95%), Hong Kong (23.32%), Peru (78.08%) & U K (36.09%).

5. Urban Challenge Fund:

Context: Union Minister Shri Manohar Lal Launches Operational Guidelines for Urban Challenge Fund.

Operational Guidelines for Urban Challenge Fund:

- Urban Challenge Fund, with a total Central Assistance of ₹1 lakh crore, is designed as a catalytic instrument to mobilise nearly four times the investment through market-based financing.
- Central Assistance will be limited to 25% of project cost, while at least 50% of funding will be mobilised through municipal bonds, bank loans and public-private partnerships, thereby ensuring financial discipline and encouraging private participation.

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- Final 25% contributed by States/UTs/ULBs or additional market funding.
- Out of the total outlay, ₹90,000 crore has been earmarked for projects, ₹5,000 crore for project preparation and capacity building, and ₹5,000 crore for the Credit Repayment Guarantee Sub-Scheme.
- Fund will support transformative projects across key sectors such as redevelopment of old city areas and markets, urban mobility and last-mile connectivity, non-motorised transport, water and sanitation infrastructure, and climate-resilient urban development.

About Urban Challenge Fund:

- **About:** Urban Challenge Fund is a Centrally Sponsored Scheme of Ministry of Housing and Urban Affairs with ₹1 lakh crore support (FY 2025–26 to 2030–31, extendable to 2033–34).
- **Objective:** Aims to fund bankable urban infrastructure projects using a challenge-based approach to mobilise ~₹4 lakh crore investment.
- **Paradigm Shift:** Moves from grant-based funding to market-linked, reform-driven, and outcome-oriented urban development.
- **Private Participation:** Encourages private sector involvement in financing and management of projects.
- **Growth Hubs Vertical:** Focus on transit-oriented development, greenfield townships, and economic corridors.
- **Eligibility (Small Cities):** ULBs in NE/hilly states and towns with population <1 lakh.
- **Guarantee Coverage:** Up to ₹7 crore or 70% (first loan) and 50% (subsequent loans).
- **Project Capacity:** Enables small ULBs to take projects worth ₹20 crore initially and ₹28 crore later.
- **Coverage:** Includes cities with population ≥10 lakh, all capitals, and industrial towns ≥1 lakh population.

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- **Project Criteria:** Must be bankable, transformative, aligned with three verticals, and backed by credible financing
- **Exclusion:** Projects already funded under AMRUT 2.0 and Swachh Bharat Mission-Urban 2.0 are not eligible
- **Selection Mode:** Uses competitive challenge-based selection instead of population-based allocation
- **Reform Linkage:** Funding tied to reforms in governance, digital systems, and financial transparency
- **Evaluation Metrics:** Based on KPIs like job creation, revenue generation, and climate resilience

6. Cocoa Production:

Context: India has set an ambitious goal to achieve self-sufficiency in cocoa production by 2040 under a comprehensive roadmap aimed at strengthening domestic output and reducing import dependence with cocoa imports exceeding $866 million annually.

About Cocoa production:

- **About Cocoa:** Cocoa is a major plantation crop used for chocolate production
- **Origin:** Native to the Amazon Basin and suited to humid tropical climates
- **Latitudinal Range:** Grown near the equator within 20° North and South
- **Altitude:** Cultivated up to 300 m above mean sea level
- **Rainfall:** Requires 1500–2000 mm annual rainfall
- **Temperature:** Thrives in 15°–39°C, with optimum around 25°C
- **Soil:** Prefers deep, well-drained soils, mainly clay loam and sandy loam
- **Soil pH:** Ideal pH range is 6.5 to 7.0
- **Shade Requirement:** Grows as an under-storey crop requiring about 50% shade

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- **Global Production:** Around 70% of cocoa comes from West African countries—Ivory Coast, Ghana, Nigeria, and Cameroon
- **India Production:** Mainly cultivated in Karnataka, Kerala, and Tamil Nadu as an intercrop with arecanut and coconut.

Quick Bites:

- R. Vaishali won the Women's Candidates chess tournament in Cyprus on Wednesday and thus qualified for the World championship match to be played later this year. The Grandmaster from Chennai scored a crushing victory over Russia's Kateryna Lagno in the final round to emerge as the clear winner.
- Prime Minister Shri Narendra Modi, inaugurated Sri Guru Bhairavaikya Mandira at Sri Kshetra Adichunchanagiri in Mandya, Karnataka.
- Union Ministry of Health and Family Welfare Hosts First BRICS Health Working Group Meeting 2026 in New Delhi.
- ILO report titled "Universal social protection in changing labour markets: Protecting workers in all types of employment" calls for strong social protection systems for all types of workers.
- Khanij Bidesh India Limited (KABIL), a joint venture of National Aluminium Company Limited, Hindustan Copper Limited, and Mineral Exploration and Consultancy Limited under the Ministry of Mines, has secured environmental clearance for deep exploration of five lithium blocks in Argentina. Lithium, a soft, silvery-white alkali metal with the lowest density among metals, is a critical mineral for batteries and energy storage, and the "Lithium Triangle" comprising Argentina, Bolivia, and Chile holds over 75% of global lithium reserves.
- New burrowing reed snake species discovered in Meghalaya's Garo Hills. The discovered species is named as Calamaria garoensis (Garo Hills reed snake).
- India's trade pattern shifted in FY 2025–26 as China overtook the United States to become India's largest trading partner, with bilateral trade reaching USD 151.1 billion. This marks China's return

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to the top position, reflecting India's continued dependence on Chinese imports despite rising exports, while the US slipped to second place after leading for four consecutive years.

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17-04-2026

1. Lokayan 26:

Context: Indian Navy's Sail Training Ship, INS Sudarshini, made port call at Casablanca, Morocco on 15 Apr 2026, as part of its ongoing transoceanic deployment under Lokayan 26.

About Lokayan 26:

- Lokayan 26 is a 10-month transoceanic voyage covering over 22,000 nautical miles across 18 ports in 13 countries.
- It aims to strengthen maritime cooperation under the MAHASAGAR (Mutual and Holistic Advancement for Security and Growth Across Regions) vision.
- The voyage includes naval diplomacy and partnership activities with host nations.
- INS Sudarshini will participate in global events like Escale à Sète and SAIL 250.
- The mission showcases India's maritime heritage and traditional seafaring practices.
- Over 200 Indian Navy and Coast Guard trainees will receive hands-on training in navigation and seamanship.
- The voyage promotes international naval interaction and capacity building.
- INS Sudarshini is India's second sail training ship after INS Tarangini.
- It has sailed over 1.4 lakh nautical miles, symbolizing India's maritime goodwill and professionalism.

2. Tibetan antelope or chiru:

Context: Delhi court convicted a person for illegal export of Shahtoosh shawls made from the hair of the Tibetan Antelope in violation of the Wildlife Protection Act, 1972.

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About Tibetan antelope or chiru:



- The Tibetan antelope (chiru) is a medium-sized antelope species.
- Males are larger and have horns and black leg stripes, while females lack both.
- It has distinctive fur with long guard hairs and a soft, silky undercoat.
- **Habitat:** Found in alpine regions, montane valleys, and cold steppe ecosystems with sparse vegetation.
- **Distribution:** Mainly in China (Tibet, Xinjiang, Qinghai) and also in Chang Thang, India.
- Migration: Travels up to 400 km between summer and winter grounds.
- Diet: Herbivorous—feeds on grasses, herbs, forbs, shrubs, and sedges.
- Conservation status: IUCN: Near Threatened, CITES: Appendix I and Wildlife (Protection) Act, 1972: Schedule I
- Shahtoosh shawls are made from its underfur and are extremely soft and warm.
- The Shahtoosh trade has been banned globally under CITES since 1975.

3. Red Sea:

Context: Iran's threatened to block trade through the Red Sea, if the US naval blockade continues around its ports.

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About Red Sea:



- The Red Sea is a semi-enclosed inlet of the Indian Ocean between Africa and Asia.
- It connects to the Arabian Sea via the Gulf of Aden and the narrow Bab el-Mandeb.
- The northern part splits into the Gulf of Aqaba and Gulf of Suez by the Sinai Peninsula.
- It connects to the Mediterranean Sea through the Suez Canal.
- Known for its hot and highly saline waters, it is a key maritime route between Europe and Asia.
- Its reddish appearance is due to seasonal algae blooms.
- Geologically, it lies in a rift (fault depression) between the Arabian and African tectonic plates.
- Bordering countries: Egypt, Saudi Arabia, Yemen, Sudan, Eritrea, Djibouti.
- Rich in mineral resources: petroleum, evaporites, sulfur, phosphates, and heavy metals.
- Important islands include Tiran Island and Shadwan Island.

4. Parkinson's disease:

Context: April marks Parkinson's disease Awareness Month, highlighting the need for early recognition of this progressive neurodegenerative disorder and the importance of support groups for patients and caregivers.

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About Parkinson's disease:

- Parkinson's disease is a progressive disorder that affects movement and may lead to immobility and dementia.
- It primarily affects older individuals, though younger people can also develop it.
- Men are more commonly affected than women.
- The global prevalence of Parkinson's disease has doubled in the past 25 years.
- India accounts for about 10% of the global burden of the disease.
- The exact cause is unknown, but it involves genetic and environmental factors.
- It is characterized by the loss of dopamine-producing neurons in the brain.
- Motor symptoms include tremors, slow movement (bradykinesia), rigidity, and walking difficulties.
- Non-motor symptoms include cognitive decline, mental health issues, sleep disturbances, pain, and sensory problems.
- There is no cure, but treatment focuses on symptom management through medicines, surgery, and rehabilitation.
- Common treatment includes Levodopa / Carbidopa combination therapy.
- World Parkinson's Day is observed every year on 11th April to raise awareness.

5. Carbon Border Adjustment Mechanism (CBAM):

Context: The European Union (EU) is planning to include 180 more products under the scope of its Carbon Border Adjustment Mechanism (CBAM) from January 2028, a move that could increase carbon tax costs on Indian-manufactured exports to Europe.

About Carbon Border Adjustment Mechanism (CBAM):

- Carbon Border Adjustment Mechanism (CBAM) is part of the EU's "Fit for 55" package targeting a 55% emission reduction by 2030 from 1990 levels.

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- It ensures imported goods face the same carbon costs as those produced within the EU.
- Importers must annually declare the quantity of goods and their embedded GHG emissions.
- They are required to purchase CBAM certificates based on emissions.
- Certificate prices are linked to the EU's EU Emissions Trading System (ETS) rates per tonne of CO_2.
- **Objective:** Prevent carbon leakage and protect EU climate goals from high-emission imports.
- It promotes cleaner production practices globally by influencing non-EU countries.
- It discourages industries from relocating to countries with lax environmental norms.
- Revenue generated supports EU climate and green energy initiatives.

6. Cobalt:

Context: India-Zambia critical minerals talks stall over mining rights. India last year received an allocation of 9,000 square kms to explore cobalt — a key component in batteries for EVs and mobile phones.

About Cobalt:

- Cobalt is a hard, lustrous, silver-grey metal.
- It is a ferromagnetic and strategically important alloying element.
- Chemical symbol: Co; Atomic number: 27.
- It is commonly associated with ores of copper, nickel, and arsenic.
- Cobalt is mainly extracted as a by-product of copper, nickel, zinc, or precious metals.
- Major global reserves are found in Democratic Republic of the Congo, Russia, Canada, Philippines, and Cuba.
- In India, cobalt occurs in Jharkhand, Odisha, Rajasthan, Nagaland, and Madhya Pradesh.
- Major uses include metallurgical applications, superalloys, magnets, and cutting tools.

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- It is widely used in rechargeable batteries as a cathode material.
- Cobalt is important in aerospace, energy, and defence sectors for high-strength alloys.
- Cobalt compounds are used as pigments (cobalt blue) in pottery, glass, and paints.

Quick Bites:

- Government Notifies India's First Chip Fabrication Plant at SEZ Dholera. The government has notified an SEZ to be set up by M/s. Tata Semiconductor Manufacturing Private Limited exclusively for Electronic Hardware and Software including IT/ITES at Dholera, Gujarat.
- Memory price inflation (memflation) refers to the continuing price hikes on Semiconductor memory chips.
- India has slipped to the sixth position in the global GDP rankings for 2025. As per IMF data, India's nominal GDP stands at approximately $3.92 trillion in 2025, placing it behind the United Kingdom, which is estimated at $4 trillion. Japan holds the fourth position with a GDP of $4.44 trillion, while Germany ranks third at $4.7 trillion. The United States continues to lead with $30.8 trillion, followed by China at $19.6 trillion. Notably, India had ranked fifth in 2024, ahead of the UK.
- The Mumbai Cricket Association has become the first state body in India to introduce a structured annual contract system for its domestic cricketers.
- Syria said on Thursday that it had taken control of Qasrak air base in Hasakeh province in the northeast after forces from the U.S.-led international coalition against the Islamic State group withdrew. Qasrak was considered a key U.S. base in northeast Syria and served as a logistics hub for convoys heading towards Iraq.

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18-04-2026

1. Startup India initiative:

Context: The Government has recognized more than 55,200 startups during Financial Year 2025-26, marking the highest number of startups recognized in a single year since the launch of the Startup India initiative.

About Startup India initiative:

- Launch Startup India Initiative was launched on 16 January 2016 to boost entrepreneurship in India
- Definition of Startup A startup is a new or young company aiming to introduce innovative products, disrupt markets, or create new ones.
- Implementation Implemented by a dedicated team under the Department for Promotion of Industry and Internal Trade.
- Core Aim To transform India from a job-seeking to a job-creating economy.
- Nurture Innovation Focuses on creating a supportive environment for innovation and scaling of ideas.
- Promote Entrepreneurship Simplifies regulations and provides support to entrepreneurs at all stages.
- Enable Investment Facilitates funding and access to capital for startups.
- Economic Growth Aims to generate employment and ensure sustainable economic development.

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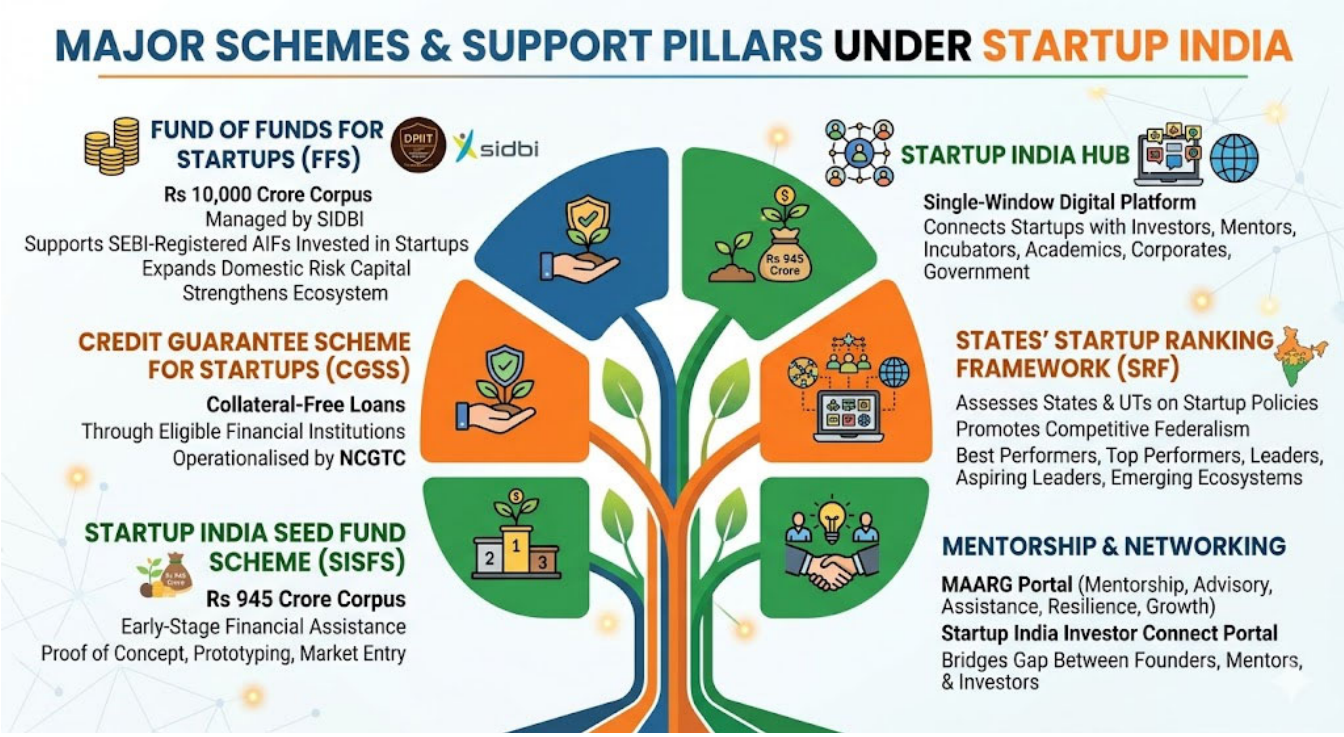

2. World Border Security Congress 2026:

Context: India showcased its leadership in maritime security and reinforced its commitment to international cooperation during its participation in the World Border Security Congress 2026 held in Vienna, Austria from April 14-16, 2026.

About World Border Security Congress 2026:

- Established in 2012, the World Border Security Congress is a premier international platform that brings together senior government officials, security experts, and industry leaders to deliberate on emerging challenges, technological innovations, and best practices in border management, while fostering international cooperation.

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- The World Border Security Congress is a high level 3 day event that will discuss and debate current and future policies, implementation issues and challenges as well as new and developing technologies that contribute towards safe and secure border and migration management.

3. PM Vishwakarma Scheme:

Context: MSME Ministry Organizes Transformative Workshop on Packaging for Toy and Doll Artisans under PM Vishwakarma Scheme in Varanasi; focuses on strengthening the 'Dolls and Toys' sector.

About PM Vishwakarma Scheme:



- It was launched on September 17, 2023 by the Ministry of MSME.
- It aims to strengthen the Guru-Shishya Parampara or family-based practice of traditional skills by artisans and craftspeople working with their hands and tools.

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- The scheme also aims at improving the quality as well as the reach of products and services of artisans and craftspeople.

4. Phytoremediation:

Context: Ahmedabad based Kankaria Becomes India's First Water Neutral Coaching railway Depot. At the heart of this transformation is a modern wastewater treatment system based on phytoremediation.

What is Water neutrality?

- Water neutrality means that a development, business, or project does not increase the rate of water consumption in a specific area above existing levels.
- It ensures that total water use after development equals or is less than the water used before, achieved by minimizing usage, recycling water, and offsetting any remaining demand.

About phytoremediation:

- Phytoremediation is a bioremediation process that uses plants, microalgae, and seaweeds to remove toxic substances from soil
- It is a sustainable and eco-friendly method for detoxifying contaminated soils
- It works by absorbing and accumulating pollutants in plant tissues
- Hyperaccumulator plants are used for faster and more efficient removal of contaminants
- These plants can absorb hundreds to thousands of times more toxic substances than normal plants
- It can remove heavy metals like silver, cadmium, cobalt, chromium, copper, mercury, manganese, molybdenum, nickel, lead, and zinc
- It is also effective in removing metalloids such as arsenic and selenium
- It can eliminate some radionuclides and non-metallic elements like boron

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5. The State of India's Bats (2024–25) report:

Context: India's first bat assessment highlights threats and major data gaps. The report is prepared by the Nature Conservation Foundation, Bat Conservation International, etc.

Key Findings:

- **Species Diversity:** ~135 bat species recorded, of which 16 are endemic.
- Seven species are listed under the threatened category by IUCN.
- **Threats:** Urbanisation, deforestation, climate change, and stigma post COVID-19.

About bats:

- Bats are mammals that give birth to live young, have fur-covered bodies, and are warm-blooded
- They are the only mammals capable of true powered flight
- Most bats use echolocation, emitting high-frequency sound waves to navigate and hunt in darkness
- They play an important ecological role through pollination, pest control, and seed dispersal

6. Borrowers' Platform:

Context: Developing nations recently launched the first-ever Borrowers' Platform at the IMF-World Bank Spring Meetings 2026.

About Borrowers' Platform:

- The Borrowers' Platform is a dedicated forum for peer learning, debt management capacity-building, and strengthening borrower voices in sovereign debt negotiations
- It is not a debt restructuring forum
- It has 30 founding members including India, with Egypt as Chair
- Its secretariat is hosted by UN Trade and Development

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- It provides a formal coordination mechanism for countries with external debt of about $11.7 trillion (2024)
- It aims to balance a system historically dominated by creditor-led mechanisms like the Paris Club

7. Pax Silica initiative:

Context: Philippines Joins Pax Silica Chip Supply Initiative. India joined in February 2026.

About Pax Silica initiative:

- Pax Silica is a US-led coalition focused on building a secure, resilient, and innovation-driven silicon and AI supply chain ecosystem with trusted global partners.
- Pax Silica is envisioned as a strategic coalition of trusted nations committed to securing the "silicon stack", from critical minerals and semiconductor fabrication to advanced AI systems and deployment infrastructure.
- The inaugural Pax Silica Summit was held in Washington, D.C. in December 2025.
- It aims to reduce coercive dependencies on a single country, safeguard AI-critical materials, and enable aligned nations to scale transformative technologies.
- The initiative responds to China's dominance in critical mineral refining (over 60% of lithium, cobalt, and rare earths) and recent rare earth export restrictions.
- Participating countries include Japan, Republic of Korea, Singapore, the Netherlands, United Kingdom, Israel, United Arab Emirates, and Australia.
- Partner nations host key firms such as Samsung, SK Hynix, Sony, Fujitsu, ASML, Rio Tinto, DeepMind, and Temasek, which power the global AI supply chain.
- Core commitments include joint projects on critical minerals, semiconductor design and fabrication, compute infrastructure, energy grids, and protection of sensitive technologies from countries of concern.

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8. Taiwan Strait:

Context: Japanese destroyer JS Ikazuchi transited the Taiwan Strait, and the Chinese military forces monitored the vessel throughout the process.

About Taiwan Strait:



- The Taiwan Strait separates continental Asia and the island of Taiwan.
- It connects the South China Sea in the southwest with the East China Sea in the northeast.
- It lies between Fujian Province of China and Taiwan.
- It has an average width of about 180 km and narrows to around 130 km at its narrowest point.
- It lies on Asia's continental shelf and is relatively shallow.
- Average depth is about 490 ft, with a minimum depth of 82 ft.
- Major ports include Amoy (Xiamen) in China and Kaohsiung in Taiwan.
- Rivers like Jiulong and Min from Fujian drain into the strait.

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- Important islands include Kinmen and Matsu near China's coast, and Penghu (Pescadores), Xiamen, and Pingtan.
- Penghu is the largest and most populous island in the strait.
- Xiamen and Pingtan are administered by China, while Penghu, Kinmen, and Matsu are administered by Taiwan.
- It is a major international navigation route with heavy cargo movement.
- It is also an important fishing ground with rich marine biodiversity.

Quick Bites:

- The AI Governance and Economic Group (AIGEG) is a newly formed, 10-member inter-ministerial body established by MeitY to lead India's national AI strategy. Chaired by the Minister of Electronics & IT, the group aims to formalize a "whole-of-government" approach by aligning AI deployment with India's specific economic needs and social stability. By including key figures like the Chief Economic Advisor and the CEO of NITI Aayog, the AIGEG serves as the central authority for coordinating AI policy, ensuring that technological advancement remains consistent with the country's labor market realities.
- Lebanon, with its capital at Beirut, is a country located in the Levant region of West Asia, bordered by Syria to the north and east and Israel to the south, with a maritime boundary with Cyprus and a coastline along the Mediterranean Sea; geographically, it features the highest peak Qurnet Al Sawda, the fertile Bekaa (Al-Biqa) Valley, major rivers such as the Litani, Orontes, and Kabir, and prominent mountain ranges including the Lebanon Mountains (Jabal Lubnan) and the Hermon ranges, making it strategically and physically diverse in the region.
- Meghalaya announced the indigenous Khasi and Garo languages as official languages of state, in addition to English. Both are not currently part of the Eighth Schedule of the Constitution.
- A new bent-toed gecko species, Cyrtodactylus jayadityai, has been discovered in Tripura, named after researcher's mentor, herpetologist Jayaditya Purkayastha.

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- The All India Council for Technical Education (AICTE) has launched the third edition of its flagship AICTE-VAANI scheme to strengthen the use of Indian languages in technical education. The initiative aims to create a more inclusive academic ecosystem by enabling students to access technical knowledge in their native languages.

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19-04-2026

1. Amrabad Tiger Reserve:

Context: In the Amrabad Tiger Reserve, members of the Chenchu tribal community are opposing proposed relocation by forest authorities due to rising tiger populations, arguing that displacement would disrupt their traditional forest-based livelihood, especially for women dependent on foraging; despite compensation and rehabilitation offers, many fear loss of cultural identity and survival options, as relocation sites lack forest resources, leading them to raise their concerns at the Prajavani programme in Hyderabad.

About Amrabad Tiger Reserve:

- Amrabad Tiger Reserve is located in the Nallamala hills of the Eastern Ghats
- It was earlier part of the larger Nagarjunasagar-Srisailam Tiger Reserve before the 2014 bifurcation
- The reserve is known for rugged terrain, deep valleys, and dense forests
- The Krishna River and its streams flow through the reserve, feeding major reservoirs like Srisailam Dam and Nagarjuna Sagar Dam
- The Chenchu tribe is a major indigenous community residing in the reserve
- Vegetation mainly consists of dry deciduous forests with sal, teak, bamboo, and acacia
- The forest is rich in medicinal plants used by local tribes
- Fauna includes leopards and wild cats
- Herbivores include sambar, chital, nilgai, wild boar, and gaur

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2. Western Disturbances:

Context: The India Meteorological Department (IMD) had forecast that the month of April would have 12% more rain than is usual over most of India except the northeastern States and part of the southern peninsula due to western disturbances.

About western disturbances:

- Western Disturbances are extra-tropical low-pressure storm systems.
- They originate in the Mediterranean Sea due to interaction of warm and cold air masses.
- They move eastward under the influence of the subtropical westerly jet stream.
- They gain moisture from regions like Persian Gulf and Arabian Sea.
- They bring winter rainfall to northwestern parts of India.
- Majorly affect regions like Punjab, Haryana, Delhi, western Uttar Pradesh and western Himalayas.
- Precipitation occurs as rain in plains and snow in higher altitudes.
- Moisture is mainly carried in the upper atmosphere unlike tropical systems.
- They are most active during December to February but can occur in other seasons.
- They play a crucial role in replenishing soil moisture for rabi crops.
- They cause temperature fluctuations, often sudden drops or temporary rise before arrival.
- They lead to cloud cover, fog, and changes in atmospheric pressure.
- They weaken after crossing the Himalayas and may affect Nepal and Bangladesh before dissipating

3. Adjournment sine die:

Context: The extended Budget Session of Parliament adjourned sine die on Saturday, a day after the Opposition blocked the Constitution (131st Amendment) Bill, linking women's reservation with the delimitation exercise, from passing in the Lok Sabha.

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What is Adjournment sine die:

- Adjournment sine die means termination of a sitting of Parliament without fixing a date for the next meeting
- It implies suspension of proceedings for an indefinite period
- The power to adjourn sine die lies with the Presiding Officer of the House
- The Presiding Officer can reconvene the House even after it has been adjourned sine die

4. Pradhan Mantri Gram Sadak Yojana:

Context: The Union Cabinet, chaired by the Prime Minister Shri Narendra Modi, today has given its approval for the continuation of Pradhan Mantri Gram Sadak Yojana-III (PMGSY-III) beyond March 2025 upto March 2028.

About Pradhan Mantri Gram Sadak Yojana:

- **Launch (2000):** 100% centrally sponsored scheme to provide all-weather rural road connectivity.
- **Ministry:** Implemented by the Ministry of Rural Development.
- **Eligibility:** Villages with population >500 (plains) and >250 (hills/difficult areas).
- **Funding Pattern:** Changed in 2015–16 to 60:40 (Centre:States), 90:10 for NE & Himalayan States.
- **PMGSY-I (2000):** Rural connectivity to eligible habitations as per Census 2001.
- **PMGSY-II (2013):** Upgradation of 50,000 km rural roads across States/UTs.
- **RCPLWEA (2016):** Road construction/upgradation in Left-Wing Extremism affected areas.
- **PMGSY-III (2019):** Consolidation of 1,25,000 km to connect rural links with markets, schools & hospitals.
- National Rural Infrastructure Development Agency (NRIDA) provides technical and managerial support at the national level.

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- State Rural Roads Development Agencies (SRRDAs), state-level agencies for implementation of the scheme.
- **Decentralized Planning:** Involves Panchayati Raj Institutions, MLAs, and MPs.
- **Online Management, Monitoring, and Accounting System (OMMAS):** Web-based monitoring & accounting system developed by C-DAC.
- **eMARG:** Geo-tagged mobile app platform to verify maintenance work and monitor contractors.
- **Meri Sadak App:** Grievance redressal tool for public complaints on pace, quality, or abandoned works.

5. Bharat Audyogik Vikas Yojna (BHAVYA) Scheme:

Context: Government notifies implementation of Bharat Audyogik Vikas Yojna (BHAVYA) Scheme.

About Bharat Audyogik Vikas Yojna (BHAVYA) Scheme:

- **Nodal Ministry:** Ministry of Commerce and Industry through Department for Promotion of Industry and Internal Trade
- **Objective:** Develop 100 investment-ready plug-and-play industrial parks with States, CPSUs and private sector
- **Plug-and-play parks:** Ready-to-use manufacturing sites with pre-built infrastructure like roads, power, water and approvals
- **Duration:** 6 years (2026–27 to 2031–32) with an outlay of ₹33,660 crore
- **Sponsoring Agency:** State/UT governments or Central Public Sector Undertakings
- **SPV Structure:** Formed between National Industrial Corridor Development and Implementation Trust and State nodal agency
- **SPV Role:** Owns assets and manages planning, construction, operation and maintenance

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- **Financial Support:** Up to ₹1 crore per acre (₹50 lakh for private developer-led parks) in equity mode
- **Core Infrastructure:** Roads, utilities, drainage and ICT facilities
- **Value-added Infrastructure:** Factory sheds, labs and warehousing
- **Social Infrastructure:** Worker housing and basic amenities
- **Additional Support:** Up to 25% of project cost for external infrastructure and last-mile connectivity

Quick Bites:

- The "Yellow Line" in Lebanon is a self-declared, non-international military demarcation line established by Israel in April 2026, stretching approximately 10km (6 miles) north of the border into southern Lebanon. Similar to a buffer zone in Gaza, this area serves as an operational boundary where Israeli troops control territory, destroy infrastructure, and fire on anyone approaching, often acting during ceasefires.
- The Union Cabinet chaired by the Prime Minister Shri Narendra Modi today has approved the proposal for creation of a domestic insurance pool, namely 'Bharat Maritime Insurance Pool' (BMI pool) with a sovereign guarantee of Rs.12,980 crores to facilitate continuous maritime insurance coverages. The pool ensures that Indian trade continues to have access to affordable insurance for vessels carrying cargo from any international origin to Indian ports and vice-versa, even when transiting volatile maritime corridors.
- Clashes in Rayagada were triggered by construction of a road to the Sijimali bauxite mine, with tribal communities protesting under the "Mali" hill protection movement and alleging fraudulent Gram Sabha consent; bauxite, the primary ore of aluminium composed mainly of hydrated aluminium oxide with impurities like iron oxide, silica and titania, is abundantly found in India, especially in Odisha, followed by Chhattisgarh, Andhra Pradesh, Gujarat and Jharkhand.

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- Harivansh Narayan Singh is the first-ever nominated member to be elected as the Deputy Chairman of the Rajya Sabha. Re-elected unopposed for a third consecutive term in April 2026, the journalist-turned-politician was nominated to the Upper House.

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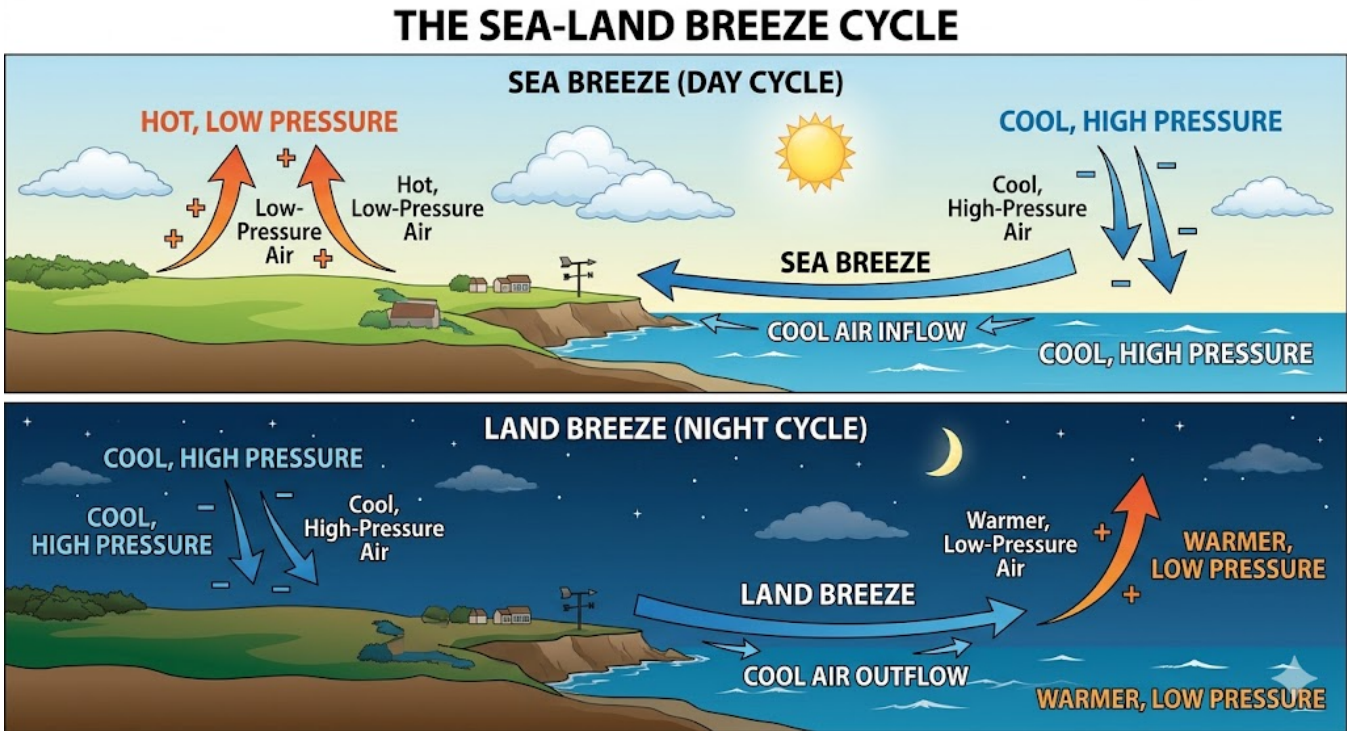
20-04-2026

1. Sea-land breeze:

Context: A new study in Nature Climate Change has reported that as the oceans become warmer, the sea-land breezes around coastal megacities are becoming weaker. Urban planners consider these breezes to be essential to cool urban areas and improve air quality.

About Sea-land breeze:



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- During the day, land heats faster than the sea, pulling cool air onshore. At night, the land cools faster, so the air flows offshore. This is called the sea-land breeze.
- Land and sea breezes are local winds occurring along coastal or lakeside areas due to differential heating
- They follow a diurnal cycle (day–night pattern)
- Land heats up faster than water during the day, creating low pressure over land and high pressure over water
- Cool air flows from sea to land during the day, called sea breeze
- Sea breeze develops before noon and is strongest in the afternoon, moderating coastal temperatures
- At night, land cools faster than water, creating high pressure over land and low pressure over sea
- Air flows from land to sea at night, called land breeze

2. River Basin Management (RBM) Scheme:

Context: River Basin Management (RBM) Scheme extended for 5 more years. The scheme will continue during the 16th Finance Commission period (2026–27 to 2030–31) with an estimated cost of ₹2183 crore, fully funded by the government.

About River Basin Management (RBM) Scheme:

- Launched in 2014 as a Central Sector Scheme for water resource development
- Aims to support detailed studies, planning, and sustainable utilisation of water resources
- Administered by the Department of Water Resources, River Development and Ganga Rejuvenation under the Ministry of Jal Shakti
- Focuses on strategically important, water-rich but underdeveloped regions
- Prioritises North Eastern Region and Indus Basin in Jammu & Kashmir/Ladakh

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- Targets national water security, cross-border water management, flood control, and ecological stability
- Has two main components: Brahmaputra Board and Investigation of Water Resources Development Scheme (IWRDS)
- Brahmaputra Board handles basin-level planning and flood management in Northeast India
- IWRDS supports surveys and project preparation for water resource development
- Central Water Commission conducts surveys and prepares DPRs for major river basins
- National Water Development Agency focuses on national water planning and river interlinking initiatives

3. Dung beetles:

Context: Dung beetles have shown one of the most surprising navigation abilities in the animal kingdom—they use the Milky Way to move in straight lines at night.

About Dung beetles:

- They are terrestrial insects that feed on the feces of large herbivores.
- Certain dung beetles navigate at night using the Milky Way, moving in straight lines while rolling dung balls.
- They rely on polarised light patterns and the diffuse glow of the night sky rather than individual stars.

4. Hanging glaciers:

Context: A new research study has identified 219 hanging glaciers in Uttarakhand's Alaknanda basin with unstable ice volumes.

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What are hanging glaciers?

- A hanging glacier ends abruptly at a cliff or steep slope instead of reaching the valley floor
- Ice transfer occurs mainly through icefalls and avalanches rather than slow flow
- They are highly unstable and prone to sudden break-offs
- Collapse events can trigger glacial lake outburst floods (GLOFs)
- Falling ice can block rivers or cause downstream hazards

5. Mesothermic fishes:

Context: Rapid ocean warming is forcing mesothermic fishes to seek cooler waters with low availability of suitable prey bases.

More about:

- Mesothermic fishes can retain metabolic heat and keep parts of their body warmer than surrounding water. Examples include Great White Shark and tunas
- Ectothermic fishes are cold-blooded and depend on external water temperature for body heat regulation. Ectothermic fishes constitute the majority of fish species
- Endothermic fishes are warm-blooded and can internally regulate their body temperature

Quick Bites:

- The theme for World Heritage Day 2026 (April 18), as identified by ICOMOS, is "Emergency Response for Living Heritage in Contexts of Conflicts and Disasters".
- In a defining moment for India's semiconductor ambitions and Odisha's emergence as a future-ready technology destination, the foundation stone for the country's first advanced 3D chip packaging unit was laid today at Info Valley, Bhubaneswar

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21-04-2026

1. Basaveshwara:

Context: The Prime Minister, Shri Narendra Modi, paid homage to Jagadguru Basaveshwara on the occasion of Basava Jayanthi. As per the Hindu calendar, the birth of Basavanna falls on the 3rd day of Vaisahaka month in the Shukla paksha. This usually falls either in April or May of the English calendar.

More about Basavanna:

- Basavanna (1131 CE, Basavana Bagewadi, Karnataka) was a social reformer, saint, and leader of an anti-caste movement.
- Rejected orthodox rituals and emphasized personal devotion to Lord Shiva.
- As chief minister under Bijjala, promoted social reforms and revitalized Shaivism.
- Spread ideas through Kannada Vachanas, popularizing “Kayakave Kailasa” (work is worship).
- Advocated inner spirituality, treating body and soul as a temple over external rituals.
- Promoted use of Kannada in spiritual discourse for inclusivity.
- Encouraged symbolic devotion using Istalinga, Rudraksha, and Vibhuti.
- Propounded Lingayat philosophy of qualified non-dualism (unity of Atma and Shiva).
- Emphasized mantra “Shivaya Namah” and trinity of Guru, Linga, and Jangama.
- Introduced socio-economic principles: Kayaka (dignity of labour) and Dasoha (service and sharing).
- Founded Anubhava Mantapa, considered the first religious parliament.
- Presided by Allama Prabhu with contributions from Akka Mahadevi and Channabasavanna.
- Anubhava Mantapa became the foundation of Veerashaiva philosophy.

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- Cradle of Vachana literature promoting social equality and devotion.
- Authored important Vachanas like Shat-sthala-vachana, Kala-jnana-vachana, and Raja-yoga-vachana.
- Vachana Sahitya used simple Kannada prose to oppose caste and ritualism and promote universal Shiva worship.

2. Samriddh Gram Initiative:

Context: Samriddh Gram: Integrated Phygital Service Delivery Model Enabled by BharatNet, an initiative of the Department of Telecommunications (DoT), Government of India, has been selected as a nominee for the prestigious WSIS (World Summit on the Information Society) Prizes 2026 under the Action Line AL C6: Enabling Environment category.

About BharatNet project:

- The National Optical Fibre Network (NOFN) was launched in 2011 and renamed BharatNet Project in 2015.
- Implemented under the Ministry of Communications to provide high-speed broadband to all Gram Panchayats.
- Aims to deliver affordable internet and enable e-health, e-education, and e-governance in rural areas.
- One of the world's largest rural telecom projects targeting about 2.5 lakh Gram Panchayats.
- Funded through Digital Bharat Nidhi, which replaced the Universal Service Obligation Fund
- Executed by Bharat Broadband Network Limited, a Special Purpose Vehicle
- Bharat Sanchar Nigam Limited acts as the Project Management Agency for operation and maintenance

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About Samriddh Gram Initiative:

- The Samriddh Gram initiative builds on BharatNet Project to create integrated rural service hubs
- Establishes Samriddhi Kendras as one-stop centres offering "phygital" (physical + digital) services
- Provides access to healthcare, education, agriculture, governance, financial services, and e-commerce
- Uses high-speed broadband, FTTH connectivity, and public Wi-Fi for service delivery
- Enables telemedicine, smart classrooms, e-governance, and technology-driven agriculture in rural areas

About World Summit on the Information Society (WSIS):

- The WSIS Forum is a globally recognized multi-stakeholder platform focused on advancing digital development and fostering inclusive information societies.
- It brings together key stakeholders—including governments, industry, academia, civil society, and international organizations—to collaborate on critical digital issues.
- The WSIS Prizes celebrate innovative ICT-driven projects that contribute to sustainable development worldwide.
- The WSIS Forum 2026 is scheduled to take place from 6–10 July 2026 in Geneva, featuring discussions on emerging technologies, digital inclusion, cybersecurity, and global digital cooperation.

3. 18th Civil Services Day:

Context: The Department of Administrative Reforms and Public Grievances (DARPG), Ministry of Personnel, Public Grievances and Pensions will observe 18th Civil Services Day on Tuesday, April 21, 2026.

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About Civil Services Day:

- The 18th Civil Services Day (April 21, 2026) theme is "Viksit Bharat: Citizen-Centric Governance and Development at the Last Mile"
- The Civil Services Day is observed annually as an occasion for the Civil Servants across India to rededicate themselves to the cause of citizens and renew their commitment to public service and excellence in their work.
- On this day in 1947, Sardar Vallabhbhai Patel addressed the probationers of the All India Administrative Service where he described civil servants as the steel frame of India.

4. PM VIKAS (Pradhan Mantri Virasat Ka Samvardhan) Scheme:

Context: Ministry of Minority Affairs has signed a Memorandum of Understanding (MoU) with the Indian Institute of Technology (IIT), Patna under the PM VIKAS (Pradhan Mantri Virasat Ka Samvardhan) Scheme.

About the agreement:

- Under this strategic collaboration, 600 minority youth from the State of Bihar will be trained by IIT Patna in emerging and high-demand job roles such as AI Technocrat and Business Analytics Executive.
- The training programme is designed to equip participants with industry-relevant skills aligned with evolving market needs.
- By partnering with a premier institution like IIT Patna, the Ministry seeks to ensure quality training, industry exposure, and improved career outcomes for beneficiaries, thereby contributing to inclusive growth and empowerment.

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About PM VIKAS (Pradhan Mantri Virasat Ka Samvardhan) Scheme:

- Pradhan Mantri Virasat Ka Samvardhan (PM VIKAS) is a Central Sector Scheme for socio-economic empowerment of six notified minority communities
- Focuses on skill development, entrepreneurship (especially for women), and education support for school dropouts
- Aims to provide need-based skill training and enhance employment/livelihood opportunities
- Promotes preservation of cultural heritage, traditional arts, and Intangible Cultural Heritage (ICH)
- Encourages women empowerment through leadership and entrepreneurship training
- Improves employability through market linkages and access to credit
- Reserves 3% seats for Persons with Disabilities (PwDs) across all components
- Mandates placement of trained candidates as part of agreements with implementing agencies

5. Ethanol 85 fuel:

Context: The government will "very soon" issue draft rules on the roll-out of Ethanol 85 (E85) as vulnerabilities in oil exports exposed during the West Asia crisis sharpen the focus on alternative fuels.

About Ethanol 85 fuel:

- E85 fuel is a blend of 85% ethanol and 15% petrol.
- Ethanol is a renewable biofuel made from crops like sugarcane and corn.
- It is used in Flex-Fuel Vehicles (FFVs) specially designed for high ethanol blends.
- E85 has high octane, improving engine performance and reducing knocking.
- It burns cleaner than petrol, lowering carbon emissions.
- Helps reduce crude oil imports and improve energy security.
- Supports the agricultural sector by increasing demand for ethanol crops.

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- Has lower energy content, resulting in reduced mileage.
- Requires dedicated fuel infrastructure and is not widely available.
- India is promoting higher ethanol blends like E20 and E85 for future mobility.

Quick Bites:

- DSC A 23, the fourth ship of five Diving Support Craft (DSC) project was launched on 19 Apr 2026 at Titagarh, Kolkata (WB). With induction of these ships, the Indian Navy's capabilities in Diving Support, Underwater Inspection, Salvage Assistance and Coastal Operational Deployment will be augmented.
- NITI Aayog, released the latest edition of the "Trade Watch Quarterly" publication for Quarter 3 of FY26 (October-December 2025) on 20th April 2026, in New Delhi. Gems and jewellery, the thematic focus of this quarter's edition remains a critical pillar of India's labour-intensive manufacturing ecosystem and a significant contributor to trade.
- India's first private gold mining project is set for launch in Andhra Pradesh's Kurnool District (Jonnagiri Mine). India has about 518.23 million tonnes of gold ore (as of 2020), with major reserves located in Bihar (43%), Rajasthan (~25%), and Karnataka (~20%). However, production is overwhelmingly dominated by Karnataka (~97%), mainly from the Hutti Gold Mines.
- India's first Petroglyph Conservation Park has been initiated on the banks of the Indus River in Ladakh to protect ancient rock carvings that are increasingly threatened by unregulated tourism, infrastructure expansion, and lack of awareness. Petroglyphs are prehistoric images or symbols carved, pecked, or engraved directly onto rock surfaces, and the park aims to serve as a dedicated space for their conservation and preservation.
- The Ministry of Textiles has launched the initiative "Vishwa Sutra – Weaves of India for the World," led by the Office of the Development Commissioner (Handlooms) in collaboration with the National Institute of Fashion Technology, with the aim of showcasing Indian handlooms in a contemporary global design framework and promoting them on the international stage.

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- The Reciprocal Exchange of Logistic Support (RELOS) pact between India and Russia has become operational, enabling both countries to use each other's military bases, ports, and air facilities for logistics and support, including providing India access to strategic regions such as the Arctic, thereby enhancing defence cooperation and operational reach.
- Balikatan 2026 (April 20–May 8, 2026) is the 41st and largest-ever iteration of the joint U.S.-Philippines military exercises, featuring over 17,000 personnel. Centered on maritime defense, it includes participants from Australia, France, Japan, Canada, and New Zealand, with exercises covering live-fire drills, cyber defense, and island-chain operations in the South China Sea.

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22-04-2026

1. India's Seafood Exports:

ontext: India's Seafood Exports Hit All-Time High of ₹72,000 Crore.

Major details:

- India's seafood exports rose to a record ₹72,325.82 crore (US$ 8.28 billion) in FY 2025–26, with volumes reaching 19.32 lakh metric tonnes, according to provisional data released by MPEDA.
- Frozen shrimp remained the primary growth driver, contributing ₹47,973.13 crore (US$ 5.51 billion), accounting for over two-thirds of total export earnings.
- Shipments of shrimp grew 4.6% in volume and 6.35% in value, reinforcing its dominance in India's marine products export basket.
- The United States retained its position as the largest export destination, with imports totalling US$2.32 billion. However, shipments to the US declined by 19.8% in volume and 14.5% in value, reflecting primarily the impact of reciprocal tariffs.
- This decline was offset by robust growth in alternative markets such as China, EU and Southeast Asian countries.
- Exports to China, the second-largest destination, rose 22.7% in value and 20.1% in volume.
- In terms of logistics, the top five ports—Vizag, JNPT, Kochi, Kolkata and Chennai—accounted for nearly 64% of total export value, highlighting their continued importance in India's seafood export supply chain.

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2. World Earth Day 2026:

Context: National Science Centre, Delhi, cordially invites students and science enthusiasts to celebrate World Earth Day 2026 on Wednesday, April 22, 2026.

About World Earth Day 2026:

- This year's celebration centers on the global theme, "Our Power, Our Planet," highlighting the collective responsibility to protect and preserve our environment.
- The first Earth Day was observed in 1970 after Senator Gaylord Nelson witnessed the catastrophic effects of an oil spill in California.
- Nelson initiated a movement that brought over 20 million Americans together to rally for environmental reforms.
- This pivotal day led to the passing of significant environmental legislation in the US, including the creation of the Environmental Protection Agency (EPA).
- In 1990, Earth Day became a global event with 200 million people and 141 countries participating.

3. Marine Spatial Planning:

Context: Odisha becomes first state to launch MSP. It signed an MoU with National Centre for Coastal Research, Ministry of Earth Sciences MSP was earlier taken up in two UTs- Puducherry and Lakshadweep as part of Indo-Norway Integrated Ocean Initiative (2019).

About Marine Spatial Planning:

- **Marine Spatial Planning (MSP):** Public process to organize spatial and temporal use of marine areas for ecological, economic, and social goals.
- **Significance – Blue Economy:** Promotes sustainable use of marine resources and boosts the blue economy.

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- **Policy Role:** Helps allocate ocean space (e.g., offshore wind, deep-sea mining) while minimizing environmental conflicts.
- **Climate Aspect:** Enhances climate resilience through integrated ocean management.
- **Global Support:** Intergovernmental Oceanographic Commission of UNESCO provides guidelines and supports MSP implementation worldwide.

4. Goldman Environmental Prize:

Context: For the first time in its history, the Goldman Environmental Prize has recognised an all-women group of winners, marking a major moment in global environmental leadership.

More details:

- The 2026 edition honours six female grassroots activists from different continents for their work in climate justice, biodiversity protection, Indigenous rights and anti-mining movements.
- Among them is Sasha Finch from the United Kingdom, known for her campaigns against fossil fuel expansion and opposition to new oil drilling projects.
- Other winners have led efforts in forest conservation, river and water protection, anti-mining protests and defending Indigenous communities from land exploitation.

About Goldman Environmental Prize:

- Established in 1989 by the Goldman Environmental Foundation, the Goldman Environmental Prize is often called the "Green Nobel Prize."
- It honours grassroots environmental activists from six continental regions annually.
- The prize celebrates individuals who take significant risks to protect the environment and challenge ecological destruction through local action and public advocacy.

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5. Prajna system:

Context: DRDO Gives Prajna System to MHA, Navy Tests ADC-150

More details:

- The Ministry of Home Affairs has received the AI-enabled satellite imaging system Prajna, while the Indian Navy has successfully completed trials of the Air Droppable Container ADC-150.
- These systems are designed to improve surveillance, emergency response and operational efficiency across land and sea.
- The Ministry of Home Affairs received the satellite imaging system Prajna from DRDO to improve real-time decision-making for security agencies.
- DRDO and the Indian Navy also completed four successful in-flight release trials of the indigenous Air Droppable Container ADC-150 from the P8I aircraft off the coast of Goa.
- The system is designed to deliver a payload of 150 kg and can quickly provide critical stores, medical supplies and equipment to naval ships operating far from the coast during emergencies.

6. India-Africa Forum Summit (IAFS) 2026:

Context: Development initiatives, education, capacity building, expansion of diplomatic footprint, and defence cooperation are expected to be on the agenda when New Delhi hosts the Fourth India-Africa Forum Summit (IAFS) 2026 in May-end.

About India-Africa Forum Summit (IAFS) 2026:

- The India–Africa Forum Summit (IAFS) is the official platform for the African-Indian relations.
- IAFS is supposed to be held once every three years, however the rule has not been strictly followed.
- It was first held from April 4 to April 8, 2008 in New Delhi, India.

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- It was the first such meeting between the heads of state and government of India and 14 countries of Africa chosen by the African Union.
- The second summit was held at the Ethiopian capital Addis Ababa, with India and 15 African Countries participating.
- The third summit in a rotation basis is held in New Delhi, India from 26 to 30 October 2015.

Quick Bites:

- The President of India, Smt Droupadi Murmu inaugurated Planetarium and Science Centre, and Nirmal Munda Parivesh Path at a public function held at Rourkela, Odisha.
- During the ongoing visit of the delegation led by H.E. Lee Jae Myung, President of the Republic of Korea, to India, the Ministry of Micro, Small and Medium Enterprises signed a Memorandum of Understanding (MoU) with the Ministry of SMEs and Startups on April 20, 2026, to strengthen bilateral cooperation in the MSME sector.
- The Breakthrough Prize Foundation has announced the 2026 laureates of the Breakthrough Prize, often called the "Oscars of Science," which honors leading scientists in Life Sciences, Fundamental Physics, and Mathematics with $3 million prizes, along with early-career awards like New Horizons and the Maryam Mirzakhani New Frontiers Prize; winners are selected by committees of past laureates, and the 2026 awards recognize breakthroughs such as treatments for Sickle Cell Disease and Beta Thalassemia, the development of Casgevy—the first CRISPR-based medicine—and advances in understanding the evolution of waves over time.
- A new species of snake, named Calamaria garoensis, has been discovered in the Garo Hills region of Meghalaya.
- Tennis players Carlos Alcaraz and Aryna Sabalenka were named sportsman and sportswoman of the year at the Laureus awards while Paris Saint-Germain was the team of the year.
- Ukraine has repaired the damaged Druzhba pipeline that carries Russian oil to Europe and is ready to resume supplies.

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23-04-2026

1. Technology Development and Investment Promotion (TDIP) Scheme:

Context: The Union Minister of Communications and Development of North Eastern Region, Shri Jyotiraditya M. Scindia, today released the revised guidelines for the Technology Development and Investment Promotion (TDIP) Scheme of the Department of Telecommunications.

About Technology Development and Investment Promotion (TDIP) Scheme:

- The revised TDIP Scheme, with a total outlay of ₹203 crore for the period 2026–31, has been designed as a comprehensive support framework to enable Indian entities to actively contribute to global standards, promote innovation, and enhance India's competitiveness in next-generation telecommunications technologies, including 5G Advanced and 6G.
- Technology Development Fund Scheme aims to promote self-reliance in defence technology under the Make in India programme.
- It encourages participation of public/private industries, especially MSMEs and startups, to strengthen cutting-edge defence technology capabilities.
- Nodal Ministry: Ministry of Defence.
- Funding support covers projects up to ₹50 crore, with assistance of up to 90% of total project cost.
- Maximum project development duration allowed is four years.
- Eligible entities include Indian-registered companies, LLPs, partnership firms, sole proprietorships, and one-person companies; foreign investment beyond 49% is not permitted.
- Startups must be DPIIT-recognized, majority-owned by resident Indian citizens (minimum 51% shareholding), and should not have received government grants for similar technology earlier.

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2. "VM Frames":

Context: Ministry of Culture Launches "VM Frames" National Filmmaking Competition to Mark 150 Years of Vande Mataram.

About "VM Frames":

- VM Frames aims to reinterpret the spirit of "Vande Mataram" through modern creative formats.
- Competition categories include Reels, AI-based Films, and Short Films.
- Participants are encouraged to showcase themes such as patriotism, cultural identity, unity, and the vision of a progressive New India.
- The competition offers awards and recognition worth up to ₹50 lakh.

3. IN-SLN DIVEX 2026:

Context: INS Nireekshak, the Diving Support and Submarine Rescue Vessel of Indian Navy, arrived at the port of Colombo, Sri Lanka, on 21 Apr 2026 to participate in the 4th edition of IN-SLN DIVEX 2026, a bilateral diving exercise scheduled from 21-27 Apr 2026.

About IN-SLN DIVEX 2026:

- India and Sri Lanka are conducting a joint naval diving exercise to improve interoperability, coordination, and sharing of best practices.
- The week-long exercise strengthens Indo–Sri Lankan maritime cooperation and shared maritime interests.
- India will provide two Bharat Health Initiative for Sahyog Hita & Maitri (BHISM) Cubes under the Aarogya Maitri programme.
- BHISM cubes can handle up to 200 emergency cases and are equipped with medicines and surgical tools for rapid medical response.

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4. 99th Ramsar site:

Context: Union Minister for Environment, Forest and Climate Change Shri Bhupender Yadav announced the designation of Shekha Jheel Bird Sanctuary in Aligarh, Uttar Pradesh, as a Ramsar site, taking India's total to 99 and the State's tally to 12.

About Shekha Jheel Bird Sanctuary:

- Shekha Bird Sanctuary is located near Shekha village, about 17 km east of Aligarh.
- The sanctuary is spread over a 25-hectare freshwater perennial lake.
- It is an important birding site where many migratory birds overwinter.
- The lake was formed after the construction of the Upper Ganges Canal in 1852.
- The sanctuary is maintained by the Forest Department of Uttar Pradesh.

About Ramsar convention:



- The Ramsar Convention provides guidelines for the conservation and wise use of wetlands worldwide.
- It is the only international environmental treaty focused on a specific habitat (wetlands).

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- The Convention was adopted at Ramsar, Iran, in 1971 and came into force in 1975.
- Cobourg Peninsula (Australia) became the world's first Ramsar Site in 1974.
- India joined the Ramsar Convention on February 1, 1982.
- The Montreux Record identifies Ramsar sites requiring priority conservation attention.
- The Montreux Record was adopted in Brisbane in 1996.
- Keoladeo National Park (Rajasthan) and Loktak Lake (Manipur) were added to the Montreux Record in 1990 and 1993, respectively.

5. Atal Pension Yojana (APY):

Context: Atal Pension Yojana (APY) Crosses Historic Milestone: Total Gross Enrolments Surpass 9 Crore.

About Atal Pension Yojana (APY):

- The Atal Pension Yojana (APY), a flagship social security scheme of the Government of India administered by the Pension Fund Regulatory and Development Authority (PFRDA).
- Launched on May 9, 2015, with the vision of establishing a universal social security system for all Indians, APY is a voluntary, contributory pension scheme primarily focused on the poor, the underprivileged, and workers in the unorganized sector.
- APY is designed to provide a 'Sampurna Suraksha Kavach' (Complete Security Shield) by ensuring the following triple benefits: - First, a guaranteed monthly pension ranging from ₹1,000 to ₹5,000 for subscribers after attaining 60 years of age; Second, same pension continues to the spouse after the subscriber's demise and third, the return of the corpus accumulated till the age of 60, to the nominee after the death of both.
- The scheme is open to all Indian citizens between the age of 18 and 40 years, except those who are or have been income tax payers.

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6. Chernobyl Disaster:

Context: Chernobyl Reactor explosion occurred at 1:23 a.m. on April 26, 1986 during a flawed safety test at the Chernobyl Nuclear Power Plant.

More about:

- **Immediate Response:** Firefighters initially treated it as a normal fire; many suffered acute radiation exposure and died within weeks.
- **Atomic Prestige:** Historian Serhii Plokhy argued Soviet leadership ignored reactor safety warnings to preserve "atomic prestige" and global status.
- **Soviet System Failure:** Pressure to maximize industrial output under Mikhail Gorbachev pushed plant officials toward unsafe operational practices.
- The Chernobyl tragedy was the result of a nuclear accident on 26 April 1986 at reactor No. 4 at the Chernobyl Nuclear Power Plant, near the town of Pripyat in the Ukrainian SSR (Ukrainian Soviet Socialist Republic).
- There were nearly 8.4 million people exposed to radiation in the three nations.
- It occurred when a group of technicians in what was then Soviet-controlled Ukraine carried out a botched safety test that led to a series of explosions.
- It is said to have released 400 times more radiation than the atomic bomb that was dropped on Hiroshima in Japan.

Quick Bites:

➢ The Ministry of Jal Shakti will organize the 9th edition of India International Water Week (IIWW-2026) on the theme "Climate Resilient Water Management" from 22nd to 26th September 2026 at Bharat Mandapam, New Delhi.

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- Shri Joshi stated that India has recorded its best-ever year in wind energy capacity addition, with a historic 6.1 GW added during 2025–26. India currently ranks fourth globally in wind energy, with over 56.1 GW installed capacity and an additional 28 GW under implementation.
- Total textile exports, including handicrafts, increased from ₹3,09,859.3 crore in FY 2024–25 to ₹3,16,334.9 crore in FY 2025–26, registering a growth of 2.1%. Among the major segments, Ready-Made Garments (RMG) of all textiles remained the largest contributor to textile exports, rising from ₹1,35,427.6 crore to ₹1,39,349.6 crore, an increase of 2.9%.
- Ember releases the seventh annual Global Electricity Review 2026. The report provides a comprehensive overview of global and country level electricity generation in 2025 highlighting that clean energy is increasingly meeting electricity demand growth.
- Reserve Bank of India issued the 'Digital Payments – E-mandate Framework, 2026,' under the Payment and Settlement Systems (PSS) Act, 2007. E-Mandate is a digital standing instruction that authorizes automatic debits from a bank account for recurring payments, facilitating seamless and automated transactions.
- India is the world's largest importer of palm oil, which is obtained from the fruit of the African oil palm tree, Elaeis guineensis. Palm oil is mainly of two types: crude palm oil, extracted from the fruit pulp and widely used for cooking, and palm kernel oil, extracted from the seed and used in cosmetics, pharmaceuticals, and other non-edible products. Though oil palm trees are native to Africa, Indonesia and Malaysia together contribute over 85% of global production. In India, Andhra Pradesh, Telangana, and Kerala are the major oil palm-growing states, accounting for nearly 98% of the country's production.
- The United Kingdom has passed a landmark tobacco and vapes bill that will permanently ban people born on or after 1 January 2009 from legally buying tobacco products.

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24-04-2026

PRELIMS ARTICLES:

1. National Panchayati Raj Day:

Context: National Panchayati Raj Day to be celebrated Pan India on 24th April 2026.

About National Panchayati Raj Day:

- The Ministry of Panchayati Raj will celebrate National Panchayati Raj Day (NPRD) on 24th April 2026 at Vigyan Bhawan in New Delhi.
- Observed every year on 24th April, the day commemorates the enactment of the landmark 73rd Constitutional Amendment Act, that gave constitutional status and legal recognition to Panchayati Raj Institutions (PRIs) across India.
- This year marks 33 years of that defining milestone in India's democratic journey.
- The theme for National Panchayati Raj Day 2026 is "Sashakt Panchayat, Sarvangeen Vikas" (Empowered Panchayats, Holistic Development).

2. National Action for Mechanised Sanitation Ecosystem (NAMASTE) Scheme:

Context: A total of 90,942 sewer and septic tank workers have been profiled, of which 89,248 have been validated under National Action for Mechanised Sanitation Ecosystem (NAMASTE) Scheme.

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About National Action for Mechanised Sanitation Ecosystem (NAMASTE) Scheme:

- NAMASTE Scheme was launched in 2022 as a Central Sector Scheme.
- Implemented jointly by the Ministry of Housing and Urban Affairs and Ministry of Social Justice and Empowerment.
- **Aim:** Eliminate unsafe sewer and septic tank cleaning practices in India.
- **Objective:** Achieve zero fatalities in sanitation work.
- Ensures sanitation work is carried out only by skilled workers using safe practices.
- Seeks to eliminate direct human contact with faecal matter during sanitation work.
- Promotes formation of Self-Help Groups and sanitation enterprises among workers.
- Strengthens monitoring and supervisory systems at National, State, and Urban Local Body levels.
- Focuses on awareness generation for hiring registered and trained sanitation workers.
- Includes identification of Sewer and Septic Tank Workers across all Urban Local Bodies.
- Provides occupational training and Personal Protective Equipment kits to sanitation workers.
- Supports Sanitation Response Units with safety devices and equipment.
- Extends benefits of Ayushman Bharat Pradhan Mantri Jan Arogya Yojana to sanitation workers and their families.
- Provides livelihood assistance, subsidies, and funding for mechanisation and sanitation equipment purchase.
- Information, Education and Communication campaigns are conducted jointly by Urban Local Bodies and National Safai Karamcharis Finance and Development Corporation.

3. Doping:

Context: Athletics Integrity Unit (AIU) downgraded the Athletics Federation of India (AFI) from 'Category B' to 'Category A'.

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Doping in India:

- Doping in Sports refers to the use of artificial or prohibited substances to gain unfair advantage in sporting competitions.
- Common examples include anabolic steroids, human growth hormones, stimulants, and diuretics.
- India recorded 48 Anti-Doping Rule Violations in 2022, ranking second globally.
- India reported 63 Anti-Doping Rule Violations in 2023, again ranking second globally.
- In 2024, India recorded 71 Anti-Doping Rule Violations, ranking first globally.
- India's doping positivity ratio stood at 3.6%, among the highest in the world.
- Major causes include performance pressure, financial incentives, and weak testing and monitoring systems.

More details:

- Athletics Integrity Unit is an independent international body overseeing integrity in athletics and operates separately from World Athletics.
- The body is headquartered in Monaco.
- It governs integrity matters related to track and field, race walking, road running, cross country, mountain, trail, and ultra-running events.
- The downgrading reflects concerns over an "extremely high" risk of doping among athletes in India.
- Placement of Athletics Federation of India in Category A imposes stricter anti-doping compliance requirements on athletes.
- Athletics Federation of India is the apex body managing athletics in India.
- It conducts National Championships and oversees training of Indian athletics campers.
- It is responsible for selecting Indian teams for international athletics competitions.

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4. Flex Fuel Vehicles (FFVs):

Context: India is considering transition to FFVs to reduce dependence on imported crude.

About Flex Fuel Vehicles (FFVs):

- Flexible Fuel Vehicle (FFV) is a modified vehicle that can run on petrol or petrol–ethanol blends.
- Presently, most FFVs can operate on gasoline mixed with ethanol up to 83% concentration (E83).
- New-generation FFVs are being designed to run even on E100, which is pure ethanol.
- FFVs use internal combustion engines similar to normal petrol vehicles.
- Their fuel systems are specially modified to handle ethanol safely and efficiently.
- FFVs also have different engine and powertrain calibration for using multiple fuel blends.
- Vehicles running on higher ethanol blends often show better acceleration performance.

5. English Channel:

Context: Britain and France are set to unveil a three-year multimillion-euro agreement aimed at reducing the number of migrants crossing the English Channel in small boats, with more patrols and enhanced surveillance in northern France.

About English Channel:



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- English Channel is a narrow arm of the Atlantic Ocean.
- It separates southern England from northern France.
- It connects with the North Sea through the Strait of Dover in the east.
- The French call it "La Manche" due to its sleeve-like shape.
- The term "English Channel" became common in the 18th century.
- **Area:** About 75,000 sq. km, making it the smallest shallow sea on Europe's continental shelf.
- **Average depth:** Around 63 metres.
- **Climate:** Temperate maritime climate with warm summers and cold winters.
- Major islands include the Isle of Wight and the Channel Islands (Jersey, Guernsey, Alderney, Sark).
- It is one of the world's busiest shipping routes.
- It links the Atlantic Ocean with the North Sea.
- Around 20% of global maritime trade passes through it.

6. Toxic rain:

Context: Russia reports toxic rain as oil depot hit in Ukraine strike.

About Toxic rain:

- Toxic rain is another term for acid rain caused by atmospheric pollution.
- It forms when sulphur dioxide (SO_2) and nitrogen oxides (NO_x) react with water vapour in the atmosphere.
- Main sources include thermal power plants, industries, vehicles, and fossil fuel burning.
- Acid rain can occur as rain, snow, fog, or dry acidic particles.

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- It lowers the pH of soil and water bodies, harming ecosystems.
- Lakes and rivers become acidic, affecting fish and aquatic life.
- It damages crops, forests, and reduces soil fertility.
- Acid rain corrodes buildings, monuments, metals, and limestone structures.
- Human exposure may cause respiratory problems and skin irritation.
- Important pollutants responsible: sulphuric acid and nitric acid.
- Prevention measures include reducing fossil fuel use, installing scrubbers in industries, using cleaner fuels, and promoting renewable energy.
- International cooperation is important because air pollutants can travel across borders.

Quick Bites:

- In a major development, National Cooperative Consumers' Federation of India Ltd. (NCCF) has initiated organised procurement of masoor (lentil) in Bihar for the first time, marking a key step towards self-reliance in pulse production.
- The Information Warfare is rapidly emerging as the fourth dimension of warfare in addition to air, land, and sea - from India's Operation Sindoor to ongoing US-Iran War. Information Warfare is a term used to describe the collection, distribution, modification, disruption, interference with corruption and degradation of information in order to gain some advantage over an adversary.
- Türkiye's Parliament has passed a new Bill aimed at restricting access to social media platforms for children under the age of 15.
- Finland is preparing to operationalise the world's first permanent underground repository for highly radioactive nuclear waste. Located beneath Olkiluoto Island, the Onkalo facility is designed to safely store spent nuclear fuel for up to 100,000 years.
- The 2026 SAFF Women's Championship, scheduled to be hosted by India in Goa, will now be played with six teams after Pakistan officially withdrew from the tournament.

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- The Sports Authority of India has sanctioned over ₹1.45 crore in financial and logistical assistance for a 34 member Indian contingent participating in the Thomas and Uber Cup Finals in Denmark. The Thomas and Uber Cup are premier international badminton team tournaments organized by the Badminton World Federation (BWF).
- Cold spark technology is a modern, noiseless, and safer alternative to traditional fireworks. It works by heating fine metal alloy powders such as titanium and zirconium and ejecting them through a controlled device to create bright spark effects without explosive combustion. Unlike conventional fireworks, cold spark systems produce minimal smoke, low noise, and operate at much lower temperatures, reducing risks of burns and fire accidents.

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25-04-2026

PRELIMS ARTICLES:

1. Project DANTAK:

Context: Project DANTAK of the Border Roads Organisation (BRO) celebrated its 66th Raising Day on April 24, 2026, at Thimphu, Bhutan, marking 65 years of dedicated service in the Kingdom since its establishment in April 1961.

About Project DANTAK:

- Border Roads Organisation launched Project Dantak on 24 April 1961 as its overseas infrastructure project in Bhutan.
- The project was established through an agreement between Jigme Dorji Wangchuck and Jawaharlal Nehru.
- Project Dantak focuses on road construction and infrastructure connectivity in remote areas of Bhutan.
- It constructed Bhutan's pioneering motorable roads.
- In 1968, it completed the Samdrup Jongkhar–Trashigang road and connected Thimphu with Phuentsholing.
- Major works include Paro Airport, Yonphula Airfield, Thimphu–Trashigang Highway, telecom and hydropower infrastructure.
- The project also contributed to institutions such as Sherubtse College and India House Estate.
- Project Dantak employs both Bhutanese workers and Indian workers from border districts.

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2. SARAS Aajeevika Melas:

Context: The Ministry of Rural Development has finalized the Calendar of SARAS Aajeevika Melas at the National Level for the Financial Year 2026–27, aimed at promoting rural livelihoods, women entrepreneurship and traditional crafts across the country.

About SARAS Aajeevika Melas:

- SARAS Aajeevika Melas are flagship events under Deendayal Antyodaya Yojana – National Rural Livelihoods Mission (DAY-NRLM).
- They provide a national marketing platform for rural Self-Help Groups (SHGs) and artisans.
- The Melas promote women empowerment by connecting rural women entrepreneurs directly with urban consumers.
- Participants from States and UTs showcase handlooms, handicrafts, organic products, and regional cuisines.
- The initiative strengthens rural livelihoods through direct market access and better income opportunities.
- SARAS Melas support 'Vocal for Local' and Atmanirbhar Bharat initiatives.
- They also promote capacity building in packaging, branding, and marketing.
- The Melas showcase India's cultural diversity through traditional arts, food, and performances.
- They contribute to inclusive growth and preservation of indigenous crafts.

3. Net FDI:

Context: Net foreign direct investment (FDI) into India turned positive in February 2026 after six months of being in the negative, latest Reserve Bank of India (RBI) data show. In February, the inflows exceeded outflows of direct investment by $4.6 billion, the highest in nearly four years.

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What is net FDI?

- FDI refers to the investment through equity instruments by a person resident outside India in an unlisted Indian company; or in
- 10% or more of the post issue paid-up equity capital on a fully diluted basis of a listed Indian company.
- **Gross FDI:** Total investment made by foreign entities directly into the productive assets of India.
- **Net FDI:** Difference between inward FDI flows and outward FDI flows (Repatriation by foreign firms + Outward FDI by Indian firms).
- Singapore, the U.S., Mauritius, Japan, and the Netherlands were the major source countries of inward FDI to India, accounting for around three-fourth of the total inflows.

4. Payments Bank:

Context: The Reserve Bank of India (RBI) on Friday cancelled the banking licence issued to Paytm Payments Bank Limited under Section 22 (4) of the Banking Regulation Act, 1949 ('BR Act') effective from close of business on April 24, 2026.

About Payment Banks:

- Payments Banks are small-scale banks that operate without taking credit risk.
- They were established based on the recommendations of the Nachiket Mor Committee.
- Their main objective is to promote financial inclusion among the unbanked and underbanked population.
- They mainly serve migrant workers, low-income households, and small businesses.
- Payments Banks are registered as public limited companies under the Companies Act, 2013.
- They are licensed under Section 22 of the Banking Regulation Act, 1949.
- They are regulated by laws such as the Banking Regulation Act, RBI Act, and FEMA.
- Payments Banks are differentiated banks, not full-service universal banks.

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- They function on a smaller operational scale compared to commercial banks.
- The minimum paid-up capital requirement is ₹100 crore.
- Promoters must contribute at least 40% of the equity capital for the first five years.
- Payments Banks can accept demand deposits through savings and current accounts.
- A customer can deposit a maximum of ₹2 lakh in a Payments Bank account.
- About 75% of deposits must be invested in government securities under SLR requirements.
- The remaining 25% of deposits must be kept as time deposits with scheduled commercial banks.
- Payments Banks can provide remittance and digital payment services.
- They can issue ATM/debit cards and offer internet banking facilities.
- They can act as Banking Correspondents (BCs) for other banks.
- Payments Banks cannot provide loans or issue credit cards.
- They are not allowed to accept time deposits or NRI deposits.
- They cannot establish subsidiaries for non-banking financial activities.

Quick Bites:

- The Indian Air Force has launched the third edition of the Mehar Baba Competition-3. The theme of MBC-3 is "Collaborative Drone-Based Surveillance Radars." The competition aims to encourage innovation in advanced drone and radar technologies.
- The Union Minister of State (Independent Charge) for Skill Development launched the UNESCO Chair on Gender Inclusion and Skill Development. The initiative was part of the International Conference on "Women Leading the Future of Work" organised in collaboration with UNESCO at Symbiosis Skills and Professional University (SSPU), Pune.
- The exposition of the holy sacred Tathagata Relics of Gautama Buddha will take place in Ladakh. Tathagata Relics symbolize the physical remains and memorials associated with Buddha, representing reverence, peace, and protection from conflict. "Tathagata" was a term used by the historical Buddha Śākyamuni for himself in the Tripitaka of the Pali Canon, meaning "the one

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thus-come" or "the one thus-gone." The concept holds special importance in Mahayana Buddhism and Vajrayana traditions, particularly in understanding textual and realization lineages.

- Economic and Social Survey of Asia and the Pacific 2026 report released by UN ESCAP. India's economy is projected to grow at 6.4% (following 7.4% in 2025) this year and 6.6% in 2027
- Scientists discover new frog species in Arunachal Pradesh, Limnonectes Motijheel.
- Uttar Pradesh has received India's first integrated recycling facility for lithium-ion batteries and rare earth magnets at the UPSIDC Industrial Area in Sikandrabad. Developed by Rocklink India, the plant is a major step toward strengthening domestic recovery of critical minerals and supporting India's clean energy transition.
- Guntur Municipal Corporation (GMC) has won the 4th Gender Equality Mobilisation (GEM) Award presented by the United Nations Industrial Development Organization (UNIDO) in Vienna. The recognition was given during the International Day of Women in Industry 2026 celebrations for GMC's work in combining women's empowerment with sustainable waste management.

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26-04-2026

1. Census 2027:

Context: Census 2027 will mark India's first digital enumeration, leveraging mobile-based data collection to enable faster and more efficient nationwide data availability.

Details about census 2027:

- Census is the process of collecting, compiling, analyzing and disseminating demographic, social, cultural and economic data relating to all persons in the country or a designated area.
- The earliest references to conducting census in the country can be found in Kautilya's Arthashastra (321-296 BC) and later in the writings of Abul Fazl in 'Ain-e-Akbari' during the days of Emperor Akbar.
- The first modern population census in India was conducted between 1865 and 1872, though it didn't happen simultaneously across all regions. India conducted its first synchronous census in 1881.
- Census 2027 will be the 16th in the series of Indian census and 8th since independence.
- Post-independence, the Census is governed by the Census Act, 1948, and the Census Rules, 1990, ensuring a strong legal and institutional framework.
- The Census is a Union subject under the Seventh Schedule (listed at serial number 69) of the Constitution.
- The intent of the Government to conduct the Population Census 2027 was notified in Gazette of India on 16th June, 2025.
- The Union Cabinet has approved a financial outlay of ₹11,718.24 crore for its implementation.

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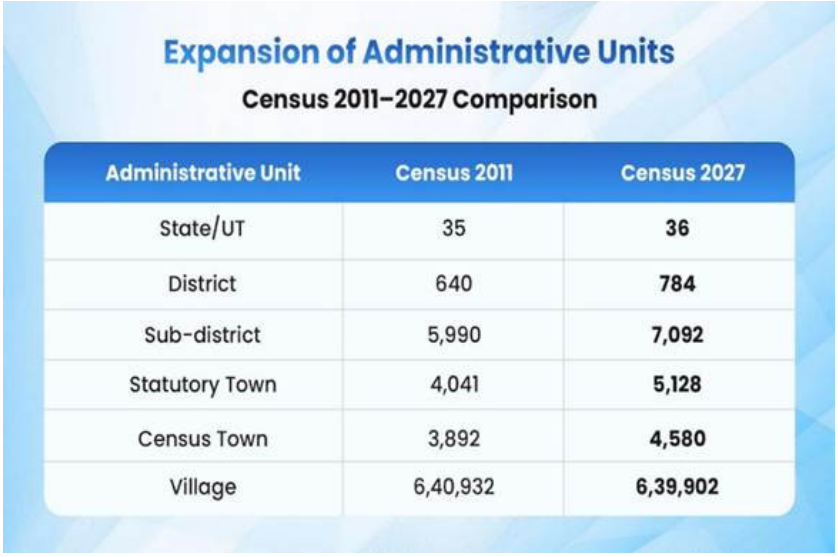
Salient features:



Expansion of Administrative Units

Census 2011–2027 Comparison

Administrative Unit	Census 2011	Census 2027
State/UT	35	**36**
District	640	**784**
Sub-district	5,990	**7,092**
Statutory Town	4,041	**5,128**
Census Town	3,892	**4,580**
Village	6,40,932	**6,39,902**

- Census 2027 will introduce major administrative and technological reforms to improve accuracy, efficiency, transparency, and speed of data collection.
- The Census aims to generate comprehensive and timely demographic data for evidence-based policymaking.
- Census 2027 will include caste enumeration beyond only Scheduled Castes (SCs) and Scheduled Tribes (STs).
- The decision for caste enumeration was approved by the Cabinet Committee on Political Affairs on 30 April 2025.
- Census 2027 will be India's first fully digital Census exercise.
- The Census Management & Monitoring System (CMMS) portal has been developed for near real-time monitoring of Census operations.
- CMMS enables officials at sub-district, district, state, and national levels to track field progress and operational readiness.

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- The Houselisting and Housing Census (HLO) Mobile App allows secure offline data collection and direct server upload by enumerators.
- The HLO Mobile App supports both Android and iOS platforms in 16 regional languages.
- The Houselisting Block Creator (HLBC) web mapping application uses satellite imagery for digital creation of houselisting blocks.
- HLBC helps ensure complete geographic coverage without omission or duplication.
- Census 2027 will provide an optional 15-day Self-Enumeration facility before field visits.
- The Self-Enumeration Portal allows eligible households to submit details online securely.
- After successful self-enumeration, households will receive a unique Self-Enumeration ID (SE ID).
- Enumerators will verify submitted details using the SE ID during field visits.

2. Mythos:

Context: The Finance Minister formed a panel under SBI Chairman to assess risks from Anthropic's AI model Mythos.

About Mythos:

- Autonomous Security Model is an advanced unreleased frontier AI model developed by Anthropic with high-end cybersecurity capabilities.
- Anthropic has released the Mythos Preview under Project Glasswing to selected trusted organisations for controlled evaluation.
- The model is capable of identifying and exploiting zero-day vulnerabilities.
- It can target vulnerabilities across major operating systems and web browsers.
- A zero-day vulnerability refers to a software or hardware flaw unknown to the developer.
- Developers get “zero days” to respond once such vulnerabilities are discovered or exploited.
- The model raises concerns over the automation of sophisticated cyberattacks.

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- Potential risks include threats to national security, banking systems, power infrastructure, and critical sectors.

3. Avocado Imports in India:

Context: Driven by a shift toward heart-healthy diets, India's avocado imports surged over three-fold to $42.27 million in FY26 (through February). This massive demand for nutrient-dense fats is primarily met by exporters in Tanzania, Kenya, and Australia, cementing the fruit's status as a booming staple in the Indian health-food market.

About Avocado:

- Avocado is a nutrient-rich fruit grown on the Persea americana tree, believed to have originated in Mexico and Central America.
- Avocado was introduced into India between 1906 and 1914 by an American missionary.
- Avocado is rich in fibre and healthy monounsaturated fats, supporting heart health and diabetes-friendly diets.
- Avocado is one of the highest-fat plant-based foods and is widely used in low-carbohydrate diets.

4. Cerium-Magnesium Changesite:

Context: New mineral Cerium-Magnesium Changesite has been discovered in lunar meteorite named Pakepake 005 found in Taklamakan Desert, China. The finding raises total known lunar minerals to 11.

More details:

- Cerium-Magnesium Changesite is a rare earth-bearing phosphate mineral found with unique physical and chemical properties.
- It is colourless, transparent, and has a glass-like lustre.

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- The mineral is fragile and exhibits shell-like fracture patterns.
- It shows fluorescence and glows under ultraviolet (UV) light.
- It helps scientists study volcanic activity and rare earth element distribution on the Moon.
- Its fluorescent properties may aid the development of more efficient LED technologies.

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27-04-2026

PRELIMS ARTICLES:

1. Small Hydro Power Development Scheme:

Context: Union Cabinet approved Small Hydro Power Development Scheme with ₹2,584.60 crore outlay.

More details about the scheme:

- Union Cabinet has approved the Small Hydro Power (SHP) Development Scheme that will support small hydro projects (between 1-25 MW capacity) to come up in different states.
- The scheme will especially benefit hilly and North Eastern states with high potential for such projects.
- The approval is for the period FY 2026–27 to FY 2030–31, with a total outlay of ₹2,584.60 crore.
- The scheme aims to unlock approximately 1,500 MW of new SHP capacity, with a strong focus on hilly regions and the North Eastern States rich in untapped small hydro potential and often constrained by energy access challenges.
- Financial assistance to North Eastern States & International Border Districts of ₹3.6 crore per MW or 30% of project cost (whichever is lower), subject to a ceiling of ₹30 crore per project.
- Financial assistance to other locations of ₹2.4 crore per MW or 20% of project cost (whichever is lower), with a cap of ₹20 crore per project.
- **Northern Region:** Backbone of India's SHP sector due to mountainous terrain and perennial rivers; major potential in Himachal Pradesh (3,460 MW), Uttarakhand (1,664 MW), and Jammu & Kashmir (1,312 MW), with large untapped capacity despite moderate utilisation.

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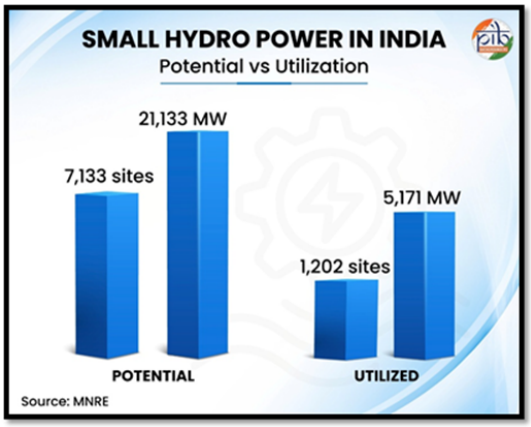
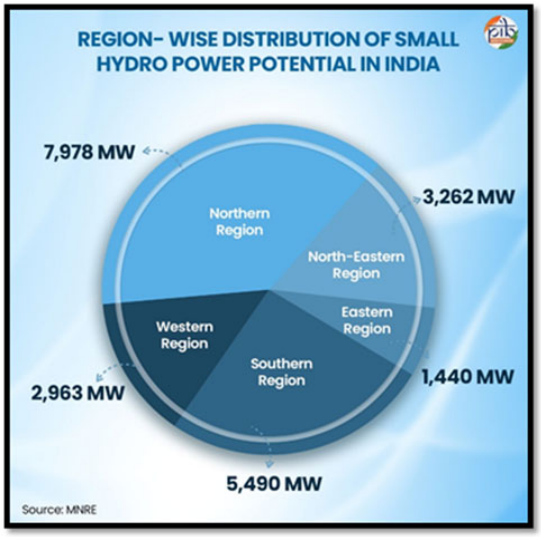
- **North-Eastern Region:** High-growth frontier for renewable energy in hilly and tribal areas, led by Arunachal Pradesh (2,064.92 MW); SHP can enhance decentralised power access, local employment, and reduce dependence on conventional fuels.
- **Southern Region:** Strong infrastructure and river basins make it a major SHP contributor; Karnataka dominates with 3,726.49 MW, while better utilisation reflects efficient execution and grid connectivity.
- **Eastern Region:** Moderate but strategically important SHP potential for rural and tribal development, led by Bihar and West Bengal; suitable for decentralised energy access and livelihood support.
- **Western Region:** Offers significant scope through irrigation and canal-based SHP projects; Maharashtra leads regional potential, with further expansion opportunities in Gujarat and Rajasthan.





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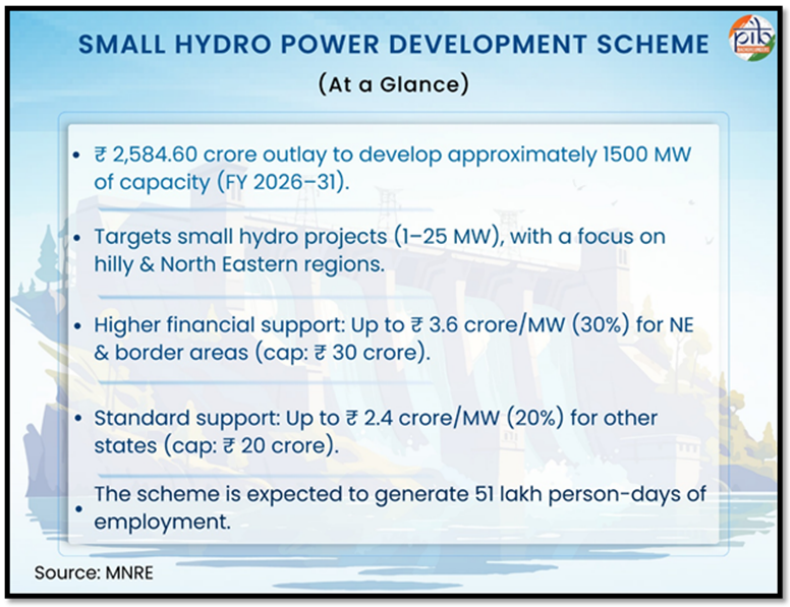

2. Vibrant Village Programme:

Context: The Central Government has included six border villages in Jammu and Kashmir's Kathua district under the Vibrant Village Programme-II to improve infrastructure and ensure full delivery of welfare.

About Vibrant Village Programme:

- Vibrant Villages Programme-I (VVP-I) approved on 15 Feb 2023 for development of northern border villages.
- Covers 662 villages across 46 blocks in 19 districts of Arunachal Pradesh, Himachal Pradesh, Sikkim, Uttarakhand and Ladakh.
- Focus on livelihood generation including tourism, agriculture, skill development, and entrepreneurship.
- Provides infrastructure support like roads, health, education, energy, and telecom connectivity.
- Aims to reduce migration by creating incentives for people to stay in border villages.

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- 2558 projects sanctioned under VVP-I with an outlay of ₹3431 crore.
- Vibrant Villages Programme-II (VVP-II) approved on 2 April 2025 as a Central Sector Scheme.
- Total outlay of ₹6839 crore till FY 2028–29.
- Expands coverage to strategic villages along other international borders beyond the northern region.
- Implemented across multiple states including Arunachal Pradesh, Assam, Bihar, Gujarat, J&K, Ladakh, and others.

MAINS SPECIFIC ARTICLES:

1. Summer as a source of income shock for gig workers:

Heatwaves Becoming a Long-Term Economic Risk

- Heatwaves in India are becoming more frequent and prolonged.
- Focus is shifting from whether heatwaves will occur to whether India is prepared economically.
- Gig and delivery workers remain largely excluded from adaptation planning.

Growing Gig Workforce at High Risk

- India had about 7.7 million gig workers in 2020-21, projected to exceed 23 million by 2029-30.
- Food delivery riders, app-based drivers, and logistics workers are highly exposed to extreme heat.
- Their livelihoods depend on continuous outdoor mobility.

Heat Directly Reduces Earnings

- Gig workers earn based on trips, deliveries, or hours logged.
- Extreme heat slows movement, increases fatigue, and raises health risks.

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- Taking breaks means immediate income loss because there is no paid leave or work-from-home option.
- Workers are forced to choose between health and income.

Current Preparedness Measures Are Inadequate

- India has improved Heat Action Plans and early warning systems.
- Existing policies mainly treat heat as a public health issue rather than an economic risk.
- Advisories like staying indoors are impractical for gig workers.
- Cooling centres and water kiosks are rarely designed for mobile platform workers.

Institutional Gaps in Governance

- Responsibility is fragmented among health, labour, disaster management, and platform authorities.
- Labour protections for gig workers remain weak due to ambiguous employment status.
- Digital platforms prioritise delivery efficiency with limited climate-risk integration.
- Women gig workers face additional health, safety, and unpaid care burdens.

Key Policy Recommendations

- Treat heat as a labour and productivity issue, not only a health emergency.
- Provide shaded rest points, drinking water access, and rest norms during peak heat hours.
- Introduce mechanisms to reduce income volatility caused by extreme heat.
- Include digital platforms in heat preparedness through heat-responsive work design and flexible performance targets.
- Strengthen coordination among labour departments, urban bodies, disaster authorities, and platform regulators.

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Need for Inclusive Climate Resilience

- Urban economies increasingly depend on gig and delivery workers.
- Climate resilience should include safe working conditions and income security during heatwaves.
- Ignoring gig workers in heat adaptation policies leaves a major workforce vulnerable.

Quick Bites:

- India and New Zealand will sign a Free Trade Agreement (FTA) on April 27, 2026, marking a major step in strengthening bilateral economic ties.
- Sri Lanka has called for Expressions of Interest to run its loss-making international airport in Mattala, in the southern Hambantota district, with a Cabinet-appointed committee tasked with negotiating the deal with prospective domestic and foreign investors.

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28-04-2026

1. New Khambatki Ghat Tunnel:

Context: The New Khambatki Ghat Twin Tube 6-Lane Tunnel Project, undertaken by the National Highways Authority of India (NHAI) on NH-4 (New NH-48), is transforming one of Maharashtra's most challenging highway sections into a symbol of modern, people-first infrastructure. With physical progress of the project reaching 86 percent, the tunnel is on track for inauguration in the first half of 2026.

About New Khambatki Ghat Tunnel:

- For decades, the Khambatki Ghat stretch on the Pune-Satara highway was known as a test of patience and courage. Narrow lanes, sharp 'S' curves, long traffic jams and frequent accidents made the journey stressful, especially during weekends and holiday traffic. What should have been a short drive often stretched into an exhausting wait inside congested tunnels.
- The new Khambatki Ghat Tunnel upgrades a congested and accident-prone stretch on the Mumbai–Pune–Bengaluru corridor, improving connectivity to major cities and tourist destinations like Mahabaleshwar and Panchgani.
- The six-lane twin-tube tunnel reduces travel time, lowers accident risk, cuts fuel consumption and vehicle maintenance costs, and improves efficiency for commuters, trade, and tourism.
- The project enhances safety and travel comfort in the ghat section by replacing sharp curves and steep terrain with modern tunnel infrastructure focused on faster and safer mobility.

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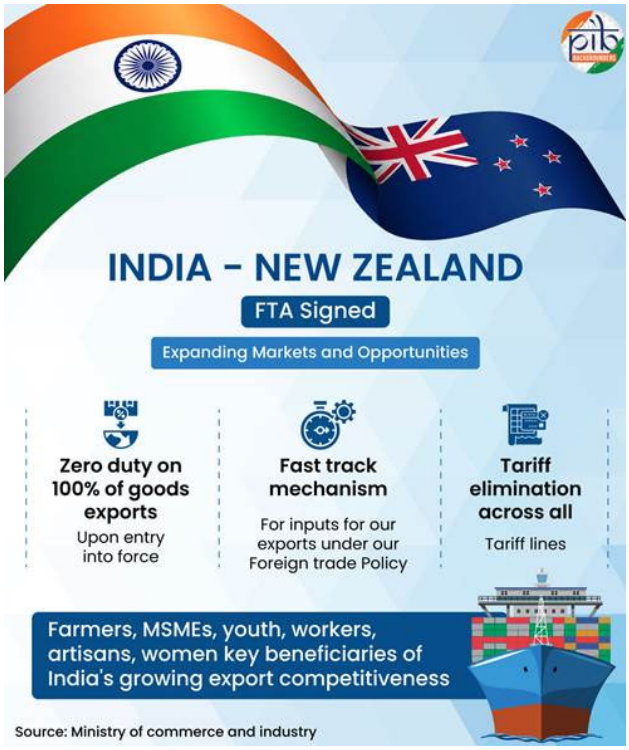
2. India – New Zealand Free Trade Agreement Signed:

Context: India- New Zealand FTA eliminates duty on 100% of Indian Exports. India and New Zealand announced negotiations for a Free Trade Agreement (FTA) on 16 March 2025and concluded in a record 9 months, making this the fastest concluded free trade agreement.

More details about the FTA:





- The FTA eliminates duty on 100% of Indian Exports
- A USD 20 billion investment commitment over 15 years strengthens long-term economic and strategic cooperation.
- Through Agricultural Productivity Partnership, the FTA collaborates with farmers to boost productivity and integrate them in the global value chains.

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- The FTA boosts MSMEs and Jobs through Zero-duty access for labour-intensive sectors including textiles, apparel, leather, footwear, gems & jewellery, engineering goods and processed foods.
- India has offered market access in 70.03% of the tariff lines while keeping 29.97 % tariff lines in exclusion, which covers 95% of New Zealand's Bilateral Trade.
- Certain products are kept in exclusion such as dairy (milk, cream, whey, yoghurt, cheese etc.), animal products (other than sheep meat), vegetable products (onions, chana, peas, corn, almonds etc.), sugar, artificial honey, Animal, vegetable or microbial fats and oils, Arms and Ammunition, Gems and Jewellery, Copper and Articles (Cathodes, Cartridges, Rods, Bars, Coils etc.), Aluminium and articles thereof (Ingots, billets, wire bars) among others.
- 30.00% of tariff lines will have immediate duty elimination, covering wood, wool, sheep meat, leather-raw hides etc.
- 35.60% of tariffs are subject to phased elimination over 3, 5, 7, and 10 years, including petroleum oil, malt extract, vegetable oils, and selected electrical and mechanical machinery, peptones etc.
- 4.37% of products face tariff reductions, such as wine, pharmaceutical drugs, polymers, aluminium, iron and steel articles etc
- 0.06% fall under tariff rate quotas, including Mānuka honey, apples, kiwi fruit, and albumins including milk albumin.

3. Anti Defection Law:

Context: AAP submits disqualification plea under Anti defection law to Rajya Sabha chair against MPs who joined BJP.

About Anti Defection Law:

- The Tenth Schedule is popularly known as the Anti-Defection Law.
- It was added to the Constitution through the Fifty-Second Amendment Act, 1985.

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- The Ninety-First Constitutional Amendment Act, 2003 strengthened the law by replacing the 1/3 split provision with a mandatory 2/3 majority for merger exemption.
- The law aims to curb political defections and protect democratic stability.
- A legislator can be disqualified for voluntarily giving up party membership.
- Defying the party whip during voting is a ground for disqualification.
- An independently elected member is disqualified if they join a political party after election.
- A nominated member is disqualified if they join a political party after six months of becoming a legislator.
- The Speaker or Chairman is empowered to decide disqualification cases under the Tenth Schedule.
- The law exempts disqualification in cases of merger supported by at least two-thirds of legislators of the original political party.
- The Tenth Schedule requires a genuine merger of the original political party, not merely legislators switching sides.

4. Mali:

Context: India advises its nationals in Mali to exercise caution due to security concerns. Separatist groups have launched joint attacks in Bamako, Kati, Gao, Sévaré, and Mopti regions in Mali.

About Mali:

- Mali is a landlocked country located in the Saharan and Sahelian regions of West Africa.
- The Sahel is a transitional zone between the arid Sahara Desert in the north and humid savannas in the south.
- Mali shares borders with Algeria, Niger, Burkina Faso, Côte d'Ivoire, Guinea, Senegal, and Mauritania.
- Major rivers of Mali are the Niger River and Senegal River.

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- Hombori Tondo is the highest point in Mali.
- The climate of Mali is influenced by the Alize and Harmattan winds.
- Major minerals found in Mali include gold, iron, bauxite, manganese, and lithium.

5. CAR-T cell therapy:

Context: Researchers in Cancer Immunotherapy found that many tumour cells previously considered "invisible" actually contain very low levels of the CD70 protein, which traditional CAR-T Cell Therapy fails to detect in solid cancers. Scientists from Columbia University and Sloan Kettering Cancer Center developed a more sensitive HIT receptor that can identify these weak cancer signals, and in mouse studies the new HIT-based T-cells successfully eliminated kidney, ovarian, and pancreatic tumour cells missed by conventional CAR-T therapy, offering new hope for future solid cancer treatment, though more clinical trials and safety checks are still needed.

About CAR-T cell therapy:

- Unlike chemotherapy or immunotherapy, which requires mass-produced injectable or oral medication, CAR T-cell therapies use a patient's own cells.
- They are modified in the laboratory to activate T-cells, a component of immune cells, to attack tumours.
- These modified cells are then infused back into the patient's bloodstream after conditioning them to multiply more effectively.
- As of today, CAR T-cell therapy has been approved for leukaemias (cancers arising from the cells that produce white blood cells) and lymphomas (arising from the lymphatic system).
- Modification in the cellular structure allows CAR T-cells to effectively bind to the tumour and destroy it.
- The final step in the tumour's destruction involves its clearance by the patient's immune system.

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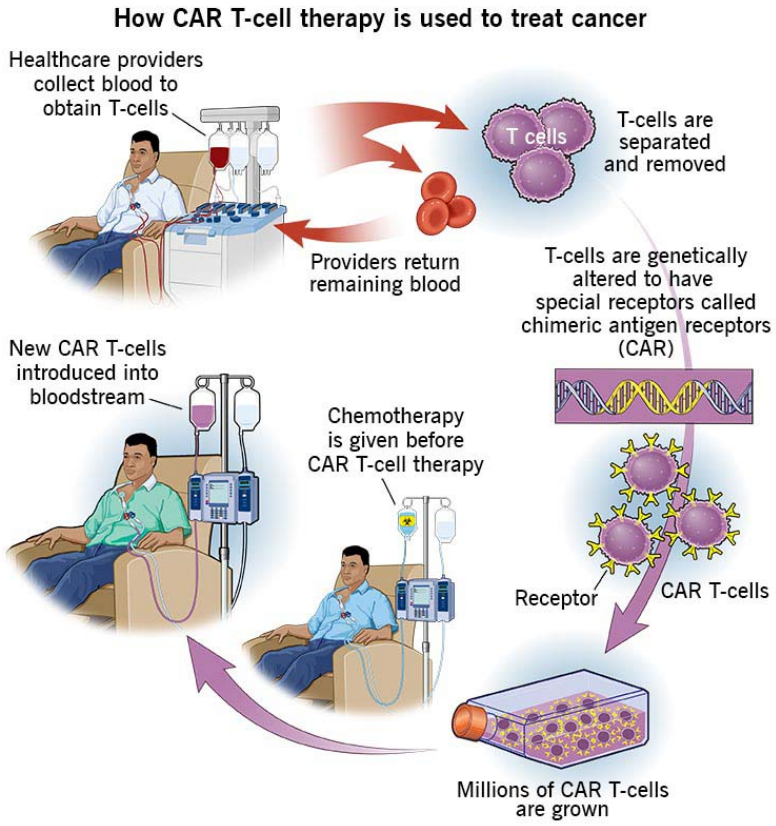

6. Atacama desert:

Context: The Atacama Desert is one of the world's best locations for astronomy due to its dry climate, high altitude, and minimal light pollution, providing over 300 clear nights annually. It hosts major observatories, including the European Southern Observatory facilities and the upcoming Extremely Large Telescope, which is expected to become the world's most powerful optical telescope by 2030. However, increasing urbanisation, industrial projects, mining, and renewable energy developments are threatening the desert's dark skies, raising concerns among scientists about the need for stronger environmental and sky-protection regulations.

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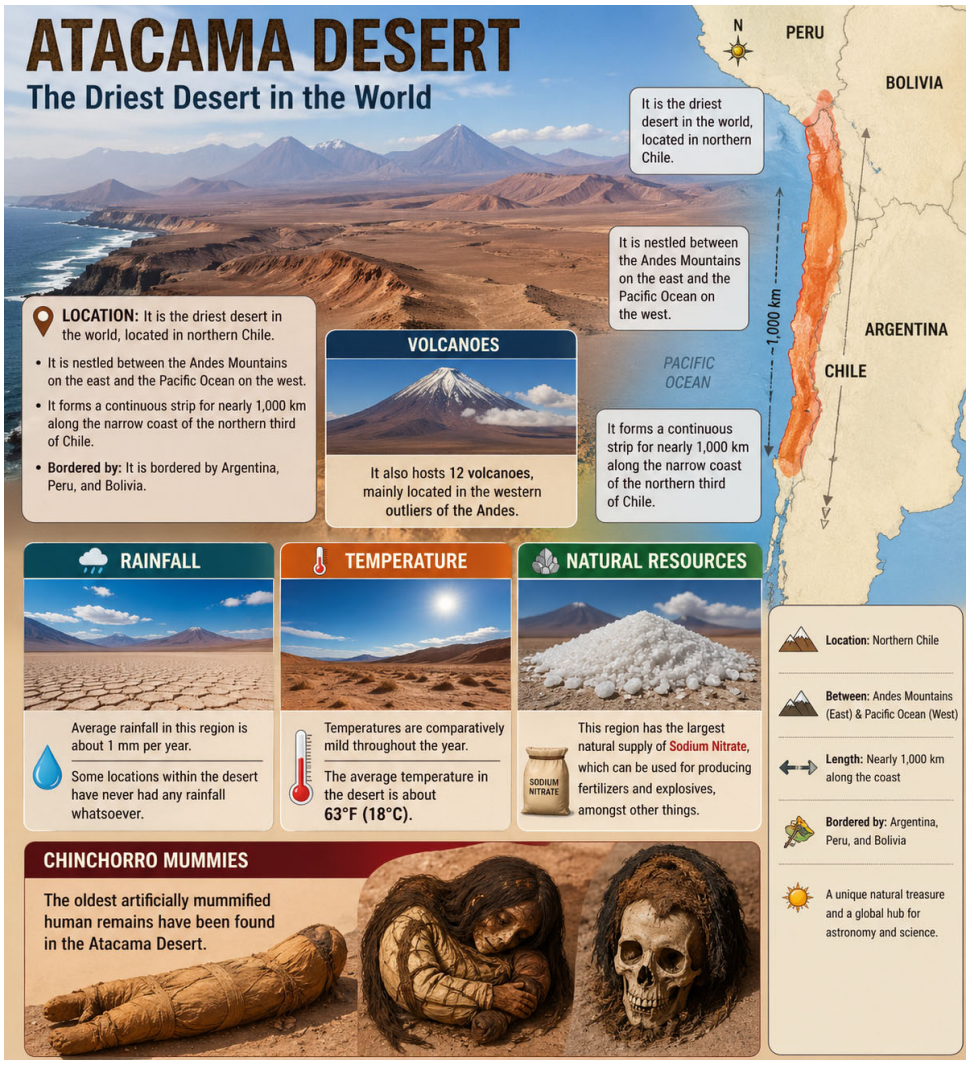
About Atacama desert:



7. Non-performing asset (NPA):

Context: The Reserve Bank of India (RBI) has rejigged the rules governing classification of bad loans, definition, and recovery, to align with globally-accepted standards, effective April 1, 2027, according to the Master Directions released on Monday. According to one of the revised directions, if one loan of a borrower with many loans is classified as a non-performing asset (NPA), all the other loans would also be

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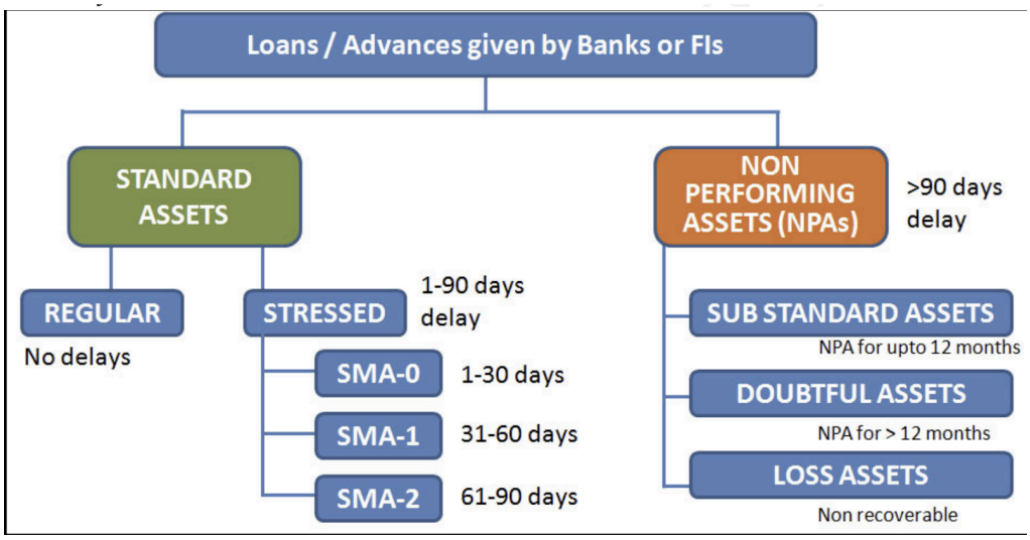
- considered so. The basis for classifying a loan as NPA, however, remains at 90 days overdue. An NPA borrower will be considered a "standard asset" only "on repayment of entire arrears of interest and principal pertaining to all the credit facilities," as per the revised norms.

About Non Performing Assets:

- Non-Performing Assets (NPA) are loans and arrears lent by banks or financial institutions whose principal and interests are delayed beyond 90 days.
- In the case of agricultural loans, NPAs are declared if the interest and/or instalment or principal remain unpaid for two harvest seasons. However, this period should not be longer than two years.



8. NITI Aayog:

Context: The revamp of the NITI Aayog last week with a new set of full-time members shows a tilt towards technology and health sectors.

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More details:

- The recent appointments to NITI Aayog show a shift from the usual dominance of economists toward experts from science, health, and biotechnology backgrounds.
- Abhay Karandikar is currently the Secretary of the Department of Science and Technology and former Director of Indian Institute of Technology Kanpur.
- Mr. Karandikar was also a Professor of Electrical Engineering at Indian Institute of Technology Bombay.
- M. Srinivas recently served as Director of All India Institute of Medical Sciences Delhi.
- Gobardhan Das is currently Director of Indian Institute of Science Education and Research Bhopal.
- Mr. Das earlier served as Professor at the School of Molecular Medicine, Jawaharlal Nehru University.
- Gobardhan Das had contested the 2021 West Bengal Assembly elections as a BJP candidate before leaving the party.
- K. V. Raju, another full-time member, is part of the Prime Minister's Economic Advisory Council and specialises in agriculture, rural development, and water policy.
- Rajeev Gauba has also been appointed as a full-time member of NITI Aayog.
- Ashok Lahiri has been appointed Vice-Chairman of NITI Aayog.
- Ashok Lahiri served as India's Chief Economic Adviser from 2002 to 2007 and worked with institutions like the World Bank and International Monetary Fund.
- Ashok Lahiri is also the MLA from Balurghat after winning the 2021 West Bengal Assembly election as a BJP candidate.

Quick Bites:

➢ The Indian Navy's Sail Training Ship, INS Sudarshini, concluded a landmark three-day port call at Las Palmas, Canary Islands, on 26 Apr 2026, marking a pivotal milestone in its Lokayan 26 transoceanic expedition.

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- Raksha Mantri Shri Rajnath Singh will lead a high-level Indian delegation to the Shanghai Cooperation Organisation (SCO) Defence Ministers' Meeting which will be held in Bishkek, Kyrgyzstan on April 28, 2026.
- Over 240 members of the B'nei Menashe community from Manipur and Mizoram were relocated to Tel Aviv by the Israel government. The B'nei Menashe are a Jewish-identifying community belonging mainly to the Mizo-Kuki tribes, who claim descent from the ancient "Ten Lost Tribes of Israel," particularly the Tribe of Menashe.
- Researchers have discovered two new species of jumping spiders in India, highlighting the country's rich but still underexplored biodiversity. The newly identified species, named "Mogrus shushka" and "Mogrus pune", were found in Rajasthan, Gujarat and Maharashtra.

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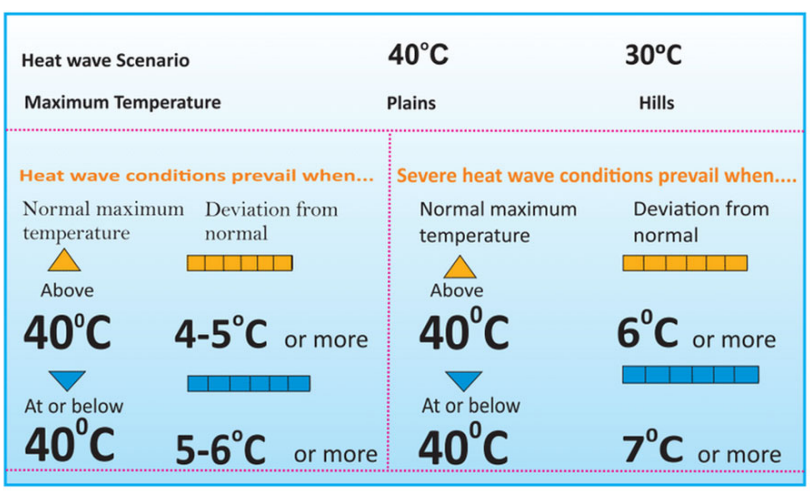
29-04-2026

1. Heat wave:

Context: The Ministry of Labour & Employment has issued advisories to all States/UTs and its attached organisations, urging immediate preventive and mitigation measures to safeguard workers and labourers from the adverse effects of rising temperatures and heat wave conditions across the country.

About Heat waves:



- A Heat Wave is defined as a period of abnormally high temperatures over a region.
- Coastal Areas: When maximum temperature departure is 4.50°C or more from normal, a heat wave may be described provided the actual maximum temperature is 37°C or more.

2. Frontier tech hub:

Context: NITI Frontier Tech Hub launched DPI@2047 for Viksit Bharat on 27th April 2026, a strategic roadmap that charts the next phase of India's Digital Public Infrastructure journey as a

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driver of inclusive, non-linear, and productivity-led growth. It is a design approach to enable non-linear socio-economic development at scale by leveraging technology and market innovation.

About Frontier tech hub:

- The NITI Frontier Tech Hub was established as an action tank to support the vision of Viksit Bharat.
- It aims to anticipate major emerging technology shifts and enhance India's preparedness.
- The Hub focuses on leveraging frontier technologies for economic growth, inclusive development, and strategic resilience.
- It collaborates with over 100 experts from government, industry, and academia.
- The Hub is preparing a 10-year roadmap covering more than 20 sectors.
- Its objective is to help India emerge as a frontier-technology nation.

3. Global Report on Food Crises, 2025:

Context: Global Network Against Food Crises released 10th edition of Global Report on Food Crises, 2025. As per the report, more than 266 million people in 47 countries faced high levels of acute food insecurity in 2025. Conflict has overtaken extreme weather as main driver.

More details:

- Global Network Against Food Crises launched in 2016 by the Food and Agriculture Organization (FAO) with the European Union (EU) and WFP (World Food Programme) at World Humanitarian Summit.
- It is a multistakeholder initiative of humanitarian and development actors, united by commitment to tackle root causes of food crises and to promote sustainable solutions.

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4. Sacrifice Ratio:

Context: Recent measures of inflation control in India, US, and UK highlight economic costs of managing inflation, measured using Sacrifice Ratio.

About Sacrifice Ratio:

- The sacrifice ratio measures the economic cost of reducing inflation.
- It shows the percentage loss in real GDP for every 1% decline in inflation.
- The ratio reflects the trade-off between price stability and economic growth.
- A higher sacrifice ratio indicates greater short-term economic hardship during anti-inflation measures.
- High sacrifice ratios are often associated with rising unemployment and lower industrial output.

5. Organization of the Petroleum Exporting Countries (OPEC):

Context: The UAE announced on Tuesday that it will leave the Organization of the Petroleum Exporting Countries (OPEC) effective May 1, stripping the oil cartel of one of its largest producers and further weakening its leverage over global oil supplies and prices.

About Organization of the Petroleum Exporting Countries (OPEC):

- It is a permanent, intergovernmental organization, created at the Baghdad Conference in 1960 by Iran, Iraq, Kuwait, Saudi Arabia, and Venezuela.
- Its other members are Algeria, Equatorial Guinea, Gabon, Libya, Nigeria, the Republic of the Congo, and the United Arab Emirates.
- It aims to manage the supply of oil in an effort to set the price of oil in the world market.
- It also aims to avoid fluctuations that might affect the economies of both producing and purchasing countries.

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- OPEC membership is open to any country that is a substantial exporter of oil and which shares the ideals of the organization.
- It is headquartered in Vienna, Austria.

What is OPEC+?

- It is a group of oil-exporting countries which meets regularly to decide how much crude oil to sell on the world market.
- These nations came to an accord towards the end of 2016 "to institutionalize a framework for cooperation between OPEC and non-OPEC producing countries.
- OPEC+ controls about 40% of global oil supplies and more than 80% of proven oil reserves.
- It comprises OPEC countries plus Azerbaijan, Bahrain, Brunei, Kazakhstan, Russia, Mexico, Malaysia, South Sudan, Sudan, and Oman.

Quick Bites:

- World Intellectual Property Day 2026 is celebrated on April 26 with the theme "IP and Sports: Ready, Set, Innovate!".
- India has successfully met its all-time highest peak electricity demand of 256.1 GW on 25th April 2026 at 15:38 hrs without any shortage, while simultaneously maintaining electricity exports to neighbouring countries.
- The 17th Petersberg Climate Dialogue (PCD) sought to reaffirm commitment to multilateral climate action amid rising geopolitical tensions. The PCD, an informal multilateral annual meeting on climate issues initiated by Germany in 2010, was the first major climate ministerial of 2026 ahead of COP31 of UNFCCC.
- The first Conference on Transitioning Away from Fossil Fuels is being hosted by Colombia and Netherlands in Santa Marta. Officially announced during COP30 under the United Nations Framework Convention on Climate Change process in 2025, the conference aims to function as a

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sustained political platform for implementation-driven action towards an orderly transition away from fossil fuels. It is not a negotiating body, does not form part of formal climate negotiations, and is not intended to replace the UNFCCC framework.

- Scientists discovered Gibraltar's Barbary macaque (Macaca sylvanus), only wild primates found on European continent practicing Geophagy (eating soil). Geophagy is defined as the voluntary and continuous ingestion of earthy materials, including rocks, soils, and clays, practiced by both humans and animals.
- Stockholm International Peace Research Institute (SIPRI), an independent international research institute established in 1966 in Stockholm, has released the Trends in World Military Expenditure 2025 report. The report states that the five largest military spenders in 2025 — United States, China, Russia, Germany and India — together accounted for 58% of global military expenditure. India ranked as the world's fifth-largest military spender, contributing 3.2% of global military expenditure with total spending of $92.1 billion.
- Symbiosis Skills and Professional University (SSPU), Pune, has launched Asia's first UNESCO Chair on Gender Inclusion and Skill Development.
- Chinese researchers have developed a new technology called the Zero-Carbon-Emission Direct Coal Fuel Cell (ZC-DCFC), which can convert coal directly into electricity without burning it.
- India has launched its first official Formula 1 Sim Racing Championship, marking a major step in linking esports with professional motorsport. Formula 1 and Mumbai Falcons Racing Limited have introduced the F1 Sim Racing India Open 2026, creating a structured national platform for virtual racers across the country.

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30-04-2026

1. Tathāgata:

Context: Amid deep spiritual fervour and an atmosphere imbued with devotion, the Sacred Holy Piprahwa Relics of Tathagatha Buddha arrived in Leh today, marking the commencement of a historic spiritual celebration in the Union Territory of Ladakh.

About Tathāgata:

- Tathāgata is a Pali and Sanskrit term used for a person who has attained the highest spiritual goal.
- The term was commonly used by Gautama Buddha to refer to himself and past Buddhas.
- In Chinese, Tathāgata is translated as "Rulai," meaning "Thus Come One."
- In Mahayana Buddhism, Tathāgata is an epithet for Shakyamuni Buddha and celestial Buddhas.
- The term may mean "one who has thus gone" or "one who has thus come."
- Another interpretation suggests it means "one beyond coming and going."
- Tathāgata symbolizes transcendence beyond birth, death, and worldly change.
- The exact original meaning of the term remains uncertain.
- In the Pali Canon, the Buddha often used "Tathāgata" instead of "I" or "me."
- The usage emphasizes a being who has transcended the cycle of rebirth and suffering (dukkha).

2. Naval Anti-ship Missile-Short Range (NASM-SR):

Context: DRDO & Indian Navy successfully conduct maiden salvo launch of Naval Anti-ship Missile-Short Range.

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More details:

- Defence Research & Development Organisation and the Indian Navy successfully conducted the maiden salvo launch of NASM-SR.
- The Naval Anti-ship Missile-Short Range (NASM-SR) was launched from a naval helicopter platform.
- The trial was conducted off the coast of the Bay of Bengal near Odisha.
- Two missiles were fired in quick succession from the same helicopter during the test.
- It marked the first salvo launch of an advanced air-launched anti-ship missile system in India.
- NASM-SR uses a solid propulsion booster and a long-burn sustainer.
- The missile features an indigenous seeker and integrated avionics module.
- It uses fibre-optic gyroscope-based Inertial Navigation System and radio-altimeter for guidance.
- The missile is equipped with advanced control and guidance algorithms and a high-bandwidth two-way data link.
- Jet-vane control technology for the missile was developed indigenously by DRDO laboratories and Indian industries.
- The missile system was developed by Research Centre Imarat in collaboration with other DRDO laboratories.
- Key collaborating DRDO labs include DRDL Hyderabad, HEMRL Pune, TBRL Chandigarh, and ITR Chandipur.
- NASM-SR missiles are being produced by DcPP with support from Indian industries and start-ups.

3. IN–SLN DIVEX 2026:

Context: India and Sri Lanka reaffirmed their growing maritime partnership through the fourth edition of the bilateral diving exercise, IN–SLN DIVEX 2026, conducted at Colombo from 21–28 Apr 2026.

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About IN–SLN DIVEX 2026:

- IN–SLN DIVEX is a joint diving exercise between the Indian Navy and the Sri Lanka Navy.
- The exercise focused on complex underwater and deep-sea diving operations.
- INS Nireekshak participated in the exercise.
- Diving teams from both navies took part, enhancing operational coordination and professional synergy.
- The exercise aimed to strengthen interoperability between the Indian and Sri Lankan navies.
- Advanced mixed gas diving drills were conducted during the exercise.
- Divers carried out extensive harbour and open-sea diving operations.
- The exercise demonstrated high technical proficiency and operational expertise of both navies.
- A major highlight was mixed gas dives conducted off Colombo.
- Divers explored World War-era wrecks SS Worcester and SS Perseus during the exercise.

4. Panchayat Advancement Index (PAI) 2.0 Report:

Context: In a major step towards strengthening grassroots governance and promoting inclusive rural development, the Ministry of Panchayati Raj on the occasion of National Panchayati Raj Day celebrated on 24th April 2026 released the Panchayat Advancement Index (PAI) 2.0 Report for the FY Year 2023–24.

About Panchayat Advancement Index (PAI) 2.0 Report:

- Tripura – Best performing state, with nearly 80% of Gram Panchayats ranked as "Front Runner."
- Kerala – Second-best performer, with around 10% of Gram Panchayats in the "Front Runner" category.
- Odisha – Third-best performer, with about 8% of Gram Panchayats ranked as "Front Runner."

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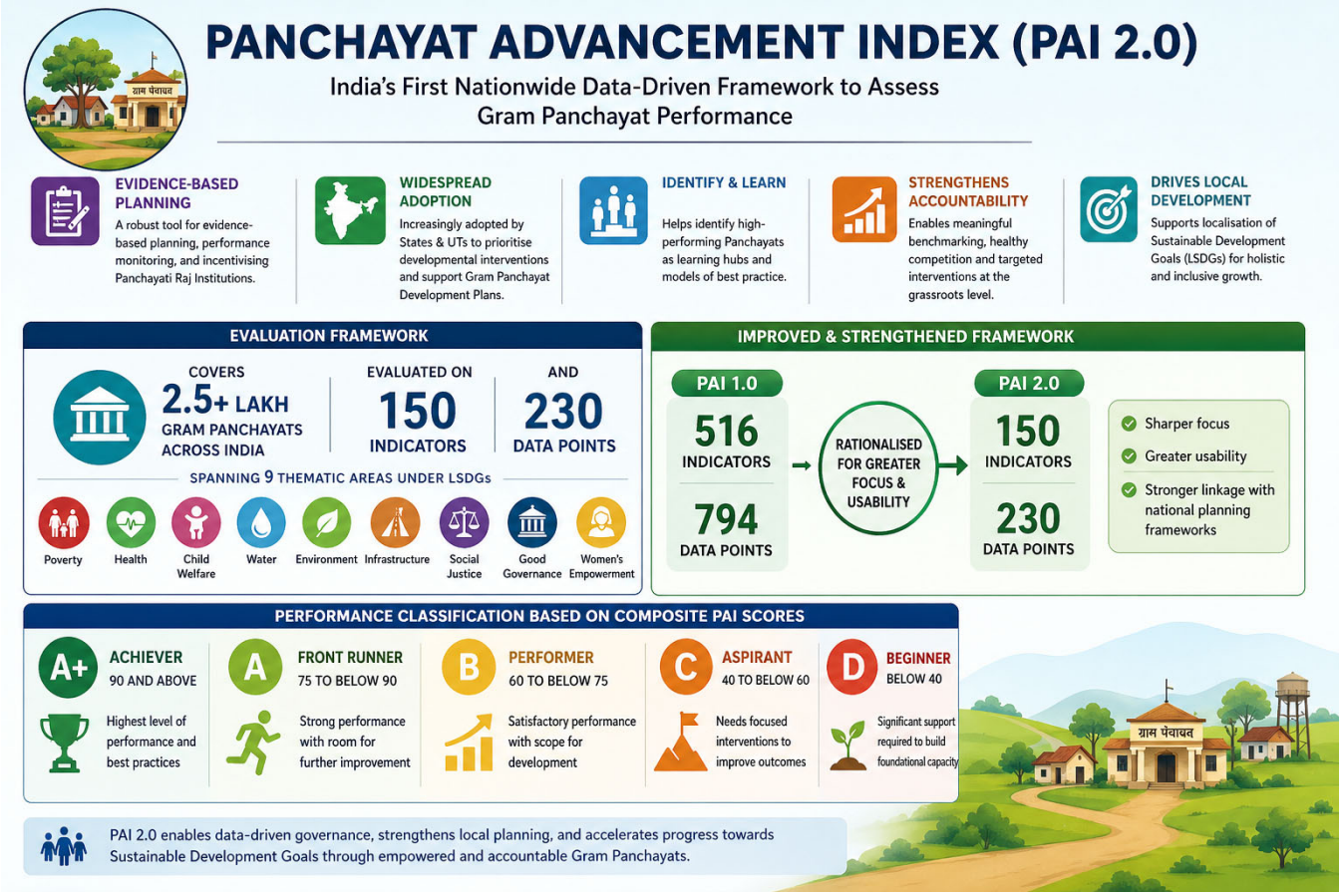

5. "Women and Men in India 2025: Selected Indicators and Data":

Context: Ministry of Statistics and Programme Implementation (MoSPI), Government of India, released the 27th edition of its publication titled "Women and Men in India 2025: Selected Indicators and Data" at the National Deliberative Summit on "Data for Development", on 29th April 2026 at Bhubaneswar, Odisha.

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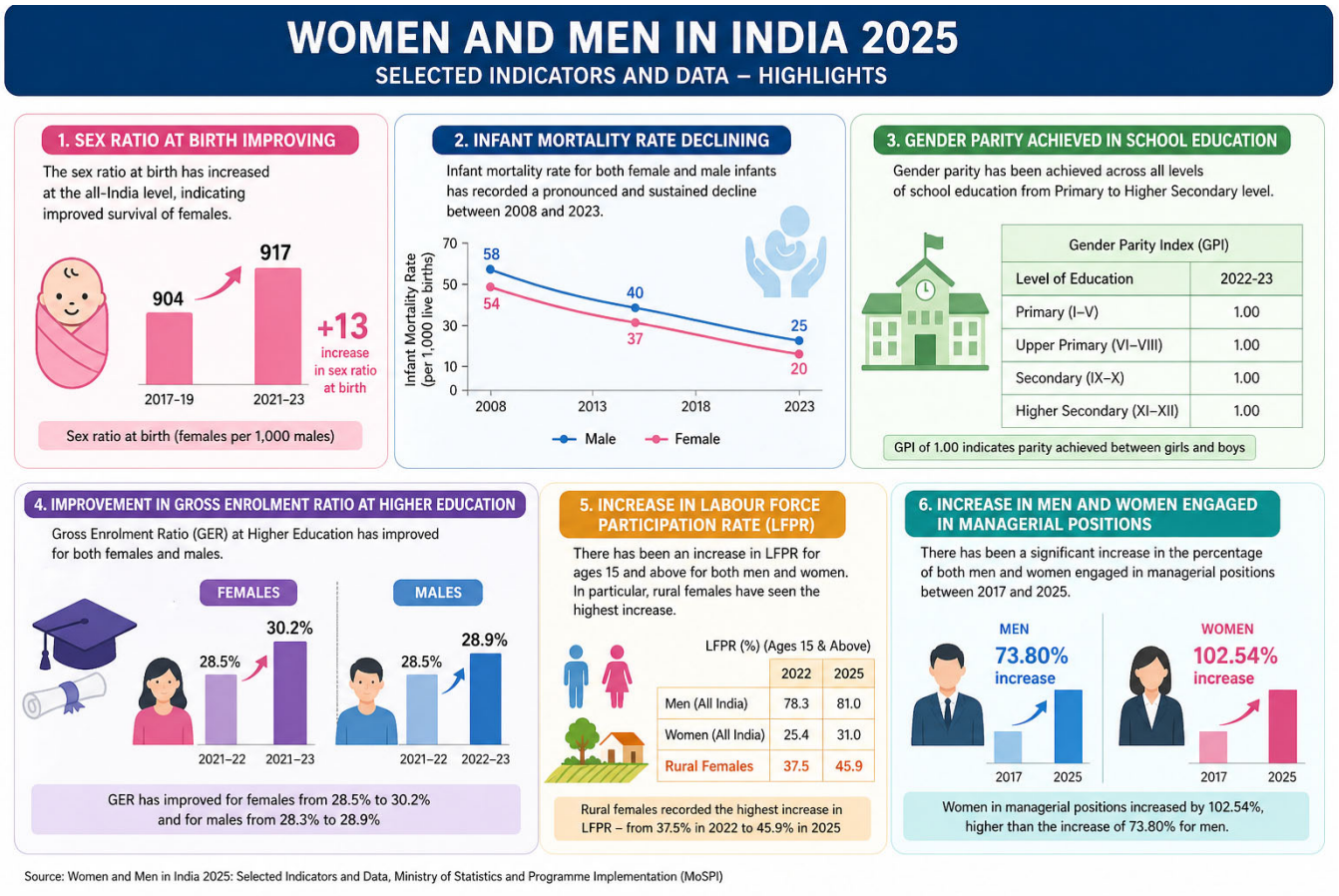
Highlights of the report:



Source: Women and Men in India 2025: Selected Indicators and Data, Ministry of Statistics and Programme Implementation (MoSPI)

6. Indus Water Treaty (IWT):

Context: Pakistan has widened its objections to include Kiru and Kawar Hydel projects on the Chenab, even though they are not under formal Indus Water Treaty (IWT) arbitration.

About Indus Water Treaty (IWT):

- It was signed in 1960 as a water-distribution arrangement between India and Pakistan.

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- It develops plans to utilise the Indus and its tributaries as a source of water.
- The World Bank mediated the agreement.
- Under the treaty signed between India and Pakistan in 1960, all the waters of three rivers, namely Ravi, Sutlej, and Beas (Eastern Rivers) were allocated to India for exclusive use.
- While, the waters of Western rivers – Indus, Jhelum, and Chenab were allocated to Pakistan except for specified domestic, non-consumptive, and agricultural use permitted to India as provided in the Treaty.

7. Mission SAKSHAM:

Context: The Reserve Bank of India has launched Mission SAKSHAM, a nationwide capacity-building programme for Urban Cooperative Banks (UCBs).

About Mission SAKSHAM:

- Reserve Bank of India launched Mission SAKSHAM for Urban Cooperative Banks (UCBs).
- Mission SAKSHAM is a nationwide capacity-building programme for UCBs.
- The initiative aims to improve governance, resilience, and professional standards in cooperative banks.
- The programme reflects RBI's efforts to modernise the cooperative banking sector while preserving its community-based character.
- Mission SAKSHAM is designed as a mission-mode exercise across India.
- The programme aims to cover nearly 1.40 lakh participants through physical and digital training modules.
- Its primary objective is to strengthen managerial and operational capabilities of UCBs.
- The initiative focuses on better governance standards, compliance culture, and institutional resilience.

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- RBI aims to create stronger and professionally managed cooperative banks through the programme.
- "SAKSHAM" means "capable," symbolising future-ready and efficient cooperative banks.
- The programme targets board members, senior management, risk officers, compliance officials, audit heads, IT staff, and other employees of UCBs.
- Training will be conducted through classroom sessions and e-learning modules.
- Course materials will also be provided in regional languages to improve accessibility and learning outcomes.

Quick Bites:

- Prime Minister Shri Narendra Modi today inaugurated 594-km long Access-Controlled Greenfield Ganga Expressway in Hardoi, Uttar Pradesh.
- To advance India's cybersecurity audit ecosystem and bolster the nation's overall cyber resilience, CERT-In successfully hosted a three-day National Annual Conference — "CERT-In SAMVAAD 2026" — bringing together over 500 delegates, including policymakers, Chief Information Security Officers (CISOs) from industry and regulatory bodies, representatives from CERT-In Empanelled Auditing Organisations and cybersecurity professionals from across the country. The conference was organised in association with BITS Pilani, Goa and held from April 27 to April 29, 2026, at the BITS Pilani K. K. Birla Goa Campus. The theme of the conference was "Securing Digital Bharat through Future-Ready Audits: Adapting, Assuring, Advancing".
- An Indian Navy Fast Attack Craft (FAC), INS Kalpeni has arrived at Addu Atoll, marking a significant step in the ongoing maritime engagement between India and the Maldives. INS Kalpeni is a Car Nicobar class Waterjet FAC commissioned in 2010. It is named after Kalpeni Island in the Lakshadweep group of Islands. Addu Atoll is the southernmost atoll of the Maldives, lies north of the Chagos Archipelago in the central Indian Ocean.

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- Cyborg Botany is an interdisciplinary field that creates hybrid systems by integrating living plants with electronic components (such as sensors and conductive materials). It aims to tap into the plant's internal biochemical signals at the source, effectively turning the biological organism into a living circuit board that can monitor and report on its own environmental health.
- The Agriculture and Processed Food Products Export Development Authority (APEDA) will establish a basmati and organic training centre along with a demonstration farm in Pilibhit district of Uttar Pradesh.
- The Indian Army will host the first edition of the multilateral military exercise 'Pragati' at the Foreign Training Node in Umroi, Meghalaya.
- The Union government is set to launch Prashast 2.0, an upgraded digital platform designed to identify 21 types of disabilities in children and improve support for Children With Special Needs (CWSN). The app aims to strengthen early screening, simplify certification and ensure better inclusion of such children in mainstream education.

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