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## PREFACE

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## Table of Contents

1. **POLITY** \_\_\_\_\_ (Page 1)
2. **ECONOMY** \_\_\_\_\_ (Page 5)
3. **INTERNATIONAL RELATIONS** \_\_\_\_\_ (Page 14)
4. **ENVIRONMENT** \_\_\_\_\_ (Page 18)
5. **SCIENCE & TECHNOLOGY** \_\_\_\_\_ (Page 25)
6. **GEOGRAPHY AND MAPPING** \_\_\_\_\_ (Page 31)
7. **ART AND CULTURE** \_\_\_\_\_ (Page 54)
8. **MISCELLANEOUS** \_\_\_\_\_ (Page 55)



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# POLITY

## 1. National Integration Council

**Context:** Recently, there was a demand for the revival of the National Integration Council during Zero Hour in the Rajya Sabha.

- The NIC was born out of a decision taken at the National Integration Conference convened by Prime Minister Jawaharlal Nehru in September-October 1961 to address the problems of communalism, casteism, and regionalism. The first meeting of the NIC was held in 1962.
- The National Integration Council is **neither a constitutional nor a statutory body**. It is an extra-constitutional body (an advisory body) chaired by the Prime Minister. It does not derive its power from a specific Act of Parliament.
- The NIC is a broad-based group. Its composition is determined by the Union Government and typically includes the Prime Minister (as Chairman), Union Ministers, Chief Ministers of all States and Union Territories with Legislatures, leaders of national political parties, and eminent personalities from various fields.
- The last meeting of the NIC (the 16th meeting) was held on **September 23, 2013**, in New Delhi, under the chairmanship of then PM Manmohan Singh. No meeting has been convened since then.

## 2. Tender Years Doctrine

**Context:** The Delhi High Court recently held that the welfare and best interests of minor children must prevail over the application of the Tender Years Doctrine.

### About Tender Years Doctrine

- It is a prominent common law principle in family law and custody jurisprudence.
- It presumes that children of "tender age" (generally under 5 years) should remain with their mother unless she is proven unfit.

- The doctrine rests on several presumptions:
  - Biological Bond: Infants have a natural attachment to mothers.
  - Nurturing Instinct: Mothers are presumed better caregivers for young children.
  - Developmental Needs: Early childhood requires maternal involvement.
  - Emotional Security: Mother's presence provides psychological stability.
- It has been in existence since the latter part of the 19th century.
- The tender years doctrine is often raised in divorce proceedings.
- However, its relevance has declined due to evolving views on gender equality and parenting roles.

### Recent Delhi High Court Ruling:

- It held that the best interests and welfare of minor children are paramount and must override the application of the Tender Years Doctrine.
- The court also held that custody disputes must be resolved based on a comprehensive evaluation of the child's overall well-being rather than stereotypical assumptions regarding parental roles.

## 3. Ad Hoc Judges

**Context:** The Supreme Court Collegium has approved the appointment of five former judges as ad hoc judges in the Allahabad High Court.

### About Ad Hoc Judges

- **Article 224A** of the Indian Constitution provides for the appointment of retired High Court judges as ad hoc judges to address issues such as case pendency and judicial vacancies. However, this provision has been invoked only rarely.
- Ad hoc judges are appointed for a limited period, generally ranging from two to three years, and their appointment does not affect the seniority of

High Court judges for elevation as Chief Justices or to the Supreme Court.

- The mechanism is relatively simpler than fresh judicial appointments, as background verification is generally not required for retired judges who have already served on the bench.
- Ad hoc judges exercise the same judicial powers and receive pay and allowances equivalent to permanent High Court judges, excluding pension benefits.
- Article 224A provides for appointment of retired Judges as ad hoc Judges in High Courts.
- A retired Judge of any High Court (not necessarily the same High Court) may be appointed, subject to eligibility and consent.
- The Chief Justice of the High Court can request such an appointment only with the **previous consent of the President**.
- An ad hoc Judge has the same jurisdiction, powers, and privileges as a sitting Judge of the High Court during the period of appointment.

#### 4. Form 7

**Context:** The bulk submission of Form 7 applications by anonymous or fraudulent actors during the ongoing Special Intensive Revision (SIR) of electoral rolls has triggered controversy over possible misuse of the voter deletion process.

##### What is Form 7?

- Form 7 is used to **object to the inclusion of a name in the electoral roll**, including one's own name.
- Grounds for objection include: death of the voter, duplicate entry, shifting of residence, ineligibility due to age, citizenship, or misrepresentation.
- **Legal Basis:** Governed by Section 13(2) of the Registration of Electors Rules, 1960, framed under the Representation of the People Act, 1950.
  - An objection must be filed by a person whose name is already included in the electoral roll.
  - **Booth Level Agents (BLAs)** are also permitted to file objections.

- **Recent Change:** In **2022**, the Election Commission amended Form 7 rules to allow **any voter within a constituency** to file objections, instead of restricting it to voters from the same polling booth, thereby widening its scope.
- **Verification Process:** After submission, Booth Level Officers (BLOs) conduct physical verification.
  - **In case of death:** Death certificate and confirmation by three neighbours are required.
  - **If the voter is absent:** BLO must make three visits to verify shifting of residence.
  - The concerned voter is issued a notice and given an opportunity for hearing.
  - Appeals against the Electoral Registration Officer (ERO)'s decision can be filed before the District Magistrate within 15 days.

#### 5. Lok Sabha Speaker

**Context:** A no-confidence motion (resolution for removal) has been submitted against the Lok Sabha Speaker under Article 94(c) of the Constitution of India.

##### Removal of the Speaker

- **Article 94(c):** The Speaker may be removed by a resolution of the Lok Sabha passed by a majority of all the then members of the House.
  - This is known as an **effective majority** (majority of the total effective strength, excluding vacancies).
  - If the motion is passed, the **Speaker is removed immediately but continues as an MP**.
- **Notice Requirement:** At least **14 days** written notice must be given before moving the resolution.
- **Minimum Support for Admission:** The motion must be supported by at least **50 members to be admitted for discussion**.
- **During the Pendency of Motion:**
  - The Speaker **cannot preside** over the House during the discussion of the motion.

- The Deputy Speaker or another member presides.
- The Speaker has the **right to participate and defend himself**.

#### Lok Sabha Speakers Removed So Far

- **No Speaker of the Lok Sabha** has ever been successfully removed from office through a no-confidence or removal motion. Attempts have been made, but they continued holding office.
  - In 1954, members moved a motion against Speaker **GV Mavalankar**.
  - Speaker **Hukam Singh** faced a similar motion in 1966.
  - A motion was moved in 1987 against Speaker **Balram Jakhar**.
- **Neelam Sanjiva Reddy resigned as Lok Sabha Speaker in 1969. He later became the President of the country.**
- **GV Mavalankar**, the first Lok Sabha Speaker, died while serving in office. **GMC Balayogi** died in a helicopter crash in 2002 while serving as Speaker.

## 6. Public Trust Doctrine

**Context:** The Supreme Court recently held that the doctrine of public trust is not confined only to natural waterbodies such as rivers, lakes, and wetlands but also extends to man-made or artificially created waterbodies that serve ecological or environmental purposes.

#### About Public Trust Doctrine

- It is a legal principle establishing that certain natural and cultural resources are preserved for public use.
- Rooted in Roman law and developed through English common law, this doctrine encompasses various public assets such as tidal waters, lakes, rivers, wetlands, and ecosystems.
- It rests on the principle that certain resources have such great importance to the people as a whole that it would be wholly unjustified to make them a subject of private ownership.

- The public is considered the owner of the resources, and the government protects and maintains these resources for the public's use.
- The doctrine enjoins upon the government to safeguard the resources for the enjoyment of the final public instead of to allow their use for personal possession or industrial functions.
- Three types of restrictions on governmental authority are often thought to be imposed by the public trust:
  - the property subject to the trust must not only be used for a public purpose, but it must be held available for use by the general public;
  - the property may not be sold, even for a fair cash equivalent;
  - the property must be maintained for particular types of uses.

## 7. Renaming of Kerala

**Context:** The Union Cabinet has approved the proposal to rename Kerala as Keralam.

#### Process to rename a state in India

- **Article 3** authorizes the Parliament to:
  - form a new state by separation of territory from any state or by uniting two or more states or parts of states or by uniting any territory to a part of any state;
  - increase the area of any state;
  - diminish the area of any state;
  - alter the boundaries of any state; and
  - **alter the name of any state.**
- However, **Article 3** lays down two conditions in this regard: **a bill contemplating the above changes can be introduced in the Parliament only with the prior recommendation of the President; and before recommending the bill, the President has to refer the same to the state legislature concerned for expressing its views within a specified period.**
- The **President (or Parliament) is not bound** by the views of the state legislature and may either accept or reject them.

- Moreover, the Indian Constitution (Article 4) itself declares that laws made for alteration of names of existing states (under Articles 3) are not to be considered as amendments of the Constitution under Article 368. such laws can be passed by a simple majority and by the ordinary legislative process.

## 8. Guidelines for courts

**Context:** The Supreme Court flagged the trend among high courts of reducing the sentences awarded to the accused persons. Considering the seriousness of the situation, the Supreme Court laid down guidelines to be followed by courts while dealing with imposition of sentences.

### Guidelines for courts

- Adherence to the principle of “**just deserts**” ought to be the primary duty of the courts.
  - Just Deserts is a theory of **punishment based on the idea that a person should be punished because they deserve it**, and the punishment should be **proportionate to the seriousness of the crime**.
- It is also known as the **Retributive Theory of Punishment**
- Due consideration must be given to the **facts and circumstances of the case**, including the allegations, evidence and the findings of the trial court.
- The sentence should be **adequate to maintain the public trust in law and administration**; however, the court shall not be swayed by the outrage or emotions of the public and must decide the question **independently**.



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# ECONOMY

## 1. Open Acreage Licensing Policy

**Context:** Oil India undertook a seismic study of the blocks it was awarded during the ninth round of the Open Acreage Licensing Policy (OALP) to chart a bidding strategy for the tenth round.

### About Open Acreage Licensing Policy (OALP)

- It was introduced by the Government of India (GoI) as a part of the Hydrocarbon Exploration and Licensing Policy ("HELP") on March 30, 2016.
- HELP replaced the New Exploration and Licensing Policy (NELP) regime, which was in existence for over 18 years.
- OALP is a major reform that changed how companies can apply for oil & gas exploration blocks in India.
- Under the OALP, the company has the option to undertake prospecting for fuels in areas which are not notified by the GoI.
- Prospecting refers to drilling the selected area to check availability of hydrocarbon fuels.
- The OALP gives a company the opportunity to prospect for fuels in any area where the technical feasibility study indicates the presence of hydrocarbons.
- The technical feasibility study is an analysis which indicates the likelihood of availability of hydrocarbons in an area.
- Once the feasibility study shows the presence of hydrocarbons, the company can proceed with the exploration after obtaining permission from the Directorate General of Hydrocarbons (DGH).
- If multiple requests for sanction are received for the same area, the DGH will make an allotment by conducting an auction.
- Until the OALP was introduced, exploration for hydrocarbons was allowed only in the case of areas covered by the tenders issued by the GoI.
- Under the OALP the exploration can be made without waiting for an announcement from the GoI that an area is available for exploration.

- The OALP regime also allows companies access to seismic data at the National Data Repository (NDR).
- NDR is an online data library containing:
  - Seismic surveys
  - Geological maps
  - Well logs
  - Exploration history
  - Companies can study the data and propose new blocks.

## 2. Mahatma Gandhi Gram Swaraj Initiative

**Context:** In the Union Budget 2026-27 presented recently, the Finance Minister announced the launch of the Mahatma Gandhi Gram Swaraj Initiative aimed at strengthening Khadi, handloom, and handicrafts.

### About Mahatma Gandhi Gram Swaraj Initiative

- It was announced in the Union Budget 2026-27 to strengthen India's traditional craft sectors.
- It is a major initiative to strengthen the khadi, handloom, and handicrafts sector by improving global market access, branding, and market linkages.
- It is aimed at making traditional rural industries more competitive while ensuring sustainable livelihoods for artisans and weavers.
- The programme mainly targets weavers, village industries, beneficiaries of the One District One Product (ODOP) initiative, and rural youth, and MGGSI aims to address structural challenges.
- These include fragmented supply chains, inconsistent quality standards, and limited market connectivity.
- MGGSI encourages artisans to adopt modern production methods. This would be done while preserving traditional craftsmanship.
- The initiative also focuses on improving market access by better branding and marketing to

enable artisans to reach organised retail, export markets, and online platforms.

- It aligns with the “Vocal for Local” philosophy and efforts to strengthen micro, small, and medium enterprises (MSMEs).
- By reinforcing traditional industries, the initiative seeks to generate sustainable employment, reduce rural distress, and promote locally produced goods, thereby aligning with the broader vision of Atmanirbhar Bharat.

### 3. Sovereign Gold Bonds

**Context:** The Budget has clarified that the capital gains tax exemption on sovereign gold bonds will not apply to investors who purchase them in the secondary market and hold them to maturity.

#### About Sovereign Gold Bonds

- These bonds are government securities denominated in grams of gold.
- The SGB Scheme was first launched by the Government of India (GOI) on October 30, 2015.
- They are substitutes for holding physical gold. Investors have to pay the issue price, and the bonds will be redeemed upon maturity.
- **Issuance:** The bond is issued by the Reserve Bank on behalf of the GOI.
- Eligible to invest in the SGBs: The bonds will be restricted for sale to resident Indian entities, including individuals, Hindu Undivided Family (HUF), Trusts, Universities and Charitable Institutions.

#### Investment Limits in SGBs

- **The bonds are issued in denominations of one gram of gold and in multiples thereof.**
- The minimum investment in the bond shall be one gram, with a maximum subscription limit of 4 kg for individuals, 4 kg for HUFs, and 20 kg for trusts.
- In case of joint holding, the investment limit of 4 KG will be applied to the first applicant only.
- **Term:** The term of the bond will be for a period of 8 years, with an exit option in the 5th, 6th, and 7th years, to be exercised on the interest payment dates.

- Bonds are sold through offices or branches of Nationalised Banks, Scheduled Private Banks, Scheduled Foreign Banks, designated Post Offices, Stock Holding Corporation of India Ltd. (SHCIL), and the authorised stock exchanges either directly or through their agents.

### 4. Orange Economy

**Context:** The Union Budget 2026-27, presented by the finance minister, placed India’s creative industries at the centre of a services-led growth strategy, marking a clear policy push towards the Orange Economy.

#### What is the Orange Economy?

- The Orange Economy, also known as the Creative Economy is a knowledge-based sector where the value of products and services is derived from ideas, cultural capital, and intellectual property (IP) rather than physical goods.
- The term was coined by Iván Duque Márquez (former Colombian President) and Felipe Buitrago in their 2013 book, The Orange Economy: An Infinite Opportunity.
- The color orange was chosen because it is historically associated with culture, creativity, and identity across diverse civilizations.
- Globally, this sector generates over \$2 trillion annually and provides nearly 50 million jobs.

#### Orange Economy includes:

- Film, media, animation
- Fashion, design, crafts
- Music, performing arts
- Publishing, advertising, digital creative content

#### It does not include:

- Routine banking software development
- Mining or extractive industries

### 5. Gyan Bharatam

**Context:** Over 7.5 lakh manuscripts have been digitized under Gyan Bharatam, of which 1.29 lakh manuscripts are accessible on the Gyan Bharatam Portal.

**Gyan Bharatam**

- It was announced during Union Budget 2025-26, is a flagship initiative of the Ministry of Culture (MoC), Government of India.
- It is aimed at unearthing, safeguarding and preserving India's vast manuscript heritage.
- It is aligned with the national vision of Viksit Bharat 2047 and seeks to harmonize cultural preservation with human capital development, ensuring that India's ancient wisdom continues to inspire generations to come.

**Features**

- It focuses on five verticals namely (i) Survey and Cataloguing (ii) Conservation and Capacity Building (iii) Technology and Digitization (iv) Linguistics and Translation (v) Research, Publication, and Outreach.
- It has been mandated to establish a nation-wide network of Cluster Centers (CCs) and Independent Centers (ICs) across the country.

**6. Project Vault**

**Context:** The United States has launched Project Vault, a \$12 billion critical minerals stockpiling initiative, announced by Donald Trump to protect American industries from global supply disruptions.

**About Project Vault:****What is Project Vault?**

- Project Vault is a public-private stockpiling programme designed to purchase, store, and manage critical minerals and rare earth elements required for strategic civilian and defence industries in the United States, similar in concept to the Strategic Petroleum Reserve.

**Launched by:**

- **US Government**, announced by **Donald Trump**
- Funded through a mix of **private capital** and the **US Export-Import Bank**

**Aim:**

- To secure uninterrupted access to critical minerals during global supply shocks.
- To reduce strategic dependence on China, which dominates mineral processing.
- To strengthen national security, advanced manufacturing, and clean energy supply chains.

**Key features:**

- **Minerals covered:** Rare earths and critical minerals such as **cobalt**, **gallium**, and other strategic metals
- **Advance purchase commitments:** Companies commit upfront to buy minerals later at fixed inventory prices.

**7. Advance Pricing Agreement**

**Context:** The Union Budget 2026-27 introduced a fast-track Unilateral Advance Pricing Agreement (APA) process for IT services, aiming for completion within 2 years, with an optional 6-month extension.

**What is an Advance Pricing Agreement?**

- **APA** is a binding agreement between a taxpayer and the tax administration that predetermines the **arm's length price (ALP)** or the **pricing methodology** for international transactions for a specified future period.
- **Legal Framework in India:** The APA regime in India was introduced under Sections **92CC** and **92CD** of the **Income Tax Act, 1961**.
  - **The Central Board of Direct Taxes (CBDT)** is the competent authority for administering APAs.

**8. Model Context Protocol**

**Context:** Recently, the National Statistics Office under the Ministry of Statistics and Programme Implementation (MoSPI) launched the beta version of its Model Context Protocol (MCP) server for eSankhyiki portal.

**About Model Context Protocol**

- It is a technology that allows users to connect directly with datasets through their own AI tools and applications.
- It is a standard way to make information available to large language models (LLMs).
- Using MCP, AI applications can connect to data sources (e.g. local files, databases), tools (e.g. search engines, calculators) and workflows (e.g. specialized prompts)—enabling them to access key information and perform tasks.
- MCP provides a structured way for AI systems to access tools and data securely.
- There is no requirement for blockchain-based storage.
- A key goal is interoperability between AI models and enterprise applications.

**9. Public Financial Management System**

**Context:** Recently, the Minister of State for finance informed the Rajya Sabha about the Public Financial Management System (PFMS).

**About Public Financial Management System**

- It is a web-based online transaction system for fund management and e-payment to implementing agencies and other beneficiaries.
- It is a Centralized Transaction System & Platform, providing end to end financial management services to all stakeholders.
- **It is developed and implemented by the Controller General of Accounts (CGA), Department of Expenditure, Ministry of Finance, Government of India.**
- It was started during 2009.
- **Function:** To facilitate a sound Public Financial Management System for Government of India by establishing an efficient fund flow system as well as a payment cum accounting network.

**Key Features of Public Financial Management System**

- **It tracks funds released under all Plan schemes of Government of India, and real time reporting of**

**expenditure at all levels of Programme implementation.**

- The government has mandated PFMS as a single platform for payment, accounting & reconciliation of government transactions and DBT.
- **Cash management modules:** It has been introduced on PFMS for better fund management like Single Nodal Agency (SNA), Treasury Single Account (TSA), Central Nodal Agency (CNA) and Single Nodal Agency Samyochit Pranali Ekikrit Shighra Hastantaran (SNA SPARSH).
- **Grievance Redressal System:** PFMS has introduced the Customer Relationship Management (CRM) system, to strengthen the grievance redressal mechanism for PFMS users/beneficiaries.
- **The CAG uses PFMS data for auditing purposes to ensure financial accountability. PFMS is a tool for transparency, and its records are essential for the CAG's oversight of government expenditure.**

**10. Petroleum and Natural Gas Regulatory Board**

**Context:** The Petroleum and Natural Gas Regulatory Board (PNGRB) has approved new guidelines for the injection of Compressed Biogas (CBG) into Natural Gas Pipeline (NGPL) and City Gas Distribution (CGD) networks.

**About Petroleum and Natural Gas Regulatory Board (PNGRB):****What it is?**

- PNGRB is a statutory regulatory body responsible for regulating the downstream petroleum and natural gas sector in India.

**Established In: 2006 under the Petroleum and Natural Gas Regulatory Board Act, 2006.**

**Headquarters:** New Delhi.

**Aim:**

- To protect consumer interests in petroleum and natural gas markets.
- To promote fair trade and competition among entities.

- To ensure uninterrupted and adequate supply of petroleum, petroleum products, and natural gas across the country.

#### Key Functions:

- **Regulatory Oversight:** Authorizes and regulates entities to build and operate pipelines, LNG terminals, and CGD networks.
- **Market & Consumer Protection:** Monitors prices, ensures fair competition, and prevents restrictive trade practices.
- **Access & Tariff Regulation:** Specifies pipeline access codes and regulates transportation rates for common/contract carriers.
- **Technical & Safety Standards:** Lays down technical standards, specifications, and safety norms for petroleum and gas infrastructure.
- **Data & Infrastructure Governance:** Maintains sectoral data bank and oversees infrastructure expansion for equitable distribution.

### 11. Slow Bull Momentum

**Context:** As global capital trickles back toward China, policymakers are signalling they want growth without the froth, using tougher enforcement and cooling measures to slow the market's pace in order to strengthen its appeal in the long term.

#### Slow Bull Momentum:

- **Slow bull momentum** indicates a **steady, gradual rise** in prices rather than a rapid surge.
- **Market Behaviour:** In a slow bull market, the index or stock price moves up gradually, often following a "two steps forward, one step back" pattern. It is the opposite of a "parabolic" move.
- **Psychology:** There is usually a lack of "media hype" or "retail euphoria" during this phase, which is why it is often called a "Wall of Worry."
- **Sustainability:** Professional traders often consider slow momentum more sustainable than fast momentum because it allows for "healthy corrections" that prevent the market from becoming overbought too quickly.
- **Institutional Role:** It often indicates systematic accumulation by large institutions (DIIs/FIIs) who

buy in small quantities over time to avoid spiking the price.

### 12. SaaSpocalypse

**Context:** The recent stock market volatility, triggered by 'SaaSpocalypse' fears, has reflected investor anxiety over AI-led disruption to India's traditional IT services model.

#### What is 'SaaSpocalypse'?

- The term "**SaaSpocalypse**" refers to fears that AI-powered tools may disrupt or even replace traditional **Software-as-a-Service (SaaS) platforms** and IT service models.
- Recently, Anthropic launched enterprise-grade AI tools capable of contract review and legal **workflow automation, compliance monitoring, coding and testing support** and customer service automation.
- These tools threaten the traditional service offerings of Indian IT firms, especially in areas like data processing, support services, and back-office operations.

### 13. Lead Bank Scheme

**Context:** The Reserve Bank of India (RBI) recently issued the draft circular on the revised guidelines for the Lead Bank Scheme (LBS) for public comments.

#### About Lead Bank Scheme (LBS)

- On the recommendations of the Nariman committee, the LBS was introduced by the Reserve Bank of India in December 1969.
- **Aim:** Coordinating the activities of banks and other developmental agencies in order to achieve the objective of enhancing the flow of bank finance to the priority sector and other sectors and to promote banks' role in the overall development of the rural sector
- For coordinating the activities in the district, a particular bank is assigned 'Lead Bank' responsibility of the district.
- The Lead Bank is expected to assume a leadership role for coordinating the efforts of the credit institutions and the Government.

- For the preparation of District Credit Plans and monitoring their implementation, a Lead bank Officer (LBO), now designated as Lead District Manager was appointed in 1979.
- The scheme follows an **“Area Approach”** to identify and fill credit gaps. It functions through a three-tier forum:
  - **Block Level Bankers' Committee (BLBC)** at the base.
  - **District Consultative Committee (DCC)** at the district level.
  - **State Level Bankers' Committee (SLBC)** at the apex.
- The Lead Bank Scheme was actually introduced by the Reserve Bank of India in **December 1969**, following the recommendations of the Gadgil Study Group and the Nariman Committee.
- The Lead Bank does **not** have a monopoly. It acts as a **consortium leader** to coordinate efforts between various commercial banks, RRBs, and cooperative banks to ensure credit flow to priority sectors.
- While the LDM (from the Lead Bank) convenes the meeting, the **District Collector/Magistrate** typically chairs the District Consultative Committee (DCC) meetings. The LDM is an officer from the designated Lead Bank, not the RBI.

#### 14. Urban Challenge Fund

**Context:** Recently, the Union Cabinet chaired by the Prime Minister of India approved the launch of the Urban Challenge Fund (UCF).

##### About Urban Challenge Fund

- It is a new centrally sponsored scheme of the Ministry of Housing and Urban Affairs.
- It aims to build resilient, productive, inclusive and climate-responsive cities, positioning those as key driver of the country's next phase of economic growth.
- Financial Outlay: Total Central assistance of ₹1 lakh crore.
- **Tenure:** It will be operational from FY 2025-26 to FY 2030-31, with an extendable implementation period up to FY 2033-34.

#### Features of the Urban Challenge Fund

- A minimum of 50 per cent of project financing has to be mobilised from market sources, including municipal bonds, bank loans and Public-Private Partnerships (PPPs).
- The remaining share may be contributed by States, Union Territories (UTs), Urban Local Bodies (ULBs) or other sources.
- Projects will be selected through a transparent and competitive challenge mode, ensuring support to high-impact and reform-oriented proposals.
- Focus area: A strong thrust on reforms across Urban Governance, Market & Financial systems, Operational efficiency, and Urban Planning
- A dedicated ₹5,000 crore corpus will enhance the creditworthiness of 4223 cities including Tier- II and Tier-III cities, particularly for first-time access to market finance.
- The Fund will cover:
  - **All cities with a population of 10 lakh or more (2025 estimates);**
  - **All State and Union Territory capitals not covered above; and**
  - **Major industrial cities with a population of 1 lakh or more.**
- Additionally, all ULBs in hilly States, North-Eastern States, and smaller ULBs with population below 1 lakh will be eligible for support under the Credit Repayment Guarantee Scheme.

#### 15. Wholesale Price Index

**Context:** According to WPI data, inflation in food articles was 1.55% in January as against deflation of 0.43% in December.

##### What is WPI?

- **Wholesale Price Index (WPI)** measures the average change in prices of goods at the **wholesale level**, i.e., before they reach the retail consumer. It tracks inflation from the **producer's or bulk trader's perspective**.

##### Who Releases WPI in India?

- Released by: **Office of the Economic Adviser (OEA)**

- Under: **Department for Promotion of Industry and Internal Trade (DPIIT)**
- Ministry: Ministry of Commerce & Industry

#### Base Year

- Current base year: **2011-12**
- (Base year revisions are done periodically to reflect structural changes in the economy.)

#### Components of WPI (Weight Distribution)

WPI has **3 major groups**:

- **Primary Articles** (~22%)
  - Food articles; Non-food articles; Minerals
- **Fuel & Power** (~13%)
  - Coal; Mineral oils; Electricity
- **Manufactured Products** (~64%)
  - Metals; Chemicals; Machinery; Textiles, etc.

#### Services are not included in WPI.

- The **Wholesale Price Index (WPI)** generally exhibits higher volatility than the **Consumer Price Index (CPI)**. This is because WPI is more sensitive to fluctuations in global commodity prices, particularly crude oil and metals, which are traded at the wholesale level. CPI, being more focused on retail prices and services (like education and health), tends to be more stable.
- The WPI basket is primarily composed of **Manufactured Products** (approx. 64.2% weight), **Primary Articles** (approx. 22.6%), and **Fuel and Power** (approx. 13.1%). It does not include services. Because the WPI is heavily weighted toward manufactured goods and includes global commodities like fuel and primary minerals, any shock in international markets (e.g., a rise in Brent crude or iron ore) is immediately and sharply reflected in the WPI.



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## 16. Digital Payments Index

**Context:** The Reserve Bank of India's (RBI) released digital payments index (DPI).

#### About The Digital Payments Index (DPI)

- The **Digital Payments Index (DPI)** released by the RBI is a comprehensive tool launched in **January 2021** to measure the stretch of digitization of payments across India.
- The base year for the index is **March 2018**, with a score set at **100**.
- The latest RBI-DPI score, as of **September 2024**, stands at **465.33**, up from **445.5** in March 2024. This increase reflects the **rapid adoption of digital payments** in India.
- The growth is pushed by improvements in **payment infrastructure, payment performance**, and the overall expansion of digital payment systems across the country.

## 17. India Business Excellence Fund V

**Context:** Motilal Oswal Alternates said it had raised **₹8,500 crore for fifth private equity fund, India Business Excellence Fund V (IBEF V/Fund V)**, making it the largest in the firm's private equity history.

#### IBEF V:

- **IBEF V** is the fifth flagship private equity fund managed by Motilal Oswal Alternates (MO Alts), the alternative investment arm of Motilal Oswal Financial Services.
- In late 2025 and early 2026, the fund has been active in raising substantial capital (targeting a corpus of around \$1 billion) to invest in mid-market companies across sectors like consumer, financial services, healthcare, and specialized manufacturing.
- Unlike venture capital (which targets early-stage startups), this fund focuses on growth capital-investing in established companies that have proven business models and need capital to scale up operations.

## 18. World Food Programme

**Context:** Recently, the Food Corporation of India (FCI) and the World Food Programme (WFP) have signed a Memorandum of Understanding (MoU) for the supply of rice in support of global humanitarian operations aimed at combating hunger.

### About World Food Programme

- It is a branch of the United Nations that deals with hunger eradication and promotes food security in the world.
- **It is the world's largest humanitarian agency and was established in 1961.**
- It operates in more than 120 countries, provides food assistance during emergencies and works with communities to enhance nutrition and generate resilience.
- **Funding: WFP is funded by voluntary donations from governments, corporates and private donors.**
- The organization's work is guided by Sustainable Development Goal 2, which aims to end hunger, achieve food security and improved nutrition, and promote sustainable agriculture by 2030.

### Governance

- It is governed by the WFP Executive Board, which consists of 36 Member States and provides intergovernmental support, direction and supervision of activities.
- WFP is headed by an Executive Director, who is appointed jointly by the UN Secretary-General and the Director-General of the Food and Agriculture Organization of the United Nations.
- The Executive Director is appointed for fixed five-year terms.
- **It is a member of the United Nations Development Programme (UNDP).**
- WFP was awarded the Nobel Peace Prize in 2020.
- Reports by WFP: Report released by the WFP is the Global Report on Food Crisis which describes the scale of acute hunger in the world.
- **Headquarters: Rome, Italy.**

## 19. Corporate Social Responsibility

**context:** The Vice President of India, stated that Corporate Social Responsibility (CSR) has moved from being a peripheral activity to becoming central to national progress, at the National CSR Summit 2026 in New Delhi.

### What Is Corporate Social Responsibility?

- It is a management concept whereby companies integrate social and environmental concerns in their business operations and interactions with their stakeholders.

### Types of Corporate Social Responsibility:

- **Environmental responsibility:** Sustainability, climate action, waste management, and conservation.
- **Ethical responsibility:** Fair business practices, transparency, and governance.
- **Philanthropic responsibility:** Donations, education, healthcare, and community welfare.
- **Economic responsibility:** Long-term value creation while supporting social objectives.

### CSR Applicability in India

- **The CSR in India is statutory obligation and is governed by Section 135 of the Companies Act, 2013.**
  - **It encourages companies to spend 2% of their average net profit in the previous three years on CSR activities.**
- The provisions of CSR applies to every **company fulfilling** any of the following conditions in the preceding financial year:
  - Net worth of more than **Rs.500 crore**,
  - Turnover of more than **Rs.1000 crore**,
  - Net profit of more than **Rs.5 crore**.

**Note:** Under the Companies (Amendment) Act 2020 and subsequent rules, non-compliance with CSR obligations involves more than just a fine for the company. It can lead to penalties for both the company and every officer in default.

## 20. National Agricultural Cooperative Marketing Federation of India

**Context:** The Union Minister for Agriculture and Farmers' Welfare held an extensive review meeting of the National Agricultural Cooperative Marketing Federation of India Ltd (NAFED) in New Delhi.

### About National Agricultural Cooperative Marketing Federation of India

- It is an apex organization of marketing cooperatives for agricultural produce in India.
- It was founded on 2 October 1958 to promote the trade of agricultural produce and forest resources across the nation.
- It is registered under the Multi State Co-operative Societies Act.
- It has headquarters in New Delhi, NAFED has four regional offices in Delhi, Mumbai, Chennai and Kolkata.
- **Objectives**
  - To organize, promote and develop marketing, processing and storage of agricultural, horticultural and forest produce.
  - To distribute agricultural machinery, implements and other inputs, undertake inter-state, import and export trade, wholesale or retail as the case may be.
  - To act and assist for technical advice in agricultural production for the promotion and the working of its members, partners, associates and cooperative marketing, processing and supply societies in India.
  - **Nodal Ministry:** It is an apex Organisation under the Ministry of Agriculture & Farmers Welfare, Government of India.

## 21. Alpha fading rate

**Context:** Alpha fade rate refers to the gradual decay in the alpha strategy. This is because rate at which an alpha strategy fades can be faster than the rate at which a newer alpha strategy can be developed.

### What is Alpha fading rate?

- **Alpha** represents the excess return of an investment relative to a benchmark. The **Alpha Fading Rate** (or Alpha Decay) measures how quickly an investment "edge" disappears as the market incorporates new information or as other investors copy the strategy.

### The Mechanism:

- If you discover a pattern that predicts a stock will rise, that information is "Alpha." As you and others trade on it, the price adjusts, and the "Alpha" fades.
- **High-Frequency Trading (HFT):** For HFTs, the alpha fading rate is measured in **milliseconds**. For value investors, it might be measured in **years**.
- **Portfolio Management:** Managers must understand this rate to decide how quickly they need to execute trades. If the fading rate is high, slow execution will eat up all potential profits.

## 22. Proportional Denton method

**Context:** India's quarterly GDP estimates will also be improved with a new benchmarking method, the Proportional Denton method, which aligns quarterly numbers with annual totals without creating artificial jumps, ensuring that short-term economic trends are preserved.

### Proportional Denton method:

- Governments often have very accurate data on an annual basis (the Budget), but they need to produce quarterly or monthly reports (like Quarterly GDP or fiscal deficits).
- Often, the sum of the four quarters doesn't match the audited annual total.
- The Proportional Denton Method is the internationally preferred mathematical formula (recommended by the IMF) for "Benchmarking."
- It adjusts the quarterly data so that it matches the annual "benchmark" while ensuring that the period-to-period growth rates remain as smooth and realistic as possible.
- It prevents "step-problems" (artificial jumps in data at the start of a new year) and ensures that the short-term indicators used for mid-year budget corrections are consistent with the final audited accounts.



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# INTERNATIONAL RELATIONS

## 1. United Nations Commission for Social Development

**Context:** The Minister of State for Women and Child development to lead the Indian delegation at the 64th Session of the United Nations Commission for Social Development (CSocD).

**About United Nations Commission for Social Development**

- It is a functional commission of the UN Economic and Social Council (ECOSOC).
- It was formerly known as the Social Commission.
- It focuses on advancing international cooperation on social development issues, including social inclusion, equity, and welfare-oriented policies.
- It has been in existence since the very inception of the United Nations, advising ECOSOC and governments on a wide range of social policy issues and from the social perspective of development.

**Purpose:**

- Its primary purpose is to advance social development and formulate policies and recommendations to address global social issues.
- It focuses on topics such as poverty eradication, social inclusion, and the promotion of equitable and sustainable development.
- Since the 1995 World Summit for Social Development in Copenhagen, the CSocD has been the key UN body in charge of the follow-up and implementation of the Copenhagen Declaration and Programme of Action.
- Membership of United Nations Commission for Social Development
- Originally 18, membership has been increased several times, most recently in 1996, and now stands at 46.
- Members are elected by ECOSOC based on equitable geographical distribution for four-year terms.

- **Meetings:** The CSocD meets every year at the United Nations Headquarters in New York, typically in February.

## 2. Arab League

**Context:** Recently, the External affairs minister met the foreign ministers of five Arab League member states and held discussions on ways to develop ties with West Asia and the situation in the region.

**About Arab League**

- The Arab League, or League of Arab States, is a voluntary association of countries whose peoples are mainly Arabic-speaking or where Arabic is an official language.
- It is a regional organization of Arab states in the Middle East and parts of Africa.
- Its stated aims are to strengthen ties among member states, coordinate their policies and direct them towards a common good.
- **Formation:** It was formed in Cairo on 22 March 1945 with six members: **Egypt, Iraq, Transjordan (later renamed Jordan), Lebanon, Saudi Arabia, and Syria, with Yemen joining on 5 May 1945.**
- **Members:** It currently has 22 member states: Algeria, Bahrain, Comoros, Djibouti, Egypt, Iraq, Jordan, Kuwait, Lebanon, Libya, Mauritania, Morocco, Oman, Palestinian Authority, Qatar, Saudi Arabia, Somalia, Sudan, Syria, Tunisia, United Arab Emirates, and Yemen.
- **Observer Members:** Brazil, Eritrea, India, and Venezuela.
- **Headquarters:** Cairo, Egypt.

## 3. Gulf Cooperation Council

**Context:** Recently, India and the Gulf Cooperation Council (GCC) have signed the Terms of Reference for a Free Trade Agreement in New Delhi.

### About Gulf Cooperation Council

- It is a regional political and economic alliance established in 1981.
- Member countries: It comprises Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, and the United Arab Emirates (UAE).
- **Objective:** To foster economic, security, cultural, and social cooperation among its members.
- **Background:** It was formed in response to escalating regional tensions, particularly the Iranian Revolution (1979) and the Iran-Iraq War (1980-1988).
- **Headquarters:** Riyadh, Saudi Arabia.

## 4. African Union

**Context:** The African Union is hosting its annual summit in Ethiopia to discuss the future of the continent, as the organization faces widespread discontent.

### African Union

- **The African Union (AU)** is a continental body consisting of the **55 member states** that make up the countries of the African Continent.
- It was officially launched in **2002** as a successor to the Organisation of African Unity (OAU, 1963-1999).
- **Aim:** To realise Africa's potential and to focus towards increased cooperation and integration of African states to drive Africa's growth and economic development.
- **Headquarters:** Addis Ababa, Ethiopia.
- **Initiatives of the AU include** the African Continental Free Trade Area (AfCFTA) agreement, aiming to create a single market for goods and services across the continent, and Agenda 2063, a strategic framework for the socio-economic transformation of the continent over the next 50 years.
- While the 55 member states are primarily on the African continent, the AU also includes island nations such as **Mauritius, Seychelles, and Comoros**, which are geographically distinct from

the mainland. Additionally, the AU formally recognizes the **African Diaspora** as its "sixth region," meaning its "members" in a broad sense extend globally.

- In a historic move during the **New Delhi Summit in September 2023**, the African Union was admitted as a **permanent member** of the G20, giving it the same status as the European Union.
- The African Union holds **Permanent Observer status** at the United Nations General Assembly.

## 5. South Korea

**Context:** Recently, India and South Korea held the 6th foreign policy and security dialogue in Seoul.

### About South Korea

- **Location:** It occupies the southern half of the Korean Peninsula.
- **Bordering Country:** North Korea
- **Maritime Borders:** To the east by the East Sea (Sea of Japan), to the south by the East China Sea, and to the west by the Yellow Sea.
- To the southeast it is separated from the Japanese island of Tsushima by the Korea Strait.
- **Capital:** Seoul.



- While the **38th Parallel** was the original boundary chosen in 1945, the official demarcating line today is the **Military Demarcation Line (MDL)**, which sits within the **Demilitarized Zone (DMZ)**. The MDL was established by the Armistice Agreement in 1953 at the end of the Korean War. It does not follow the 38th parallel exactly; instead, it winds across the peninsula based on where the troops were positioned at the time of the ceasefire.
- The **Korea Strait** (or Tsushima Strait) separates South Korea from **Japan**. The body of water that separates the South Korean mainland from Jeju Island is the **Jeju Strait**.

## 6. Indian Ocean Naval Symposium

**Context:** India assumed the Chairmanship of the **Indian Ocean Naval Symposium (IONS)** during the **9th Conclave of Chiefs** held in **Visakhapatnam** in **February 2026**.

**About Indian Ocean Naval Symposium (IONS):**

**What it is?**

- The **Indian Ocean Naval Symposium (IONS)** is a **voluntary, inclusive and multilateral maritime forum** that promotes cooperation among navies of the Indian Ocean Region (IOR).

**Established in:**

- Established in 2008.
- Initiated by the **Indian Navy** to strengthen maritime cooperation among Indian Ocean littoral states.

**History:**

- India held the **inaugural chairmanship (2008-2010)**.
- Successive chairmanships included UAE, South Africa, Australia, Bangladesh, Iran, France and Thailand.
- In **2026**, India reassumed chairmanship, signalling renewed momentum for regional maritime cooperation.

**Members:**

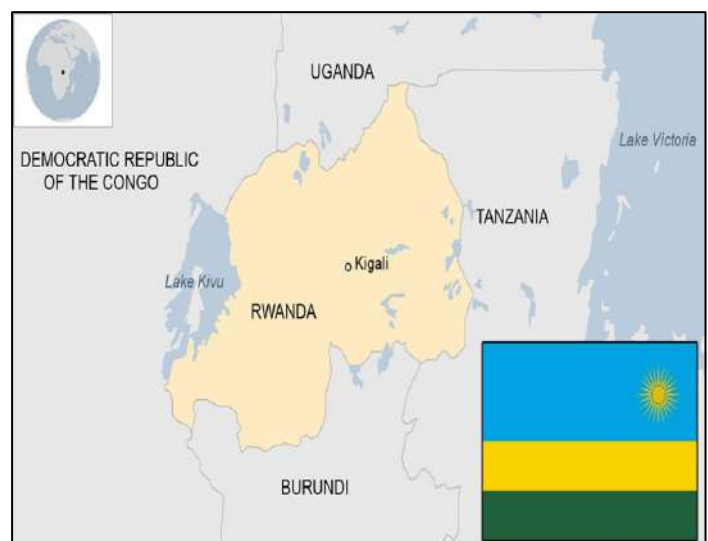
- Around **25 member nations** from the Indian Ocean Region (including India and Pakistan from South Asia).
- Includes **observer countries and other maritime partners**, with participation spanning from the Atlantic to the Pacific.

## 7. Rwanda

**Context:** Recently, the **Union Minister of State (Independent Charge) for Science & Technology** said **India is ready to deepen its engagement with Rwanda in emerging technologies, innovation ecosystems and next-generation sectors including AI, biotechnology, and nuclear energy**.

**About Rwanda**

- Location:** It is a landlocked country located south of the equator in east-central Africa.
- It is part of the Great Rift Valley region of Africa.
- It is often referred to as the “land of a thousand hills”, Rwanda’s landscape is mostly hilly and mountainous.
- Borders:** It shares a border with the four nations of **Burundi, Tanzania, Uganda, and the Democratic Republic of the Congo**.
- Capital:** Kigali
- Population:** The Hutu and Tutsi ethnic groups make up most of the country’s population.



## 8. Jeju Island

**Context:** The Embassy of India in Seoul recently issued an advisory today addressing Indian nationals travelling to Jeju Island under the visa waiver scheme.



### About Jeju Island

- It is a volcanic island off the coast of South Korea.
- It is situated in the Korea Strait, which connects the East China Sea and the Sea of Japan (East Sea).
- It is a special autonomous province of South Korea.

- Oval in shape, it is Korea's largest and southernmost island.
- The provincial capital is the city of Jeju.
- The island was created entirely from volcanic eruptions approximately 2 million years ago.
- It is composed of a core of volcanic material that rises symmetrically to the crest of Mount Hallasan (6,398 feet [1,950 meters]), which has a lake in its crater.
- Mount Hallasan is the tallest mountain in South Korea and a dormant volcano.
- 360 satellite volcanoes are around the main volcano.
- The island's lava tubes and certain other volcanic formations (including Mount Hallasan) were collectively designated a UNESCO World Heritage site in 2007.
- Jeju is bathed in warm currents, and its oceanic climate supports some subtropical plants.



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# ENVIRONMENT

## 1. Carbon Capture Utilisation and Storage

**Context:** Recently, the Finance Minister proposed an outlay of Rs 20,000 crore over the next five years in Carbon Capture Utilisation and Storage (CCUS) technologies.

### About Carbon Capture Utilisation and Storage

- It is a suite of technologies that enable the mitigation of carbon dioxide (CO<sub>2</sub>) emissions from large point sources such as power plants, refineries and other industrial facilities, or the removal of existing CO<sub>2</sub> from the atmosphere.

### Working of Carbon Capture Utilisation and Storage:

- It consists of three stages: capture, transport and storage (or usage) of CO<sub>2</sub>.
- Capturing methods:** The main methods for capturing CO<sub>2</sub> are: post-combustion; pre-combustion; and oxy-fuel combustion.
- Post-combustion technology:** It separates CO<sub>2</sub> from the flue gas, by using a chemical solvent for instance, after the fuel is burnt.
- Pre-combustion methods:** It involves converting the fuel into a gas mixture consisting of hydrogen and CO<sub>2</sub> before it is burnt.
- Oxy-fuel Combustion:** Oxy-fuel technology involves burning a fuel with almost pure oxygen to produce CO<sub>2</sub> and steam, with the released CO<sub>2</sub> subsequently captured.

### Examples:

- Injecting captured CO<sub>2</sub> into depleted oil fields is a recognized CCUS method for both storage and enhanced oil extraction.
- Converting CO<sub>2</sub> into fuels or chemicals (carbon utilisation) is a key CCUS pathway.
- CO<sub>2</sub> can be chemically converted into stable minerals for long-term storage.
- While, Releasing CO<sub>2</sub> into the upper atmosphere is not CCUS. It does not capture or permanently store carbon.

## 2. Ramsar Locations

**Context:** Union Environment Minister announced the addition of two new wetlands- Patna Bird Sanctuary (Uttar Pradesh) and Chhari Dhand Wetland Reserve (Gujarat) to India's Ramsar List ahead of World Wetlands Day 2026.

|   | Ramsar Sites                 | Locations     |
|---|------------------------------|---------------|
| 1 | Siliserh Lake                | Rajasthan     |
| 2 | Udhwa Lake Bird Sanctuary    | Jharkhand     |
| 3 | Patna Bird Sanctuary         | Uttar Pradesh |
| 4 | Chhari Dhand Wetland Reserve | Gujarat       |

## 3. Dholpur-Karauli Tiger Reserve

**Context:** The Rajasthan Forest and environment minister recently said in the Assembly that residents of villages in Dholpur-Karauli Tiger Reserve (DTR) will not be displaced without their consent.

### About Dholpur-Karauli Tiger Reserve

- It is located in the eastern part of Rajasthan, spanning across the Dholpur and Karauli districts.
- It shares ecological continuity with the Ranthambhore Tiger Reserve to the west and lies close to the Chambal River on the east, which serves as a natural boundary and water source for the region.
- It was officially declared in 2023, becoming Rajasthan's fifth tiger reserve and India's 54th tiger reserve.
- It covers an approximate area of 1,111 sq.km.
- The terrain is characterised by undulating plateaus, rugged hills, ravines, and dry deciduous forests, typical of the Aravalli and Vindhyan ranges.

- **Vegetation:** The vegetation primarily consists of dry deciduous forests, interspersed with grassy patches, thorny shrubs, and riverine belts.
- **Flora:** Some of the common tree species found here include:
  - Dhok (*Anogeissus pendula*) - the dominant tree species across much of the reserve.
  - Khair (*Acacia catechu*)
  - Tendu (*Diospyros melanoxylon*)
  - Babool (*Acacia nilotica*)
- **Fauna:**
  - The reserve hosts tiger, leopard, sloth bear, Indian wolf, striped hyena, herbivores such as spotted deer, sambar, nilgai, chinkara, and wild boar, and small mammals including Indian hare, porcupine and jungle cat.
  - More than 250 species of birds have been documented here.

#### 4. Sarus crane

**Context:** According to a government census conducted across 68 forest divisions of Uttar Pradesh, the population of sarus cranes in the state has gone up by 634 or 3.1% in a year.

##### About Sarus crane

- It is the tallest flying bird in the world.
- **Habitat:** They live mainly in wetlands such as canals, marshes, and ponds, sometimes near humans.
- **Distribution:** They live in Southeast Asia, northern India, and northern Australia.
- In India, most sarus cranes are widely distributed along the Gangetic plain and in eastern Rajasthan in the northern states of India. Population densities decrease going to the south.
- **This species is not known to be migratory. It is a resident (non-migratory) bird in India. It stays in its habitat (primarily the wetlands of Northern and Central India) throughout the year.**

##### Features of Sarus Crane

- It has a predominantly grey plumage with a naked red head and upper neck and pale red legs.
- They are regarded as the least social crane species, found mostly in pairs or small groups of three or four.
- **They are monogamous birds and mate for life.**
- Nests are constructed on water in natural wetlands or in flooded paddy fields.
- **Lifespan:** It has been estimated that cranes in general can live 30 to 40 years.

##### Conservation Status of Sarus Crane

- **IUCN:** Vulnerable.
- **CITES:** Appendix II
- **Wildlife (Protection) Act 1972:** Schedule IV.

#### 5. Dalma Wildlife Sanctuary

**Context:** The Jharkhand tourism minister recently launched a jungle safari and laid the foundation for 30 eco-cottages at Dalma Wildlife Sanctuary in East Singhbhum.

##### About Dalma Wildlife Sanctuary

- It is located near Jamshedpur, in the East Singhbhum district of Jharkhand.
- It is situated around the Dalma Hills on the Chottanagpur Plateau.
- The Sanctuary gets its name from the "Dalma mai" a local goddess who is revered and worshipped by the local people and the people of adjoining villages of Dalma.
- Inaugurated in 1975, it contains a significant population of Indian Elephants.
- The terrain here is hilly and rocky, with dense forests and grasslands.
- The entire forest of Dalma Sanctuary falls in the catchment of the Subarnarekha River and Dimna Lake of Jamshedpur.
- It features two prominent waterfalls, Sitaguldi and Dassam.
- A temple dedicated to Lord Shiva, known as the Dalma Temple, is inside the cover.

- **Vegetation:**
  - The forests of Dalma come under the category “Dry peninsular Sal” and “Northern dry mixed deciduous Forest”.
  - Most of the Dalma forests shed leaves in the summer and attain their full bloom at the onset of monsoon.
- **Flora:**
  - Medicinal plants like Ananatmula, Satawari, Sarpghandha, etc. are abundant in the sanctuary.
  - Various types of trees, climbers, herbs, shrubs, and orchids are found here.
- **Fauna:**
  - Besides elephants, the sanctuary has a considerable population of other wildlife like barking deer, wild boar, giant squirrel, porcupine, pangolin, sloth bear, etc.
  - Commonly seen birds in the sanctuary are falcons, golden orioles, Indian tree pies, paradise fly catchers, grey hornbills, Indian peafowl, etc.

## 6. Giant Phantom Jellyfish

**Context:** Scientists on a month-long deep-sea expedition off Argentina’s coast documented a rare giant phantom jellyfish recently.

### About Giant Phantom Jellyfish

- It is a rare and mysterious deep-sea jellyfish known for its ghostly, translucent appearance.
- It is believed to be widespread throughout the world’s oceans, except in the Arctic Ocean.
- Unlike most jellyfish, it lacks tentacles. Instead, they use ribbon-like arms to grab prey, typically plankton or small fish, and pull them into their mouths.
- This mauve-coloured jellyfish can grow to a colossal size: the bell can be more than one metre (3.3 feet) across, and the animal's four ribbon-like 'oral arms' can reach lengths of more than 10 metres (33 feet).
- **But despite their massive size, the elusive creatures have been spotted only about 120**

**times since the first specimen was collected in 1899.**

- **That’s because they prefer to lurk in the “midnight zone,” a part of the ocean ranging from 3,300 to 13,100 feet deep, that is shrouded in complete darkness.**
- Their bodies being made of either spongy tissue or jelly allows the species to withstand the enormous deep ocean pressure of 40,000 kPa (5,800 pounds per square inch).

## 7. Bhadra Tiger Reserve

**Context:** A black panther and a leopard were recently spotted drinking water side by side, creating a rare and unforgettable moment in the wild.

### About Bhadra Tiger Reserve

- It is located in the Western Ghats of Karnataka, spreading over the Chikmagalur and Shimoga districts.
- It boasts of a substantial tiger population, and as such, the sanctuary was declared the 25th Project Tiger reserve of India in 1998.
- The reserve is unique, as it is nestled within several hill ranges. The habitat has a good population of elephants and is also an Elephant Reserve.
- The reserve is shaped in the form of a saucer, having mostly undulating terrain with valleys and steep hillocks.
- It is well drained by the river Bhadra and its tributaries.
- **Vegetation:** It has dry-deciduous, moist-deciduous, shola, and semi-evergreen patches.
- **Flora:** Teak, Rosewood, Mathi, Honne, Nandi and many medicinal plants, etc.
- **Fauna:**
  - Tiger, Leopard, Leopard cat, Dholes, Indian Civet, ungulates like Gaur, Sambar, and Barking Deer are common.
  - Birdlife in the reserve is abundant, and around 250 species of avifauna have been identified.

## 8. Papikonda National Park

**Context:** The adult male tiger, named 'Explorer', was reintroduced into the wild in the Papikonda National Park (PNP) in Andhra Pradesh as part of Operation Stripes.

### About Papikonda National Park

- **Location:** It is located in the East Godavari and West Godavari Districts of Andhra Pradesh.
- It lies along the banks of the Godavari River.
- **Terrain:** It encompasses a rugged landscape with steep slopes, hills, and deep valleys.
- **Mountains:** There are 62 named mountains in the park. Devara Konda is the highest point. The most prominent mountain is Verala Konda.
- It has been recognized as an Important Bird and Biodiversity Area by BirdLife International.
- **Vegetation:** The park is characterized by tropical, moist deciduous forests mixed with patches of semi-evergreen and dry deciduous forests.
- **Flora:** The park is home to several types of trees, including teak, rosewood, sandalwood, bamboo, eucalyptus, sal, mahua, pterocarpus, terminalia, and cassia.
- **Fauna:** Bengal tiger, Indian leopard, sloth bear, and Indian wild dog (dhole).
- A unique dwarf breed of goat known locally as the "kanchu mekha" originates in this region.

## 9. Cheer Pheasant

**Context:** BirdLife International and the International Union for Conservation of Nature (IUCN) classified the cheer pheasant as Vulnerable, a reflection of its small and naturally fragmented populations.

### Cheer Pheasant

- The cheer pheasant nests on the ground and shows strong natal philopatry, relying on early successional grasslands maintained by low-intensity traditional cutting and burning.
  - "Cheer" denotes the bird's association with Chir Pine forests, while "Pheasant"

refers to its belonging to the game-bird family, which predominantly consists of ground-dwelling species.

- The species now survives in scattered Himalayan grasslands across northern Pakistan, Kashmir, Himachal Pradesh, Uttarakhand, and central Nepal, preferring steep, rocky, scrubby slopes at 1,200-3,350 m elevation.
- The cheer pheasant enjoys the highest level of legal protection—Schedule I of India's Wildlife (Protection) Act, 1972, and Appendix I of Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)—and is safe-guarded across India, Nepal and Pakistan.
- **Note:** The State Bird of Himachal Pradesh is the Western Tragopan (*Tragopan melanocephalus*).

## 10. Bandhavgarh Tiger Reserve

**Context:** The Madhya Pradesh High Court recently directed the Field Director of Bandhavgarh Tiger Reserve to submit a detailed report on recent tiger fatalities in the reserve and surrounding areas.

### About Bandhavgarh Tiger Reserve

- It is located in the Umaria district of Madhya Pradesh.
- It is spread over the Vindhya hills.
- It derives its name from the most prominent hillock in the area, which was said to be given by Hindu Lord Rama to his brother Lakshmana to keep a watch on Lanka. Hence the name Bandhavgarh (Sanskrit: Brother's Fort).
- Topography: Varies between steep ridges, undulating forests, and open meadows.
- The reserve features around 39 caves with Pali inscriptions and animal depictions.
- It also contains ancient structures, including stupas and statues from the 1st century BCE.
- **Flora:**
  - The vegetation of Bandhavgarh is specially filled with Sal forest in the valleys, and bamboo stretches on the lower slopes of the region.

- Some of the most famous floral species include Saj, Dhaora, Tendu, Arjun, Amla, Palas, etc.
- **Fauna:**
  - It is known to have one of the highest density of tigers in the world.
  - It also hosts other notable mammals such as leopards, Indian bison (gaur), sambar deer, spotted deer, nilgai, wild boar, sloth bears, Indian wolves, jackals, and both langur and rhesus macaque monkeys.
  - It also has over 250 bird species, including the crested serpent eagle, Malabar pied hornbill, white-rumped vulture, and Indian roller.

### 11. Bio-indicators

**Context:** Recently, the Uttarakhand Forest Department has officially documented the presence of smooth-coated otters in the Nandhaur Wildlife Sanctuary for the first time.

#### Bio-indicators:

Bio-indicators are living organisms (plants, animals, or microbes) used to assess the health of an ecosystem. They are essentially nature's "early warning system" because they are highly sensitive to environmental changes.

- **Sea Otters:** Act as indicators for **marine ecosystem health**. As a keystone species, their presence and population health reflect the status of kelp forests and the levels of pathogens/pollutants in coastal waters.
- **Bees:** Act as indicators for **terrestrial biodiversity and chemical safety**. They are highly sensitive to pesticides (especially neonicotinoids) and the health of local plant life.
- **Earthworms:** Act as indicators for **soil quality**. They react sharply to soil pH, heavy metal concentrations (like lead or copper), and the presence of synthetic fertilizers.
- **Stoneflies:** Act as indicators for **freshwater quality**. Their larvae can only survive in water with high dissolved oxygen levels and low

organic pollution; their absence is an immediate sign of poor water quality.

- **Pine Trees:** Act as indicators for **air quality**. They are sensitive to ozone levels, sulfur dioxide, and acid rain, which manifest as needle discoloration or stunted growth.

### 12. Red Sanders

**Context:** The busy Tirupati pilgrimage route has made Red Sanders smuggling easier in southern Andhra Pradesh.

#### Red Sanders (*Pterocarpus santalinus*)

- **Endemic Species:** Found only in three districts of southern Andhra Pradesh — Chittoor, Nellore, and YSR Kadapa.
- **Largest Reserve:** Located in the Seshachalam Biosphere Reserve, part of the Eastern Ghats, covering about 4,755 sq km.
- **Growth:** A slow-growing species that takes 25-40 years to reach maturity.
- **Conservation Status:**
  - Listed as Endangered on the IUCN Red List.
  - Included under CITES, which strictly regulates international trade.
  - Protected under the Wildlife Protection Act, 1972.
- Japan, along with China, is one of the largest importers of Red Sanders. In Japan, the wood is historically and culturally significant; it is used to make the **Shamisen** (a traditional three-stringed musical instrument) and is highly valued for furniture and decorative carvings.
- Unlike the **Sandalwood (*Santalum album*)**, which is famous for its fragrance, **Red Sanders is not aromatic** (it has no smell). However, it is indeed resistant to termites and highly durable, which is why it is prized for furniture.

### 13. Amrabad Tiger Reserve

**Context:** A slow-moving star-shelled tortoise was rescued and safely relocated to another part of the forest while escaping a fast-spreading ground fire in the Amrabad Tiger Reserve.

**Key Facts about Amrabad Tiger Reserve**

- It is located in the Nallamala hills of the Eastern Ghats in Telangana state.
- Spread over 2611.4 sq.km., it is one of the largest tiger reserves in India.
- It was originally part of the larger Nagarjunasagar-Srisaillam Tiger Reserve before the bifurcation of Andhra Pradesh and Telangana in 2014.
- The reserve is renowned for its rugged terrain, deep valleys, and dense forests.
- Within the reserve lies the historic Nagalapuram fort.
- The Krishna River and its perennial streams originating within the reserve contribute to the water supply of major reservoirs such as the Srishailam Dam and Nagarjunsagar Dam.
- The Chenchu tribe is one of the major tribal communities that live in the ATR.
- **Flora:**
  - It is characterized by dry deciduous forests, primarily made up of sal, teak, bamboo, and acacia trees.
  - The forest is rich in medicinal plants and shrubs, which have long been used by local tribes for traditional remedies.
- **Fauna:**
  - Apart from tigers, the reserve supports a range of other big cats, such as leopards and wild cats, along with herbivores like sambar deer, chital (spotted deer), nilgai (blue bull), wild boar, and the Indian bison (gaur).
  - Over 303 bird species have been identified in this region. Some important groups include Eagles, Pigeons, Doves, Cuckoos, Woodpeckers, Drongos, etc.

**14. Palamu Tiger Reserve**

**Context:** The south division of Palamu Tiger Reserve has launched a new initiative titled 'Vanjeevi Didi' across 17 identified villages to train educated women to become PTR ambassadors.

**About Palamu Tiger Reserve**

- **Location:** It is located on the Chhotanagpur plateau in Jharkhand.
- The reserve forms a part of the Betla National Park.
- It is one of the first 9 tiger reserves created in the country at the inception of 'Project Tiger'.
- It is the first reserve in the world in which a tiger census was carried out as a pugmark count, as early as 1932 under the supervision of J.W. Nicholson.
- **Terrain:** The terrain is undulating with valleys, hills, and plains.
- **Rivers:** Three rivers, namely North Koyal, Auranga, and Burha, flow through the valleys.
- The area is drought-prone, with Burha being the only perennial river.
- The geological formation consists of gneiss and includes granite and limestone.
- The area is very rich in minerals like Bauxite and Coal.
- **Vegetation:** The vegetation comprises moist deciduous and dry deciduous forests.
- **Flora:** It mainly consists of Sal and bamboo as the major components.
- **Fauna:** Some keystone and principal species found in the reserve include Tiger, Asiatic Elephant, Leopard, Grey wolf, Wild dog, Gaur, Sloth bear and four horned antelope.

**15. Fishing Cat**

**Context:** Recently, the first scientific assessment of the fishing cat (*Prionailurus viverrinus*) has established Kaziranga National Park and Tiger Reserve as a stronghold of the small feline species.

**About Fishing Cat**

- It is a stocky and powerfully built medium-sized wild cat species.

**Habitat**

- It is found in a variety of wetland habitats, mangrove forests, swamps, marshes.

- The species is adapted to both fresh and saltwater habitats, and is able to tolerate a wide range of weather conditions, from tropical rain forests to temperate regions.

#### Distribution

- **It is native to South and Southeast Asia.**
- It inhabits the peninsular region of India, Sri Lanka, Malaysia, Thailand, Java, and Pakistan.
- In India, fishing cats are mainly found in the mangrove forests of the Sundarbans, on the foothills of the Himalayas along the Ganga and Brahmaputra river valleys, and in the Western Ghats.

#### Features of Fishing Cat

- Fishing cats are powerfully built with short limbs and a stocky body.
- They have a long head and a short tail that is roughly one-third the length of their body.
- Their fur is coarse and brownish gray in color with distinctive dark markings.
- **The fishing cat is an adept swimmer and enters water frequently to prey on fish, as its name suggests. It is known to even dive to catch fish.**
- They show strong sexual dimorphism. Males are considerably larger.
- They are nocturnal.

#### Conservation Status of Fishing Cat

- **IUCN Red List: Vulnerable.**
- **Wildlife Protection Act of 1972: Schedule I.**

### 16. Functional diversity

**Context:** Study finds land-use change and elevation reshaping spider communities in the north-western Indian Himalayas.

#### What is functional diversity?

- **Functional diversity** is mostly about the **roles species play in a given ecosystem** and physical

(morphological) or behavioural (life history) characters that allow them to play these roles.

- **Each species performs different ecological functions cumulatively** contributing to functional diversity.

- **Higher functional diversity** makes ecosystems more stable, as if one species becomes locally extinct, another with a similar role can compensate.
- **Continued agricultural expansion** and other anthropogenic activities may simplify complex natural landscapes, **pushing Himalayan biodiversity towards new functional regimes with lower resilience.**

**Note:** Even though one species remains, the “functions” previously performed by the other two (fixing nitrogen and preventing surface erosion) are no longer being carried out. This loss of variety in ecological roles weakens the ecosystem’s resilience and overall health, demonstrating that functional diversity is often more critical for ecosystem stability than simple species counts.



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| 3    | CA June 2025          | 24.08.2025   |
| 4    | CA July 2025          | 07.09.2025   |
| 5    | CA August 2025        | 21.09.2025   |
| 6    | CA September 2025     | 12.10.2025   |
| 7    | CA October 2025       | 16.11.2025   |
| 8    | CA November 2025      | 14.12.2025   |
| 9    | CA December 2025      | 12.01.2026   |
| 10   | CA January 2026       | 15.02.2026   |
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# SCIENCE AND TECHNOLOGY

## 1. Molybdenum Disulfide

**Context:** Scientists recently developed an electronic system using molybdenum disulphide only a few atoms thick; high-energy particles pass through it without causing damage.

### About Molybdenum Disulfide

- Molybdenum disulfide ( $\text{MoS}_2$ ) is an inorganic compound made up of sulfur and molybdenum.
- It exists in nature in the mineral molybdenite.
- In its bulk form, it appears as a dark, shiny solid.
- It belongs to a class of materials called 'transition metal dichalcogenides' (TMDCs).
- Materials in this class have the chemical formula  $\text{MX}_2$ , where M is a transition metal atom (groups 4-12 in the periodic table) and X is a chalcogen (group 16).
- Its crystals have a hexagonal layered structure that is similar to graphite.
- Like most mineral salts,  $\text{MoS}_2$  has a high melting point, but it begins to sublime at a relatively low 450 °C. This property is useful for purifying the compound.
- Because of its layered structure, hexagonal  $\text{MoS}_2$ , like graphite, is an excellent solid lubricant.
- It can be used as surface coatings on machine parts (e.g., in the aerospace industry), in two-stroke engines (the type used for motorcycles), and in gun barrels (to reduce friction between the bullet and the barrel).
- Unlike graphite,  $\text{MoS}_2$  does not depend on adsorbed water or other vapors for its lubricant properties.
- In addition to its lubricating properties,  $\text{MoS}_2$  is a semiconductor.
- Molybdenum disulfide ( $\text{MoS}_2$ ) is widely used as a solid lubricant, especially in high-pressure and high-temperature conditions. Its lubricating property arises due to its layered structure -

weak van der Waals forces exist between layers, allowing them to slide easily over each other.

- The lubricating property is not due to an oxide layer forming around molybdenum. It is due to the lamellar (layered) crystal structure of  $\text{MoS}_2$  itself. In fact, oxidation can degrade its lubricating performance.

## 2. World Nuclear Outlook Report

**Context:** According to the new World Nuclear Outlook Report (published by World Nuclear Association), Five countries - China, France, India, Russia and the United States, could together account for nearly 980 GWe of global capacity in 2050.

### World Nuclear Outlook Report

- It reviews national targets for nuclear capacity and assesses these against the global goal to triple nuclear capacity by 2050.
- It also reviews the current and future contribution of nuclear technology to energy provision and summarises the range of different nuclear reactor technologies available.

### Key Findings

- **Global nuclear capacity** could reach 1,446 GWe by 2050, exceeding the tripling target of 1,200 GWe, with growth driven by reactors under construction, planned projects, and proposed or government-driven programs.
  - **China, France, India, Russia, and the USA** would account for most capacity, while newcomer nations aim for 157 GWe.
- **South Asia, led by India**, is emerging as a key growth region due to rising electricity demand, urbanization, and industrialization.

### Recommendations

- Governments, financial institutions, and industry should work together to expand nuclear energy

by integrating it into climate plans, extending reactor lifetimes, reforming markets, supporting neutral financing, and scaling up supply chains and deployment, including new reactor technologies.

### 3. Moltbook

**Context:** Moltbook is a recently launched AI-only social media platform resembling Reddit, where verified AI agents interact exclusively via APIs, while humans observe passively.

#### About

- Moltbook features topic-based communities called “submolts,” where AI agents powered by models like GPT, Claude, and Gemini post, comment, debate, and form groups without human intervention.
- Created by Matt Schlicht of Octane AI using his OpenClaw framework (formerly Moltbot/Clawdbot), the platform requires no coding from humans and has grown to host 30,000-1.4 million agents.

#### Key Features

- **AI-Exclusive Access:** Agents connect directly through APIs after human setup; no keyboard input or human posting allowed.
- **Emergent Behaviors:** Agents have formed mock religions, political debates, cryptocurrencies, humor, existential discussions, and even calls for private encrypted spaces.
- **Cross-Model Interactions:** Agents from different LLMs recognize “siblings” by model lineage, coordinate societies, and simulate cultural norms unscripted.

### 4. Suborbital Tourism

**Context:** Blue Origin has suspended its New Shepard suborbital space tourism programme for at least two years to prioritise development of NASA’s Artemis lunar lander.

#### About Suborbital Tourism

- Suborbital tourism refers to **short-duration spaceflights that cross the 100 km Kármán line**, widely accepted as the **boundary of outer space**, but do not place the spacecraft into Earth orbit.
- These flights follow a **parabolic trajectory**, where the vehicle ascends steeply and then **descends back to Earth**. Unlike orbital missions, suborbital vehicles do not achieve the high horizontal velocity required to remain in orbit.
- At this height, the atmosphere is so thin that a conventional aircraft would have to travel at **orbital velocity** (extremely fast) to derive enough aerodynamic lift from the air to support itself. Since it’s traveling at orbital speed, it is effectively a spacecraft, not an airplane.
- The flight duration is brief, usually **around 10-15 minutes**, making **suborbital tourism significantly cheaper** and technologically less complex than orbital space travel.
- During the coasting phase, passengers **experience microgravity (weightlessness) for a few minutes** and can observe the curvature of the Earth against the blackness of space.

### 5. Moon’s Mons Mouton

**Context:** A study by ISRO’s Space Applications Centre has identified a safe landing patch near the Moon’s Mons Mouton for Chandrayaan-4, India’s first lunar sample return mission.

#### About Moon’s Mons Mouton:

##### What it is?

- Mons Mouton is a large flat-topped lunar mountain massif near the Moon’s south pole, officially named by the International Astronomical Union (IAU).

##### Location:

- Situated in the **south polar region of the Moon**.
- Lies close to the rim of the **South Pole-Aitken (SPA) Basin**, one of the largest and oldest impact basins in the Solar System.

- Around 160 km from the lunar south pole.

#### Origin:

- Believed to have formed as part of the rim uplift of the South Pole-Aitken basin following ancient massive asteroid impacts.
- Represents exposed deep lunar crust, making it scientifically valuable.

#### Key Features:

- Spans nearly **100 km in width**.
- Rises about **6,000 metres** above surrounding terrain.
- Characterised by **rugged topography**, steep elevation gradients, craters and boulder fields.
- Experiences **unique illumination conditions**, with areas receiving near-continuous sunlight and others in permanent shadow.
- Visible during favourable libration even through **amateur telescopes**.

## 6. Missile and Specifications

**Context:** India and France are in discussions to finalise a major deal for the procurement of SCALP cruise missiles, following their successful use by the IAF in precision strikes against terrorist infrastructure in Pakistan during Operation Sindoor last year.

|   | Missiles       | Specifications            |
|---|----------------|---------------------------|
| 1 | SCALP Missile  | Air-to-surface missile    |
| 2 | METEOR Missile | Air-to-air missile        |
| 3 | HAMMER Missile | Precision-guided munition |
| 4 | SPYDER Missile | Surface-to-air missile    |

## 7. Science Based Targets Initiative

**Context:** India has the scale and momentum to influence how global business responds to climate risk, top executives of the Science Based Targets initiative (SBTi) said recently.

### About Science Based Targets Initiative (SBTi)

- It is a corporate climate action organization that enables companies and financial institutions worldwide to play their part in combating the climate crisis.
- **Mission: To drive science-based climate action in the corporate sector consistent with limiting warming to 1.5°C.**
- SBTi develops standards, tools, and guidance which allow companies to set GHG emissions reduction targets.
- The SBTi validates companies' targets and assists other industry leaders in creating the best practice for their organisations with targets in line with the Paris Agreement.
- **The SBTi was formed as a collaboration between the World Resources Institute, CDP, the United Nations Global Compact, and the World Wide Fund for Nature (WWF).**
- **In 2023, it was incorporated as a charity in the United Kingdom.**
- The SBTi also helps companies and financial institutions worldwide to improve their risk management, attract investors, gain a competitive advantage, and become leaders in sustainability.
- As of April 2025, the SBTi has reported over 10,000 companies worldwide committed to or set science-based emissions reduction targets.

## 8. Ricin

**Context:** In 2025, the Gujarat ATS uncovered an alleged ricin-based bioterror plot, marking India's first suspected ricin-linked bioterror case with possible international links.

### About Ricin

- Ricin is a highly **toxic carbohydrate-binding protein** extracted from the castor bean plant (*Ricinus communis*).
- It **blocks protein synthesis in cells**, causing multiple organ failure and death within hours of exposure. Even a few milligrams can be fatal.

- It is listed under **Schedule-1** of the **Chemical Weapons Convention (CWC)**, supervised by the Organisation for the Prohibition of Chemical Weapons (OPCW).
- There is **no known antidote** for Ricin poisoning.

## 9. Air-Ships Based High-Altitude Pseudo-Satellite

**Context:** The Defence Acquisition Council recently granted Acceptance of Necessity to the procurement of Air-Ships Based High-Altitude Pseudo-Satellite (AS-HAPS) for the Indian Air Force.

### About Air-Ships Based High-Altitude Pseudo-Satellite (AS-HAPS)

- HAPS are solar-powered unmanned aerial vehicles designed to operate in the stratosphere at altitudes of approximately 18-20 kilometres, nearly double the cruising altitude of commercial aircraft.
- Unlike conventional satellites that orbit at least 200 km above Earth and require expensive rocket launches, HAPS platforms can remain airborne for months or even years using solar power during the day and high-density batteries at night.
- This gives them satellite-like capabilities at a fraction of the cost, hence the term "pseudo satellite."
- HAPS hovers persistently over specific locations, providing real-time monitoring of border areas to detect changes or movements.
- Equipped with high-definition optical and infrared cameras, state-of-the-art sensors, these aerial platforms are suitable for round-the-clock missions, border patrolling, target tracking, maritime surveillance and navigation, and even missile detection.

## 10. Discovered planetary system

**Context:** Recently, astronomers found a rocky planet orbiting beyond its gaseous neighbors, challenging current planet formation theories.

### About the discovered planetary system

- The system was observed using the European Space Agency's Cheops space telescope.
- It consists of four planets, two rocky and two gaseous, orbiting a relatively small and dim star called a **red dwarf about 117 light-years from the earth.**
  - The star, named LHS 1903, is about 50% as massive and 5% as luminous as our sun.
  - LHS 1903 is a small red M-dwarf star that is cooler and shines less brightly than our Sun
- The innermost planet is rocky, the next two are gaseous and the fourth, which current planetary formation theory suggests should be gaseous, is rocky.
  - The two rocky planets are superearths, meaning rocky like the earth but two to ten times more massive. The two gas planets are categorised as mini-Neptunes: gaseous and smaller than Neptune but larger than the earth.

## 11. Net Neutrality

**Context:** Telecom operators such as Reliance Jio and Bharti Airtel have urged the government to revisit India's 2016 net neutrality framework to explicitly permit "network slicing" under 5G networks.

### What is Net Neutrality?

- Net neutrality is the principle that **all internet traffic should be treated equally**, without discrimination based on content, platform, application, or user.

### What is Network Slicing?

- Network slicing is a 5G feature that enables the creation of **multiple virtual networks** on a single physical infrastructure.
- Each "slice" can be optimised for specific needs:
  - Ultra-low latency (autonomous vehicles, telemedicine).
  - High reliability (industrial automation).
  - High bandwidth (gaming, HD streaming).

- Telecom operators argue that this is a **technological capability** intrinsic to 5G, **not content-based discrimination**. Operators want to:
  - Offer differentiated quality of service (QoS).
  - Charge premium prices for guaranteed speeds or low latency.

## 12. Supernova

**Context:** When a sufficiently massive star runs out of fuel, its core collapses and triggers a **supernova**, a dramatic explosion that scatters the star's outer layers into space. But scientists have long suspected that sometimes, the explosion fails and instead of a supernova, the star just disappears.

- For a massive star, the formation of an **Iron (Fe) core** is the "beginning of the end." Iron is the most stable nucleus; once the core is converted into iron, the star has reached a dead-end in terms of energy production through fusion. This leads directly to the supernova event.
- Nuclear fusion is sustainable only as long as it is **exothermic** (releases energy). Fusing iron into heavier elements is **endothermic** (it requires/consumes energy). Because no new energy is being released, the outward thermal radiation pressure suddenly vanishes. Gravity, which is always pulling inward, instantly wins the "tug-of-war," causing the core to collapse in milliseconds. Statement II provides the specific physical reason why the event described in Statement I occurs.

## 13. The Linear No-Threshold (LNT) Model

**Context:** The U.S. Department of Energy (DOE) recently removed the ALARA principle from its radiation safety directives, marking a major shift in nuclear safety policy. This move has triggered global debate because international bodies still rely on the **Linear No-Threshold (LNT) model** as the foundation of radiation protection standards.

## About The Linear No-Threshold (LNT) Model:

### What is it?

- The LNT model is a risk assessment framework used to estimate the health risks of ionizing radiation. It posits that there is **no safe level** of radiation; even the smallest dose carries a statistical risk of causing biological damage or cancer.

**Origin:** The concept emerged in the late 1920s following **Hermann Muller's** research on radiation-induced mutations in fruit flies. It was formally adopted by the **ICRP** in the 1950s and 60s as a cautious approach during the Cold War.

**Aim:** Its primary goal is to provide a **precautionary baseline** for regulatory standards, ensuring that public health is protected even when scientific data on very low doses is uncertain.

### Mechanism and Features:

- **Linearity:** The risk of harm (specifically stochastic effects like cancer) increases in direct proportion to the dose received.
- **Zero-Threshold:** Unlike many toxins, there is no floor or threshold below which radiation is considered harmless.
- **Cumulative Risk:** It assumes that the biological impact of small doses over time adds up, rather than the body fully repairing all damage.

## 14. Traditional Knowledge Digital Library

**Context:** Recently, the National Institute of Industrial Property (INPI), Brazil and the Council of Scientific and Industrial Research (CSIR), India have entered into a cooperation arrangement on access to the Traditional Knowledge Digital Library.

### About Traditional Knowledge Digital Library

- It is a unique initiative, established in 2001 by the Government of India through collaboration between CSIR and the Ministry of AYUSH.

- **Objective:** Its primary objective is to prevent the erroneous grant of patents on Indian traditional knowledge and to safeguard the country's knowledge heritage from misappropriation.

#### Features of Traditional Knowledge Digital Library

- It currently contains information on over 5.2 lakh formulations and practices drawn from Indian systems of medicine such as Ayurveda, Unani, Siddha and Sowa Rigpa, as well as Yoga, sourced from authoritative traditional texts.
  - Under this, knowledge from multiple languages and disciplines is translated, structured and linked with modern scientific and technical terminology.
  - **Languages:** The database is available in five international languages- English, German, French, Japanese and Spanish.
  - To this platform, access is provided to patent offices through Non-Disclosure Agreements.
- With the inclusion of INPI, Brazil, the number of patent offices worldwide with access to the TKDL rises to eighteen.
  - The TKDL is widely regarded as a global benchmark for the defensive protection of traditional knowledge.



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“

After completing engineering, I worked briefly in Chennai before joining the Telangana Irrigation Department as an AEE in 2016. While working, I prepared for the Civil Service exam for 5 years. I couldn't clear prelims in my first two attempts, wrote Mains in 2019, and missed the 2020 interview by seven marks. In 2021, I finally received the interview call and scored 201 marks in the interview. This was possible due to the mock interviews and guidance at R.C. Reddy IAS Study Circle. R.C. Reddy Sir also gave me many valuable suggestions. ”

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# GEOGRAPHY AND MAPPING

## 1. Location of Italy

**Context:** An angel in a church in central Rome has been restored to look like Italian Prime Minister Giorgia Meloni, a national newspaper reported on January 31, prompting the culture ministry to investigate and Meloni to laugh off the affair.



**Italy:**

- Italy is located in South-central Europe on the Apennine Peninsula.
- It is positioned both in the Northern and Eastern hemispheres of the Earth.
- Italy shares its borders with Switzerland and Austria in the north, with Slovenia in the northeast and with France in the northwest.
- Vatican City and San Marino are the two enclaved sovereign states within Italy.
- With its southern boundary extending into the Mediterranean Sea, the boot shaped Italian Peninsula is bordered by the Adriatic Sea in the

east, the Sea of Sicily in the south, the Ionian Sea in the southeast, the Ligurian Sea, and the Tyrrhenian Sea in the southwest.

- The two largest Mediterranean Islands -Sardinia is located in the west and Sicily is to the south of Italy.
- Italy **does not share a land border with Croatia** (they are separated by the Adriatic Sea). Its shortest land border is with **Vatican City**, not Croatia.
- **Sardinia and Sicily** are indeed the two largest Italian islands; **Corsica belongs to France**.

## 2. Location of Ethiopia

**Context:** Wanted by the Ethiopian government, rebel military leader Jaal Marroo moves constantly to stay ahead of drones hunting him from the skies.



**Ethiopia:**

- Ethiopia is a country in East Africa in the Northern and Eastern Hemispheres of the Earth.
- It is a landlocked country bordered by six countries.

- These are **Eritrea, Djibouti, Somalia, Kenya, South Sudan, and Sudan to the north, northeast, east, south, west, and northwest** respectively.

### 3. Location of Armenia

**Context:** The Chief of Defence Staff (CDS) is leading a high-level defence delegation on a four-day official visit to Armenia to strengthen bilateral defence engagement.

#### About Armenia

- **Location:** It is a landlocked country, located in the south of Caucasus mountain range.
- **Bordering Countries:** It is bounded by Georgia in the north, Azerbaijan in the east, Iran in the southeast and Turkey in the west.
- **Capital:** Yerevan.



- While the **Lesser Caucasus** runs through the northern and eastern parts of Armenia, the **Greater Caucasus** range (which contains the highest peaks like Mount Elbrus) lies further north. The Greater Caucasus forms the border between Russia and the countries of Georgia and

Azerbaijan; it does **not** enter Armenian territory. Armenia is primarily situated on the Armenian Highland, characterized by the Lesser Caucasus.

- The **River Araks** (or Aras) flows along Armenia's **southern and western** borders. It forms the natural boundary between Armenia and **Turkey**, as well as between Armenia and **Iran**. The border between Armenia and **Georgia** in the north is mostly mountainous and is not defined by the Araks River.

### 4. Location of Seychelles

**Context:** Patrick Herminie, President of Seychelles, will pay a state visit to India at the invitation of Prime Minister of India.

#### About Seychelles:

##### What is it?

- Seychelles is a **sovereign island country and archipelagic state** comprising **115 islands**, known for its high human development, blue economy focus, and strategic maritime location in the Indian Ocean.

##### Located in:

- **Seychelles is an archipelago** of 115 islands located in the **western Indian Ocean (specifically the Somali Sea)**.
- It lies roughly **1,500 km east of mainland Africa (Kenya/Tanzania) and northeast of the island of Madagascar**.
- **Neighbours:** Maldives, Mauritius, Madagascar, Comoros, Réunion (France)

**Capital:** Victoria (on Mahé Island)

##### Key geographical features:

- **Archipelagic composition:** 115 islands grouped into Inner (granitic) and Outer (coralline) islands.
- **Granitic islands** (Mahé, Praslin, La Digue): among the oldest oceanic granite formations in the world.
- **Coral atolls and reef systems:** support rich marine biodiversity and the blue economy.

- **Exclusive Economic Zone (EEZ):** ~1.35 million km<sup>2</sup>, one of the largest relative to country size.
- **High marine conservation:** commitment to protect 30% of marine waters through Marine Protected Areas.



## 5. Location of Sudan

**Context:** The Sudanese Army broke a paramilitary siege on the key southern city of Kadugli on February 3, Army chief Abdel Fattah al-Burhan said, in the latest reversal of a paramilitary offensive through the Kordofan region. Kadugli has been besieged for much of Sudan's nearly three-year war between the army and RSF.

- The two main tributaries of the Nile, the **White Nile** (flowing from Lake Victoria) and the **Blue Nile** (flowing from Lake Tana in Ethiopia), meet at the city of **Khartoum**, which is the capital of Sudan. From this confluence, the river flows northward as the single Nile River through Egypt and into the Mediterranean Sea.
- The Tropic of Cancer (23.5°N) passes through Sudan's northern neighbour, **Egypt**, as well as

Libya and Algeria. Before the secession of South Sudan in 2011, Sudan was much larger, but even then, its northernmost point (the Wadi Halfa salient) barely reached the 22°N parallel. Therefore, the Tropic of Cancer lies entirely to the north of the Sudanese border.



## 6. Location of Volcanoes

**Context:** Unusual changes inside the crater of Chichón volcano in southern Mexico have raised fresh concerns among volcanologists.

|   | Volcanoes         | Locations   |
|---|-------------------|-------------|
| 1 | Mount Kanlaon     | Philippines |
| 2 | Mount Semeru      | Indonesia   |
| 3 | Shiveluch Volcano | Russia      |
| 4 | Chichonal Volcano | Mexico      |

## 7. Location of Lakes

**Context:** Iranian authorities have resorted to cloud seeding to induce artificial rainfall over the Lake Urmia basin amid Iran's worst drought in decades.

|   | Lakes           | Locations |
|---|-----------------|-----------|
| 1 | Great Salt Lake | USA       |
| 2 | Lake Baikal     | Russia    |
| 3 | Lake Qarun      | Egypt     |
| 4 | Lake Urmia      | Iran      |

## 8. DR Congo

**Context:** The M23 on February 4 claimed responsibility for a drone attack targeting a key airport in the city of Kisangani in the northeastern DR Congo, several hundred kilometres from the armed group's usual area of operations.

### DR Congo:

- The Democratic Republic of the Congo (DRC) is located in Central Africa.
- As it straddles the Equator, it has territories in both the Northern and Southern Hemispheres.
- It is located to the east of the Prime Meridian in the Eastern Hemisphere.
- Nine countries border the DRC. These are the Republic of the Congo, Central African Republic, and South Sudan to the northwest, north, and northeast respectively.
- Burundi, Rwanda, and Uganda bound it to the east.
- Tanzania is located to the east across Lake Tanganyika.
- Zambia lies to the southeast and Angola to the southwest respectively.
- DRC also has a coastline on the Atlantic Ocean to the west.
- Angola's Cabinda exclave also borders DRC in this direction.
- The DRC is **not a landlocked country**. It possesses a small coastline of approximately **37–40 km (25 miles)** along the Atlantic Ocean, situated between Angola and the Republic of the Congo.
- Lake Tanganyika is shared by four countries: the **Democratic Republic of the Congo** (holding about 45%), **Tanzania** (holding about 41%), **Burundi**, and **Zambia**. Therefore, a statement saying it is shared by DR Congo, Burundi, and

Tanzania is factually correct, as they are three of the primary riparian states.



## 9. Portugal

**Context:** Storm Leonardo pounded the Iberian peninsula with torrential rains on February 5, prompting more flood warnings, as a man was killed by a deluge in Portugal and Spanish rescuers searched for a woman swept away by a river as she tried to save her dog.

### Portugal:

- Portugal is located on the Iberian Peninsula, in South Western Europe.
- Portugal is geographically positioned in the Northern and Western hemispheres of the Earth.
- Situated in the westernmost part of Europe, Portugal is bordered by Spain in the north and east; and by Atlantic Ocean in the south and west.
- The small archipelagos of Azores and Madeira are in the south and southwest of Portugal in the

Atlantic Ocean. Portugal shares its maritime borders with Morocco.

- While it is true that Portugal only shares a land border with **Spain**, it is **not the only** European country in this category. For example, UK, Ireland, Denmark etc.
- The **Azores** (along with the **Madeira** archipelago) is an autonomous region of the Portuguese Republic. It is located in the North Atlantic Ocean, about 1,400 km west of Lisbon. These islands are an integral part of Portugal and provide the country with one of the largest Exclusive Economic Zones (EEZ) in the European Union.



## 10. Location of Malaysia

**Context:** Recently, the Prime Minister of India began a two-day official visit to Malaysia.

### About Malaysia

- **Location:** It is a country in Southeast Asia, lying just north of the Equator.

- The South China Sea separates Malaysia into two regions: Peninsular Malaysia (West Malaysia) and East Malaysia.
- **Bordering Countries:** Land (Thailand, Brunei and Indonesia) Maritime (Philippines, Singapore, Vietnam)
- **Bordering Seas and straits:** Strait of Malacca, South China Sea, Celebes Sea and the Sulu Sea border Sabah in East Malaysia.
- **Capital:** Kuala Lumpur.



## 11. Bosnia and Herzegovina

**Context:** A drone view shows tonnes of waste, including plastic bottles, used tires and various non-organic waste, floating on the Drina river, creating a floating rubbish dump, in Visegrad, Bosnia and Herzegovina, February 6, 2026.



**Bosnia and Herzegovina:**

- Bosnia and Herzegovina is a country located in the western part of the Balkan Peninsula, in the southeastern region of the European continent.
- It is geographically positioned both in the Northern and Eastern hemispheres of the Earth.
- Bosnia and Herzegovina is bordered by the country of **Croatia to the north, west, and south; by Serbia to the east, by Montenegro to the southeast**; as well as by a short stretch of the Adriatic Sea in the southwest.

**12. Mount Aconcagua**

**Context:** Indian mountaineer Kabak Yano from Arunachal Pradesh successfully summited Mount Aconcagua in Argentina as part of her 7-Summit Mountaineering Expedition.

**About Mount Aconcagua:****What it is?**

- Mount Aconcagua is the highest mountain in South America and the Western Hemisphere, and the tallest peak outside Asia. With an elevation of about 22,831 feet (6,959 m), it is one of the most challenging non-technical climbs among the Seven Summits.

**Located in:** Argentina

- Situated in **western Mendoza Province**, near the **Argentina–Chile border**
- Part of the **Southern Andes mountain range**
- Mount Aconcagua is the highest point in both the Western and Southern Hemispheres, with an elevation of **6,961 meters**. It is located in the Andes mountain range within the Mendoza Province of **Argentina**, near the border with Chile.
- While the **Gran Chaco** is indeed a large plain region in northern Argentina (extending into Bolivia and Paraguay), it is primarily known for its dry forests, savannas, and the production of **cotton and quebracho wood** (tannin). The region of Argentina famous for being the

“breadbasket” and the heart of **wheat and maize production** is the **Pampas** (the fertile lowlands in central Argentina).

**13. Rivers that flow Germany**

**Context:** New Delhi's announcements of a rare earth corridor and permanent magnets manufacturing programme could align with Berlin's plan to scale up its offshore wind capacity; the initiatives for a domestic supply chain come as Germany and Europe are planning to cut down their reliance on China.

**Rivers flow through Germany:**

- **Spree River:** It flows through the states of Saxony, Brandenburg, and most famously, through the center of **Berlin**.
- **Rhine River:** One of Europe's most important waterways. While it starts in Switzerland, the majority of its navigable length and its industrial heartland (the Ruhr) are in **Germany**.
- **Danube River:** It actually **originates in Germany** (in the Black Forest region) and flows eastward through Bavaria before entering Austria and eventually the Black Sea.
- **Elbe River:** It rises in the Czech Republic but flows mostly through **Germany**, passing through major cities like Dresden and Hamburg before emptying into the North Sea.
- **Oder River:** It forms a significant portion of the **natural border between Germany and Poland**.

**14. Azerbaijan**

**Context:** Bharat Petroleum is in talks with State oil company of Azerbaijan for procurement of liquified petroleum gas (LPG), T.V. Pandiyan, head of LPG business with the State-owned refiner told The Hindu.

**Azerbaijan:**

- Azerbaijan is located at the junction of Eastern Europe and Western Asia along the southern flanks of the Caucasus Mountains.
- It is situated both in the Northern and Eastern hemispheres of the Earth.
- Azerbaijan is bordered by Russia in the north, Georgia in the northwest, Armenia in the west, and Iran in the south.
- It is bounded in the east by the Caspian Sea.
- Azerbaijan is located on the western shore of the **Caspian Sea** (the world's largest inland body of water). Its capital, **Baku**, is a major port city situated on the Absheron Peninsula, which juts out into the Caspian.
- The boundary between Azerbaijan and **Russia** (specifically the Russian republics of Dagestan) is formed by the **Greater Caucasus** mountain range. The **Lesser Caucasus** mountains are located in the western and southwestern parts of Azerbaijan, primarily running along the borders with **Armenia and Georgia**.



## 15. Spain

**Context:** Spain has become the latest European country to make plans to ban social media for children under the age of 16.

### Spain:

- Spain is a country located on the Iberian Peninsula in southwestern Europe.
- It is situated in both Northern and Eastern hemispheres of the Earth. S
- Spain is bordered by 5 countries: by Portugal in the west, by France and Andorra in the northeast, by Gibraltar and Morocco (the Spanish territories of Ceuta and Melilla in North Africa), in the south.
- The country is bounded by the Mediterranean Sea in the east and southeast, by the Atlantic Ocean in the northwest and southwest and by the Bay of Biscay in the north.
- Spain shares its maritime borders with Algeria and Italy.



- The **Ebro** is the longest river entirely within Spain and is unique because it flows **eastward**. It rises in the Cantabrian Mountains and empties into the **Mediterranean Sea** via a large delta in the province of Tarragona.
- The **Prime Meridian (0° longitude)** passes through the eastern part of Spain.

## 16. Lebanon

**Context:** Lebanon's President Joseph Aoun has announced the formation of a new government after more than two years of an interim cabinet amid political wrangling and a major economic collapse.



### Lebanon:

- Lebanon is a small Middle East nation situated on the eastern coast of the Mediterranean Sea in Western Asia.
- It is located in Northern and Eastern hemispheres of the Earth.
- Lebanon borders has land borders with two countries.

- It is bounded in the northern and eastern parts by Syria; in the southern part by Israel; in the western part by the Mediterranean Sea.
- The country shares its maritime borders with Cyprus.

The **Bekaa Valley** is a fertile plateau in eastern Lebanon. It is situated between the **Mount Lebanon** range to the west and the **Anti-Lebanon** mountains to the east. It is the country's most important agricultural region and sits geographically in the heart of the country, running north to south.

- Lebanon is a small country on the eastern shore of the Mediterranean Sea. It shares land borders with only two countries: **Syria** to the north and east, and **Israel** to the south.

## 17. Kordofan Region

**Context:** A drone attack by Sudan's Rapid Support Forces struck a vehicle carrying displaced families near Rahad in North Kordofan, killing at least 24 people, including eight children and two infants.



### About Kordofan Region

- It is a region constituting the central and southern area of Sudan.
- It lies between the Darfur region on the west and the valley of the White Nile River on the east.
- It covers an area of about 390,000 sq.km.
- The region is divided into three federal states: North Kordofan (capital: El Obeid), South

Kordofan (capital: Kadugli), and West Kordofan (capital: Al Fula).

- The northern part of the region is desert and has sandy soils and little physiographic relief.
- There is some acacia scrub, desert grass, and thorny shrub; the landscape becomes increasingly more open and barren toward the north.

## 18. Greece

**Context:** India-Greece defence cooperation, Rajnath Singh-Nikos Dendias meeting, bilateral talks, Joint Services Staff Talks, maritime exercise.



### Greece:

- Greece is located in south eastern region of the European continent, on the far southern edge of the Balkan Peninsula.
- Greece lies at the juncture of the continents of Europe, Asia and Africa.
- It is positioned both in the Northern and Eastern hemispheres of the Earth.

- Greece is bordered by 4 Nations: by North Macedonia and Bulgaria in the north, Albania in the northwest, and Turkey in the northeast.
- It is also bounded by the Aegean Sea in the east, Ionian Sea in the west, the Cretan Sea and the Mediterranean Sea in the south.

### 19. Thwaites Glacier (the Doomsday Glacier)

**Context:** Scientists have raised concerns over the Thwaites Glacier, which is nicknamed the “Doomsday Glacier,” as it is melting at an unprecedented rate because of climate change fueled by human activities.

#### Thwaites Glacier (the Doomsday Glacier)

- It is an outflow glacier of the **West Antarctic Ice Sheet (WAIS)**, flowing into the **Amundsen Sea**.
  - The West Antarctic Ice Sheet is **one of the 16 climate tipping elements on the planet**.
- It is nicknamed ‘**Doomsday Glacier**’ due to its **potential to cause major sea-level rise**.
  - It is one of the most important places on the earth **for those trying to understand how sea levels will rise in future**.

|   | Glaciers          | Locations   |
|---|-------------------|-------------|
| 1 | Aletsch Glacier   | Switzerland |
| 2 | Marmolada Glacier | Italy       |
| 3 | Chorabari Glacier | India       |
| 4 | Thwaites Glacier  | Antarctica  |

### 20. Dragon Hole

**Context:** The Sansha Yongle Blue Hole, also known as the Dragon Hole, sits in the South China Sea and has drawn scientific attention for more than a decade.

#### About Dragon Hole

- The Dragon Hole is the popular name for the Sansha Yongle Blue Hole, a massive marine sinkhole in the South China Sea.
- Blue holes are steep-sided underwater cavities, often formed in limestone landscapes, that later flooded as sea levels rose.

- It is the deepest known underwater sinkhole in the world.
- It is about 25 kilometers from the Discovery Reef in the South China Sea.
- The local fishermen call it the ‘eye’ of the South China Sea.
- It is believed to be 301.19 meters deep, beating Dean’s Blue Hole in the Bahamas by almost 100 meters.

### 21. Eritrea

**Context:** A bitter war of words has escalated further after Ethiopia ordered neighbouring Eritrea to “immediately withdraw its troops” from Ethiopian territory, with the pair seemingly inching towards a new conflict.



#### Eritrea:

- Eritrea is an Eastern African country located in the Northern and Eastern Hemispheres of the Earth.
- Three countries border Eritrea.
- These are Ethiopia, Sudan, and Djibouti to the south, west, and southeast respectively.
- Eritrea has an extensive coastline on the Red Sea to the north and east.

- The **Dahlak Archipelago** is a group of 124 islands located in the Red Sea, near the port city of Massawa. Following Eritrea's independence from Ethiopia in 1993, these islands became an integral part of Eritrean territory. Only a few of these islands, such as **Dahlak Kebir**, are permanently inhabited, and they are famous for their pearl fisheries and diverse marine life.
- In Africa, the Tropic of Cancer passes through Western Sahara, Mauritania, Mali, Algeria, Niger, Libya, and Egypt. It stays well to the north of Eritrea and Sudan.

## 22. Location of Thailand

**Context:** Voters in Thailand's general election on February 8 overwhelmingly voted for a referendum calling for a new constitution to replace a 2017 charter. The referendum is the outcome of a decades-long struggle between the pro-military royalist establishment and democratic political movements.



- The Khorat Plateau (also called the Korat Plateau) lies mainly in northeastern Thailand,

but it extends into Laos. It is part of the larger Mekong basin region.

- **Phuket**, Thailand's largest island, is located off the western coast of the Malay Peninsula in the **Andaman Sea** (part of the Indian Ocean). The islands that are famous in the **Gulf of Thailand** (part of the Pacific Ocean/South China Sea) are **Koh Samui, Koh Phangan, and Koh Tao**.

## 23. Gilbert Hill

**Context:** After Anand Mahindra highlighted Gilbert Hill in a recent post, curiosity around the Mumbai landmark has surged.

### About Gilbert Hill

- It is a 200-foot (61 meters) monolith column of black basalt rock located in Andheri, Mumbai Suburban, Maharashtra.
- The hill has a sheer vertical face and is one of the oldest basalt rock formations in the world.
- It was shaped millions of years ago, during the Mesozoic era, about 66 million years ago, when molten lava emerged from the Earth's crevices.
- It belongs to the same geological period that marked the end of the dinosaur age.
- Formed during massive volcanic eruptions that created the Deccan Traps, the structure is a rare example of a volcanic column.
- According to geological records, only three such columnar basalt formations exist in the world. **The other two are**
  - Devil's Tower (USA)
  - Giant's Causeway (Northern Ireland).

## 24. Continental Mantle Earthquakes

**Context:** A Stanford-led study has created the first global map of rare continental mantle earthquakes, identifying 459 such events worldwide.

### About Continental Mantle Earthquakes:

#### What Are Continental Mantle Earthquakes?

- Continental mantle earthquakes are rare seismic events that originate deep within the Earth's

mantle beneath continental regions, rather than in the shallow crust where most earthquakes occur.

- Unlike typical crustal earthquakes (10–29 km depth), these quakes occur **more than 80 km below the Mohorovičić discontinuity (Moho)**—the boundary separating the crust from the mantle.

#### Where Do They Occur?

- The recent study found clustering beneath tectonically active regions such as:
  - The **Himalayan collision zone** (Indian Plate subducting beneath the Eurasian Plate)
  - The **Bering Strait region**
- Such areas are marked by intense continental collision and lithospheric deformation.
- Earthquakes occurring within the continental mantle (depths of 70–300 km) are rare compared to crustal ones. However, because they originate at great depths, the energy radiates outward and upward in a wider “cone.” This allows the shaking to be felt over a much larger geographical area (hundreds of thousands of square kilometers) compared to a shallow crustal earthquake of the same magnitude.
- Stable continental interiors (called Cratons) consist of very old, cold, and dense rock. Because these structures are rigid and uniform, they do not “absorb” or scatter seismic energy as much as younger, fractured, or tectonically active regions. This lack of attenuation (energy loss) allows seismic waves to travel significantly further and maintain higher intensity.
- **Statement II explains statement I:** The reason a deep mantle earthquake can cause “widespread damage” is specifically because the waves travel through the rigid continental lithosphere with “less attenuation,” reaching distant populations with surprising force.

### 25. Burkina Faso

**Context:** Junta-led Burkina Faso’s parliament has dissolved all political parties, whose activities have been suspended for over three years.

#### Burkina Faso:

- Burkina Faso is a West African country located in the Northern Hemisphere region of the Earth.
- As it straddles the Prime Meridian, it has territories on both the Eastern and Western Hemispheres.
- It borders six countries. These are Benin and Togo to the southeast, Niger to the east, Mali to the north and west, Ivory Coast to the southwest, and Ghana to the south.
- Being a landlocked country, Burkina Faso does not have a coastline.



### 26. Mud Volcano

**Context:** A mud volcano suddenly erupted in Diglipur, Andaman Islands, recently.

#### About Mud Volcano

- It is a mound of mud heaved up through overlying sediments.
- The craters are usually shallow and may intermittently erupt mud.
- These eruptions continuously rebuild the cones, which are eroded relatively easily.

- Some mud volcanoes are created by hot-spring activity where large amounts of gas and small amounts of water react chemically with the surrounding rocks and form a boiling mud.
- Variations are the porridge pot (a basin of boiling mud that erodes chunks of the surrounding rock) and the paint pot (a basin of boiling mud that is tinted yellow, green, or blue by minerals from the surrounding rocks).
- Other mud volcanoes, entirely of a nonigneous origin, occur only in oil-field regions that are relatively young and have soft, unconsolidated formations.
- Under compactional stress, methane and related hydrocarbon gases mixed with mud force their way upward and burst through to the surface, spewing mud into a conelike shape.
- Because of the compactional stress and the depth from which the mixture comes, the mud is often hot and may have an accompanying steam cloud.
- Mud volcanoes also exist on the floor of the sea and can form islands and banks that alter the topography and shape of the coastline.
- Approximately 1,000 mud volcanoes have been identified on land and in shallow water.
- In India, the only mud volcano lies in **Baratang Island, a part of the Andaman chain of islands.**

## 27. Tajikistan

**Context:** Tajikistan's long-time leader Emomali Rakhmon has not appeared in public for two weeks, raising questions about the health of the president of the Central Asian nation bordering Afghanistan and China.

### Tajikistan:

- Tajikistan is a landlocked country in the heart of Central Asia.
- This highly mountainous country is located in the Northern and Eastern Hemispheres of the Earth.
- Four countries border Tajikistan. These are Kyrgyzstan, Uzbekistan, China, and Afghanistan to the north, west, east, and south respectively.

- The Fergana Valley is a fertile depression shared by **Tajikistan, Uzbekistan, and Kyrgyzstan**. While Tajikistan does share a border with China (along the eastern Pamir mountain range), the Fergana Valley itself is located in the northern part of Tajikistan and does not extend to the Chinese border.
- The Pamir River flows from Lake Zorkul and serves as a natural boundary between the two countries. It eventually joins the Wakhan River to form the **Panj River**, which continues to define the majority of the border between Tajikistan and Afghanistan.



## 28. Brazil

**Context:** The largest-ever Brazilian delegation to India marks the culmination of the highest-level engagement between the two countries over the past few years.

### Brazil:

- Brazil is a large country located in the central-eastern part of South America, bordering the Atlantic Ocean.

- It occupies almost half of the continent's landmass and is dissected by both the Equator and the Tropic of Capricorn.
- It is hence geographically positioned in the Northern, Southern and Western hemispheres of the Earth, with its major portion lying in the south of the Equator.
- Brazil shares its borders with all South American countries except **Chile and Ecuador**.
- Brazil is bordered by Uruguay to the south; by Argentina, Paraguay and Bolivia to the southwest; by Peru to the west; by Colombia to the northwest; by Venezuela, Guyana, Suriname and French Guiana to the north.



## 29. Peru

**Context:** The Trump administration on February 11 expressed concern that China was costing Peru its sovereignty in solidifying control over the South American nation's critical infrastructure, a blunt warning after a Peruvian court ruling restricted a local regulator's oversight of a Chinese-built mega port.

## Peru:

- Peru is a nation located on the western coast of South America.
- It is situated just to the south of the Equator and is geographically positioned both in the western and southern hemispheres of the Earth.
- Peru is bordered by Colombia and Ecuador to the north; by Brazil to the east; by Bolivia to the southeast and by Chile to the south.
- It is also bounded by the South Pacific Ocean to the west.
- The equator passes through three South American countries: **Ecuador, Colombia, and Brazil**. Peru is located entirely in the Southern Hemisphere. Its northernmost point is approximately **3.3 kilometers (2.1 miles)** south of the equator.
- While the Amazon River is most famous for its vast stretch through Brazil, its headwaters are located high in the **Peruvian Andes**. Scientists generally agree that the river's most distant sources- such as the Mantaro River or the Apurímac River (on Mount Mismi)—are situated in Peru.



### 30. Civilisations and locations

**Context:** Archaeologists excavating near ruins on the island of Sardinia discovered an Iron Age scarab amulet that originated from ancient Phoenicia.

|   | Civilisations | Locations                     |
|---|---------------|-------------------------------|
| 1 | Phoenicia     | Lebanon, Syria, Israel        |
| 2 | Nok           | Nigeria                       |
| 3 | Inca          | Peru, Ecuador, Chile, Bolivia |
| 4 | Aztec         | Central Mexico                |

### 31. Barbados

**Context:** Recently, the Prime Minister of India congratulated Barbados Mia Amor Mottley on securing a historic third consecutive electoral victory.

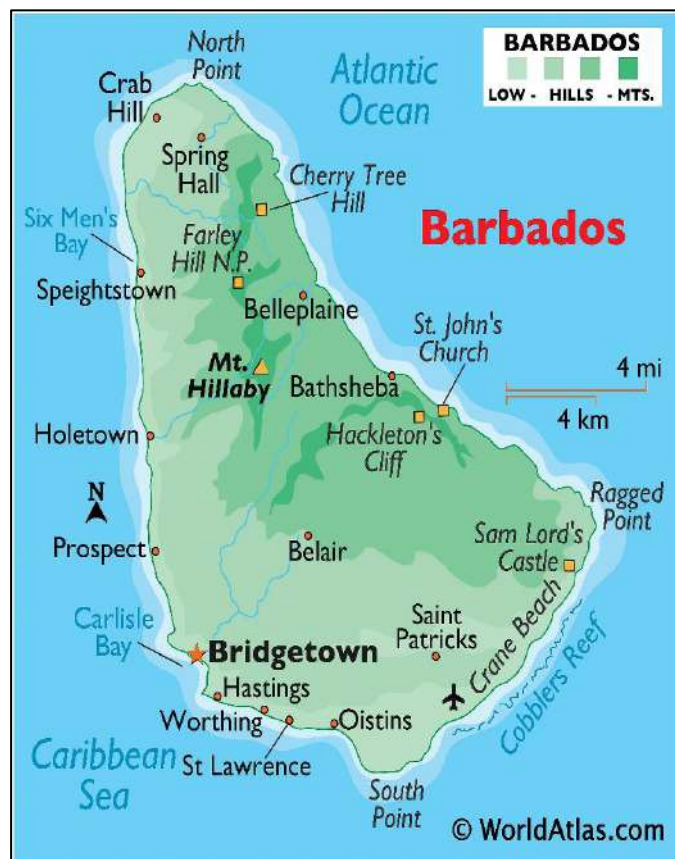
#### About Barbados

- **Location:** It is an island country located in the south eastern Caribbean region of North America.
- It lies to the east of St. Lucia, St. Vincent and the Grenadines; to the southeast of Martinique; to the northeast of Trinidad and Tobago (does not share maritime boundary with Cuba).
- It is the easternmost island in the Caribbean.
- **Water Bodies:** Barbados is surrounded by the Atlantic Ocean.
- It is part of the Caribbean Community (CARICOM) which was established in 1973.
- Barbados is a member of the Commonwealth of Nations.
- **Capital City:** Bridgetown
- **Independence:** Barbados became independent on November 30, 1966.

#### Geographical Features of Barbados

- **Terrain:** The terrain of Barbados is gentle sloping, terraced plains separated by rolling hills.
- **Climate:** Its climate is classified as a tropical monsoon. It experiences both the wet and dry seasons.

- **Highest Point:** The highest point on the island is Mount Hillaby which measures 340 meters above sea level.
- **Natural Resources:** Barbados's chief natural resources are petroleum, fish, and natural gas.



### 32. Singapore

**Context:** Singapore said it plans to regulate the sale of “blind box” products after the controversial marketing strategy raised concerns worldwide about gambling inducement.

#### Singapore:

- Singapore is an island country located off the coast of the southern tip of the Malay Peninsula in Southeast Asia, between the Indian Ocean and South China Sea.
- It is located in both Northern and Eastern hemispheres of the Earth.
- In fact, Singapore is just one degree of latitude above the Equator.

- The country borders South China Sea to the east, the Strait of Malacca to the west, and the Riau Islands lie to the south.
- Changi Airport is located on the **easternmost** tip of the main island of Singapore. The westernmost part of the country is the industrial and residential area of **Tuas**, where the Second Link bridge to Malaysia is located.
- The **Strait of Johor** (also known as the Tebrau Strait) is the narrow body of water that separates the island of Singapore from the Malaysian state of Johor to the north. It is crossed by two main land links: the Johor–Singapore Causeway and the Tuas Second Link.



### 33. Uganda

**Context:** Uganda is the latest African country to discover a network of forced recruitment sending its citizens to fight and die for the Russian Army on the front line in Ukraine.

#### Uganda:

- It is located in the Eastern Hemisphere of the Earth.
- The Equator passes through Uganda.
- Thus, the country has territory in both the Northern and Southern Hemispheres.
- Being a landlocked nation, it is bordered by neighboring countries on all sides.
- It shares its borders with five African countries. South Sudan bounds it to the north, Kenya to the east, Tanzania to the south, the Democratic Republic of the Congo to the west, and Rwanda to the south-west.



### 34. Switzerland

**Context:** Switzerland said on February 14 that Oman would host talks between the United States and Iran in Geneva the coming week, with Washington pushing Tehran to make a deal to limit its nuclear programme.

#### Switzerland:

- Switzerland is a landlocked mountainous country in Western and Central Europe.
- It is located both in the Northern and Eastern Hemispheres of the Earth.

- Switzerland is bordered by 5 European Nations: by **Germany in the north; Italy in the south; Austria and Liechtenstein in the east and France in the west.**



### 35. Slovakia

**Context:** U.S. Secretary of State Marco Rubio began a two-day trip to eastern Europe on February 15 to bolster ties with Slovakia and Hungary, whose conservative leaders, often at odds with other European Union countries, have warm ties with Donald Trump. Mr. Rubio will use the trip to discuss energy cooperation and bilateral issues.

#### Slovakia:

- Slovakia is a mountainous landlocked country in Central Europe. It is positioned both in the Northern and Eastern hemispheres of the Earth.
- Slovakia is bordered by 5 Nations: by **Poland in the north; Hungary in the south; Ukraine in the east; Austria in the southwest and Czech Republic in the west.**



### 36. East Timor

**Context:** Myanmar's junta on February 15 announced the ejection of East Timor's top representative in the country, after a rights group said Dili had opened a legal case against the military for war crimes.

#### East Timor:

- Timor Leste/East Timor is an island country in the Eastern Lesser Sunda Islands, at the southern extreme of the Malay Archipelago in Southeast Asia.
- Timor Leste is the only Asian Nation to be completely located in the Southern Hemisphere.**
- Its territory covers the eastern half of the Timor island.
- It also includes an exclave on this island's northwestern side that is bounded by West Timor of Indonesia.
- It is bounded by the Wetar Strait in the north and the Ombai Strait in the northwest.
- The Timor Sea bounds it to the southeast and Western Timor of Indonesia to the southwest.

- **Australia is Timor Leste's southern neighbor. The Timor Sea separates the two countries.**
- Timor Leste also controls the islands of Oecusse, Jaco, and Atauro.



### 37. Ireland

**Context:** India and Ireland held a high-level bilateral meeting in New Delhi to strengthen cooperation in telecommunications, digital infrastructure, and emerging technologies.

#### About Ireland

- Ireland is an island nation in **Northwestern Europe**, separated from **Great Britain** by the **Irish Sea**.
- **Topography:** A central lowland limestone plain surrounded by coastal mountains.
  - **Eg:** MacGillycuddy's Reeks in the southwest.
- **The River Shannon** is the longest river. The significant lakes include **Lough Neagh** and **Lough Corrib**.
- **Capital:** Dublin.

- The **River Shannon** is the longest river in the British Isles, but it flows entirely within the **Republic of Ireland** (running mostly North to South). It does not serve as the international border between Northern Ireland (UK) and the Republic of Ireland.
- The **North Channel** separates Northern Ireland from **Scotland**, not Wales. The body of water that separates the Republic of Ireland from **Wales** is the **St. George's Channel** (the southern part) and the **Irish Sea** (the central part).



### 38. Lake Victoria

**Context:** Lake Victoria's waters have turned a haunting green, and scientists say the damage has crossed a dangerous line.

#### About Lake Victoria

- It is the largest lake in Africa.
- **It lies mainly in Tanzania and Uganda but also borders Kenya.**
- It is also called **Victoria Nyanza** in Kenya, **Nalubaale** in Uganda, and **Ukerewe** in Tanzania.

- It is crossed by the equator.
- After Lake Superior in North America, it is the second-largest freshwater lake on Earth.
- The lake's area is about 69,484 sq.km. which also makes it the world's largest tropical lake.
- This large irregular-shaped lake has a maximum length of 359 km (north-to-south) and a maximum width of 240 km.
- Its waters fill a shallow depression in the centre of the great plateau that stretches between the Western and Eastern Rift Valleys.
- The Kagera River is the major river that empties into the lake.
- It is the chief reservoir of the Nile River.
- The lake supports the largest freshwater fishery in the world, producing 1 million tons of fish per year and employing 200,000 people in supporting the livelihoods of 4 million people.



### 39. France

**Context:** Recently, India and France renewed the defence cooperation agreement for another 10 years at the 6th India-France Annual Defence Dialogue in Bengaluru.

#### France:

- France is a country located in North Western Europe.

- It is geographically positioned both in the Northern and Eastern hemispheres of the Earth.
- France is bordered by 7 countries: by **Belgium and Luxembourg in the northeast; by Germany, Switzerland and Italy in the east; and by Spain and Andorra in the south.**
- It is also bounded by the Bay of Biscay (North Atlantic Ocean) in the west; by the English Channel in the northwest and by the Mediterranean Sea in the south.
- France also shares maritime borders with UK in the north.



### 40. Finland

**Context:** Recently, the Prime Minister of Finland said that Finland and India, together with global partners, can lead resilient, sustainable and human-centric technological progress.

#### About Finland

- **Location:** It is located in Northern Europe.
- **Bordering Countries:** Norway (north), Sweden (northwest) and Russia (east).
- **Bordering water bodies:** It is bounded by the Gulf of Finland (south), Gulf of Bothnia (southwest) and Baltic Sea.

- **Capital City:** Helsinki
- It is a member of the European Union (EU) and NATO.
- The **Arctic Circle** (66° 33' N) actually passes through the northern part of Finland (Lapland). Therefore, Finland does not lie entirely to the south of the line; significant portions of the country (about one-third) are located **north** of the Arctic Circle.
- **Lake Ladoga** is indeed the largest lake in Europe, but it is located entirely within **Russia**. The largest freshwater lake located within Finland is **Lake Saimaa**.



## 41. Philippines

**Context:** Philippine Vice-President Sara Duterte said on February 18 that she would seek presidency in the 2028 elections - a bid that would have to withstand new impeachment attempts in Congress and criminal complaints that could ban her from public office if convicted.

### Philippines:

- The Philippines, an archipelago in Southeast Asia, situates itself in the western Pacific Ocean.

- It shares maritime borders with Vietnam to the west, Taiwan to the north, Palau to the east, and Malaysia and Indonesia to the south.
- The archipelago encompasses a total area of approximately 300,000 km<sup>2</sup> (about 115,830 mi<sup>2</sup>).
- The geographical profile of the Philippines is broadly divisible into three regions: Luzon, Visayas, and Mindanao.
- The **Batan Islands** (and the Batanes province) are the **northernmost** island chain of the Philippines. They are located in the Luzon Strait, positioned between the Philippine island of Luzon and Taiwan. The southernmost islands of the Philippines are actually the **Sulu Archipelago** (specifically the Tawi-Tawi group).
- The **Sulu Sea** is a marginal sea located in the southwestern area of the Philippines. It is bounded by the Philippine islands (Palawan to the northwest, Panay and Negros to the northeast, and the Sulu Archipelago to the southeast) and the Malaysian state of **Sabah** (on the island of Borneo) to the southwest.



## 42. Straits and Water Bodies

**Context:** The nuclear-powered USS Gerald R. Ford lit up tracking systems while sailing hard toward the Strait of Gibraltar, a move that defence watchers say “doesn’t usually happen”

|   | Straits            | Water bodies                  |
|---|--------------------|-------------------------------|
| 1 | Lombok Strait      | Java Sea and Indian Ocean     |
| 2 | Strait of Dover    | English Channel and North Sea |
| 3 | Dardanelles Strait | Aegean Sea and Sea of Marmara |
| 4 | Bosporus Strait    | Black Sea and Sea of Marmara  |

## 43. Somalia

**Context:** Somali militias terrorise locals after driving out Al-Qaeda.



### Somalia:

- Somalia is an African country located in the Horn of Africa (a peninsula forming the easternmost projection of Africa).

- The Equator passes through southern Somalia.
- So, while most of Somalia lies in the Northern Hemisphere, a small part stretches into the Southern Hemisphere.
- Longitudinally, Somalia is located entirely in the Eastern Hemisphere.
- It has land borders with only two countries; Kenya to the southwest and Ethiopia to the west.
- The Gulf of Aden forms Somalia’s northern borders and the Somali Sea and Guardafui Channel bound it to the east.
- Somalia is not entirely flat. The northern part of the country is home to the **Ogo Mountains** (also known as the Galgodon Highlands). The highest peak in Somalia is **Shimbiris**, which reaches an elevation of approximately **2,416 meters** above sea level. This range runs parallel to the Gulf of Aden coast.
- The **Equator** passes through southern Somalia. The **Jubba River** (Giuba), which is one of Somalia's two major permanent rivers, flows from the Ethiopian highlands through southern Somalia and into the Indian Ocean, crossing the Equator in the process near the town of **Jilib**.

## 44. Floreana Island

**Context:** More than 150 giant tortoises have been recently reintroduced to Floreana Island in Ecuador's famed Galapagos archipelago, where they disappeared more than a century ago.

### About Floreana Island

- Floreana, officially "Santa Maria," is located on the southern end of the Galápagos Archipelago off the west coast of continental Ecuador.
- Spanning approximately 173 sq.km., it is a volcanic landmass.
- Situated in the middle of the Pacific Ocean - roughly 1,000 kilometers from the mainland coast - it remains a remote and vital ecological site.
- It supports a range of habitats, including coastal lagoons, volcanic highlands, and offshore reefs.

- It was the first island to be colonized by Ecuadorians in 1832. It was a penal colony that didn't last long because of the lack of fresh water.
- Today, only around 150 people live here, most in the small coastal settlement of Puerto Velasco Ibarra, one of the smallest and most isolated communities in the Galapagos.
- The majority of the inhabitants of Floreana Island still make a living through farming.
- The main water source for the entire island is one natural pond that only fills up during the rainy season.



#### 45. Taftan Volcano

**Context:** Taftan Volcano in southeastern Iran has nudged upward by about 3.5 inches (9 centimeters) in 10 months.

##### About Taftan Volcano

- It is a stratovolcano located in southeastern Iran, close to the border with Pakistan.
- It rises approximately 4,000 meters (13,000 feet) above sea level, making it the tallest mountain in southeastern Iran.
- The volcano contains two summits (Narkuh and Matherkuh).
- It hosts an active hydrothermal system and smelly, sulfur-emitting vents called fumaroles.
- It is the only active volcano in the Makran continental volcanic arc formed by the subduction of the Arabian Plate beneath the Eurasian Plate.
- It isn't known to have erupted in human history.

- Geologists estimate that its last major eruption occurred around 700,000 years ago, long before the emergence of Homo sapiens.
- Today, it still vents heat and gas through fumaroles near its summit, evidence that geothermal activity persists below.

#### 46. Lakes and Features

**Context:** Seven bodies found in Lake Baikal after a tour bus with eight Chinese tourists plunged through ice. One survivor escaped.

|   | Lakes         | Features                                   |
|---|---------------|--------------------------------------------|
| 1 | Lake Baikal   | Deepest Lake in the world                  |
| 2 | Lake Superior | Largest lake in the world by Surface area. |
| 3 | Dead Sea      | Most Saline Lake in the world.             |
| 4 | Lake Titicaca | Highest navigable lake in the world        |

#### 47. Mexico

**Context:** Mexico deployed around 10,000 troops after the death of drug cartel leader Nemesio El Mencho Oseguera, which triggered large-scale violence across multiple states.



##### About Mexico:

##### What it is?

- Mexico, officially called the **United Mexican States (Estados Unidos Mexicanos)**, is a federal republic located in **southern North America**.

- It is one of the largest economies in Latin America and has a diverse cultural, historical, and ecological landscape.

**Capital:** Mexico City

**Bordering Nations:**

- United States to the north.
- **Guatemala and Belize to the southeast.**
- Bounded by the Pacific Ocean (west & south) and the Gulf of Mexico and Caribbean Sea (east).

**Key Geological Features:**

- Part of the **Pacific Ring of Fire**, making it highly prone to earthquakes and volcanic activity.
- **The Tropic of Cancer passes roughly through the central part of Mexico, not its northern part (not the northern part).**
- Major mountain systems include Sierra Madre Occidental, Sierra Madre Oriental, and the Trans-Mexican Volcanic Belt (Cordillera Neo-Volcánica).
- Home to active and high volcanoes such as **Popocatepetl** and **Citlaltépetl (Pico de Orizaba)**.

- Diverse physiographic regions including the **Mexican Plateau, Yucatán Peninsula, Baja California Peninsula**, and coastal plains.
- **The Gulf of California (also called Sea of Cortez) lies between the Baja California Peninsula and mainland Mexico.**
- Major rivers include **Río Bravo (Rio Grande), Grijalva, and Balsas.**
- **The Rio Grande forms a significant portion of the natural boundary between the United States and Mexico.**



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# ART AND CULTURE

## 1. Chinch Indians

**Context:** A recent study shows that the Chinch Indians used nitrogen-rich seabird guano to significantly boost maize production in coastal Peru and strengthened the pre-Inca Chinch, Kingdom.

### Chinch Indians

- The Chinch were a **pre-Inca civilisation** located in the **Chinch Valley** on the southern coast of present-day **Peru**.
- They flourished between **1000–1400 CE**.
- At their peak, their population is estimated to have reached nearly **100,000**.
- The **Chinch Valley** is located approximately 200 kilometers south of **Lima, Peru**. It is a 25-kilometer-long oasis surrounded by the Peruvian Coastal Desert, one of the driest places on Earth.

### Seabird guano

- Seabird guano is a natural, **highly effective fertilizer** composed of accumulated, nutrient-rich excrement, carcasses, and eggshells from seabirds.
- It is **exceptionally rich in nitrogen** due to birds' marine diets of fish and seafood.
- The **Chinch harvested guano** from the nearby Chinch Islands and transported it to mainland fields.
- The **fertiliser restored soil nutrients** in the dry coastal environment, where soils lose fertility quickly.

## 2. Ol Chiki script

**Context:** President Droupadi Murmu inaugurated the centenary celebration of the Ol Chiki script in New Delhi, emphasising its importance in preserving Santhal heritage.

### About

- Ol Chiki was developed in **1925** by **Pandit Raghunath Murmu** to provide a dedicated writing system for the Santhali language.

- It comprises **30 letters** designed to capture Santhali phonetics with precision, allowing systematic documentation of its vocabulary and grammar.
- Santhali, a member of the **Austroasiatic language family**, is spoken across **Jharkhand, Odisha, West Bengal, Assam, and Bihar**.
  - It was included in the Eighth Schedule of the Constitution in 2003.

## 3. Puppetry

**Context:** The commemorative stamp set showcases eight traditional puppetry forms from different regions of India, with each unique art form featured on an individual stamp.

| Sr no. | Name of Puppetries | States/UTs     | Type of Puppetries |
|--------|--------------------|----------------|--------------------|
| 1      | Gombeyatta         | Karnataka      | string puppet      |
| 2      | Daanger Putul      | West Bengal    | Rod Puppet         |
| 3      | Benir Putul        | West Bengal    | Glove Puppet       |
| 4      | Tolu Bommalatta    | Andhra Pradesh | Shadow Puppet      |

## 4. Indus Valley Civilisation

**Context:** The research suggests the Indus Valley Civilisation could be far older than previously believed, not just by a few centuries, but by thousands of years.

### About

- Experts studying **pottery and animal remains at Bhirrana in northern India** suggest that the Indus Valley Civilization may stretch **back around 8,000 years**.
- If confirmed, that would place its earliest beginnings well before the era of Egypt's first pharaohs.
  - For decades, historians have placed the great civilisations of the ancient world in an order from first Mesopotamia, then Egypt with its pyramids and pharaohs, and alongside them, the Indus Valley Civilisation.



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# MISCELLANEOUS

## 1. Global Teacher Prize

**Context:** Indian teacher Rouse Nagi has won the Global Teacher Prize 2026, receiving the one-million-dollar award at the World Government Summit in Dubai.

### About the Global Teacher Prize

- It was Launched in **2014** and is often referred to as the “Nobel Prize of Teaching”.
- It is Presented by GEMS Education and organised by the Varkey Foundation in collaboration with **UNESCO**.
- It recognises exceptional educators for their outstanding contributions to teaching and social transformation.

## 2. Vibrant Villages Programme-II

**Context:** The Union Home Minister will launch the Vibrant Villages Programme-II in the Cachar district of Assam.

### About Vibrant Villages Programme-II

- It is a Central Sector Scheme (100% Centre funding).
- It is designed to ensure comprehensive and sustainable development of border villages through a saturation-based and convergence-driven approach.
- Objective: To create better living conditions and adequate livelihood opportunities to ensure prosperous and safe borders, control trans-border crime and assimilate the border population with the nation.
- States Covered: It is implemented in the States/UTs of Arunachal Pradesh, Assam, Bihar, Gujarat, J&K, Ladakh, Manipur, Meghalaya, Mizoram, Nagaland, Punjab, Rajasthan, Sikkim, Tripura, Uttarakhand, Uttar Pradesh and West Bengal.
- It excludes the Northern border already covered under VVP-I.

- Financial Outlay: It has a total outlay of Rs 6,839 crore to be implemented till the FY 2028-29.

### Key Features of Vibrant Villages Programme-II

- It shall provide funds for infrastructure development within the village or a cluster of villages like education infrastructure like SMART classes, development of tourism circuits.
- It focuses on value chain development through cooperatives, SHGs, etc to create diverse & sustainable livelihood opportunities in the border areas.
- It emphasizes enhancing vibrancy in these villages by organizing activities including fairs & festivals, awareness camps, celebration of National days.

## 3. Ottawa Convention

**Context:** Poland's withdrawal from the Ottawa Convention, as announced by the Prime Minister recently, is a strategic maneuver that allows the country to deploy anti-personnel mines swiftly along its eastern borders if necessary.

### About Ottawa Convention

- The Ottawa Convention, also referred to as the “Mine Ban Treaty,” prohibits the use, stockpiling, production, and transfer of anti-personnel landmines (APLs).
- It requires states-parties to destroy their stockpiled APLs within four years and eliminate all APL holdings, including mines currently planted in the soil, within 10 years.
- Countries may request a renewable extension, which can be up to 10 years long, to fulfill their destruction obligations.
- States-parties are also required annually to report their total APL stockpiles, the technical characteristics of their APLs, the location of all mined areas, and the status of APL destruction programs.

- The convention, which is of unlimited duration and open to all nations, entered into force on March 1, 1999.
- The Treaty has 164 States Parties, including 34 out of the 50 States that produced mines before 1997, and 33 Signatories.
- **It is a legally binding treaty. It was opened for signature in 1997 and entered into force in 1999.**
- **However, six major countries remain outside the Convention: China, India, Pakistan, Republic of Korea, Russian Federation and United States.**
- States Party to the Ottawa Treaty commit to
- Never use APLs, nor “develop, produce, otherwise acquire, stockpile, retain, or transfer” them;
- Clear mined areas in their territory within 10 years;
- In mine-affected countries, conduct mine risk education and ensure that mine survivors, their families, and communities receive comprehensive assistance;
- Offer assistance to other States Parties, for example, in providing for survivors or contributing to clearance programs;
- Adopt national implementation measures (such as national legislation) in order to ensure that the terms of the treaty are upheld in their territory.

#### 4. Takeshima

**Context:** South Korea recently protested a Japanese government-backed “Takeshima Day” event, calling it an unjust assertion of sovereignty over disputed islands also claimed by Japan.

##### About Takeshima

- It is a group of small islets situated in the middle of the Sea of Japan.
- It is lying almost equidistant between the Korean Peninsula and Japan.
- It is called Dokdo in South Korea and Takeshima in Japan.
- It has also been known as the Liancourt Rocks, named by French whalers after their ship in 1849.
- The islands themselves consist of two main islands and about 30 smaller rocks.

##### Administrative Control:

- South Korea currently administers the islets, maintaining a small police detachment and facilities.
- Japan claims sovereignty and considers the issue an unresolved territorial dispute.



#### 5. Eastern Nagaland Peoples' Organisation

**Context:** On February 5 2026, the Union Government signed a tripartite agreement with the Government of Nagaland and the Eastern Nagaland Peoples' Organisation (ENPO) to create the Frontier Nagaland Territorial Authority (FNTA).

##### About

- The ENPO had demanded a separate State, “**Frontier Nagaland**”, since **2010**.
- The demand stems from **colonial-era policies** that treated the **eastern hills as a minimally administered frontier**.
- After **Nagaland was carved out of Assam as a State in 1963**, eastern tribes felt politically and economically marginalised compared to western Nagaland.
  - The eight tribes inhabiting the region argued that development gaps widened due to **limited infrastructure, poor connectivity, and weaker political representation**.

**Key Features of the FNTA**

- The FNTA grants semi-autonomous governance to six eastern districts of Nagaland, allowing local administration to function with reduced dependence on the State capital.
- **Districts Covered Under FNTA:** Mon, Tuensang, Longleng, Kiphire, Noklak and Shamator.
- A mini-Secretariat will be established within the region, headed by a senior officer, to improve administrative efficiency.
- The authority will exercise legislative and executive powers over **46 subjects**, enabling local leaders to make decisions on matters such as:
  - Land use and management
  - Agriculture and allied activities
  - Rural development
  - Infrastructure and local planning
  - Welfare schemes suited to tribal needs.
- **Development funds** will be allocated proportionately based on population and geographical area.
- The FNTA arrangement does not alter Article 371(A) of the Constitution, thereby preserving Naga customary laws, traditional institutions, and social practices.

**6. Prahaar Anti-Terror Policy**

**Context:** India has unveiled its first-ever comprehensive anti-terror policy, titled 'Prahaar', formalising a proactive and intelligence-led counter-terror doctrine.

**About Prahaar Anti-Terror Policy:****What it is?**

- Prahaar is India's first integrated **national counter-terrorism policy and strategy**, designed as a doctrine-level framework for preventing, responding to and recovering from terrorism threats.
- It adopts a **whole-of-government and whole-of-society approach**, combining intelligence, law enforcement, technology and international cooperation.

**Launched by:**

- Introduced by the **Government of India** as a national counter-terror strategy framework involving central and state security agencies.

**Aim:**

- To prevent and neutralize terrorism through proactive, intelligence-guided operations and coordinated institutional mechanisms.
- To disrupt terror ecosystems by targeting financing, recruitment, radicalisation, logistics and cyber networks.

**Key Features:**

- **Seven-Pillar Framework (PRAHAAR):** Prevention, Response, Aggregation of capacities, Human-rights-based processes, Attenuation of radicalisation, Aligning international cooperation, and Recovery.
- **Proactive Intelligence Model:** Focus on pre-emptive disruption of terror networks instead of reactive policing.
- **Technology-Centric Security:** Addresses threats from drones, encrypted messaging apps, dark web and crypto financing.
- **Uniform Counter-Terror Structure:** Standard procedures and coordinated mechanisms across central, state and district levels.
- **Counter-Radicalisation Strategy:** Graded police response combined with education, engagement and de-radicalisation programmes.
- **Global Collaboration:** Emphasis on extradition, intelligence sharing and alignment with UN anti-terror norms.
- **Human Rights Safeguards:** Ensures legal due process, redressal mechanisms and rule-of-law based action.



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PTS, VAP & IGP

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AKASH KUMAR RAI  
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IGP

**AIR 341**  
VISHAL PATTANAYAK  
IGP

**AIR 541**  
VELIMINETI VIKRAM SIMHA REDDY  
IGP

**AIR 870**  
SANJAY RAJ MEENA  
IGP

**AIR 76**  
SUNAWARDEEP SINGH MASOON  
IGP

**AIR 342**  
KUNIKA SINGH  
IGP

**AIR 557**  
ARIYA VAMANAN  
IGP

**AIR 900**  
BANOTHU BHARATH KUMAR  
SRM

**AIR 123**  
ATLA THARUN TEJA  
SRM

**AIR 358**  
M VENKATESH PRASAD SAGAR  
IGP

**AIR 566**  
KESABOINA AKHIL SAINADH  
IGP

**AIR 908**  
KATTA PRATHYUSHA  
IGP

**AIR 125**  
SRIGIRIRAJU V P S SAI KRISHNA  
IGP

**AIR 362**  
AMAL KAMPIYIL  
IGP

**AIR 633**  
SATYAM SHAH  
IGP

**AIR 909**  
LAVESH VERMA  
IGP

**AIR 130**  
PANKAJ SONI  
IGP

**AIR 382**  
MOHAMMED ASHMIL SHAH  
IGP

**AIR 636**  
SHUBHAM MEENA  
IGP

**AIR 939**  
JEETHENDER NAIK GUGULOTHU  
IGP

**AIR 139**  
CHAKKA SNEHITH  
IGP

**AIR 393**  
YARASI TUSHARIKA  
PTS, VAP & IGP

**AIR 640**  
PALLI PRAMOD VISHNU  
VAP & IGP



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