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PREFACE

Current Affairs UPSC CSE Prelims 2027

This high-quality monthly compilation of Current Affairs for Civil Services Exam Prelims 2027 is designed to help Civil Services Exam aspirants by:

1. **Saving preparation time:** Consolidates key current affairs from multiple sources for CSE Prelims.
2. **Reinforcing static concepts:** Links static concepts with current affairs
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Details of our Current Affairs Test Series are on the back cover and inside this magazine.

Our team of content developers have worked rigorously to create this high-quality compilation, and we hope that all Civil Services and other competitive exam aspirants will make the best use of it. All the Best!

R. C. Reddy IAS Study Circle
Hyderabad



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POLITY

1. Medical Termination of Pregnancy (MTP) in India

Context: The Supreme Court has asked the Union government to amend the abortion law to remove the time limit on medical termination of unwanted pregnancies in the case of minor rape victims.

Medical Termination of Pregnancy (MTP) in India

- The Medical Termination of Pregnancy (MTP) Act permits abortions in **specific predetermined situations**.
- Before the enactment of the MTP Act in **1971**, the medical termination of pregnancy was governed by the **Indian Penal Code (IPC)**.
 - Most of these provisions aimed at **criminalising abortions**, except where the procedure was done in good faith in order to save the woman's life.
 - The provisions **failed to make a distinction between wanted and unwanted pregnancies**, making it extremely onerous for women to access safe abortions.
- In **1971**, the MTP Act was enacted by Parliament as a **"health" measure**, to **decriminalise abortion in certain defined circumstances** and under due supervision of registered medical practitioners.
 - A pregnancy could only be terminated **under Section 3(2) if it did not exceed 20 weeks**.
 - It laid down that the pregnancy can be terminated on the opinion of **one doctor if it is done within 12 weeks** of conception and **two doctors if it is done between 12 and 20 weeks**.
- The **2021 amendment to the MTP Act**: Rule 3B permitted **abortion up to 24 weeks** for women due to change of marital status during the ongoing pregnancy, besides in cases of survivors of rape, and other vulnerable women.
 - It also replaced the word **"by any married woman or her husband"** with the words **"any**

woman or her partner", bringing within the fold of the law **pregnancies outside marriage institutions**.

- After **24 weeks**, the MTP Act requires **medical boards of expert doctors to be set up by the state government** in each district, which opine on whether to allow termination of pregnancy in case of **substantial foetal abnormality**.
- A Medical Board is only required for abortions **beyond 24 weeks** in cases of substantial foetal abnormalities. For pregnancies up to 20 weeks, the opinion of one registered medical practitioner (RMP) is needed. Between 20 and 24 weeks, two RMPs are required for specific categories of women.
- First, the 2021 amendment replaced "married woman" with "any woman," specifically including unmarried women in the 20-24 week bracket. Second, abortions **after 24 weeks** are generally not permitted based on marital status; they are allowed only if a Medical Board diagnoses substantial foetal abnormalities.
- Under the MTP Amendment Act 2021, every State Government and Union Territory Administration is mandated to constitute a Medical Board at the state level to decide on late-term pregnancies (beyond 24 weeks).

2. Procedure of Handling EVMS

Context: Days before the counting of votes in the West Bengal Assembly elections, Chief Minister Mamata Banerjee claimed they received reports of manipulation concerning the storage of EVMs.

Procedure of Handling EVMS

- The ECI's procedure for handling EVMS before, during and after polling is laid out in its **Manual on Electronic Voting Machines, 2023**.
- Before the election, EVMS are stored in a warehouse under the control of the District

Election Officer (DEO), who is the District Magistrate.

- **Once elections are underway**, the EVMs are randomised in the presence of representatives of national and state-recognised parties and sent to the respective strongrooms in each Assembly constituency.
- The entire process is to be **conducted under 24/7 CCTV coverage**; it is from these strongrooms that the EVMs are dispatched to the polling booths.
- **After polls close on voting day**, the EVMs are to be sealed and escorted back to the strongrooms by the poll officials and security personnel.

3. Apnoea test

Context: The Supreme Court is examining the plea alleging apnoea test is inconclusive to assess brain death.

About

- The apnoea test is a critical component in the **determination of brain death**.
- It assesses **whether the patient can initiate spontaneous breathing** when **carbon dioxide (CO₂) levels rise**.
 - It is conducted to **confirm absence of respiratory drive** from the brainstem (specifically the medulla), which is essential in diagnosing brain death.
- Normally, **rising arterial CO₂ stimulates the respiratory centers** in the brainstem to **trigger breathing**.
- If no breathing occurs despite elevated CO₂, it suggests loss of brainstem function.
- **Brain death** is the irreversible and complete loss of all functions of the brain, including the brainstem.
 - A person who is brain dead has no consciousness, no brainstem reflexes, and no ability to breathe independently, and is legally considered dead in many countries, including India.

- The Apnoea Test is generally regarded as a mandatory final step in brain death certification protocols for organ donation.

4. Public Interest Litigation

Context: The Supreme Court judge has said Public Interest Litigation (PIL), has lately metamorphosed into 'private interest litigation', 'publicity interest litigation' and even 'paisa' and 'political' interest litigation.

Public Interest Litigation (PIL)

- Public Interest Litigation (PIL) means a case or petition filed before a court to **protect, safeguard or enforce public interest**.
- It is a unique mechanism initiated by the **Indian judiciary post-Emergency** to "bring social justice within the reach of the common man",.
- PIL is **not explicitly mentioned in the Constitution** but has evolved through judicial interpretation.
 - **All Indian citizens or organisations** can file a public interest litigation petition before the **Supreme Court under Article 32** or the **High Courts under Article 226** of the Constitution.
 - However, the person or organisation filing the PIL petition must prove to the court that the **PIL is being filed for an issue concerning public interest** and that it will benefit the public at large.
- A PIL can only be filed against the Central Government, municipal governments or State Government and **not against individuals**.

Note: In **traditional/normal litigation**, courts strictly adhere to the doctrine of **locus standi** (legal standing), which dictates that only an aggrieved party-someone whose specific legal or fundamental rights have been directly violated-can file a case. A PIL radically departs from this rule. The core purpose of a PIL is not to settle private claims, but to protect public interests and check state apathy.

5. Governor's role in CM removal

Context: Trinamool Congress Chief refused to resign from Chief Minister post after election defeat, calling the result a conspiracy, alleging unfair polls and misuse of central forces

Governor's role in removal

- If the Governor doubts whether a Chief Minister enjoys majority support in the Legislative Assembly, a floor test must be conducted in the House.
- During this process, the Chief Minister has to prove that they have the support of more than half of the MLAs.
- If the Chief Minister fails to demonstrate this majority, they are required to resign from office.
- If no party is able to form a stable government, President's Rule under Article 356 may be imposed as a last resort.
- As settled by the Supreme Court in the landmark **S.R. Bommai v. Union of India (1994)** case, the majority of a government must be tested strictly on the floor of the House. If a Chief Minister loses a floor test (No-Confidence Motion) and defiantly refuses to resign, the Governor's constitutional "pleasure" terminates instantly, and the Governor is fully empowered to dismiss the Chief Minister.
- A political defeat in the Lok Sabha general elections does not alter the legislative composition or mandate of the State Legislative Assembly. As long as the Chief Minister commands a clear, tested majority within the State Assembly, the Governor cannot dismiss them.
- In a parliamentary democracy, the Governor is a constitutional head who acts on the aid and advice of the Council of Ministers. The Governor has absolutely no discretionary authority to dismiss a Chief Minister based on personal assessments of policy popularity or governance quality, provided the government maintains its legislative majority.

6. Freedom to manage religious affairs

Context: The Central Board of Dawoodi Bohra Community, questioned the power of the religious head of the community to excommunicate persons, saying it violated the fundamental rights of the faithful. The court asked if the power to excommunicate isn't protected under Article 26(b).

About Article 26(b)

- Article 26 deals with the **Freedom to manage religious affairs** and grants rights to every religious denomination or any section thereof, **subject to public order, morality, and health.**
 - (a) to establish and maintain institutions for religious and charitable purposes;
 - (b) to manage its own affairs in matters of religion;
 - (c) to own and acquire movable and immovable property; and
 - (d) to administer such property in accordance with law.

7. Supreme Court's Recent Observations: 'Tyranny of the Elected'

Context: Recently, the Supreme Court remarked that Parliament's prolonged failure to enact a law on Election Commission (EC) appointments reflected a possible 'tyranny of the elected'.

Supreme Court's Recent Observations (May 2026)

- **'Tyranny of the Elected':** It questioned why Parliament failed for decades to enact a law despite constitutional mandate, and remarked 'this should be equated with tyranny of the elected'.
 - It reflects judicial concern regarding concentration of power, and executive influence over independent institutions.
- **Debate on Parliamentary Deliberation:** The Court questioned whether Parliament adequately debated the **Anoop Baranwal**

judgment, and the spirit of judicial recommendations was reflected in the law.

Historical Background:

- Coined and explored by political theorists like Alexis de Tocqueville and John Stuart Mill, the **“tyranny of the elected”** describes a fundamental vulnerability within parliamentary democracies. When a ruling executive commands an overwhelming, unchecked majority in the legislature, it can pass laws that are technically “legal” and democratic by vote-count, but inherently anti-democratic in substance. It occurs when democratic processes are weaponized to erode institutional checks and balances, silence political opposition, or ignore the rights of minority groups under the justification of a “popular mandate.”

8. National Panchayat Awards

Context: Recently, the winners of the **National Panchayat Awards 2025 (NPA-2025)** have been announced by the Ministry of Panchayati Raj (MoPR).

About National Panchayat Awards

- It is awarded by the Ministry of Panchayati Raj annually to recognize and incentivize best-performing Panchayats.
- The awards are given under the Incentivization of Panchayats (IoP) scheme, a central component of the Centrally Sponsored Scheme of Rashtriya Gram Swaraj Abhiyan (RGSA).
- Background: These awards have been revamped and launched during the year 2022 aligning them with 9 Localization of Sustainable Development Goals (LSDGs) themes aggregating 17 SDGs.
- Objective: To assess the performance of Panchayats in attainment of SDGs, promote competitive spirit among them and catalyze the process of LSDGs through Panchayati Raj Institutions for attaining LSDGs by 2030.

- All the Panchayats are ranked based on their performance under each of the following 9 LSDG themes:
 - Poverty free and enhanced livelihoods Panchayat
 - Healthy Panchayat
 - Child Friendly Panchayat
 - Water Sufficient Panchayat
 - Clean and Green Panchayat
 - Self-sufficient infrastructure in Panchayat
 - Socially Just and Socially secured Panchayat
 - Panchayat with Good Governance
 - Women-Friendly Panchayat.

9. One Case One Data initiative

Context: Recently, the Supreme Court launched ‘One Case One Data’ and ‘Su Sahay initiative.’

One Case One Data initiative

- It is a major digital initiative to connect all levels of courts - from taluka and district courts to High Courts and the Supreme Court through a unified database system.
- It aims to improve case management by creating a comprehensive and interconnected digital judicial information system.

‘Su Sahay’ Chatbot

- It is an Artificial Intelligence (AI)-powered assistance chatbot.
- It is integrated with the Supreme Court website to facilitate easier access to justice and court-related services for litigants.
- It has been developed by the National Informatics Centre in collaboration with the Supreme Court Registry

10. Article 21 of the Constitution

Context: The Supreme Court of India, while hearing a criminal case pending for nearly 35 years in Uttar Pradesh, declared that the right to speedy trial is not only a constitutional guarantee under Article 21 but also a human right.

Article 21 of the Constitution

- Article 21 guarantees the **protection of life and personal liberty** except according to procedure established by law.
- Judicial interpretation has expanded **Article 21** to include fair trial, legal aid, humane prison conditions, and speedy justice.

Judicial Evolution

- **Hussainara Khatoun v. State of Bihar:** The Supreme Court first recognised speedy trial as a fundamental right under **Article 21**. The case highlighted the plight of undertrial prisoners languishing in jails for years.
- **A.R. Antulay v. R.S. Nayak:** The Court laid down principles to determine violation of the right to speedy trial. It clarified that delays caused by systemic inadequacies also violate constitutional rights.

11. Committee on Empowerment of Women

Context: Lok Sabha Speaker Om Birla officially reconstituted the Parliamentary Committee on Empowerment of Women for the year 2026-27.

Committee on Empowerment of Women:**What it is?**

- The Committee on Empowerment of Women is a prestigious **Joint Parliamentary Committee (JPC)** in the Indian Parliament. It operates as an institutional mechanism to review policies, assess welfare initiatives, and ensure gender equality across central laws and union territories.

Establishment: The committee was constituted for the first time on April 29, 1997, during the 11th Lok Sabha.

Composition & Tenure: It has 30 members-

- **Lok Sabha:** 20 members nominated by the Speaker.
- **Rajya Sabha:** 10 members nominated by the Chairman of the Rajya Sabha.

- **Tenure:** The term of the committee **does not exceed one year**. It is reconstituted annually.
- **Working Principle:** Members are expected to rise above party lines and function as a cohesive cross-party unit dedicated to women's advancement.

Key Functions:

- **Reviewing National Commission Reports:** Considers the statutory reports submitted by the National Commission for Women (NCW) and recommends legislative or executive actions to the Union Government.
- **Evaluating Gender Equality:** Examines the systemic measures taken by the Centre to secure equality, status, and dignity for women in all spheres of public and private life.
- **Monitoring Education & Representation:** Assesses welfare measures aimed at providing comprehensive education and ensuring adequate representation of women in legislative bodies, public services, and other fields.
- **Welfare Program Appraisals:** Evaluates the execution, last-mile delivery, and overall impact of centrally sponsored women's welfare and safety schemes.
- **Action-Taken Monitoring:** Reviews and reports on the actual implementations or gaps in measures previously proposed by the committee to the Union Government and Union Territory administrations.
- **Special Remits:** Examines specific gender-related matters referred to it dynamically by either the Lok Sabha Speaker or the Rajya Sabha Chairman.

12. Sanctioned strength of judges in the Supreme Court

Context: President approved an increase in the sanctioned strength of judges in the Supreme Court from 33 to 37, excluding the Chief Justice of India, through the promulgation of the Supreme Court (Number of Judges) Amendment Ordinance,

2026. The proposal will be implemented through an amendment to the Supreme Court (Number of Judges) Act, 1956 in the upcoming session of Parliament.

Constitutional Provisions

- **Article 124(1) of the Constitution empowers Parliament to determine and increase the number of judges in the Supreme Court.**
- The Constitution originally provided for a **Chief Justice of India and not more than seven judges**, thereby allowing flexibility for future expansion.
- This constitutional design reflects the need to **adapt judicial capacity** to changing socio-economic and legal demands.

13. Right to Information (RTI) Act, 2005

Context: The Central Information Commission (CIC) held that the Board of Control for Cricket in India (BCCI) does not fall within the ambit of a “public authority” under the Right to Information (RTI) Act, 2005.

About

- It observes that the **cricket board continues to function as an autonomous private body** and is **neither “directly nor indirectly”** financed by the government.
- BCCI is registered under the **Tamil Nadu Societies Registration Act, 1975**, and was **neither established by the Constitution, nor created by any legislation or government order.**
- Since the Board of Control for Cricket in India is neither materially dependent upon nor sustained by government funds, **it cannot be regarded as a ‘Public Authority’.**
- The BCCI is **not a statutory body**. It was not created by a law passed by Parliament or any state legislature. Instead, it is a private, autonomous sports organization that grew organically to govern the game through internal

consensus and affiliation with the International Cricket Council (ICC).

- Because it is not a government body, it sought legal identity by registering as a mutual benefit society. It was historically registered under the **Tamil Nadu Societies Registration Act** (originally the Societies Registration Act, 1860, later updated to the 1975 state act) in Chennai, though its apex administrative headquarters (Cricket Centre) is located at the Wankhede Stadium in **Mumbai, Maharashtra.**
- Following governance collapses and spot-fixing scandals, the Supreme Court appointed the **Justice R.M. Lodha Committee**. The apex court subsequently made several of its sweeping recommendations mandatory- including installing a cooling-off period for administrators, barring ministers and bureaucrats from holding posts, and enforcing an age cap of 70 years.
- In landmark judgments (such as Zee Telefilms Ltd. v. Union of India), the Supreme Court ruled that BCCI cannot be labelled an arm of the “State” under **Article 12** because the government holds no financial equity or structural control over it. However, because it holds a monopoly over selecting national teams and regulating a major public sport, courts have consistently held that it performs a vital **public function**. Therefore, its decisions can be legally challenged via writ petitions under **Article 226** in India's High Courts.

14. Public Accounts Committee

Context: The reconstituted Public Accounts Committee (PAC) convened recently under the chairmanship of K. C. Venugopal.

- The Constitution of India mentions Parliamentary Committees at various places (for instance, Article 105 deals with the powers, privileges, and immunities of committee members, and Article 118 empowers Parliament to make rules for regulating its procedure). However, **there is no single Article in the**

Constitution that details the composition, tenure, functions, or operational rules of any specific committee (like the Public Accounts Committee or Estimates Committee). These finer parameters are entirely governed by the Rules of Procedure of the respective Houses and parliamentary conventions.

- According to the Rules of Procedure and Conduct of Business in Lok Sabha, a Minister of the Union Cabinet **cannot be elected** to any of the three foundational **Financial Committees** (the Public Accounts Committee, the Estimates Committee, and the Committee on Public Undertakings). If a sitting member of any of these committees is subsequently appointed as a Minister, they automatically cease to be a member of that committee from the date of such appointment. This maintains the core principle of legislative oversight over the executive.
- It is a common misconception that all Joint Parliamentary Committees (JPCs) are ad-hoc or temporary bodies set up purely for scams or investigations. There are several **permanent, standing Joint Committees** consisting of members from both the Lok Sabha and the Rajya

Sabha. Examples include the Committee on Salaries and Allowances of Members of Parliament, the Committee on Offices of Profit, and the Committee on empowerment of Women. Therefore, the blanket claim that all joint committees are strictly ad-hoc investigative bodies is factually wrong.



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ECONOMY

1. PaRRVA Framework

Context: Securities and Exchange Board of India has operationalised the Past Risk and Return Verification Agency (PaRRVA) to enhance transparency and investor protection in financial markets.

Institutional Framework

- The framework for PaRRVA was issued by SEBI in **April 2025**, laying down the regulatory structure and operational guidelines.
- **CARE Ratings Limited** has been recognised as the first PaRRVA entity, responsible for verifying performance data.
- **National Stock Exchange of India Limited** will function as the PaRRVA Data Centre (PDC), providing the necessary infrastructure for data handling and processing.

What is PaRRVA?

- PaRRVA is a **SEBI-regulated verification mechanism** designed to:
 - Authenticate past risk and return performance of market intermediaries.
 - Standardise the methodology for presenting returns.
 - Provide credible, comparable, and transparent data to investors.
- **Mandatory Enrolment and Compliance:** Investment advisers and research analysts must enrol with PaRRVA within **three months**, and after a **two-year transition period**, only PaRRVA-verified performance data can be used in public communication.
- **Significance:** Investors gain **access to verified and trustworthy information**, reducing risks associated with misinformation and mis-selling.

- **Use in Advertisements:** Market intermediaries are permitted to use PaRRVA-verified performance metrics in advertisements, ensuring that promotional claims are credible and compliant with SEBI regulations.

2. National Asset Reconstruction Company Limited

Context: National Asset Reconstruction Company Limited (NARCL) strengthens India's Stressed Asset Resolution Framework, and accelerates recoveries in FY 2025-26.

National Asset Reconstruction Company Limited (NARCL)

- **Institutional Structure:** Government-backed ARC ('bad bank'), that works with **India Debt Resolution Company Ltd. (IDRCL)** focusing on **large-value stressed assets**.
- **Key Functions:** Acquisition of stressed assets from banks; aggregation of exposures across lenders; and resolution via IBC process, market-based sale, and restructuring mechanisms.
- NARCL is a government-backed Asset Reconstruction Company (ARC) incorporated under the Companies Act. It was specifically established to clean up the balance sheets of Indian banks by taking over their large stressed assets.
- While NARCL **acquires** the assets at a discount (the 15:85 cash-to-Security Receipt ratio), it does not **manage** the value realization or debt recovery. That specific role is delegated to a separate entity called the **India Debt Resolution Company Limited (IDRCL)**.

3. Electronic Gold Receipts

Context: Recently, the National Stock Exchange of India (NSE) launched Electronic Gold Receipts (EGRs) as a new trading segment.

About Electronic Gold Receipts

- **EGRs are dematerialised securities that represent ownership of physical gold.**
- The underlying gold is stored in SEBI-regulated vaults, and investors hold the receipts in their demat accounts - similar to shares or ETFs.
- Vault Manager is a new entity registered by SEBI for providing vaulting services for gold deposited for the purpose of creation of EGR.
- Each EGR is backed by actual gold, ensuring authenticity and standardisation.
- **It is operated under SEBI guidelines.**

Working of Electronic Gold Receipts

- The process starts with depositing physical gold at accredited vaults, which is then converted into EGR units.
- These units are credited to a demat account and can be traded on the exchange.
- Investors can also convert EGRs back into physical gold, offering flexibility between digital and physical ownership.
- **Participated By:** The EGR ecosystem is designed for a wide set of participants, including jewellers, refiners, traders, and retail and institutional investors.

4. Capital to Risk-Weighted Assets Ratio

Context: The Reserve Bank of India has revised guidelines for including quarterly profits in banks' Common Equity Tier 1 (CET1) capital used to calculate the Capital to Risk Weighted Assets Ratio (CRAR).

Capital to Risk-Weighted Assets Ratio (CRAR)

- The Capital to Risk-Weighted Assets Ratio (CRAR), also known as the **Capital Adequacy Ratio (CAR)**, is a critical regulatory metric designed to ensure that banks have enough cushion to absorb a reasonable amount of losses before they become insolvent. It is expressed mathematically as:

$$\text{CRAR} = \frac{\text{Tier 1 Capital} + \text{Tier 2 Capital}}{\text{Risk-Weighted Assets}}$$

- When the RBI raises the minimum CRAR threshold, banks are legally mandated to increase the numerator (capital funds like equity and retained earnings) relative to their risk exposures. This builds a robust financial buffer, directly enhancing the stability of the banking sector against credit defaults.
- To comply with a higher ratio, banks must either raise fresh capital or deliberately slow down the growth of their denominator (Risk-Weighted Assets). Raising capital takes time; therefore, banks typically tighten their lending standards, which reduces the velocity of credit supply and loan disbursements in the broader economy.
- If a bank faces capital constraints and wants to lower its risk-weighted assets quickly, it will adjust its asset mix. It will curb high-risk lending (like uncollateralized personal loans or commercial real estate investments, which carry high risk-weightages of 100% or higher) and reallocate funds into zero-risk or low-risk assets like Government Securities (G-Secs), which carry a 0% risk weight under Basel norms.

5. International Organisation for Standardisation

Context: Recently, the Bureau of Indian Standards (BIS) organised the 35th Plenary and Working Groups meetings of the subcommittee of International Organisation for Standardisation (ISO) 'Space Systems and Operations' (ISO TC 20 / SC 14) at New Delhi.

About International Organisation for Standardisation

- It is an international nongovernmental organization established in 1947 and made up of national standards bodies.
- It is made up of members from the national standards bodies of 177 countries.

- **Headquarters: Geneva, Switzerland.**

Functions of ISO

- The ISO plays a role in facilitating world trade by providing common standards of safety, reliability, and quality.
- It develops and publishes standards for a vast range of products, materials, and processes.
- It publishes technical reports, technical specifications, publicly available specifications, technical corrigenda, and guides.

Governance of International Organisation for Standardisation

- **General Assembly:** It is the overarching organ and ultimate authority of the organization.
- **ISO Council:** It is the core governance body of the organization and reports to the General Assembly. It meets three times a year and is made up of 21 member bodies
- **Technical Management Board:** The management of the technical work is taken care of by the Technical Management Board, which reports to Council.

6. Social Security Schemes

Context: Recently, PM Modi highlighted the impact of flagship social security schemes launched by the Union Government 11 years ago, including the Pradhan Mantri Jeevan Jyoti Bima Yojana (PMJJBY), Pradhan Mantri Suraksha Bima Yojana (PMSBY), and Atal Pension Yojana (APY).

Sr no.	Schemes	Age eligibility	Premiums
1	Pradhan Mantri Jeevan Jyoti Bima Yojana (PMJJBY)	18-50 years	436/- per annum
2	Pradhan Mantri Suraksha Bima Yojana (PMSBY)	18-70 years	20/- per annum
3	Atal Pension Yojana (APY)	18 to 40 years	Based on joiner's age

7. National Jute Board

Context: The evolution of India's jute sector has entered a decisive new phase with the implementation of the Jute Crop Information System (JCIS).

About

- The National Jute Board has been implementing the **Jute Crop Information System project since 2023** in collaboration with the **Indian Space Research Organization (ISRO)** and the **Jute Corporation of India**.
- **Aim:** To **monitor jute cultivation** using remote sensing and field data. As part of this initiative, **two key tools have been developed:**
 - **BHUVAN JUMP**, a mobile app for on-field jute monitoring, and
 - **PATSAN** (Prospective Assessment of Jute Using Mobile App-Based Field Observations), a web-based platform that provides near-real-time jute surveillance and analytics to support informed decision-making by officials and stakeholders.

Conditions Required for Jute Production

- **Temperature:** A mean maximum and minimum temperature of **34°C and 15°C** and a mean **relative humidity of 65%** are required.
- **Rainfall:** Around 150-250 cm.
- **Soil:** Jute can be raised on all kinds of soils from clay to sandy loam, but loamy **alluvial soils** are best suited.

8. Non-Tariff Barriers

Context: In report **Invisible Barriers: The Costs of Non-Tariff Measures**, UNCTAD revealed that **non-tariff barriers (NTMs)** now impose higher trade costs than traditional tariffs for **88% of countries**.

Non-Tariff Barriers (NTBs):

What it is?

- Non-Tariff Barriers (NTBs) are policy measures other than ordinary customs tariffs that can

potentially have an economic effect on international trade in goods.

- While tariffs are simple taxes on imports, NTBs are more complex invisible hurdles-such as regulations, standards, or quotas-that change the quantities traded or the prices of goods.

Types of Non-Tariff Measures:

According to the UNCTAD classification, these measures are broadly divided into:

- **Technical Measures:**
 - **Sanitary and Phytosanitary (SPS) Measures:** Rules to protect human, animal, or plant life from pests, diseases, or toxins (e.g., pesticide limits in fruits).
 - **Technical Barriers to Trade (TBT):** Regulations on product size, weight, packaging, and labeling (e.g., energy efficiency ratings for electronics).
- **Non-Technical Measures:**
 - **Quantitative Restrictions:** Quotas (limits on volume) or outright bans on certain products.
 - **Import Licensing:** Requirements to obtain special permits before importing.
 - **Price Control Measures:** Measures to support domestic prices, such as anti-dumping duties or administrative fees.
 - **Rules of Origin:** Laws determining where a product was made to decide if it qualifies for lower trade rates.

Note: A countervailing duty-even if applied to correct a market distortion like foreign subsidies-is a specialized tax calculated as a percentage of the value (Ad Valorem). Because it takes the form of an direct customs tax levied at the port of entry, it is classified as a **Tariff Measure**, not a non-tariff barrier.

9. International Fund for Agricultural Development

Context: The Government of India and International Fund for Agricultural Development (IFAD) launched a new eight-year Country Strategic Opportunities Programme (COSOP) for 2026-2033.

About

- **Aim:** Strengthening rural incomes, improving resilience and expanding sustainable livelihood opportunities across India.
- **It focuses on two major priorities:** Enhancing the social, economic and climate resilience of rural communities, and strengthening knowledge systems to scale successful development models across India and other countries of the Global South.
- **Major Objectives:** Strengthening grassroots institutions including self-help groups, farmer producer organisations and cooperatives.
 - They are expected to play a key role in linking finance, technology, infrastructure and markets.
- India and IFAD have partnered for **nearly five decades**, during which 35 rural development projects have been implemented across multiple states.

International Fund for Agricultural Development (IFAD)

- IFAD was established in 1977 following the 1974 World Food Conference.
- It was created in response to global concerns about **food crises and rural poverty, particularly in developing nations**.
- **Headquarters:** Rome
- **The Rural Development Report is IFAD's premier flagship publication.**
- India is a **founding member of IFAD**.
- **Objectives:**
 - Reducing rural poverty.
 - Enhancing agricultural productivity.
 - Improving food and nutritional security.
 - Promoting inclusive rural development.
 - Supporting small and marginal farmers, women, and indigenous communities.

Note: IFAD is fundamentally structured as an international financial institution (IFI). It does not operate exclusively as a grant-giving body. While it does provide specialized technical grants to vulnerable communities, its primary financial

mechanism involves extending low-interest, highly concessional, long-term loans to the governments of developing and transitioning states to fund rural poverty alleviation and food system adaptation projects.

10. Money Mule Fraud

Context: The Indian Cyber Crime Coordination Centre (I4C) signed an MoU with Reserve Bank Innovation Hub to strengthen collaboration in combating cyber-enabled financial frauds and curtailing mule accounts across the banking and digital payments ecosystem.

What is Money Mule Fraud?

- Money mule fraud is a type of financial crime in which **cybercriminals use another person's bank account** to transfer or launder illegally obtained money.
- **Fraudsters often target students, unemployed individuals, gig workers, or digitally unaware people** by offering easy money or commissions in exchange for allowing transactions through their bank accounts.
- In many cases, victims unknowingly become "money mules" by receiving stolen money and forwarding it to other accounts while keeping a **small percentage as payment**.
 - This helps criminals move money quickly across **banking channels and makes it harder** for authorities to trace the original source of the fraud.

11. National Social Assistance Programme

Context: A recent evaluation of the National Social Assistance Programme (NSAP), commissioned by the Union Ministry of Rural Development, has found that the centre's contribution to social pensions has lost much of its value due to inflation.

National Social Assistance Programme (NSAP)

- It was launched in 1995 and is a key social welfare scheme.
- It provides pensions to vulnerable groups, including the elderly, widows, and persons with disabilities.
- It is **100% Centrally Sponsored Scheme**.
 - Funds under NSAP are released to States/UTs based on the number of beneficiaries digitized or State/UT-wise cap, whichever is lower.
 - Thereafter, pensions are disbursed to beneficiaries at district/panchayat level by the State/UT.

Coverage

- Currently, NSAP covers five schemes, including:
 - **Indira Gandhi National Old Age Pension Scheme (IGNOAPS):** Under IGNOAPS, the Centre provides financial assistance of Rs 200 per month to individuals aged 60-79 years and Rs 500 per month to those aged 80 and above.
 - **Indira Gandhi National Widow Pension Scheme (IGNWPS):** Under IGNWPS, the Centre provides Rs 300 per month to widows aged 40-79 years and Rs 500 to those 80 and above.
 - **Indira Gandhi National Disability Pension Scheme (IGNDPS) :** Financial assistance of Rs 300 per month is provided to individuals with severe or multiple disabilities aged 18-79, and Rs 500 to those aged 80 years and above.
 - **National Family Benefit Scheme (NFBS):** The amount of one-time financial assistance under NFBS is fixed at Rs 20,000.
 - This is provided to families after the death of a primary breadwinner aged 18 to 59.
 - **Annapurna Scheme:** Under the Annapurna Scheme, 10 kg of food grains per month, free of cost, are provided to those senior citizens who, though eligible, were not receiving old-age pension.

12. Withholding Tax

Context: Amid the West Asia conflict, the government is reportedly considering slashing the 'withholding tax' rate from 20% to the earlier 5% as it looks to revive overseas inflows.

Withholding Tax

- **Withholding tax, or WHT, is a tax collected at the source of income.**
 - Instead of waiting for an investor or foreign company to pay taxes at the end of the financial year, the government requires the payer to deduct a portion of the income **before it is remitted to the recipient.**
 - The deducted amount is then **directly deposited with the government.**
- In simple terms, whenever income is earned whether through employment, investments, royalties or other sources the government ensures tax collection in advance through withholding tax.
- Hong Kong and Singapore don't have a withholding tax.
- Globally (Including in India) and conceptually, "Withholding Tax" and Tax Deducted at Source (TDS) describe the exact same direct tax collection philosophy.

13. Sovereign Gold Bond (SGB) scheme

Context: The government increased import duties on gold, silver, and platinum has revived debate over whether the discontinued Sovereign Gold Bond (SGB) scheme could have helped ease pressure on India's foreign exchange reserves.

Sovereign Gold Bond (SGB) scheme

- **Sovereign Gold Bonds (SGBs), launched in late 2015, are government securities denominated in grams of gold, issued by the Reserve Bank of India on behalf of the Government of India.**
 - The scheme allows individuals to invest in gold without purchasing physical gold.

- **A holding certificate** is issued to investors upon successful subscription, and the bonds can also be held in Demat form.

- **SGBs are priced in multiples of one gram of gold, with a minimum investment of one gram.**
- **Denomination:** Investors receive a fixed interest rate of **2.5% per annum**, paid semi-annually.
- **Returns:** Investors also receive returns linked to the **prevailing market price** of gold at the time of redemption.
- **Maturity period:** The bonds have a maturity period of **eight years, with premature redemption permitted after the fifth year on interest payment dates.**
- **Capital gains** arising on redemption at maturity are exempt from long-term capital gains tax for individual investors.

14. Silver

Context: The government has shifted silver imports to the "restricted" category and imposed a 15% import duty to curb rising imports and protect domestic interests.

About Silver

- It is a **relatively soft, lustrous precious metal.**
- It has **highest electrical and thermal conductivity** among all metals, critical for electronics, circuit boards, connectors, batteries, and automotive systems.
- It is mainly found in ores like **argentite and chlorargyrite (horn silver).**
- Mexico is the **largest silver producer in the world** and India imports silver mainly from the United Arab Emirates, Britain and China.

15. RAINMUMBAI

Context: The National Commodities and Derivatives Exchange (NCDEX) recently announced the launch of India's first SEBI-approved exchange-traded weather derivatives contract, named "RAINMUMBAI".

About RAINMUMBAI

- It is India's first exchange-traded weather derivatives contract.
- It was launched by the National Commodity and Derivatives Exchange (NCDEX).
- The instrument will be used to hedge losses from unpredictable weather and monsoon variability.
- Unlike conventional insurance products, weather derivatives are settled directly against observed weather data rather than physical loss assessments, enabling faster payouts and reducing operational complexity.
- These products are widely used globally by sectors such as agriculture, power, construction, logistics, tourism, and energy, where revenues can be heavily impacted by weather variability.
- RAINMUMBAI, which has received approval from the Securities and Exchange Board of India (SEBI), was developed in collaboration with the Indian Institute of Technology (IIT) Bombay, based on rainfall data in Mumbai.
- India Meteorological Department (IMD) surface rainfall and automatic weather stations (AWS) observations at Santacruz and Colaba will be the source of rainfall data.
- The contract will be cash-settled and will track the deviation of actual rainfall from the city's long-period average (LPA) during the monsoon season.
- Only contracts for the months of June, July, August, and September will be available to trade, tracking Mumbai's monsoon patterns.
- RAINMUMBAI will be traded in lots with a base cost of ₹50 per millimetre of rainfall, allowing participants to engage in contracts that suit their specific risk management needs.
- The trading hours for this contract will be from 10:00 a.m. to 11:30 p.m. on weekdays.

16. Directorate of Revenue Intelligence

Context: The Directorate of Revenue Intelligence (DRI) has busted a large-scale e-cigarette (vape) smuggling racket across several ports and airports in Maharashtra, Gujarat, Delhi and West Bengal.

About

- **Vapes or e-cigarettes electronically heat up a solution of glycerine, flavours and nicotine, the addictive substance in the cigarettes.**
 - While people use cigarettes for the nicotine hit, it is the tar from smoking that kills. This is the reason e-cigarettes were pushed as aid for smoking cessation.
- **Concerns:** There is not enough data to show that the use of e-cigarettes actually helps quit smoking and users end up using both cigarettes and vapes.
 - Besides, different flavours in vapes may prompt non-smokers to take up the habit.
- **Electronic cigarettes and all Electronic Nicotine Delivery Systems (ENDS) are prohibited in India under the Prohibition of Electronic Cigarettes (Production, Manufacture, Import, Export, Transport, Sale, Distribution, Storage and Advertisement) Act, 2019.**
 - It was enacted in the interest of public health and to protect people from harm.

17. Bond Yield

Context: Indian government bond yields have risen sharply due to the West Asia conflict, rising inflation concerns, pressure on public finances, and expectations of future interest rate hikes by the RBI.

What is a Bond?

- A bond is a loan raised by governments or companies from investors for a fixed period in return for regular interest payments.
- The period until repayment is called the term to maturity.

What is Bond Yield?

- Bond yield is the **return an investor earns** from holding a bond, expressed as a percentage.
- It depends on the coupon payment (fixed interest) and the market price of the bond.

- **Formula:** Bond Yield = Coupon Amount ÷ Bond Price
- An aggressive rate cut by the RBI lowers the general interest rates in the economy. Investors lock into existing bonds with higher coupon rates, driving bond prices up and causing current **bond yields to fall**.
- If the government expands its fiscal deficit, it means the government must borrow heavily to fund its expenses. To attract buyers for this massive supply of new papers, the government must offer higher interest rates (coupons), which **pushes bond yields up**.
- High inflation erodes the real returns of fixed-income assets. To compensate for this loss of purchasing power, investors demand higher yields. Furthermore, high inflation prompts expectations that the RBI will hike rates, causing investors to sell current bonds, dropping their prices and **raising yields**.
- When the US Federal Reserve hikes interest rates, the yield differential between US treasuries (risk-free assets) and Indian sovereign bonds narrows. Foreign Portfolio Investors (FPIs) pull money out of Indian debt markets to invest back in the US. This mass selling of Indian government securities (G-Secs) depresses bond prices and **spikes Indian bond yields**.

18. Variable Rate Repo

Context: The Reserve Bank of India (RBI) on May 22 injected ₹81,590 crore transient liquidity into the banking system through a three-day variable rate repo (VRR) auction.

Variable Rate Repo (VRR):

- A **Variable Rate Repo (VRR)** is a market-driven monetary policy tool used by the Reserve Bank of India (RBI) to inject short-term liquidity into the banking system. Unlike the standard fixed repo rate, the interest rate for a VRR is determined through an auction process where banks competitively bid for funds.

How VRR Works

- **The Mechanism:** Instead of borrowing at the central bank's predetermined repo rate, banks bid for funds by stating both the amount they need and the interest rate they are willing to pay.
- **Cut-off Rate:** The RBI allots funds starting from the highest bids until the notified amount is exhausted. The lowest accepted bid becomes the final cut-off interest rate.
- **Duration:** These are short-term operations, typically ranging from 1 to 14 days, and require banks to pledge eligible government securities as collateral.
- Variable Rate Repo (VRR) is a dynamic operation conducted under the **Liquidity Adjustment Facility (LAF)** corridor. The RBI routinely uses it when the banking system faces a sudden, temporary cash shortage (such as during massive corporate advance tax outflows or seasonal GST collection periods). It allows banks to borrow money from the central bank for short windows (typically overnight up to 14 days) against eligible securities, making it a classic **transient liquidity injection tool**.
- Because VRR loans are short-term and have strict, rapid reversal dates (e.g., a bank must pay back the money in 3, 7, or 14 days), this cash cannot be safely used by banks to issue long-term corporate or retail loans. Therefore, it does not alter structural or **durable money supply (M₃)**. Long-term, durable liquidity is instead managed through instruments like Open Market Operations (OMO) purchases or Forex Swaps.
- When liquidity tightens, the **Weighted Average Call Rate (WACR)**-the interest rate at which banks lend to one another overnight without collateral-surges above the RBI's policy repo rate. By injecting funds through a VRR auction, the RBI provides banks with alternative, immediate cash. This increase in supply effectively cools down the interbank market, dropping the elevated WACR back into the official LAF corridor.

- Short-term VRR auctions adjust day-to-day liquidity at the very front end of the yield curve. They do not involve the direct purchase or long-term structural absorption of dated sovereign bonds by the central bank. Consequently, they do not cause an absolute decline in the yields of **long-term (10-year or 30-year) Government Securities**.

19. Hutti Gold Mines Company Limited

Context: Hutti Gold Mines, the only functional gold mine in the country, earned a whopping ₹633.34 crores more in 2025-26, thanks to the skyrocketing price of gold in the world market.

About Hutti Gold Mines Company Limited

- It is a Government of Karnataka undertaking established in 1947.
- It has the unique distinction of being the only producer of primary gold in the country.
- HGML has been active in the exploration, development, and exploitation of gold deposits occurring in Karnataka.
- The company's corporate office is situated in Bangalore.
- It currently processes the ore from the Hutti Gold mine and two satellite mines, the Uti opencast mine and the Heera-Buddinni exploratory underground mine.
- The Hutti mine is probably one of the most ancient metal mines in the world, dating to the Pre-Ashokan period.

Production:

- The company produced 1,691.57 kg of gold during 2025-26.
- Hutti's gold production meets less than 1% of India's annual demand for gold that is estimated to be over 700 tonnes.
- The company also produced 145.76 kg of silver as a byproduct of the gold ore beneficiation process.

20. Memflation

Context: Global semiconductor revenues are projected to surpass the unprecedented \$1.3 trillion threshold this year, marking a staggering 64% increase compared to 2025.

Memflation:

What It Is?

- Memflation is a term coined by Gartner analysts to describe the rapid, structural price inflation sweeping the semiconductor market, specifically targeting data storage and memory components.
- It represents a significant market distortion where the hyper-growth of AI infrastructure consumes the lion's share of semiconductor fabrication resources, triggering severe shortages and soaring costs for traditional computing hardware.

Primary Causes of Memflation:

- **AI Infrastructure Boom:** Rapid spending by hyperscalers and cloud firms on AI infrastructure has diverted memory resources away from traditional computing markets.
- **Production Shift by Chipmakers:** Companies like Micron Technology are prioritizing high-margin AI GPUs and enterprise memory over consumer components.
- **Pre-Emptive Bulk Buying:** Fear of tariffs and price hikes pushed firms to stockpile chips in 2025-26, sharply reducing available inventories.

21. Khadi and Village Industries Commission

Context: The Khadi and Village Industries Commission (KVIC) has achieved a historic milestone in the financial year 2025-26, recording sales of one lakh 87 thousand crore rupees.

About Khadi and Village Industries Commission

- It is a statutory body established under the Khadi and Village Industries Commission Act of 1956.

- **Nodal Ministry: It is an apex organization under the Ministry of Micro, Small, and Medium Enterprises.**
- It is charged with the planning, promotion, organisation and implementation of programmes for the development of Khadi and other village industries in rural areas.
- At the state level, Khadi & Village Industries Boards were set up to effectively implement the schemes of KVIC in their respective states.

Objectives of the KVIC are

- Social Objective: To provide employment in rural areas
- Economic Objective: To produce a saleable product
- Wider Objective: To create self-reliance among the economically weaker section

Functions of the KVIC

- To build a strategic reserve of raw materials and implements for supply to producers.
- To create common service facilities for processing raw materials as semi-finished goods and provisions for facilities for marketing KVI products.

- To enhance the sale and marketing of Khadi and other products of village industries or handicrafts.
- To be responsible for encouraging and promoting research in the production techniques.
- To assure the genuineness of the products and to set standards for the quality of products from Khadi and Village Industries.



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INTERNATIONAL RELATIONS

1. Secretary-General, UN

Context: The election of the next UN Secretary-General is underway.

Secretary-General, UN

- The Secretary-General is the UN's **Chief Administrative Officer**, who oversees the work of the UN Secretariat and fulfils any other functions entrusted by the **organisation's principal organs**.
- The Secretary-General also has the mandate to **bring to the Security Council's attention any issue that threatens global peace and security**.
- He is often described as the world's "**chief diplomat**", speaking as the world's conscience on issues, ranging from the arms race in space and climate change to persistent inequality.
- **Elections:**
 - **Secretary-General is appointed by the General Assembly on the recommendation of the Security Council.**
 - This means that the **Permanent Members of the Security Council** - China, France, Russia, the U.K., and the U.S. have a significant say in who gets elected.
- **While the term of a Secretary-General is technically "discretionary," incumbents have, since 1981, voluntarily limited themselves to two terms.**
- By custom, the **post rotates among five regions of the world:** Africa, Asia, Eastern Europe, Western Europe, and Latin America and the Caribbean.

Note: The current Secretary-General, António Guterres (who assumed office in 2017), is from Portugal, which belongs to the Western European and Others Group (WEOG). The last Secretary-General from the Latin America and Caribbean region was Javier Pérez de Cuéllar (1982-1991).

2. MERCOSUR

Context: The European Union (EU) and MERCOSUR are implementing a long-negotiated free trade agreement, provisionally applied from May 1, despite political and legal challenges.

MERCOSUR

- It is the **Southern Common Market** which was formed in 1991 with the objective of free movement of goods, services, capital and people and it became a customs union in January 1995.
- Its members are **Argentina, Brazil, Paraguay and Uruguay. Venezuela joined in 2012**, but its membership was **suspended in 2017**.
 - The Protocol of Accession of **Bolivia** to Mercosur was signed by all of the States Parties in 2015.
 - The Instrument of Ratification was delivered by Bolivia in July 2024 and has a term of up to 4 years to incorporate the normative acquis of the bloc.

3. Girmityas

Context: External Affairs Minister S. Jaishankar visited Trinidad and Tobago to strengthen India's engagement with the Caribbean nation and preserve the legacy of the Girmitya community.

Who are Girmityas?

- The Girmityas were indentured laborers from British India who were transported to work on plantations in the **19th and early 20th centuries**.
 - The term "Girmitya" is derived from the word "**agreement**," which referred to the **indenture contracts signed by Indian labourers** during the colonial period.
- Girmityas were sent to countries like **Fiji, Mauritius, Seychelles, Réunion, South Africa,**

Trinidad and Tobago, British Guiana (now Guyana), Suriname, Malaysia, and Kenya.

- **Migration to Trinidad and Tobago**

- Approximately **143,000** indentured labourers migrated from India to **Trinidad** between **1845 and 1917** and most migrants came from northern India and Bihar.
- Their descendants today constitute nearly **40-45% of Trinidad and Tobago's population** and play a major role in its political, economic, and social life.

4. Thucydides Trap

Context: Chinese President Xi Jinping, during his meeting with US President Donald Trump, raised an important question: "Can China and the United States transcend the so-called 'Thucydides Trap' and forge a new paradigm for major-power relations?"

What is the 'Thucydides Trap'?

- The term "Thucydides Trap" was popularised by Harvard scholar Graham Allison after studying patterns in world history.
- He took inspiration from ancient Greek historian Thucydides, who wrote about the war between Athens and Sparta.
- Athens was rising fast in wealth, trade, and influence. Sparta was already the dominant military power. As Athens expanded, Sparta started seeing it not as progress, but as a threat. That fear created pressure, suspicion, and eventually war.
- Allison's argument is simple: when a rising power challenges an established one, fear can grow faster than diplomacy. And fear is dangerous in international politics.

5. Persian Gulf Strait Authority

Context: Iran has established a new regulatory body named as Persian Gulf Strait Authority (PGSA).

About

- **Aim:** To oversee and manage operations in the strategically significant Strait of Hormuz.
 - The move marks the **formal creation of a dedicated authority** responsible for monitoring the strait.
- **Under the new system,** vessels will be required to follow directives issued by the authority and secure transit permits before entering the Strait of Hormuz.
- **Under the United Nations Convention on the Law of the Sea (UNCLOS),** the Strait of Hormuz falls under the transit passage principle protecting uninterrupted international shipping - a convention Iran signed but never ratified.
- **The US, Gulf states, and European nations** have all rejected the legality of Iran's fee regime.



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ENVIRONMENT

1. Whitley Awards

Context: Recently, Indian conservationists Barkha Subba, Parveen Shaikh won Whitley Awards for conservation of Himalayan salamander and endangered Indian skimmer.

About Whitley Awards

- It is often called as the “Green Oscars,”.
- It recognises grassroots conservation leaders in the Global South.
- It is given by the UK charity Whitley Fund for Nature (WFN).
- It provides winners with £50,000 in project funding over one year to scale up local solutions to biodiversity loss.

2. Ru-Soam Bridges

Context: UNESCO has partnered with the Government of Sikkim to document indigenous Ru-Soam (cane bridge) engineering practices. The project is being implemented in the Khangchendzonga Biosphere Reserve with support from Airbnb.

About Ru-Soam Bridges

- **Ru-Soam** are traditional cane bridges built by the **Lepcha community**.
- These bridges are **constructed using locally available natural materials** such as bamboo, cane, and wood.
- They demonstrate a **high level of ecological understanding and structural resilience** suited to mountainous terrain.
 - The bridges proved their resilience during the **Sikkim Glacial Lake Outburst Flood 2023**.

Sr no.	Bridge Type	Principal Tribe	Primary Materials
1	Ru-Soam	Lepcha	Cane (Rattan) & Bamboo

2	Jingkieng Jri	Khasi & Jaintia	Rubber Plant
3	Shanko	Ladakhi / Bhotiya	Willow wood & Stone

3. Ecocide

Context: The term “ecocide” has gained renewed attention amid allegations of large-scale environmental destruction during recent conflicts, including the wars in Gaza, Lebanon, and Iran.

What is Ecocide?

- Ecocide refers to **severe, widespread, or long-term destruction** of the environment caused by human actions.
- The term was coined in **1970 by Arthur W. Galston** during debates surrounding the environmental devastation caused by **Agent Orange in the Vietnam War**.
- In **1972, Olof Palme** used the term at the United Nations Conference on the Human Environment.
- **Vietnam** became the first country to **criminalise ecocide domestically in 1990**.
 - Countries such as **Russia, Ukraine, France, Belgium, and Chile** have incorporated similar provisions into their legal systems.

Actions resulting into Ecocide:

- The systemic, large-scale destruction of the Amazon rainforest permanently alters a vital global carbon sink, disrupts planetary weather patterns, and causes irreversible biodiversity loss. This easily clears the criteria for severe, widespread, and long-term ecosystem collapse.
- Massive environmental destruction during warfare- historically exemplified by the use of Agent Orange in the Vietnam War or the deliberate torching of oil wells- is a cornerstone reason why the concept of ecocide was formulated. It represents severe, widespread

destruction weaponized against both nature and human populations.

While,

- Legally permitted logging on a private commercial plantation, while ecologically unfavorable, does not meet the legal threshold of a “wanton or unlawful act” causing irreversible, systemic destruction to a natural ecosystem.
- A localized, temporary disruption that naturally recovers within a single season fails the essential legal test of causing “long-term” (damage which cannot be reversed through natural recovery within a reasonable period) or “widespread” ecological devastation.

4. Methane Alert and Response System

Context: The UN expanded its Methane Alert and Response System (MARS) to include the coal and waste sectors. This decision follows satellite data identifying an Indian landfill (Kanjurmarg) among the world’s three largest methane emitters, alongside sites in Chile.

About

Methane Alert and Response System (MARS):

What it is?

- **MARS is the first global satellite-based system that monitors methane super-emitters and connects that data to rapid mitigation efforts. It is a component of the International Methane Emissions Observatory (IMEO) under the UN Environment Programme (UNEP).**

Launched In: The system was announced at COP27 and officially launched in January 2023.

- **Aim:** The primary goal is to identify and quantify major methane emission events, notify relevant governments and companies, and track the progress of their mitigation actions to slow global heating.

How it Works?

The system operates through a four-step lifecycle:

- **Detection and Attribution:** MARS scans data from over **35 satellites** to identify large methane plumes. High-resolution imagery then attributes these plumes to specific facilities and operators.
- **Notification and Engagement:** The IMEO team directly alerts governments and companies about large emissions within their jurisdiction.
- **Mitigation Action:** Stakeholders are responsible for responding to the leaks. MARS partners provide technical assistance as needed.
- **Tracking and Verification:** IMEO continues to monitor the site to ensure the leak is addressed and publishes data publicly on the **Eye on Methane** platform.

5. White-Bellied Heron

Context: A recently submitted proposal for Arunachal Pradesh’s Kalai-II hydel project skips mentioning the habitat of the critically endangered White-Bellied Heron.

About White-Bellied Heron

- The white-bellied heron (*Ardea insignis*) is a large heron species. It is the second largest living species of heron.
- **Other Names:** It is also known as the imperial heron or great white-bellied heron.
- **Habitat:** It inhabits the wetlands of tropical and subtropical forests in the foothills of the eastern Himalayas.
- **Distribution:** It is mainly living in the foothills of the eastern Himalayas in northeast India and Bhutan to northern Myanmar.

Morphological Adaptations

- It is a slightly longer neck and compact body with shorter legs and extensive toes.
- The extra elongated, flexible neck with razorsharp serrated bill allows them to catch fish far in deep waters.

- **Diet:** It prefers free-flowing riverine habitats with low disturbance, and predominantly depends on fish found in the river rapids.
- **Biological Role:** Its presence in our ecosystem indicates the health of the rivers, the environment, the fish population, and water quality.
- **Threats:** It is threatened by habitat loss, increasing disturbance and habitat degradation due to conversion of wetlands for agriculture and expansion of settlements.

Conservation Status of White-Bellied Heron

- **IUCN Red List:** Critically Endangered.
- **Wildlife Protection Act 1972:** Schedule-I.

6. Panna Tiger Reserve

Context: A recently rescued two-year-old tiger was found dead in the buffer area of Madhya Pradesh's Panna Reserve.

About Panna Tiger Reserve

- Situated in the Vindhyan mountain range in the northern part of Madhya Pradesh, the reserve is spread over the Panna and Chhatarpur districts.
- It is the only tiger reserve in the entire Bundhelkhand region.
- It falls in biogeographic zones of the Deccan Peninsula and the Biotic Province of the Central highlands.

Panna Tiger Reserve Landscape

- It is characterized by a 'Table Top' topography.
- The terrain here consists of extensive plateaus and gorges.
- Two plateaus run parallel to each other from southwest to northeasterly direction.
- **River:** Flowing from the south to the north through the reserve is the River Ken.
- The reserve is also dotted with two-thousand-year-old rock paintings.
- The region surrounding the reserve is home to various indigenous tribes, each with its distinct

culture and traditions. The Baiga and Gond tribes are among the prominent ones.

- **Flora:**

- The dominant vegetation type is dry deciduous forest interspersed with grassland areas.
- It forms the northernmost tip of the natural teak forests and the easternmost tip of the natural *Anogeissus pendula* (Kardhai) forests.
- The tree species *Acacia catachu* dominates the dry, steep slopes of the plateaus here.

- **Fauna:**

- It supports a sizable population of Tiger, Sloth Bear, Leopard, and Striped Hyena.
- Other prominent carnivores are Jackal, Wolf, Wild Dog, Jungle Cat, and Rusty Spotted Cat.
- It is also a haven for birdlife. Notable sightings include the white-necked stork, bar-headed goose, honey buzzard, blossom-headed parakeet, paradise flycatcher, slaty-headed scimitar babbler, and five species of vultures.

7. Labeo kaage

Context: Scientists from the PAGR Centre of ICAR-National Bureau of Fish Genetic Resources (ICAR-NBFGR), Kochi, recently discovered a new freshwater fish species, *Labeo kaage*, from the Shivanasamudra stretch of the Cauvery River basin in Mandya, Karnataka.

About Labeo kaage

- **It is a new species of freshwater fish.**
- **It was discovered from the Shivanasamudra stretch of the Cauvery River basin in Mandya, Karnataka.**
- The name *kaage*, derived from the Kannada word for crow, refers to the fish's dark body colour.
- Locally, it is known as 'kaage meenu' in Karnataka.
- It is the latest in a series of dark-coloured *Labeo* species discovered in the Western Ghats.

Recent Findings:

- During 2025, the same team also discovered Labeo chekida from the Chalakkudy River and Labeo uru from the Chandragiri River of Kerala.
- While Labeo chekida is locally known as 'kaka chekida', Labeo uru was named after the traditional wooden dhow (uru) of the Malabar coast due to its elongated sail-like fins.
- The scientists also clarified the identity of Labeo nigrescens, the enigmatic 'Dark Labeo' originally described in 1870, resolving a long-standing taxonomic confusion surrounding the group.

8. Palamu Tiger Reserve

Context: The maiden Human-Elephant Conflict Research Centre of the country will be set up at the Palamu Tiger Reserve in Jharkhand.

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. The geological formation consists of gneiss and includes granite and limestone.
- **Rivers:** It is drained by three rivers, namely North Koyal, Auranga, and Burha, flowing through the valleys.
- The area is drought-prone, with Burha being the only perennial river.
- **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.

9. Agarwood

Context: Assam achieved a major milestone by making its first legally approved export of agarwood chips to Saudi Arabia and the United Arab Emirates.

Agarwood

- It is also known as oud, is one of the **world's most valuable aromatic raw materials**.
 - It is produced from resin formed in infected Aquilaria and Gyrinops trees.
 - Agarwood incense is produced from resin formed in trees of the Aquilaria and Gyrinops genera when they are stressed or infected by fungi, triggering a defensive resin response.
- Agarwood is a highly valued material used globally in **luxury perfumes, incense, cosmetics, and traditional products**.
- Agarwood is **grown in countries such as India, Cambodia, Vietnam, Malaysia, Indonesia, Laos, and Bhutan**. In India, key species like Aquilaria malaccensis and Aquilaria khasiana are found mainly in the Northeast, including Assam and surrounding states.
- Agarwood figured in **Appendix II of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)**, after international concern built up over the dwindling population of trees worldwide.
- Agarwood is one of the world's most expensive natural raw materials due to its rare fragrance and use in luxury perfumes and incense.
- Agarwood forms only when Aquilaria trees are infected or damaged, triggering production of a dark aromatic resin as a defence mechanism.

10. UN Forum on Forests

Context: The United Nations launched The Global Forest Goals Report 2026 at the opening day of the 21st Session of the UN Forum on Forests (UNFF21) in New York.

UN Forum on Forests:**What it is?**

- **The United Nations Forum on Forests (UNFF) is a high-level, intergovernmental policy forum that holds universal membership (comprising all UN Member States).**
- It serves as a specialized body dedicated to the management, conservation, and sustainable development of all types of forests while strengthening long-term global political commitment.

Establishment:

- The UNFF was established in **October 2000** by the UN Economic and Social Council (ECOSOC) under Resolution 2000/35.
- It functions as a permanent subsidiary functional commission of ECOSOC and forms the core of the International Arrangement on Forests (IAF).

Aim:

- The principal aim of the UNFF is to promote the implementation of internationally agreed actions on **Sustainable Forest Management (SFM)**.
- It coordinates global policy to reverse deforestation, enhance the economic, environmental, and social benefits of forests, and mobilize innovative financing to meet the **2030 Agenda for Sustainable Development**.

Key Features:

- **The UN Forest Instrument (2007):** The first-of-its-kind global framework established to strengthen domestic political actions and foster international cooperation for sustainable forest ecosystems.
- **Global Forest Financing Facilitation Network (GFFFN):** Launched in 2015 to help developing nations design national forest financing strategies and access funds from multilateral mechanisms like the Global Environment Facility (GEF).

- **UN Strategic Plan for Forests 2030:** Adopted in 2017, this plan provides a global blueprint containing six Global Forest Goals (GFGs) and 26 associated targets.
- **Collaborative Partnership on Forests (CPF):** An inter-agency body chaired by the Food and Agriculture Organization (FAO), of which the International Union for Conservation of Nature (IUCN) is a key member, ensuring technical expertise and coordinated action.
- **Biennial Cycle Formatting:** The forum operates in two-year thematic cycles where even-numbered sessions focus on technical discussions, and odd-numbered sessions focus on high-level policy dialogues and decision-making.

11. Western Hoolock Gibbon

Context: In a first, a male Western Hoolock Gibbon housed in the Hollongapar Gibbon Sanctuary in Assam's Jorhat district crossed the canopy bridges installed over a railway line passing through the sanctuary.

About Western Hoolock Gibbon

- **It is the smallest and fastest of all apes.**
- **Habitat:** It is found in a range of forest types, from moist deciduous to evergreen, sub-tropical to lowland.
- **Distribution:** It is found in all the states of the north-east, restricted between the south of the Brahmaputra River and east of the Dibang river. Outside India, it is found in Bangladesh and Myanmar.

Characteristics of Western Hoolock Gibbon

- They are diurnal and arboreal, brachiating through the trees with their long arms.
- They are monogamous (same partner throughout life).
- They live in small families and communicate with other gibbons by vocalisation.
- Life span: 25 years.

- Threats: Habitat destruction illegal logging presented the greatest threat.

Conservation Status

- IUCN: Endangered.
- Wildlife (Protection) Act of India, 1972: Schedule I.

12. Saranda Forest

Context: The Jharkhand government has filed a review petition in the Supreme Court against its earlier order directing the state to notify the Saranda elephant forests as a wildlife sanctuary within three months. Jharkhand argues that declaring the sanctuary could affect tribal habitations, roads, and infrastructure, requiring further studies.

Saranda Forest

- It is located about 122 km from Jamshedpur in Jharkhand.
- It is the **largest Sal Forest in Asia** and is known as the “**land of seven hundred hills.**”
- It is part of the **Chhotanagpur biogeographic zone** and connects with forests in Odisha and Chhattisgarh, creating a continuous wildlife habitat.
- The forest is home to diverse flora and fauna, including endangered flying lizards and large elephant populations, and forms an important migratory elephant corridor.
 - Major tree species include **Sal, Mahua, and Kusum.**

13. Pangolins

Context: A new study has developed a breakthrough “genetic map” to trace pangolin trafficking routes using advanced DNA sequencing.

Pangolins

- They are solitary, **nocturnal mammals** covered in protective scales that curl into a ball when threatened.

- They are also known as scaly anteaters and they feed mainly on ants and termites.
- They are the world’s most trafficked mammals due to demand for their meat, scales, and leather products, especially in Asia and parts of Africa, with some demand also in the US.
- There are currently eight species of pangolin recognized by the International Union for Conservation of Nature (IUCN).
- **Distribution:** They are found across Africa and Asia
 - **Species are found in Asia:**
 - **Indian pangolin (Manis crassicaudata)- Endangered**
 - **Philippine pangolin (Manis culionensis)- Critically Endangered**
 - **Sunda pangolin (Manis javanica)- Critically Endangered**
 - **The Chinese pangolin (Manis pentadactyla)- Critically Endangered**

14. Kashmir Flycatcher

Context: The rare Kashmir Flycatcher, a migratory bird species, has been recently spotted at the Chemmattamavayal wetlands in Kasaragod district, Kerala.

About Kashmir Flycatcher

- It is a small passerine bird in the flycatcher family **Muscicapidae**.
- Scientific Name: *Ficedula subrubra*

Kashmir Flycatcher Distribution

- It is endemic to the Indian Subcontinent.
- It makes its home in the northwest Himalayas. It breeds in the Kashmir region.
- It is a migratory bird, meaning it travels long distances.
- **It flies south to warmer places for the winter.**
- It winters largely in the high altitudes of the Nilgiris in the Western Ghats and in Sri Lanka.

Kashmir Flycatcher Features

- It is a small bird, about 13 cm long.

- The male has a grey-brown back. Its throat, chest, and sides are a bright orange-red.
- This orange-red color is often outlined with a black border on its throat and chest.
- Female birds and young birds (called first-winter birds) look a bit different. Their upper parts are a slightly browner shade.
- The red color on their undersides might be a lighter pink, not as bright as the males.

Kashmir Flycatcher Conservation Status

- It is classified as 'Vulnerable' under the IUCN Red List.

15. National Centre for Sustainable Coastal Management

Context: The National Centre for Sustainable Coastal Management (NCSCM) recently completed the documentation and ground-truthing of all but 11 of Maharashtra's 23,415 wetlands.

About National Centre for Sustainable Coastal Management

- It was established by the Ministry of Environment, Forest, and Climate Change (MoEF&CC) in 2011 as an autonomous institution to support the protection, conservation, rehabilitation, management, and policy advice of the coast.
- Headquarters: Chennai, Tamil Nadu.

Aims and Objectives:

- Strive for being a world-class knowledge institution related to coastal zones, environment, resources, and processes.
- To promote integrated and sustainable management of the coastal and marine areas in India for the benefit and well-being of the traditional coastal and island communities.
- Advise the Union and State Governments and other associated stakeholder(s) on policy and scientific matters related to Integrated Coastal Zone Management (ICZM).

- It undertakes studies and research in the area of Coastal Zone Management including coastal resources and environment.

The Six Research Divisions of the NCSCM are:

- Geospatial Sciences, Remote Sensing and Geographic Information Systems (GIS),
- Integrated Social Sciences & Economics,
- Coastal environmental impact assessment,
- Conservation of Coastal & Marine Resources,
- Knowledge, Governance and Policy,
- Futuristic Research and Integrated Island Management Unit.

16. Himalayan Tricarinate Hill Turtle

Context: Forest officials recently found the rare Himalayan Tricarinate Hill Turtle in the Udanti Sitanadi Tiger Reserve forests of Chhattisgarh, marking an unusual sighting of the Himalayan species in central India.

About Himalayan Tricarinate Hill Turtle

- It is a small, terrestrial turtle species belonging to the family Geoemydidae.
- It derives its name from the three distinct keels on its shell, which provide it with a striking appearance.
- Scientific Name: *Melanochelys tricarinata*

Himalayan Tricarinate Hill Turtle Habitat and Distribution

- It is found along the narrow sub-Himalayan belt, stretching across northeastern India, southern Nepal, southern Bhutan, and northern Bangladesh.
- The species primarily inhabits temperate forests, as well as grasslands and foothills of the Himalayas.

Himalayan Tricarinate Hill Turtle Features

- It is characterised by a highly domed carapace with three longitudinal keels.
- It has a small olive-to-dark coloured head with a narrow snout.

- It has scaly limbs adapted for terrestrial movement.

Himalayan Tricarinata Hill Turtle Conservation Status

- It is classified as 'Endangered' under the IUCN Red List.

17. Conocarpus Plant

Context: Recently, ecologists warned against planting of Conocarpus plant species along highways and medians.

About Conocarpus Plant

- Conocarpus tree (*Conocarpus erectus*) is also known as Buttonwood, button mangrove.
- It is a mangrove shrub and tree in the family Combretaceae.
- It grows on shorelines in tropical and subtropical regions around the world including Florida, Bermuda, the Bahamas, the Caribbean, Central and South America from Mexico to Brazil.

Characteristics of Conocarpus Plant

- It is famous for its dark green leaves color throughout the year and withstand harsh environmental conditions such as high and low temperatures.
- Its growth is more revived in high summer temperatures and endured by low temperatures in winter as well as tolerance for all types of soil from sandy to clay.
- It is a resilient and adaptable plant popular in landscaping due to its tolerance to various climates and urban conditions.
- It features two salt glands at the base of each leaf which allow the plant to live in salt water but expel the salt from its system.
- Due to growing environmental and public health concerns, multiple states in India (such as Gujarat and Telangana) have placed absolute bans on planting Conocarpus species (*Conocarpus erectus* and *Conocarpus lancifolius*) in forest nurseries, urban landscaping, and green highway corridors.
- Conocarpus is an exotic, invasive mangrove-associate tree native to the Americas and Africa.

It is **not** targeted for planting as a safe soil-cleansing hyperaccumulator. Far from having "no adverse impacts," it causes severe ecological and public health crises.

18. *Humboldtia nairiana*

Context: Researchers have discovered a new evergreen tree species from the southern Western Ghats of Kerala and have officially named it as *Humboldtia nairiana*.

About *Humboldtia nairiana*

- It is a new evergreen tree species belonging to the genus *Humboldtia*.
- The species identified in the riparian forests of the Shendurney Wildlife Sanctuary.

Features of *Humboldtia nairiana*

- It is a medium-sized evergreen tree that grows between 5 to 8 metres in height.
- It possesses stable and distinguishing features including a unique warty, pale brown bark with a distinct creamy-white blaze; angled, glabrous branchlets.
- It has distinctly shorter, sparsely hairy, isometric stipules and appendages;
- It consists of larger flowers with comparatively long pedicels, and produces elliptic-oblong fruits with a shorter beak.
- It is strictly endemic to Kerala and is presently known only from the biodiversity-rich Agasthyamala Biosphere Reserve at an elevation of about 300 meters.



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SCIENCE AND TECHNOLOGY

1. Fiber Optic Drones

Context: Recently, it was observed that Hezbollah is using Fiber Optic Drones against Israel.

About Fiber Optic Drones

- Fiber optic drones are specialized unmanned aerial vehicles (UAVs) that integrate fiber optic technology.

Working of Fiber Optic Drones

- Fiber optic drones operate by using optical fiber cables instead of traditional wireless systems.
- These are operated while connected to the ground through a fiber optic tether.
- Unlike regular drones that rely on radio frequencies for communication and batteries for power, these drones receive both data connectivity and often electrical power through the tether.
- Applications: Military and Drone Warfare, Telecommunications and Infrastructure Maintenance, Emergency and Disaster Response

Advantages of Fiber Optic Drones

- Real-time Data:** It operates at near-zero latency transmission, ideal for surveillance, targeting and network maintenance.
- Improved Coverage:** These can be operated in GPS-denied, RF-jammed environments like electronic warfare zones.
- High Security:** These drones carry optical fiber cables, ensuring the transmission of large data volumes with minimal signal interference.
- Reliable Transmission:** These drones provide high-speed, reliable data transmission over vast distances.

2. Atomic Energy Regulatory Board

Context: Recently, the Atomic Energy Regulatory Board (AERB) has issued permission for “major equipment erection” at Kudankulam Nuclear Power Project (KKNPP) Units 5 and 6.

About Atomic Energy Regulatory Board

- It is India’s premier regulatory authority for nuclear and radiation safety.
- Background:** The AERB was constituted on November 15, 1983, by the President of India by exercising the powers conferred by the Atomic Energy Act, 1962 to carry out certain regulatory and safety functions under the Act.
- The regulatory authority of AERB is derived from the rules and notifications promulgated under the Atomic Energy Act and the Environment (Protection) Act, 1986.
- Objective:** To ensure the use of ionizing radiation and nuclear energy in India does not cause undue risk to the health of people and the environment.
- Headquarters:** Mumbai.

Composition

- It comprises six members of which two are whole time members including the chairman.
- The other whole-time member is the executive director of the AERB Secretariat who is an ex-officio member of the Board.
- The other four members are eminent experts from various disciplines relevant to the mandate of the board.
- The Board shall be responsible to the Atomic Energy Commission.**

3. Cell Broadcast

Context: India has launched the SACHET emergency alert system using indigenous cell broadcast technology to send instant disaster warnings.

Cell Broadcast

- It is a **one-to-many mobile messaging** system that sends short alerts to all phones in a specific geographic area at the same time.
 - Unlike SMS, it does not target individual numbers, so it can deliver messages instantly even during network congestion.
- It was developed in the early **1990s by the European Telecommunications Standards Institute (ETSI)** and first demonstrated in 1997 in Paris, it is now widely used in over 30 countries.
- Cell Broadcast is used to send fast, reliable emergency alerts to people in specific areas during disasters like earthquakes, floods, cyclones, storms, heatwaves, and industrial accidents such as gas leaks or chemical incidents.
 - The primary objective is to shift **India's disaster management from a reactive to a proactive.**

Advantages of cell broadcast system

- Cell Broadcast **does not use personal data and does not require phone numbers**, apps, or subscriptions.
- It delivers loud, attention-grabbing alerts that override normal phone activity, including silent or Do Not Disturb modes, and the message stays on screen until acknowledged.
- It is used very sparingly for life-threatening emergencies such as earthquakes, flash floods, landslides, dam breaks, and other major disasters, and is only sent to people in the affected area.

4. Trans-Neptunian Object: 2002 XV93

Context: Astronomers have discovered a thin atmosphere on the trans-Neptunian object (612533) 2002 XV93, making it only the second such body after Pluto known to possess one.

About Trans-Neptunian Object: 2002 XV93**What it is?**

- (612533) 2002 XV93 is a small, icy celestial body located in the **Kuiper Belt**, a vast region of the solar system beyond the orbit of Neptune. It is a trans-Neptunian object (TNO) that likely dates back to the dawn of the solar system, approximately 4.5 billion years ago.

Discovered By:

- The atmosphere was identified through **stellar occultation**- observing the object as it passed in front of a distant star- using ground-based telescopes in Japan (Kyoto, Nagano, and Fukushima).
- By definition, a Trans-Neptunian Object is any minor planet or small solar system body whose semi-major axis (average orbital distance) is greater than that of Neptune (> 30.1 AU). It does not require the entire orbit to remain outside Neptune's path.
- TNOs are heavily categorized by their gravitational relationship with Neptune. **Plutinos** are a major class of resonant TNOs (named after the prototype, Pluto) trapped in a stable **2:3 mean-motion orbital resonance** with Neptune. This means that for every three times Neptune circles the Sun, a plutino completes exactly two orbits.
- Classical Kuiper Belt objects (often called cubewanos) possess relatively low-eccentricity, stable, and nearly circular orbits. Conversely, **Scattered Disc Objects (SDOs)** have highly irregular, extremely eccentric, and sharply inclined orbits that can take them hundreds of astronomical units away from the ecliptic plane, having been gravitationally scattered outward by Neptune in the past.

5. Tactical Advanced Range Augmentation (TARA) Weapon

Context: The DRDO and the Indian Air Force (IAF) successfully conducted the maiden flight-trial of the Tactical Advanced Range Augmentation (TARA) weapon off the coast of Odisha.

About The Tactical Advanced Range Augmentation (TARA) Weapon:

What it is?

- TARA is a modular range extension kit and India's first indigenous glide weapon system. It is designed to be fitted onto existing unguided warheads, converting them into advanced precision-guided weapons.

Developed By: Research Centre Imarat (RCI), Hyderabad.

Aim:

- The primary objective of TARA is to provide a **low-cost solution** to enhance the lethality and accuracy of existing unguided munitions. It is specifically designed to neutralize **ground-based targets** with high precision, reducing collateral damage and improving mission success rates.

Key Features:

- Indigenous Glide System:** First weapon system of its kind developed entirely within India to provide gliding capabilities to traditional bombs.
- Modular Design:** Features a kit that can be easily integrated with a variety of unguided warheads.
- Precision Guidance:** Utilizes state-of-the-art systems to guide the weapon accurately to its target after release.
- Cost-Effectiveness:** Built using low-cost systems to ensure that advanced precision capabilities can be deployed at scale without prohibitive expenses.
- Enhanced Range:** As a glide weapon, it significantly extends the standoff range, allowing aircraft to release the weapon from a safer distance.

6. Multiple Independently Targeted Re-Entry Vehicle (MIRV) system

Context: India conducted the successful flight-trial of an Advanced Agni missile with Multiple Independently Targeted Re-Entry Vehicle (MIRV) system from Dr APJ Abdul Kalam Island, Odisha.

Multiple Independently Targeted Re-Entry Vehicle (MIRV) system

- MIRV technology enables missiles to carry multiple warheads that can strike different targets simultaneously, causing extensive damage.
- It strengthens a country's counterattack capability, especially for nations like India with a no-first-use nuclear policy.
- It is difficult to intercept because each warhead follows a separate trajectory and can also carry dummy warheads to bypass missile defence systems.
 - Advanced sensors and avionics further improve targeting accuracy and effectiveness.
- Developed in the 1960s and first used by the United States and the Soviet Union, it was later adopted by China, United Kingdom, and France.
- One of the primary strategic motivations for developing MIRV technology is **missile defense saturation**. If an adversary deploys a Ballistic Missile defence (BMD) system, intercepting a single incoming warhead is relatively straightforward. However, if a single incoming missile releases 4 to 10 independent warheads (along with decoys), it easily overwhelms the processing and interceptor capacity of the radar and defence shield.
- Unlike a conventional multi-warhead missile (MRV) where all warheads drop in a clustered pattern on a single target, a MIRV uses a manoeuvring "bus" (post-boost vehicle). The bus releases warheads sequentially at different speeds and trajectories, allowing a single missile to accurately strike **multiple, distinct targets separated by hundreds of kilometres**.
- A MIRV system alters the payload and final re-entry configuration, but it does **not** alter the fundamental physics of an Intercontinental Ballistic Missile (ICBM). The missile must still launch into a standard sub-orbital ballistic arc, which includes a distinct boost phase, a high-altitude mid-course phase in outer space,

and a terminal re-entry phase. It does not eliminate the mid-course phase or cruise at a low-altitude flight path (which is the characteristic of cruise missiles, not ballistic missiles).

7. Chief of Defence Staff

Context: The Government of India has appointed Lieutenant General NS Raja Subramani as the new Chief of Defence Staff (CDS). He will also function as the Secretary, Department of Military Affairs (DMA).

Chief of Defence Staff (CDS)

- The post of CDS was created in **2019** following recommendations of the **Kargil Review Committee** and subsequent defence reforms.
- It was also recommended by **Naresh Chandra Task Force on National Security**, and **Lieutenant General DB Shekatkar Committee**.
- The first CDS of India was **General Bipin Rawat**.
- **Role and Responsibilities of the CDS:**
 - **Principal Adviser:** Acts as the primary military adviser to the defence minister on all tri-services matters.
 - **Department of Military Affairs:** Functions as the **Secretary** to the Government of India for the Department of Military Affairs.
 - **Military Reform:** Focuses on enhancing synergy, jointness in operations, and modernization of the armed forces.
 - **Theater Commands:** Drives the restructuring of military commands into integrated theater commands.
 - **Strategic and Nuclear Role:** Serves as an important military adviser to the Nuclear Command Authority.

8. Weather forecasting in India

Context: The India Meteorological Department has launched a new forecasting system capable of providing block-level forecasts of the southwest monsoon across 15 States and one Union Territory.

Weather forecasting in India

- India, at present, depends on **satellite data and computer models** for weather prediction. The **Indian Meteorological Department (IMD)** uses the **INSAT** series of satellites and supercomputers.
- In India three satellites, **INSAT-3D, INSAT-3DR and INSAT-3DS** are used mainly for meteorological observations.
- Forecasters use satellite data around **cloud motion, cloud top temperature, and water vapor content** that help in rainfall estimation, weather forecasting, and tracking cyclones.

Note: While earlier generation INSAT satellites were multi-purpose (handling both telecom and weather), the 3D, 3DR, and 3DS series are specialized Earth observation systems. They do **not** carry high-power Ku-band transponders meant for commercial DTH television broadcasting or commercial VSAT communications. (Those telecom services are handled by dedicated communication satellites like the GSAT series)

9. Scramjet Engine

Context: The Defence Research and Development Organisation (DRDO) has successfully conducted an extensive, long-duration test of its **Actively Cooled Full-Scale Scramjet Combustor** in Hyderabad.

About

- The test was conducted at the **Scramjet Connect Pipe Test (SCPT) Facility**.
- It achieved a sustained runtime of more than **1,200 seconds**, improving upon the earlier **700-second test** conducted in **January 2026**.

What is a Scramjet Engine?

- A **Scramjet (Supersonic Combustion Ramjet)** is an advanced **air-breathing propulsion system** designed for hypersonic speeds.
- It compresses incoming air using its high speed, allowing fuel combustion to occur in supersonic

airflow. It uses oxygen present in the atmosphere for combustion.

- A Hypersonic Glide Vehicle (HGV) does not have its own engine for initial propulsion. It is placed on top of a conventional ballistic missile booster. Once it reaches the desired altitude and velocity, it detaches and unpoweredly glides and maneuvers through the upper atmosphere toward its target.
- Unlike glide vehicles, cruise vehicles are continuously powered from launch to impact. They use air-breathing scramjet technology to maintain their extreme speeds throughout the cruise phase of flight.
- The term “hypersonic” by definition applies to speeds of **Mach 5 and above** (five times the speed of sound). Furthermore, the primary reason nations develop both HGVs and HCVs is their ability to perform unpredictable, non-ballistic maneuvers mid-flight, making them incredibly difficult for modern missile defense systems to track and intercept.
- Hypersonic Cruise Vehicles (HCVs/HCMs) do not follow a ballistic trajectory, nor are they unpowered after booster separation. Instead, they rely on advanced air-breathing propulsion systems like **scramjets** (supersonic combustor ramjets) to sustain powered flight. Because scramjet engines must ingest oxygen directly from the surrounding air to burn their onboard fuel, these vehicles **absolutely require atmospheric oxygen** to function and are confined to flying within the atmosphere.

10. Coal Gasification

Context: The Union Cabinet approved a Rs 37,500 crore scheme to promote surface coal and lignite gasification projects.

About

- **Aim:** To accelerate India’s coal gasification programme and strengthen the country’s energy security.

- The scheme is expected to support the **national target of gasifying 100 million tonnes of coal by 2030** while reducing dependence on imports of key products such as liquefied natural gas (LNG), urea, ammonia and methanol.
- **India currently holds around 401 billion tonnes** of coal reserves and nearly 47 billion tonnes of lignite reserves.
 - **Coal contributes more than 55% to the country’s energy mix.**
 - India has the **fourth-largest coal reserves globally.**
- Coal gasification would **help convert domestic coal and lignite into synthesis gas, or syngas**, which can be used for producing fuels and chemicals domestically, thereby reducing exposure to global supply disruptions and price volatility.

What is Coal Gasification?

- **Coal gasification** is a **thermochemical process of converting coal into synthesis gas (syngas)**, which is a mixture of fuel-rich gases like carbon monoxide (CO), carbon dioxide (CO₂), hydrogen (H₂), and methane (CH₄).
- **The syngas can be used for** producing Synthetic Natural Gas (SNG), electricity generation, energy fuel (methanol and ethanol), ammonia for fertilisers, and chemicals.
- **The coal gasification process involves oxidation of coal at higher temperatures** and pressures to produce syngas.
- **There are two main types of gasification:** Surface gasification and Underground coal gasification (UCG).
 - **In surface coal gasification**, coal is first mined and then converted into gas in above-ground industrial reactors using oxygen, steam and high temperatures.
 - **Underground coal gasification** converts coal into gas while it is still buried deep underground by injecting air or oxygen into coal seams through wells and extracting the resulting gas to the surface.

11. Undersea Cables

Context: Amid rising geopolitical tensions, Undersea Cable Networks passing through strategic Digital Chokepoints have emerged as highly vulnerable infrastructure.

What are Undersea Cables?

- Undersea or submarine cables are fibre-optic communication cables laid on the seabed to transmit internet and telecommunication data across countries and continents.
- Key Features of Undersea Cables:**
 - More than **500 submarine cables** connect different parts of the world.
 - Around **95% of global internet and international data traffic** passes through these cables.
 - Undersea cables **support global banking systems, digital payments, cloud computing, e-commerce, and military communications.**
 - Major technology companies such as **Google, Meta, and Microsoft** are increasingly investing in submarine cable infrastructure.

International Cable Protection Committee (ICPC)

- ICPC, **founded in 1958**, is a global forum for governments and commercial entities involved in the submarine cable industry.
- The ICPC is fundamentally an **independent, non-profit international industry association** registered in the United Kingdom.
- Its membership is uniquely diversified, containing over 200 organizations across roughly 70 countries-including private telecommunication cable operators, power transmission companies, subsea equipment manufacturers, and various national government observers.**
- Its primary mission is to enhance the security of undersea cables by providing a platform for exchanging technical, legal, and environmental information.**

12. Common Criteria Recognition Arrangement

Context: India has been nominated as the Chair of the Common Criteria Development Board for the period from April 2026 to April 2028, during the 1st Quarter Meeting of the Common Criteria Recognition Arrangement in Tokyo, Japan.

What is the Common Criteria Recognition Arrangement (CCRA)?

- The CCRA is an international arrangement that enables the **mutual recognition of IT security certificates** among member countries.
 - It provides a common framework for evaluating and certifying the security of IT products.
- Under the arrangement, **products certified in one member country are accepted by other member nations** without the need for re-certification. This system facilitates seamless international trade in secure IT products.
 - The CCRA comprises **20 certificate-authorizing nations and 18 certificate-consuming nations.**
- The CCRA also maintains the **Common Criteria Portal**, which serves as the global repository for certified secure IT products.

What is the Common Criteria Development Board (CCDB)?

- The CCDB serves as the **technical core of the Common Criteria Recognition Arrangement).**
- It is the technical body responsible for developing and maintaining;
 - Common Criteria (CC) standards, and**
 - Common Evaluation Methodology (CEM).**
- The board **develops and updates technical standards and evaluation methodologies** for IT security certification.
- While other CCRA groups focus on policy matters, the **CCDB concentrates on technical standards and evaluation criteria** for secure IT products.

13. Zwan-Wolf Effect

Context: A recent study published in *Nature Communications* has provided evidence of the Zwan-Wolf effect at Mars using data from NASA's MAVEN spacecraft.

What is the Zwan-Wolf Effect?

- The Zwan-Wolf effect is a space weather phenomenon where **electrically charged particles (plasma) are compressed and squeezed** along magnetic field lines when a planet's magnetic boundary interacts with the solar wind.
 - The solar wind is a continuous stream of charged particles emitted by the Sun.
- First identified in **1976 by scientists B.J. Zwan and R.A. Wolf**, the phenomenon creates a plasma "depletion layer" near the planetary boundary, helping deflect solar wind flows.

14. Blue Straggler Star

Context: Recently, researchers have made the world's first confirmed discovery of a blue straggler star hosting a brown dwarf companion in an extraordinarily compact binary system.

About Blue Straggler Star

- Blue Straggler Stars are hot, blue, massive stars that seem to have a different trajectory of evolution from the norm.
- These are a class of stars observed in old, dense stellar systems such as globular clusters.
- They lie on an extension of the main sequence star and are bluer and brighter than the main-sequence turn-off stars.
- These objects are found in star clusters, dwarf galaxies, and in the field.

How are Blue Straggler Star Different?

- There are a few stars, when they are expected to start expanding in size and cooling down, do just the opposite.

- They grow brighter and hotter as indicated by their blue colour, thus standing out from the cooler red stars in their vicinity in the colour-magnitude diagram.
- Since they lag behind their peers in evolution, they are called stragglers, more specifically, blue stragglers, because of their hot, blue colour.

15. Sweden

Context: During Prime Minister official visit to Sweden, the Indian Space Research Organisation (ISRO) and the Swedish National Space Agency signed a MoU formalizing Sweden's participation in India's upcoming Venus Orbiter Mission.



Sweden:

- Sweden is a Northern European country located on the Scandinavian Peninsula. It is situated both in the Northern and Eastern hemispheres of the Earth. Sweden is bordered by 3 countries: by Finland in the east; by Norway in the north and west; by Denmark in the southwest (via a bridge-tunnel through Oresund Strait). It is bounded by the Gulf of Bothnia and the Baltic Sea in the east and south; and by the Skagerrak and Kattegat

straits in the southwest. Sweden shares its maritime borders with Germany, Denmark, Poland, Russia, Lithuania, Latvia and Estonia.

- Sweden does **not** lie entirely to the north of the Arctic Circle. In fact, only about **15% of Sweden's total landmass** (specifically its northernmost region, commonly known as Swedish Lapland or Övre Norrland) sits above the Arctic Circle (66°33'N).
- Sweden shares **no land boundary with Russia**, neither in the Arctic nor anywhere else. Sweden only shares direct land borders with two nations: **Norway** to its west and **Finland** to its northeast.

16. Environmental Control and Life Support System

Context: ISRO's advanced development of the Environmental Control and Life Support System (ECLSS) for the Gaganyaan mission has been highlighted, detailing how the system artificially replicates Earth's sea-level conditions to sustain Indian astronauts in a 400 km low Earth orbit.

The Environmental Control and Life Support System (ECLSS):

What It Is?

- The ECLSS is a complex, mission-critical network of thermal, chemical, and mechanical engineering systems designed to replicate Earth's biosphere inside a spacecraft.
- For short-term missions like Gaganyaan, it operates as an open-loop configuration where all necessary human supplies are carried from Earth and metabolic waste is safely stabilized and stored for post-mission disposal.

17. Spinel nanocomposite Phase Change Material

Context: Researchers at the International Advanced Research Centre for Powder Metallurgy and New Materials (ARCI) announced the development of a low-cost, high-performance spinel nanocomposite Phase Change Material (PCM).

What it is?

- A Thermal Energy Storage (TES) system is an advanced clean technology designed to stock thermal energy by heating or cooling a storage medium. It functions essentially as a **thermal battery**, retaining heat during peak generation hours (like midday solar cycles or active industrial manufacturing) and discharging it on demand for continuous electricity generation or space heating.

Materials Used:

- Traditional TES frameworks rely on sensible heat storage (like molten salts or thermal oils) or latent heat storage materials known as **Phase Change Materials (PCMs)**, which absorb and release energy when transitioning between solid and liquid states.
- The 2026 ARCI breakthrough introduces a new material classification:
- **The Base Medium:** Standard commercial Phase Change Materials (PCMs).
- **The Nanocomposite Additive:** Custom-tailored **spinel-type metal oxide nanoparticles** synthesized via a cost-effective, scalable co-precipitation method.
- Phase Change Material-based TES systems are preferred in urban areas because they provide compact and efficient thermal energy storage for peak-load management despite higher initial costs.
- PCMs store and release latent heat during phase transition at nearly constant temperature, giving them much higher energy density than sensible heat storage materials. The high energy density of PCMs reduces storage space requirements, making them ideal for space-constrained urban applications.

18. Nereid

Context: New observations from the James Webb Space Telescope suggest that Nereid may not have originated from the Kuiper Belt, as its crystalline water ice and unique spectral signature differ from known Kuiper Belt objects.

About Nereid

- It is the third-largest moon of Neptune.
- It was discovered on May 1, 1949, by Dutch astronomer Gerard Kuiper, who named the moon after the sea nymphs in Greek mythology.
- Nereid is about 170 kilometers across.
- It is unique because it has one of the most eccentric orbits of any moon in our solar system.
- It is so far from Neptune that it requires 360 Earth days to make one orbit.
- Like so many other moons in the outer solar system, Nereid was long suspected of migrating to Neptune's neighborhood from the Kuiper Belt.
- But using the Webb telescope, scientists determined that Nereid's composition was inconsistent with Kuiper Belt objects - it had too much ice.
- That suggests it was part of Neptune's system all along.

	List I (Moons)		List II (Planets)
A.	Mars	1.	Deimos
B.	Jupiter	2.	Callisto
C.	Saturn	3.	Titan
D.	Neptune	4.	Nereid

19. 11th Review Conference of the Nuclear Non-Proliferation Treaty

Context: The 11th Review Conference of the Nuclear Non-Proliferation Treaty (NPT) at the UN Headquarters in New York collapsed without reaching a consensus on a final declaration.

About 11th Review Conference of the Nuclear Non-Proliferation Treaty (NPT):**What it is?**

- The NPT Review Conference is a high-level plurilateral diplomatic forum held every five years to assess the implementation, structural health, and modernization of the Treaty on the Non-Proliferation of Nuclear Weapons (NPT).

- Initiated in 1975, these month-long sessions bring together nearly 190 signatory states to review past disarmament pledges, inspect safeguard protocols, and address emerging geopolitical flashpoints threatening the global non-proliferation architecture.

Key Features of the NPT

- **Grand Bargain:** Non-Nuclear Weapon States agree not to acquire nuclear weapons, while Nuclear Weapon States commit to pursue disarmament.
- **Recognized Nuclear Powers:** Only countries that tested nuclear weapons before 1 January 1967 are recognized as Nuclear Weapon States - United States, Russia, China, United Kingdom, and France.
- **IAEA Safeguards:** The International Atomic Energy Agency monitors civilian nuclear facilities to prevent diversion for weapons use.
- **Peaceful Nuclear Use:** Member states retain the right to use nuclear technology for peaceful purposes such as energy, medicine, and agriculture.
- **Indefinite Extension:** Originally signed in 1968 for 25 years, the treaty was extended indefinitely in 1995.
- The NPT recognizes only five Nuclear Weapon States: the United States, Russia, United Kingdom, France, and China.
- The obligations are not identical; Non-Nuclear Weapon States agree not to acquire nuclear weapons, while Nuclear Weapon States commit more broadly toward disarmament negotiations.
- IAEA safeguards verify peaceful use of nuclear materials.
- Article X of the NPT allows withdrawal under extraordinary circumstances affecting national interests.

20. Ferrocene

Context: Researchers have achieved a major chemistry breakthrough by synthesizing a new

carbon-free molecule that copies the unusual 'sandwich' structure of the famous carbon-containing ferrocene molecule.

About Ferrocene

- It is an orange crystalline organometallic compound with the formula $\text{Fe}(\text{C}_5\text{H}_5)_2$.
- It was first prepared in 1951 by the reaction of sodium cyclopentadienide with iron(+2) chloride.
- Its discovery launched the field of organometallic chemistry, with numerous applications in materials science and medicine.
- Properties
- It occurs as highly stable orange crystals with a melting point of 174°C (345°F).
- Chemically, ferrocene behaves like benzene and other aromatic compounds in that it undergoes substitution reactions.
- It has good solubility in a range of organic solvents but is insoluble in water.
- Unique structure: It consists of an iron atom sandwiched between two flat carbon ringed-molecules.

Applications

- It is a widely used compound in a variety of modern technologies.
- It is used in medicines, batteries, advanced materials and electronics.

21. Microeledone Galapagensis

Context: Recently, Charles Darwin Foundation scientists have discovered a tiny blue octopus species called *Microeledone galapagensis*.

About *Microeledone Galapagensis*

- It is a tiny blue octopus species discovered near Galapagos Islands.
- This tiny blue creature was first discovered during a deep-sea expedition in 2015.
- Appearance: It is roughly the size of a golf ball and displays an unusually blue coloration.
- Habitat: It lives in the deep sea.

Characteristics

- It has smooth skin, large rachidian teeth, and a large funnel organ.
- It consists of relatively few suckers on its arms, smooth skin, beak features and the coloring around its organs and parts of the mantle.

22. CLEAR Technology

Context: Researchers in India have developed a groundbreaking protein imaging platform called **CLEAR**, which allows multiple proteins to be mapped within a single biological sample using a single fluorescent marker.

CLEAR Technology:

What It Is?

- A novel, highly multiplexed spatial protein imaging platform that allows a vast number of proteins to be visualized and mapped within the same cells or tissue sections.

Full Form: Cleavable Light-Erased Antibody Reporter (CLEAR).

Developed By: The Jawaharlal Nehru Centre for Advanced Scientific Research (JNCASR), an autonomous institute under the Ministry of Science and Technology.

Aim:

- The primary aim of CLEAR technology is to overcome the structural limits of conventional imaging, which struggle to map multiple proteins simultaneously within a single specimen while preserving their spatial organization.
- It aims to provide high-resolution, high-plex protein maps to decode complex cellular behavior in diseases like cancer and neurological disorders.

How It Works?

- Traditional multiplex imaging is limited because different proteins require distinct colored fluorescent tags, and microscopes can only

distinguish a few colors at once. CLEAR bypasses this using a cyclic erase and rewrite process:

- **Targeted Labeling:** Scientists introduce specialized CLEAR probes (antibodies attached to a fluorescent tag via a light-sensitive chemical link) to label a specific set of proteins in a tissue sample.
- **First Image Capture:** The sample is imaged under a microscope within a standard spectral window.
- **Photolytic Erasing:** Instead of using harsh chemicals that destroy the tissue, the sample is exposed to a gentle pulse of **365 nm LED light**. This light neatly cleaves the chemical bond, releasing and washing away the fluorescent signal-effectively turning the sample into a blank chalkboard.
- **Cyclic Rewriting:** A new set of proteins is then introduced and imaged using the exact same

spectral window. This cycle can be repeated multiple times to generate an incredibly detailed, layered molecular map of the specimen.



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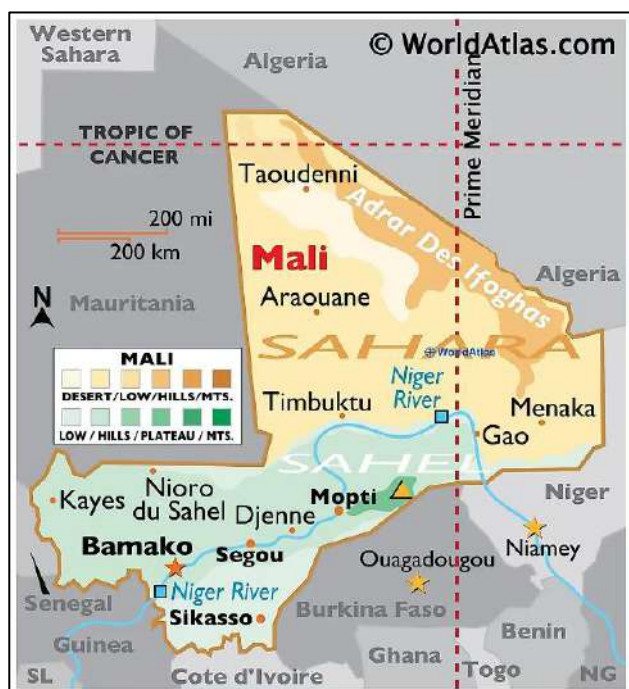


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GEOGRAPHY AND MAPPING

1. Location of Mali

Context: Kremlin spokesman Dmitry Peskov on April 30 said Russian forces would stay in Mali, rejecting a call from Tuareg rebels for Moscow to withdraw after separatists and jihadists launched the largest attacks against the military junta's rule in 15 years.



Mali:

- Located in West Africa, the landlocked country of Mali shares its borders with seven countries. It is located in the Northern Hemisphere. As it straddles the Prime Meridian longitude line, it has territories on both the Eastern and Western hemispheres. To the north-northeast, Mali is bordered by Algeria. Niger, Burkina Faso, and Ivory Coast border the country to the east, southeast, and south respectively. Guinea bounds Mali to the southwest, Senegal to the west, and Mauritania to the northwest.
- The Prime Meridian (0° longitude) passes through several countries in Africa, including Algeria, **Mali**, Burkina Faso, Togo, and Ghana. In

Mali, it passes specifically through the eastern part of the country, near the ancient city of **Gao**.

- The Niger River is the principal river of West Africa. It rises in the Guinea Highlands and flows in a massive arc through **Mali**, Niger, along the border of Benin, and through Nigeria. In Mali, it is vital for the economy and passes through major cities like **Bamako**, Segou, Mopti, and Timbuktu.

2. Location of Belgium

Context: Belgium on April 30 announced it was looking to buy control of its nuclear reactors from French giant Engie, as part of a push to boost its use of the energy.



Belgium:

- Belgium is a Western European nation. It is geographically positioned both in the Northern and Eastern hemispheres of the Earth. **Belgium is bordered by 4 countries: by the Netherlands in the north; by Germany in the east; by the Grand Duchy of Luxembourg in the southeast**

and by France in the southwest. It is bounded by the North Sea in the northwest.

3. South Sudan

Context: The UN Security Council on April 30 passed a resolution extending the United Nations peacekeeping mission in South Sudan (UNMISS) by one year but reducing its size, despite pushback from several member states. The resolution, adopted with 13 votes in favour, prolongs the mission until April 30, 2027.



South Sudan:

- A landlocked country, South Sudan is located in East-Central Africa in the Northern and Eastern Hemispheres of the Earth. Six countries border South Sudan. These are Sudan to the north, Ethiopia to the east, Kenya to the southeast, Uganda to the south, Democratic Republic of the Congo to the southwest, and Central African Republic to the west.
- The White Nile and the Blue Nile merge at **Khartoum**, which is the capital of **Sudan** (North Sudan), not South Sudan. In South Sudan, the river is primarily known as the Bahr el Jebel

(Mountain Nile) before it becomes the White Nile further downstream.

- Lake Albert is shared by **Uganda** and the **Democratic Republic of the Congo (DRC)**. While South Sudan is located just north of Lake Albert, its border does not touch the shores of the lake. The Albert Nile flows out of the lake and enters South Sudan at the border town of Nimule.

4. Ecuador

Context: India and Ecuador are looking at the possibility of firming up a preferential trade pact to boost economic ties.

About Ecuador

- Location:** It is a country located on the northwestern edge of South America.
- Bordering countries:** It is bordered by **Colombia to the north, by Peru to the south and east.**
- Maritime boundaries:** It shares borders with the Pacific Ocean to the west.
- Capital City:** Quito.



Geographical Features of Ecuador

- It consists of 4 geographic regions namely
- Coastal lowlands and mountain area; the Central Andes Mountains and its two major chains Cordillera Occidental in the West and the Cordillera Oriental in the east.
- **Climate:** Tropical along coast, becoming cooler inland at higher elevations; tropical in Amazonian jungle lowlands.
- **Highest Point:** The highest point in Ecuador is Mount Chimborazo, at 20,560ft (6,268m).
- **Volcano:** Cotopaxi is one of the world's highest active volcanoes located in the Andes Mountains.
- **Rivers:** Babahoyo, Chira, Coca, Curaray.
- **Natural resources:** It mainly consists of Petroleum, fish, timber, hydropower.

5. Andaman & Nicobar Islands

Context: The Andaman and Nicobar Islands created another Guinness World Record with the formation of the tallest human stack underwater at Swaraj Dweep, formerly known as Havelock Island.

About

- The feat comes a day after the Union Territory administration achieved a landmark by **unfurling the world's largest underwater national flag**, measuring approximately 60 by 40 metres.
- **Both the Guinness World Records** are expected to draw national and international attention and will boost the profile of the Andaman and Nicobar Islands as a hub for scuba diving and eco-tourism.

Facts Related to Andaman and Nicobar Islands

- The Southernmost Island is Great Nicobar whose **southernmost tip is only 150 km away from Sumatra, Indonesia**.
- The highest point is **Saddle Peak** in North Andaman (732 metre), **Mount Thullier** in Great Nicobar (642 metre).
- **Pandanus or Nicobar Breadfruit** is a rare fruit found in the Andaman and Nicobar Islands.

- **Barren Island of the Andaman & Nicobar Island** group is the only active volcano not just in India but the whole of South Asia.
- **Indira Point in Great Nicobar** is the Southernmost point of India.
- **Great Nicobar Biosphere Reserve** declared in 1989 & recognised as UNESCO Man and Biosphere Reserve in 2013.
- The islands host one of the world's last uncontacted tribes, the **Sentinelese**.



- **Swaraj Dweep:** Located in the Ritchie's Archipelago, northeast of Port Blair. Geographically, it sits slightly further north than Shaheed Dweep.
- **Shaheed Dweep:** Located just south of Swaraj Dweep within the same Ritchie's Archipelago cluster.
- **South Andaman Island:** Located to the west/southwest of these smaller islands, hosting the capital city, Port Blair. (Note: While Swaraj and Shaheed Dweep lie to the east of the main Andaman trunk, Swaraj Dweep's latitudinal position is further north than Shaheed Dweep, and both sit north of the southern limits of South Andaman).

- **Little Andaman Island:** Located at the absolute southern extremity of the Andaman group, separated from South Andaman by the Duncan Passage.

6. Lipulekh Pass

Context: Nepal has objected to India's plan to conduct the Kailash Mansarovar Yatra through the Lipulekh pass, which Nepal considers disputed territory.

Lipulekh Pass

- It is a high-altitude Himalayan pass in Pithoragarh district, Uttarakhand (India).
- It is located at an elevation of about 5,334 metres in the Kumaon region.
- It serves as a strategic **tri-junction connecting India, China (Tibet), and Nepal.**
- It is accessed from India through Dharchula.
- It is strategically and culturally important as a traditional route for Indian pilgrims on the **Kailash Mansarovar Yatra.**
- It also has historical commercial value, as it became the first India-China border trade post when trade opened in 1992.



7. Vatican City

Context: U.S. Secretary of State Marco Rubio will visit Rome and the Vatican this week, an Italian government source said on May 3.

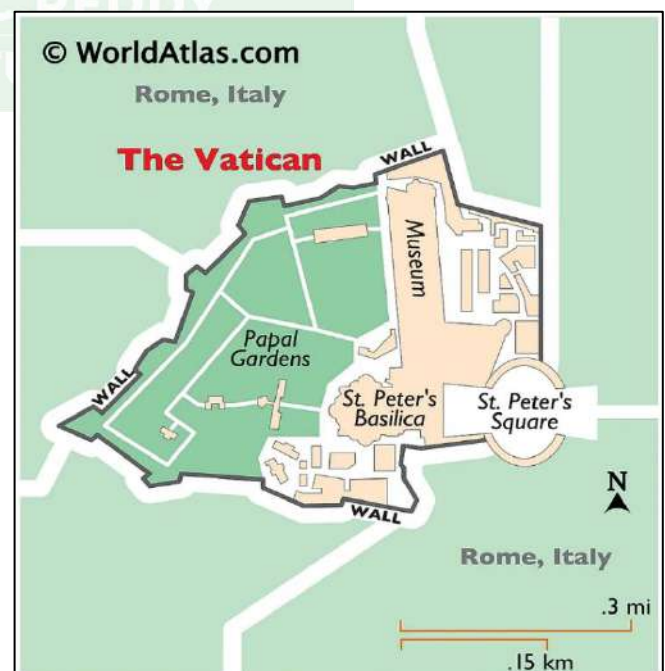
Vatican City:

- Vatican is located in the south-central region of Europe, on the west banks of Tiber River. It is situated both in the Northern and Eastern hemispheres of the Earth. The territory of Vatican City is completely surrounded by Rome (Italy). It is thus an enclave of Italy.

One-national enclosed countries:

A country that shares a land border with exactly one nation is relatively rare, but the three countries listed- **Lesotho, San Marino, and Vatican City**-belong to an even more exclusive geopolitical category: they are **enclaved nations**. This means they are completely surrounded on all sides by the territory of just one single country.

- **Lesotho** is entirely surrounded by South Africa.
- **San Marino** is entirely surrounded by Italy.
- **Vatican City** is entirely surrounded by Italy (specifically within the city of Rome).



8. Atlantic Meridional Overturning Circulation

Context: A recent study from Utrecht University examines whether constructing a dam across the Bering Strait could help stabilize the Atlantic Meridional Overturning Circulation.

Atlantic Meridional Overturning Circulation (AMOC)

- The AMOC is a vast **ocean current system** in which warm, **salty surface water flows northward**, cools, becomes denser, sinks in the North Atlantic, and then returns southward at deeper levels.
- The AMOC is essential for **regulating the Earth's climate**, as it redistributes heat from the tropics to higher latitudes and helps maintain temperature balance across regions.
- **Variations in temperature and salinity**, particularly due to the influx of freshwater from melting ice sheets, can **reduce water density, weaken the sinking process, and thereby slow down or disrupt** the Atlantic Meridional Overturning Circulation.
- Because the AMOC brings warm surface waters northward, its weakening drastically reduces heat transport to the high latitudes. This leads to a pronounced cooling effect over the North Atlantic and Western Europe, resulting in harsher winters, extreme storm tracks, and a drop in agricultural productivity in those regions.
- When the North Atlantic cools down due to AMOC deceleration, the temperature differential between the Northern and Southern Hemispheres changes. This causes the **Intertropical Convergence Zone (ITCZ)**- the global belt of rain and wind- to shift southward. A displaced ITCZ destabilizes major tropical monsoon systems, leading to severe droughts in the Sahel/West Africa and unpredictable rainfall variations over the Indian subcontinent.
- The AMOC is a core component of the global thermohaline circulation. Its collapse triggers a domino effect across other major ocean currents. Oceanographic models indicate that a weakened AMOC alters deep-water formation and wind patterns in the Southern Hemisphere, reducing the Southern Ocean's capacity to absorb and sequester atmospheric carbon dioxide (CO₂).

While,

- A weakening AMOC actually causes a **rapid rise** in sea levels along the eastern coast of North

America (not a drop). The AMOC current naturally deflects water away from the US East Coast due to the Coriolis effect and density differences. When the current slows down, water piles up against the coast, accelerating sea-level rise in cities like New York and Boston far faster than the global average.

9. Tanzania

Context: Recently, the 5th session of the India-Tanzania Joint Trade Committee (JTC), held in Dar es Salaam in Tanzania.

Tanzania

- It is an East African country located just south of the Equator.
- The capital is Dodoma, and Dar es Salaam is the largest city and main port.
- It is bordered by Uganda, Kenya, and Lake Victoria to the north; the Indian Ocean to the east; Mozambique, Malawi, Zambia, and Lake Nyasa to the south; and Rwanda, Burundi, and Lake Tanganyika to the west.
- **Geographical features:** Mount Kilimanjaro Located in Tanzania,
 - Mount Kilimanjaro is the African continent's highest peak
 - Tanzania also includes a portion of Lake Victoria, the largest lake in Africa and a source of the Nile River.

Note: Pemba, Zanzibar (Unguja), and Mafia are an archipelago of islands located in the Indian Ocean, situated just off the coast of East Africa. They are sovereign territories of Tanzania. Historically, Pemba and Zanzibar formed a separate sultanate before merging with Tanganyika in 1964 to create the modern United Republic of Tanzania (Tanganyika + Zanzibar). These islands are globally renowned for their extensive production of cloves, nutmeg, cinnamon, and black pepper, earning them the moniker "Spice Islands."



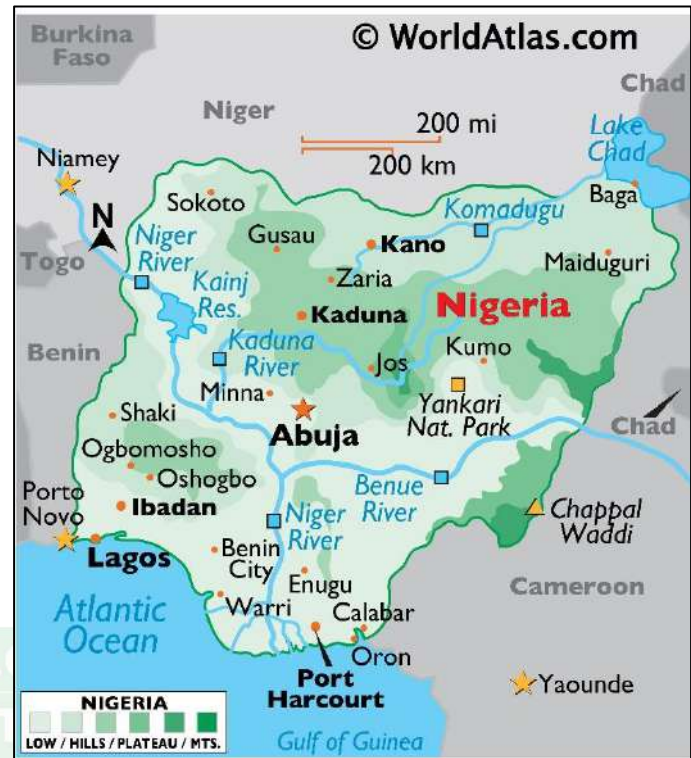
10. Lake Chad

Context: Nigeria is planning a “voluntary repatriation” of 130 citizens living in South Africa amid fears that anti-immigration violence could spike, the Foreign Ministry said.

Lake Chad:

- It is a freshwater lake in the semi-arid Sahel region west-central Africa.
- It is located in western Chad, with some of its parts extending into Cameroon, Nigeria, and Niger.
- Lake Chad was once the sixth largest lake in the world, but prolonged drought and increased water use have shrunk the lake dramatically. It now spans less than a tenth of the area it covered in the 1960s.
- The lake is endorheic (no outlet to the sea).
- The 1,400-km-long Chari River is the main river feeding into the lake. It accounts for up to 90% of Lake Chad's water.
- The lake is shallow, with depth usually less than 10 meters.

- Chad has several small islands, mud banks, and reed beds, which take up half of its area.
- Around the lake, sand deserts and water meet in a complex network of meanders, which are sometimes cultivated.



11. Teesta River

Context: Bangladesh has renewed its request to move forward on the long-pending Teesta water-sharing agreement.

Teesta River

- It is a tributary of the Brahmaputra
- It originates from the Tso Lhamo Lake at an elevation of about 5,280 metres in north Sikkim.
- It travels for about 150 km in Sikkim and 123 km in West Bengal, before entering Bangladesh from Mekhligonj in Cooch Behar district.
- It flows another 140 km in Bangladesh and joins the Bay of Bengal.

Transboundary Rivers originates in India:

- The Teesta River originates from the **Tso Lhamo Lake** (and the Teesta Khangse glacier) in the

North Sikkim district at an elevation of over 5,000 meters.

- The Barak River originates in the **Manipur Hills** near Liyai village in the Senapati district of Manipur. It flows through Manipur, Mizoram, and Assam before entering Bangladesh, where it splits into the Surma and Kushiya rivers.

Rivers originates outside India:

- The Kosi is a major transboundary river shared between China (Tibet), Nepal, and India. Its principal headwaters-most notably the **Arun River**-originate on the northern slopes of the Himalayas in Tibet before carving through deep gorges in Nepal and entering India (Bihar).
- The Ghaghara (also known as the Karnali) is a major left-bank tributary of the Ganga. It originates near the **Mapchachungo Glacier** on the Tibetan Plateau near Lake Mansarovar (China) and flows through Nepal before entering India (Uttar Pradesh).

12. Sudan

Context: Ethiopia and Sudan traded accusations on May 4 that each had violated the other's territory. Sudan said it would recall its envoy following drone strikes launched from Ethiopia in collaboration with the UAE.

- Geopolitically, Sudan and Ethiopia share a volatile border and have a history of fighting proxy wars by supporting each other's rebel groups. During the internal Tigray conflict in Ethiopia, tens of thousands of Tigrayan refugees and fighters crossed into eastern Sudan. If relations deteriorate, Sudan can easily weaponize this situation by providing shelter, logistics, or military support to Tigrayan rebel factions to destabilize the central Ethiopian government.
- The river flowing from Ethiopia into Sudan is the **Blue Nile** (which originates at Lake Tana in the Ethiopian Highlands) and the **Atbara River**, not the White Nile.

- Ethiopia is already a **landlocked country** and does not have direct territorial access to the Red Sea to begin with (it relies heavily on the ports of Djibouti and Somaliland for maritime trade).
- ECOWAS stands for the Economic Community of West African States. Both Sudan and Ethiopia are located in **East Africa/the Horn of Africa**.



13. Suriname

Context: Recently, the External Affairs Minister reviewed the full spectrum of India-Suriname relations during the 9th Joint Commission Meeting (JCM) held in Paramaribo.

About Suriname

- Location:** It is a small country located on the northern edge of South America.
- Bordering Countries:** It is bordered by Brazil to the south, French Guiana to the east; Guyana to the west.
- Water Bodies:** It is North Atlantic Ocean to the north.
- Capital City:** Paramaribo

- It is a member country of the CARICOM organization.

Note: The Tigrí Area (known in Guyana as the New River Triangle) is a triangular, forested zone of roughly 5,800 square miles located in the southeastern sector of Guyana and southwestern Suriname.



14. Vietnam

Context: India and Vietnam elevated their bilateral ties to an Enhanced Comprehensive Strategic Partnership during a high-level visit by Vietnamese President to Lam to New Delhi.

Vietnam:

- Capital:** Hanoi (located in the north).
- Largest City:** Ho Chi Minh City (formerly Saigon, located in the south).
- Borders:** Vietnam is bordered by China to the north, Laos and Cambodia to the west, and the South China Sea to the east and south. It also faces the Gulf of Thailand to the southwest.
- The Red River (known in Vietnam as Sông Hồng) does indeed create a massive, fertile, triangular river delta in northern Vietnam. However, it

empties into the **Gulf of Tonkin** (an arm of the South China Sea), not the Gulf of Thailand.

- The Tropic of Cancer (23.5°N) does not pass through Vietnam. It passes just north of the country through southern China (specifically the provinces of Yunnan, Guangxi, and Guangdong). The northernmost tip of Vietnam sits at approximately 23°23'N latitude, missing the Tropic of Cancer by a very narrow margin of a few kilometers. Vietnam lies entirely within the tropical zone.



15. Yavarí-Tapiche Territorial Corridor

Context: A new report revealed that the Yavarí-Tapiche Territorial Corridor- home to the world's largest population of isolated Indigenous Peoples- is under imminent threat from oil expansion, logging, and organized crime.

About The Yavarí-Tapiche Territorial Corridor:

What it is?

- The Yavarí-Tapiche Territorial Corridor is a massive, proposed 16-million-hectare protected territory. It is a global biodiversity stronghold

and home to the largest population of Indigenous Peoples in Voluntary Isolation and Initial Contact (PIACI) in the western Amazon.

Location:

- **Transboundary Region:** It runs along the western border of **Brazil** (Amazonas and Acre states) and **Peru** (Loreto and Ucayali departments).
- **Basin:** It is situated in the southern basin of the **Amazon River**.



16. South Korea

Context: Experts warn that cheaper, more advanced artificial intelligence models are driving the global spread of online disinformation - a major concern in South Korea, which has adopted AI particularly rapidly.

South Korea:

- South Korea is a country in Eastern Asia. It is located both in the Northern and Eastern hemispheres of the Earth. South Korea occupies the southern half of the Korean Peninsula, bordering the Sea of Japan in the east and the Yellow Sea in the west. The southern edge of South Korea rests on the Korea Strait and the

East China Sea. The Military Demarcation Line forms the land border between South Korea and North Korea.

- The **Geum River** (Geumgang) is located entirely within **South Korea**. It originates in the Sobaek Mountains of North Jeolla Province and flows northwards before curving southwest through the plains of South Chungcheong Province to empty into the Yellow Sea. It does not touch the border with North Korea.
- While the broader body of water to the south of the Korean Peninsula is the Korea Strait, the specific, narrow body of water that separates Jeju Island from the South Korean mainland is called the **Jeju Strait** (Jeju Haehyeop).



17. Great Lakes

Context: India and Canada successfully concluded the second round of negotiations for the proposed Comprehensive Economic Partnership Agreement (CEPA) in New Delhi.

The Great Lakes:

- Out of the five Laurentian Great Lakes (easily remembered by the acronym **H-O-M-E-S**: Huron, Ontario, Michigan, Erie, Superior), **Lake Michigan** is the only one located completely inside the United States. It is bounded by the U.S. states of Michigan, Indiana, Illinois, and Wisconsin. As a result, it holds the distinction of being the largest lake in the world located entirely within a single country.

**18. Italy**

Context: U.S. Secretary of State Marco Rubio meets Italian Prime Minister Giorgia Meloni on May 8, the second day spent calming tensions in Rome following criticism by President Donald Trump.

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.

Islands of Italy:

- Sardinia** is the second-largest island in the Mediterranean Sea and is an autonomous region of **Italy** (Sardegna).

- Pantelleria** is a volcanic Italian island located in the Strait of Sicily. Remarkably, it lies only about 60 km east of the Tunisian coast of North Africa, but it is administratively a part of the Sicilian province of Trapani, **Italy**.

While,

- Corsica** is located directly north of Sardinia. While it is geographically closer to the Italian mainland and has deep historical Italian roots, it is politically a territorial collectivity of **France**.
- Mallorca** (Majorca) is part of the Balearic Islands archipelago, located in the western Mediterranean, and belongs entirely to **Spain**.

**19. Hungary**

Context: Hungary's Peter Magyar took his oath of office on Saturday to become the country's new Prime Minister, ending Viktor Orban's 16 years of autocratic rule.

Hungary:

- Hungary is a landlocked Central European Nation, situated in the Carpathian Basin. It is geographically positioned both in the Northern

and Eastern hemispheres of the Earth. It is bordered by 7 Nations: by Slovakia in the north; Ukraine in the northeast; Romania in the east; Serbia and Croatia in the south; Slovenia in the southwest and Austria in the west.



20. Democratic Republic of the Congo

Context: The UN mission in the Democratic Republic of Congo warned on May 9 of a “deadly” wave of attacks in the country’s restive east targeting civilians.

Democratic Republic of the Congo (DRC):

- 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 Democratic Republic of the Congo is **not landlocked**. It has a small coastline along the Atlantic Ocean through a narrow outlet near the mouth of the Congo River.
- The Congo River crosses the Equator two times during its course, making it one of the few major rivers in the world to do so.



21. Canary Islands

Context: A cruise ship carrying passengers with a hantavirus outbreak has arrived in Spain’s Canary Islands.

About

- The Canary Islands, also known as the Canaries, are an archipelago in the **Atlantic Ocean** and

form the southernmost autonomous region of Spain. They are located about 100 kilometres off the northwestern coast of Africa.

- The islands are divided into **two groups**: a western group (Tenerife, Gran Canaria, La Palma, La Gomera, and Ferro islands) and an eastern group (Lanzarote, Fuerteventura Island, and six islets).
- The islands sit near important Atlantic shipping routes connecting Europe, Africa, and the Americas, giving them economic and strategic importance.
- They are a product of **intraplate volcanism** driven by the **Canary Hotspot (Mantle Plume)**. As the slow-moving African Plate continuously drifts east-northeast over a relatively stationary hot upwelling of magma from deep within the Earth's mantle, a chronological chain of volcanic islands is generated.



22. Oman

Context: Oman's strategically located Sohar and Salalah Indian Ocean ports are facilitating vital food exports from India to six GCC nations.

About Oman

- **Location:** It is located in the Arabian Peninsula of Western Asia.
- **Bordering Countries:** It shares a north western border with the United Arab Emirates (UAE); a western border with Saudi Arabia and Yemen.

- **Maritime Boundaries:** It shares coastline borders with the Arabian Sea in the south and east along with the Gulf of Oman in the northeast.
- It is strategically situated at the mouth of the Persian Gulf in the south eastern part of the Arabian Peninsula.
- It also has offshore territories such as Maşīrah Island and Al-Hallāniyyah Island.
- **Capital City:** Muscat.
- The Dasht-e Kavir (Great Salt Desert) is located in Iran, not in the Arabian Peninsula. Oman and Saudi Arabia do not share this desert. The major desert shared in the Arabian Peninsula region is the Rub' al Khali (Empty Quarter).
- The Tropic of Cancer passes through the northern part of Oman.



23. Venezuela

Context: Venezuela has “never” contemplated becoming the 51st U.S. state, as suggested by Donald Trump after the capture of deposed leader Nicolas Maduro, acting President Delcy Rodriguez said on May 11.

Venezuela:

- Venezuela is located on the northern edge of South America. It is geographically positioned in the Northern and Western hemispheres of the Earth. Venezuela is bordered by Brazil to the south; by Guyana to the east; by Colombia to the west and southwest. It is also bounded by the North Atlantic Ocean to the northeast and by the Caribbean Sea to the north. Venezuela shares maritime borders with Barbados, The Dominican Republic, Dominica, Saint Kitts & Nevis, Saint Lucia, Trinidad and Tobago and Puerto Rico.
- Venezuela shares land borders with only **three** sovereign nations: **Colombia, Brazil, and Guyana**. It does not share a border with Peru.
- The equator does not cross Venezuela at all. Venezuela sits entirely in the **Northern Hemisphere** (falling between latitudes 0°38' N and 12°12' N).

**24. Uzbekistan**

Context: India and Uzbekistan held the 17th round of Foreign Office Consultations (FOC) in New Delhi.

Uzbekistan:**What it is?**

- Uzbekistan is a **doubly landlocked** sovereign republic in Central Asia. Formerly a constituent republic of the S.S.R., it declared independence on August 31, 1991. It is a nation with deep historical links to India via the ancient Silk Road and is currently a **Strategic Partner** of India (ennobled in 2011).

Capital: Tashkent (Toshkent)

Border Nations: It is bordered by: **Kazakhstan, Kyrgyzstan, Tajikistan, Afghanistan, and Turkmenistan.**

**25. Argentina**

Context: Tens of thousands of Argentines flooded the streets of major cities nationwide on Tuesday to protest funding cuts by libertarian President Javier Milei to the public university system.

Argentina:

- Argentina is a large country occupying the southern part of South America. It is positioned in the Western and Southern hemispheres of the Earth. Argentina shares its borders with 5 countries: with **Chile and the Andes Mountain Range** to the west; with **Bolivia** to the northwest; with **Paraguay** to the north; with **Brazil** to the northeast and with **Uruguay** to the east. It is also bounded by the South Atlantic

Ocean to the east and the Drake Passage to the south.



26. Latvia

Context: Latvian Prime Minister Evika Silina resigned on Thursday after her left-leaning Progressives partner quit the coalition, stripping her majority.

Latvia:

- Latvia is a Baltic country situated in North Eastern Europe. Latvia is positioned both in the

Northern and Eastern hemispheres of the Earth. Latvia is bordered by 4 Nations: **by Estonia in the north; Lithuania in the south; Belarus in the southeast and Russia in the east.** Latvia lies along the eastern shores of the Baltic Sea and the Gulf of Riga. Latvia shares its maritime borders with Sweden.



27. Thunderstorms

Context: More than 100 people lost their lives due to severe thunderstorms and dust storms that struck Uttar Pradesh during the pre-monsoon season.

What are Thunderstorms?

- A thunderstorm is a weather phenomenon associated with lightning, thunder, strong winds, heavy rainfall and sometimes hailstorms.
- These events are common during April and May and are observed in many arid and semi-arid regions of the world.

- **Key features** include sudden development, strong gusty winds, lightning and thunder, short duration but high intensity, and associated dust storms in dry regions.
- Thunderstorms form **due to atmospheric instability** caused by differences in temperature and moisture between the lower and upper atmosphere.

Conditions Responsible for Formation

- **Intense Surface Heating:** Northern India experiences extremely high temperatures, often above 45°C during summer. This heats the land surface rapidly.
- **Availability of Moisture:** Moisture-laden winds from the Bay of Bengal move towards northern India through southeasterly winds.
- **Cool and Dry Upper Air:** Western Disturbances bring cooler air in the upper atmosphere. When warm moist air rises and meets cooler dry air above, instability develops.
- **Convection Process:** The warm air rises rapidly, condenses into cumulonimbus clouds and releases latent heat, strengthening vertical air movement and producing thunderstorms. (A strong temperature inversion suppresses vertical convection and therefore inhibits thunderstorm development.)

28. Uganda

Context: Union Minister of India visited Uganda to officially represent India at the swearing-in ceremony of President Yoweri Kaguta Museveni, who assumed his seventh term in office.

Uganda:

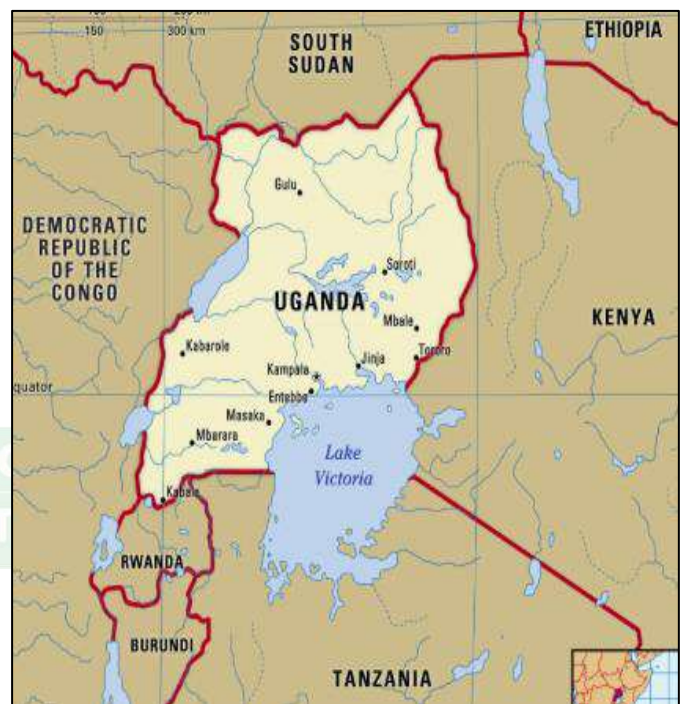
What it is?

- Uganda is a diverse, landlocked multi-party republic located in east-central Africa. Often referred to as the “**Pearl of Africa**” (a term popularized by Sir Winston Churchill), it gained formal independence from British rule on October 9, 1962.

- It is home to dozens of ethnic groups historically divided between the centralized Bantu kingdoms of the south and the decentralized Nilotic and Sudanic peoples of the north.

Capital: Kampala (built across seven scenic hills near Lake Victoria)

Border Nations: South Sudan, Kenya, Tanzania, Rwanda, and Democratic Republic of the Congo (DRC)



29. Uturuncu Volcano

Context: Recently, it was revealed that the eruption of Mount Uturuncu volcano could become imminent, since new batches of hot magma were making their way up from the depths.

About Uturuncu Volcano

- **Location:** It is a large dormant volcano located in southwestern Bolivia, within the Andes Mountains.
- Uturuncu is known as a “zombie” volcano for showing signs of activity despite being considered geologically dead.
- It is a stratovolcano dominated by dacitic lava domes and flows.

- It is about 6,008 meters (19,711 feet) above sea level - it is the tallest mountain in the southern part of Bolivia.
- Previous Eruption: Uturuncu last erupted 250,000 years ago, yet is seismically active and lies at the centre of a 70 km diameter uplifted region.
- Beneath Uturuncu at a depth of about 10 to 20 kilometers lies a vast reservoir of magma called the Altiplano-Puna Magma Body.
- It is spanning roughly 200 kilometers, it is the biggest known active magma body in the planet's crust.
- The volcano displays a distinct "sombbrero" shape, with the center rising and the surrounding areas sinking.
- The volcano currently experiences hundreds of small earthquakes per year.

30. Rottnest Island

Context: A 38-year-old man has died after a suspected shark attack near Rottnest Island recently, a popular tourist destination off the coast of Western Australia.

About Rottnest Island

- It is an Australian island in the Indian Ocean.
- It lies 19 km northwest of Fremantle (at the mouth of the Swan River, near Perth), Western Australia.
- A coastal limestone fragment, the island measures about 11 by 5 km and has sand dunes and several salt lakes.
- It was sighted in 1658 by a Dutch party under Samuel Volkerson.
- In 1696 a Dutch sea captain, Willem de Vlamingh, gave the island its original name, Rottenest (meaning "rat's nest"), because the place appeared to be infested with large rats.
- These, in reality, were quokkas (a kind of wallaby), rare marsupials whose existence is now protected by the island's status as a wildlife sanctuary.

- First settled in the 1830s, Rottnest has served as a pilot station for Fremantle, an Aboriginal penal settlement (to 1850), a juvenile reformatory (1882-1906), and a World War II military base.
- It is now a resort for the Perth area and is accessible by sea and air.



31. Bavarian Alps

Context: Germany's industrial decline is taking a painful toll on communities that have long relied on local manufacturing titans for jobs, prosperity, and a sense of a secure future.

Bavarian Alps:

- The **Bavarian Alps** (Bayerische Alpen) stretch along the far southern edge of the German state of Bavaria and run directly along the international border with **Austria**. This mountain range acts as a major natural wall separating the two nations.
- The range contains the highest peak in all of Germany, the **Zugspitze** (elevated at 2,962 meters above sea level). The international boundary line passes right over the western summit of the Zugspitze, meaning the mountain itself is physically shared between Germany (Bavaria) and Austria (Tyrol).



32. Nordic Countries

Context: Prime Minister Modi lands for the first bilateral visit by an Indian Prime Minister to Norway after 43 years.

Nordic Countries:

The **Nordic Countries** form a distinct geographical and cultural region in Northern Europe and the North Atlantic. This grouping is formally organized under political institutions like the **Nordic Council**.

- **The Core Members:** The group officially consists of **five sovereign states**:
 - Denmark
 - Finland
 - Iceland
 - Norway
 - Sweden
- **The Autonomous Territories:** The definition also explicitly includes **three autonomous territories** bound to these nations: **Greenland** and the **Faroe Islands** (both part of the Kingdom of Denmark), and the **Åland Islands** (an autonomous province of Finland). Therefore, Greenland is structurally a member of the Nordic group.



33. Zimbabwe

Context: Zimbabwe has begun formal negotiations for membership in the BRICS New Development Bank.



About Zimbabwe

- It is a landlocked country in southern Africa.
- **Bordering Countries:** It shares its borders with four countries: Mozambique to the northeast and east, South Africa to the south, Botswana to the southwest and west, and Zambia to the northwest.

- Capital City: Harare
- The **Limpopo River** acts as a major natural transboundary river in southern Africa and forms the entire, direct international land and fluvial boundary separating **Zimbabwe** (to its north) from **South Africa** (to its south).
- The **Tropic of Capricorn (23.5°S)** does not pass through Zimbabwe at all. The entire country of Zimbabwe lies completely **north** of the Tropic of Capricorn. The line passes through its southern neighbors—specifically crossing through central Namibia, Botswana, northern South Africa (just south of the Limpopo River), and southern Mozambique.

34. Sudan

Context: A drone strike on a bustling market in central Sudan on May 19 killed 28 people and wounded dozens more, a local rights group said, part of the war that has devastated the country since 2023.



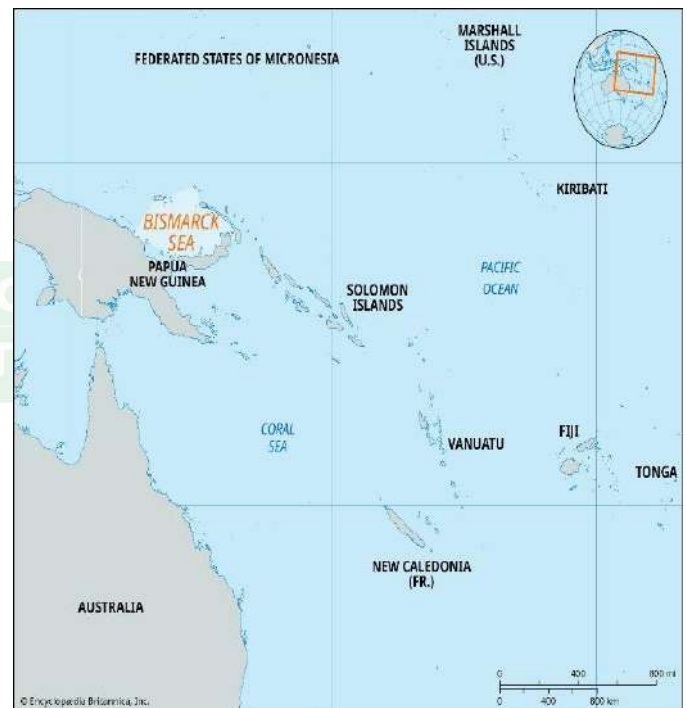
Sudan:

- Sudan is a Northeast African country. It is located in the Northern and Eastern Hemispheres of the Earth. Sudan is bordered by seven countries.

Egypt bounds it to the north. It has borders with **Libya and Chad to the northwest and west respectively. To the south and southeast are South Sudan, Central African Republic (CAR), and Ethiopia respectively while Eritrea borders Sudan to the east. The northeastern boundary is formed by the Red Sea.**

35. Bismarck Sea

Context: A submarine volcanic eruption in the Bismarck Sea, north of Papua New Guinea has drawn attention to the poor mapping of the deep ocean floor on Earth.



About Bismarck Sea

- It is a part of the southwestern Pacific Ocean.
- It is bounded to the southwest by the northeast coast of Papua New Guinea and to the northwest through to the southeast by the Bismarck Archipelago, consisting of the Admiralty Islands (north), New Ireland (east), and New Britain (southeast).
- It has a total surface area of about 40,000 sq. km.
- It opens to the Pacific on the north and to the Solomon Sea on the southeast through the Vitiaz and Dampier straits and St. George's Channel.

- The basin, with a general depth of 2,000 meters and maximum depths approaching 2,500 meters, is divided by a central ridge into the eastern New Ireland and western New Guinea sections.
- The sea was under German control from about 1885 until 1914 and bears the name of the German statesman Otto von Bismarck.
- During World War II, it was the site of many important naval battles between the Allied Forces and Japanese troops.
- The Battle of the Bismarck Sea in March 1943 was a significant event where Allied forces stopped a Japanese convoy.
- Today, the area is explored by historians and divers looking for sunken ships and airplanes.

36. Brazil

Context: Brazil's right-wing presidential candidate Flavio Bolsonaro was riding high in the polls until the news broke of his ties to a banker jailed over a multi-million-dollar fraud scandal.

Brazil:

- Brazil shares land borders with almost every South American country except Chile and Ecuador.



Countries bordering Brazil:

- Argentina
- Bolivia

- Colombia
- French Guiana
- Guyana
- Paraguay
- Peru
- Suriname
- Uruguay
- Venezuela

37. Littoral Countries to Black Sea

Context: Turkish President Recep Tayyip Erdogan on May 22 ordered the closure of a top independent university with liberal leanings in the middle of the school year, according to an official decree.



Littoral Countries to Black Sea:

- **Romania: Must pass through.** It is a littoral state of the Black Sea with major operational commercial hubs like the Port of Constanța.
- **Georgia: Must pass through.** It is an eastern littoral state of the Black Sea with vital commercial port infrastructure at Poti and Batumi.
- **Moldova: Does not pass through. Moldova is entirely landlocked.** It does not possess a sovereign coastline on the Black Sea.

- **Bulgaria: Must pass through.** It occupies the western coast of the Black Sea, operating critical cargo ports at Varna and Burgas.
- **Ukraine: Must pass through.** It is a major northern littoral power of the Black Sea (and the connected Sea of Azov), anchored by deep-water shipping gateways like Odesa and Chornomorsk.
- **Russia: Must pass through.** It controls an extensive coastline along the northeastern Black Sea and the Sea of Azov, utilizing major trade terminals like Novorossiysk.

38. Bolivia

Context: Bolivian riot police clashed with anti-government protesters in La Paz on May 22 for the second time in a week as unions and Indigenous groups pressed their calls for President Rodrigo Paz to step down.



Bolivia:

- The landlocked nation of Bolivia is located in west-central South America. It is positioned in the Western and Southern hemispheres of the Earth. Bolivia is bordered by 5 countries: by Brazil to the north and east; by Paraguay to the southeast; by Argentina to the south; by Chile to the southwest and by Peru to the northwest.

39. Machkund Hydroelectric Project

Context: A major fire broke out at the Machkund Hydroelectric Project located on the Odisha-Andhra Pradesh border recently.

	List I (Projects supported by India)		List II (Countries)
A.	Tala Hydroelectric Project	1.	Bhutan
B.	Arun-III Hydroelectric Project	2.	Nepal
C.	Maitree Super Thermal Power Project	3.	Bangladesh
D.	Kankesanthurai (KST) Harbour	4.	Sri Lanka

40. Romania

Context: At the 79th Cannes Film Festival that saw few films cause a stir, Fjord found wide admiration for its engrossing tale of what Romanian director Cristian Mungiu called "left-wing fundamentalism."



Romania:

- Romania is a country located in Central-South Eastern Europe. Romania is positioned both in the Northern and Eastern hemispheres of the Earth. Romania is bordered by 5 European Nations: Ukraine in the north; Moldova in the northeast; Bulgaria in the south, Serbia in the southwest and Hungary in the west. It is bounded by the Black Sea in the southeast.

41. Lakes and Unique Features

Context: The recent actions by the Kerala government on the houseboats following the Kerala High Court's order on houseboat pollution has once again stirred conversations on the pollution load in the Vembanad ecosystem.

	List I (Lakes)		List II (Unique features)
A.	Vembanad Lake	1.	The Longest Lake
B.	Chilika Lake	2.	The Largest Coastal Lagoon
C.	Wular Lake	3.	The Largest Freshwater Lake
D.	Tso Lhamo Lake	4.	The Highest Lake

42. Belarus

Context: Belarus' exiled Opposition leader visited Kyiv on May 25 as the Ukrainian capital cleaned up after Russia's biggest missile attack of the year, and world leaders kept a close eye on how much support the Belarusian government is ready to provide for Moscow's all-out invasion of Ukraine.

Belarus:

- Belarus is a landlocked country in Eastern Europe. It is geographically positioned both in the Northern and Eastern hemispheres of the earth. Belarus is bordered by 5 countries: by Russia in the north and east; by Ukraine in the south; by Poland in the west; by Lithuania and Latvia in the northwest.

**43. Water bodies surrounding Australia**

Context: Recently, the Prime Minister said that India and Australia will continue to work for a free, open, secure and prosperous Indo-Pacific.

Water bodies surrounding Australia:

- Arafura Sea:** Located directly to the **north** of Australia, it separates the northern coast of the continent (Arnhem Land) from the island of New Guinea.
- Tasman Sea:** Located to the **southeast**, this deep marginal sea of the South Pacific Ocean sits directly between the southeastern coast of Australia (New South Wales/Victoria/Tasmania) and New Zealand.
- Gulf of Carpentaria:** A massive, shallow rectangular inlet of water that deeply indents Australia's **northern coast**, bounded by Arnhem Land to the west and the Cape York Peninsula to the east.
- Timor Sea:** Located to the **northwest**, this tropical sea separates Australia's northwestern coast from the island of Timor. It is economically

vital due to its substantial offshore oil and natural gas reserves.

- **Bass Strait:** A critical maritime shipping lane located at the **southeastern edge** of the mainland. This shallow strait separates the Australian mainland state of Victoria from the isolated island state of Tasmania, linking the Southern Ocean with the Tasman Sea.



44. Fiji

Context: A surprise announcement by the Quad to build a “model” port in Fiji recently sparked hopes that the US, Australia, India, and Japan will fund a \$1.82 billion plan to relocate the nation’s main dock.

About Fiji

- It is a country located in the South Pacific Ocean, surrounding the Koro Sea, to the northeast of New Zealand and southwest of Hawaii.
- **It does not share land borders with any other country.**
- It is made up of about 300 islands, only about 100 of which are inhabited.
- The islands feature a central range of mountains, giving way to plateaus, lowlands, and coastal plains.

- Almost half of Fiji’s total area remains forested, while dry grasslands are found in western areas of the large islands.
- The majority of Fijians are of mixed Melanesian-Polynesian ancestry, with a large South Asian minority.
- Fiji's major languages are English, Fijian, and Hindi, and its major religions are Christianity, Hinduism, and Islam.
- Currency: Fiji dollar.
- Fiji has one of the most developed economies in the Pacific, relying heavily on its tourism and sugar industries.

Note: Fiji originally joined the Commonwealth upon gaining independence from the United Kingdom in 1970. Although its membership has historically lapsed or been suspended multiple times due to political coups (most notably in 1987, 2000, and 2006), its full suspension was officially lifted following its democratic elections. It remains an active member country of the Commonwealth of Nations.

45. Spain

context: Spanish Prime Minister Pedro Sanchez said on May 27 there was “no reason” to withdraw support for his predecessor Jose Luis Rodriguez Zapatero, who is under investigation for corruption.

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. 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 one of the most important rivers on the Iberian Peninsula, but it flows in a **southeastern direction**. It originates in the Cantabrian Mountains (near the northern coast) and travels across northeastern Spain before discharging into the **Mediterranean Sea** via the massive Ebro Delta.

- The Prime Meridian (0° longitude) passes directly through western Europe and Africa on its path from the North Pole to the South Pole. In Europe, it crosses exactly three nations: the **United Kingdom, France, and Spain**.



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S.NO	TEST NAME	DATE OF TEST
1	CA April 2026	14.06.2026
2	CA May 2026	05.07.2026
3	CA June 2026	26.07.2026
4	CA July 2026	16.08.2026
5	CA August 2026	13.09.2026
6	CA September 2026	11.10.2026
7	CA October 2026	15.11.2026
8	CA November 2026	13.12.2026
9	CA December 2026	10.01.2027
10	CA January 2027	14.02.2027
11	CA February 2027	14.03.2027
12	CA March 2027	11.04.2027
13	CA April 2027	09.05.2027

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ART AND CULTURE

1. Padma Doree

Context: Recently, the North Eastern Handicrafts and Handlooms Development Corporation (NEHHDC), formally unveiled Padma Doree.

About Padma Doree

- It is a unique cross-cultural textile initiative that brings together the Eri (Ahimsa) silk traditions of Northeast India with the rich Chanderi weaving heritage of Madhya Pradesh.
- It aims to promote sustainable textiles, strengthen cross-regional craft collaboration, and create new livelihood opportunities for artisans while showcasing India's rich textile heritage.
- Launched by: It was launched by the Ministry of Development of North Eastern Region (MDoNER).
- Executing Agency: It is executed by the North Eastern Handicrafts and Handlooms Development Corporation (NEHHDC).

Key Aspects of 'Padma Doree'

- **Convergence of Traditions:** It is developed across two culturally significant regions of India, and represents a convergence of textile traditions and generational knowledge systems.
- **Environmental Integrity:** Padma Doree is crafted using natural dyes, drawing from time-honoured dyeing practices that yield depth and environmental integrity.
- **Ethical Philosophy:** In alignment with an ethical philosophy, Padma Doree adopts a non-violent silk approach, ensuring that silkworms are not harmed in its production.

Note: In conventional silk production (like Mulberry or Tussar), the cocoons are boiled or heated with the live pupae inside to prevent the emerging moth from cutting and damaging the continuous silk filament.

However, in the production of Eri silk, the moth is allowed to emerge naturally by cutting through the top of the cocoon. The empty cocoon is then spun into yarn. Because this process adheres to the principle of non-injury to living beings (Ahimsa), it is known as Ahimsa or Peace Silk.

2. Udayan Fort

Context: The historic Udayan Fort in Kaushambi, dating back nearly 2,500 years to the era of the ancient Vatsa Mahajanapada, is set to undergo restoration following official approval, officials said recently.

About Udayan Fort

- Udayan Fort, also known as Udayan Kila, is a historical site located in the Kaushambi district of Uttar Pradesh.
- It is located on the banks of the Yamuna River.
- The fort is associated with King Udayana, the ruler of the Vatsa kingdom-one of the 16 Mahajanapadas of ancient India.
- It served as the capital fort of the Vatsa kingdom during the 6th century BCE.
- King Udayana was known for his military strength, diplomatic skills, and cultural patronage.
- According to Buddhist and Jain texts, Udayana had connections with both Lord Buddha and Mahavira, who visited Kaushambi and contributed to its spiritual growth.
- The fort thus played a key role in shaping the early political and religious landscape of the region.

Architectural Remains and Layout:

- The layout of the fort suggests a well-planned administrative and residential zone, complete with defensive structures and public buildings.

- The defensive structures include thick brick walls, earth ramparts, and bastions rising up to 50 to 60 feet, along with evidence of protective moats or trenches.
- The site is characterized by extensive brickbats scattered across the ground, hinting at the density of buildings that once stood inside the fortress.
- Archaeologists have unearthed pottery, coins, and ancient tools from the area, providing evidence of a thriving settlement.

3. The Prevention of Insults to National Honour Act, 1971

Context: The Union Cabinet gave the go-ahead to amend The Prevention of Insults To National Honour Act, 1971.

About

- **Aim:** To make any insult or obstruction to the singing of National Song Vande Mataram a punishable offence.
- At present, insults to the National Anthem, the National Flag and the Constitution of India is mentioned in the 1971 Act and is punishable by an imprisonment of up to three years or a fine or both.

Respecting National Flag and Anthem:

- Respecting the National Flag is officially enshrined as a **Fundamental Duty under Article 51A(a)** of Part IVA of the Constitution (added by the 42nd Amendment Act, 1976), which states that it shall be the duty of every citizen of India to “abide by the Constitution and respect its ideals and institutions, the National Flag and the National Anthem.”
- While Fundamental Duties are generally non-justiciable (meaning they cannot be directly enforced by courts on their own), the Parliament has enacted specific laws to enforce this

particular duty. It is a **statutory obligation** under the **Prevention of Insults to National Honour Act, 1971**. Defacing, burning, or showing disrespect to the National Flag carries strict legal penalties, including imprisonment for up to three years.

4. Bhojshala Complex

Context: The Madhya Pradesh High Court declared the Bhojshala complex in Dhar district a Hindu temple.

Bhojshala Complex

- **Raja Bhoja**, the greatest ruler of the **Paramara dynasty**, founded the famous Bhojshala at Dhar around 1000-1055 A.D. as a major center of learning dedicated to Goddess Saraswati.
- Later, the structure was converted into the **Kamal Maula Mosque during Muslim rule**.
- It served as a premier college and **centre of Sanskrit learning**. The mosque still contains carved pillars, ceilings, and stone inscriptions from the original Bhojshala.
- Important inscriptions include **Sanskrit grammar tables, hymns to Vishnu, praises of Paramara kings**, and the Sanskrit drama Karpuramanjari written by Madana during the reign of Arjunavarma Deva.

5. Algoza

Context: Recently, Rajasthan's celebrated folk artist Taga Ram Bheel received the Padma Shri in Art for preserving and promoting the traditional music of the Thar Desert through the rare folk instrument, the Algoza.

About Algoza

- It is a traditional pair of woodwind instruments, widely associated with Rajasthan, Punjab, Sindh, and parts of western India and Pakistan.

- It is one of India's oldest surviving folk wind instruments.

How is it played?

- Its name comes from the idea of "two flutes" - because it is played using two wooden pipes simultaneously.
- One flute plays the melody, the other provides a continuous drone or rhythmic base. Together, they create a hypnotic, layered sound unique to desert folk music.
- For playing the Algoza musicians must master circular breathing (a demanding technique that allows them to blow continuously without stopping for breath).
- Sound is generated by breathing into it rapidly; the quick recapturing of breath on each beat creates a bouncing, swing rhythm.

- This creates the instrument's signature uninterrupted flow, making performances sound seamless and meditative.



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MISCELLANEOUS

1. Kimberley Process

Context: The Kimberley Process Intersessional Meeting 2026 concluded in Mumbai.

About

- The Kimberley Process is a **tripartite initiative** involving governments, the international diamond industry and civil society to prevent the trade in **conflict diamonds**.
 - It operates through the **Kimberley Process Certification Scheme (KPCS)**.
- History:** KPCS established pursuant to a UN resolution, came into effect on **1 January 2003**.
- Members:** The Kimberley Process (KP) is **open to any country that can meet its standards**.
 - Currently, it comprises **60 participants** representing 86 countries, with the EU and its **27 Member States** counted as one participant under the European Commission.
 - India is a founding member of the KP.**
 - The members account for over **99 percent** of the global rough diamond trade.
- The **chair oversees** the implementation of the **Kimberley Process Certification Scheme (KPCS)** and operations of the working groups, committees and administration that activate the KP.
- Secretariat:** The Kimberley Process Secretariat is headquartered in Gaborone, Botswana.

2. Captagon

Context: Recently, the Narcotics Control Bureau (NCB), under Operation RAGEPILL, has successfully unearthed an international drug syndicate involved in the trafficking of Captagon.

About Captagon

- It is a highly addictive amphetamine-type drug.
- The original Captagon contained fenetylline, a synthetic drug of the phenethylamine family to which amphetamine also belongs.
- It is a synthetic drug which was originally manufactured in Germany in the 1960s and 1970s where it was intended to treat attention deficit disorders.
- It was commercially sold in several countries until the 1980s and was banned due to fears of its highly addictive nature.
- It is commonly known as “poor man’s cocaine,” has emerged as the drug of choice among young adults throughout the Middle East and North Africa.
- It contains fenethylline, a synthetic amphetamine, caffeine, and other stimulants.
- Fenethylline is metabolized by the body into two molecules: amphetamine and theophylline, both of which are stimulants.
- It was made illegal in 1986 in most countries and discontinued in medical markets.
- It was later placed under Schedule II of the UN Convention on Psychotropic Substances.
- It is considered highly addictive and has become a major source of illegal trafficking and funding in conflict-hit regions.

3. Agricola Medal

Context: Prime Minister Narendra Modi was conferred the prestigious Agricola Medal by the Food and Agriculture Organization (FAO) at its headquarters in Rome, Italy. The medal was presented by FAO Director-General Qu Dongyu.

About Agricola Medal

- The Agricola Medal is the **highest honour** conferred by the **Director-General of the FAO**.

- The medal is named after **Georgius Agricola**, a German scholar widely considered the “**father of mineralogy**” and a pioneer in agricultural and mining sciences.
- It is awarded to distinguished world leaders and individuals for exceptional and long-term **contributions to global food security, sustainable agriculture, poverty reduction and improved nutrition.**

4. International Booker Prize

Context: Taiwan Travelogue’ has won the prestigious International Booker Prize 2026, becoming the first novel translated from Mandarin Chinese to receive the award.

International Booker Prize

- Formerly known as the Man Booker International Prize, this honor is presented annually for a work of fiction, either a novel or a collection of short stories that was originally written in a language other than English, then translated into English and published in the U.K. and/or Ireland.
- The prize highlights the crucial role of translators, with **£50,000 shared equally between the author and translator.**
- **Past Winner:** In 2025, **Heart Lamp** by Banu Mushtaq, translated by Deepa Bhashti, won the prize. It was the first book translated from Kannada to receive this honor.

Do you know?

- The Booker Prize is a separate award given annually for the best novel written in English, published in the UK or Ireland.
 - **Past Indian Booker Prize winners:** Arundhati Roy (**God of Small Things**), Kiran Desai (**Inheritance of Loss**), and Aravind Adiga (**White Tiger**).

5. Doping

Context: The Ministry of Youth Affairs and Sports has placed proposed amendments to the National Anti-Doping Act, 2022 for public consultation. The amendments seek to criminalise organised doping activities targeting traffickers, syndicates, coaches, and suppliers not athletes who test positive.

About Doping

- Doping refers to the use of **prohibited performance-enhancing substances** or methods by athletes to gain unfair competitive advantage.
- It is governed **globally by the World Anti-Doping Agency (WADA), established in 1999.**
 - WADA maintains the **Prohibited List** covering substances like anabolic steroids, EPO, stimulants, diuretics, and masking agents.
- In India, **NADA (National Anti-Doping Agency)** implements the anti-doping framework, and **NDTL (National Dope Test Laboratory)** conducts testing.
- India is a signatory to the **UNESCO International Convention Against Doping in Sport.**
- The National Anti-Doping Act, 2022 elevated NADA from a registered society to a **statutory body**, giving it legal teeth to conduct investigations, enforce codes, and penalize violators. WADA’s official Testing Figures report showed that India had the highest rate of doping violations in the world, with **3.26% of tested samples** returning an Adverse Analytical Finding (AAF/positive test), surpassing major countries like Russia and the USA. This severe empirical data highlights a systemic doping crisis, thereby providing a clear justification and **empirical support** for why India needed to pass a strict, statutory law to clean up its sports ecosystem.
- Relying heavily on rapid, short-notice in-competition testing is an outdated, reactive strategy. Modern anti-doping relies on **Long-Term Longitudinal Profiling** via the **Athlete Biological Passport (ABP)**, which monitors

biological markers over years to catch subtle anomalies caused by micro-dosing or blood doping.

6. Indian Cybercrime Coordination Centre

Context: The Indian Cybercrime Coordination Centre (I4C) recently identified a sophisticated phishing campaign targeting Apple iPhone users whose devices have been lost or stolen, according to an advisory issued by the agency.

About Indian Cybercrime Coordination Centre (I4C)

- I4C has been established under the Ministry of Home Affairs (MHA) to act as a nodal point at the National level in the fight against cybercrime.
- It is designed to provide a framework and ecosystem for law enforcement agencies (LEAs) to deal with cybercrime in a coordinated and comprehensive manner.
- I4C brings together academia, industry, public, and government in the prevention, detection, investigation, and prosecution of cybercrimes.
- Headquarters: New Delhi.

What is Phishing?

- It is a type of cyberattack that uses deceptive messages from seemingly reputable sources to trick victims into revealing sensitive information like login credentials, passwords, or financial data for malicious use.
- Attackers utilize various sophisticated methods, including domain spoofing, fake websites, and generative AI, to execute a phishing attack via email, SMS, phone calls, or social media.
- The most common examples of phishing are used to support other malicious actions, such as account takeovers, ransomware attacks, or business email compromise.
- **Example:** A deceptive email disguised as a legitimate security update from a major public sector bank, directing the recipient to a fraudulent portal to harvest their login credentials.

7. Asian Infrastructure Investment Bank

Context: Recently, the Asian Infrastructure Investment Bank (AIIB) has launched a \$10 billion fund facility to support member countries affected by ongoing Middle East conflict.

About Asian Infrastructure Investment Bank

- It is a multilateral development bank established in 2016.
- Objective: It focuses on promoting sustainable economic growth, enhancing regional connectivity, and mobilizing both public and private capital for infrastructure investments.
- Headquarters: Beijing, China
- Membership: It has now grown to 111 approved members worldwide.
- **India is a Founding Member of AIIB and the second-largest shareholder after China.**
- **Governance**
- It is headed by a Board of Governors composed of one Governor and one Alternate Governor appointed by each of the member countries.
- A non-resident Board of Directors is responsible for the direction and management of the Bank, such as the Bank's strategy, annual plan and budget and establishing policies and oversight procedures.
- **The bank staff is headed by a President who is elected by AIIB shareholders for a five-year term and is eligible for re-election once.**

8. Padma Awards

Context: President will present 66 Padma Awards, including 2 Padma Vibhushan, 6 Padma Bhushan, and 58 Padma Shri, at the first Civil Investiture Ceremony at Rashtrapati Bhavan.

The Padma Awards:

What They Are?

- The Padma Awards are amongst the highest civilian honors of India, announced annually on the eve of Republic Day. They are designed to recognize works of distinction and celebrate

exceptional achievements or service where an element of public service is involved. The awards are structured into three distinct tiers:

- **Padma Vibhushan:** Conferred for exceptional and distinguished service.
- **Padma Bhushan:** Conferred for distinguished service of a high order.
- **Padma Shri:** Conferred for distinguished service in any specific field.

9. Justice Prakash Prabhakar Naolekar Committee

Context: Union Home Minister announced the constitution of a high-level committee to address the complex challenges arising from unnatural demographic changes across India.

The Justice Prakash Prabhakar Naolekar Committee:
What It Is?

- The high-level panel is a specialized, multi-disciplinary central committee established by the Union Ministry of Home Affairs to investigate illegal immigration and abnormal population shifts.

Chairperson: Justice Prakash Prabhakar Naolekar, former Judge of the Supreme Court of India.

Core Committee Members:

- The Census Commissioner of India.
- Durga Shankar Mishra, former Indian Administrative Service (IAS) officer.
- Balaji Srivastava, former Indian Police Service (IPS) officer.
- Shamika Ravi, prominent economist.

Member Secretary: The Joint Secretary (Foreigners-I) within the Ministry of Home Affairs.

Aims of the Committee:

- To execute a comprehensive, empirical assessment of unnatural demographic changes taking place across various regions of India due to long-term illegal immigration and infiltration.

- To mathematically analyze internal patterns of abnormal population variations across distinct religious and social communities, generating a structured, time-bound solution to stabilize regional demographics.

10. Indian Association for the Cultivation of Science

Context: Union Minister joined the 150-year celebrations of the Indian Association for the Cultivation of Science (IACS) in Kolkata.

The Indian Association for the Cultivation of Science (IACS):

What It Is?

- The Indian Association for the Cultivation of Science (IACS) is a premier, historic autonomous research institution and a deemed-to-be university. It holds a unique position in global scientific history as the oldest institute in India and the first research facility in Asia established entirely by Indians for the cultivation of modern science.

Established In: July 29, 1876.

Founder: Dr. Mahendralal Sircar, a visionary physician who sought to build local scientific capacity when infrastructure was virtually non-existent in colonial India.

Aim:

- The original and continuing objective of the IACS is to cultivate science in all its departments through original fundamental research and its varied practical applications to elevate the arts and comforts of life.

Key Features:

- **India's Physics Legacy:** Between 1907-1933, V. Raman conducted research here that led to the discovery of the Raman Effect and India's first Nobel Prize in Science in 1930.
- **Multi-Disciplinary Research Hub:** The institute now leads research in quantum materials,

nanotechnology, AI, cancer biology, battery materials, and sustainable energy.

- **Solar Technology Pioneer:** It developed India's early amorphous silicon solar-cell technology through the indigenous PECVD system.
- **RETINA Innovation Hub:** The RETINA framework connects laboratory research with startups, industrial applications, and affordable technologies.
- **Medical & Environmental Research:** Conducts advanced work on muscular dystrophy treatment, biosensors, photodetectors, and toxic waste remediation.
- **Scientific Outreach:** Promotes scientific temper through outreach programs for students, women, and rural communities.

Significance of the Institution:

- **Asia's First Indigenous Science Institution:** IACS proved Indian scientists could conduct world-class research even during colonial rule.

- **Foundation of Modern Scientific Research:** Before the 20th century, it was India's primary center for advanced physical science research and training.



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