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PREFACE

Current Affairs UPSC CSE Prelims 2026

This high-quality monthly compilation of Current Affairs for Civil Services Exam Prelims 2026 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
3. **Enhancing revision:** Combines important current affairs and static concepts for effective revision.

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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
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POLITY

1. Doctrine of Severability

Context: The Supreme Court clarified that the **Doctrine of Severability** is applicable in Suits for Specific Performance, but only in exceptional cases.

About Doctrine of Severability

- It is a fundamental legal principle that plays a crucial role in addressing the constitutionality of laws when some provisions are inconsistent with the Fundamental Rights guaranteed by the Constitution.
- In such cases, only the conflicting or repugnant part of the law will be considered void by the courts, not the entire statute.
- In simpler terms, if a specific part of a law violates the Constitution but can be separated from the rest of the law without affecting its functionality, only that problematic part will be removed, not the entire law.
- Another aspect of the doctrine of severability is that if a law combines good and bad provisions using words like 'and' or 'or,' and the enforcement of the good provision does not depend on the bad one, they are considered severable.
- The good provision will be upheld and enforced even if the bad one cannot or does not exist.
- On the other hand, if there's a provision that can be used for both legal and illegal purposes, it is invalid and cannot be allowed even for legal purposes.
- The court will declare the entire Act as void if the valid and invalid portions are so intertwined that they cannot be separated.
- It is also called the doctrine of separability.

Landmark Cases on Doctrine of Severability

- **A.K Gopalan vs State of Madras:** The court held that if the preventive detention provision (section 14) was removed, the rest of the Act would remain valid and effective. The violative part was separable from the valid part.

2. Tenth Schedule

Context: The Supreme Court recently warned that the **Telangana Assembly Speaker** is in "gross contempt" for delaying a decision on petitions filed by **Bharat Rashtra Samithi (BRS)** leaders seeking the **disqualification of 10 MLAs** who had shifted their allegiance to the ruling Congress party in the state.

- The Tenth Schedule, introduced by the **52nd Amendment in 1985**, provides a framework to curb political defections and ensure stability in legislatures. Under this law, **nominated members** are allowed to join a political party **within six months** from their first sitting in the legislature.
- If they join a political party **after this six-month period**, they become liable for **disqualification**. This provision ensures that nominated members do not bypass the anti-defection rules and aligns them with the principles applied to elected members.
- The Tenth Schedule includes a **merger exception** to account for situations where political parties combine in a legitimate manner. According to this exception, a political party is considered to have **legally merged** with another party only if **at least two-thirds of its legislators** vote in favor of the merger. Legislators meeting this threshold are **protected from disqualification**, even though the remaining members may oppose the merger.
- This provision was included to prevent penalizing large-scale consensual mergers while discouraging individual defections or "floor-crossing" that undermine the mandate of the electorate.

3. Doctrine of Clean Hands

Context: The **Division Bench of the Delhi High Court** recently ruled that the principle of "**clean hands**" cannot be invoked to deny relief to a petitioner who has **successfully proved cruelty**, merely based on

unsubstantiated counter-allegations by the respondent.

About Doctrine of Clean Hands

- The Doctrine of Clean Hands emphasizes that those seeking justice must not engage in dishonest practices, ensuring that litigants approach the court with full transparency and integrity.
- It is an equitable principle that prevents a party from receiving relief or asserting a defense if they have acted unfairly or in bad faith concerning the very matter before the court.
- Essentially, a party seeking an equitable remedy must themselves have "clean hands" regarding the dispute to be granted relief.
- Simply put, the doctrine requires that "He who seeks equity must do equity."
- The doctrine has its roots in the English Court of Chancery, which administered equity.

In the above question,

- The doctrine of Clean Hand would be evoked as the petitioner, having deliberately suppressed a material fact and attempted to mislead the court regarding the subject matter of the dispute, is not entitled to discretionary equitable relief.

4. Protected Area Permit

Context: Nagaland Chief Minister has urged the union home minister to urgently review the re-imposition of the Protected Area Permit (PAP) regime in the state.

About Protected Area Permit (PAP)

- **Overview:** The Protected Area Permit (PAP) is a special permit required by foreign nationals to visit certain sensitive regions of India that lie close to international borders.
 - This system is mandated under the **Foreigners (Protected Areas) Order, 1958.**
- **Eligibility:** PAP is mandatory for foreign citizens (excluding Bhutanese nationals) to enter these

areas. Indian citizens require an Inner Line Permit (ILP) for some overlapping regions.

- Permits are usually granted for specific tourist circuits/routes and are time-bound; overstaying is prohibited.
- Generally, only group tourists (minimum of two persons) traveling with registered tour operators are allowed.
- **States/Areas Under PAP (2025 Update): Whole of Arunachal Pradesh, Manipur, Mizoram, & Nagaland.**
 - **Parts of Himachal Pradesh, Jammu & Kashmir, Uttarakhand, and Rajasthan.**
- **Validity and Compliance:** PAP is valid only for the specified area, route, and time mentioned in the permit.
- **Difference from Restricted Area Permit (RAP):** The RAP regime applies mainly to the Andaman & Nicobar Islands and parts of Sikkim; policies are similar but locations are different.

5. Juvenile Justice Board

Context: Juvenile Justice and Children in Conflict with the Law: A Study of Capacity at the Frontlines', by the India Justice Report (IJR) highlighted that more than half (55%) of the cases before 362 Juvenile Justice Boards (JJBs) remained pending as of October 31, 2023.

About Juvenile Justice Board

- It is formed under section-4 of the Juvenile Justice Act, 2015 which functions relating to children in conflict with law under this Act.
- It states that, the state government shall constitute for every district, one or more Juvenile Justice Boards.

Composition of Juvenile Justice Board

- A board shall consist of
- Metropolitan Magistrate or
- A Judicial Magistrate of first class not being Chief Metropolitan Magistrate or

- Chief Judicial Magistrate referred to as Principal Magistrate with at least three years' experience
- **Two social workers selected in such a manner as may be prescribed, of whom at least one shall be a woman.**

Powers of Juvenile Justice Board

- Under Section 15, special provisions have been made to tackle child offenders committing heinous offences in the age group of 16-18 years.
- The Juvenile Justice Board is given the option to transfer cases of heinous offences by such children to a Children's Court (Court of Session) after conducting preliminary assessment.

Functions of Juvenile Justice Board

- The board's responsibility is to ensure that the child's rights are protected throughout the process of apprehending the child, inquiry, aftercare and rehabilitation.
- It also ensures the availability of legal aid for the child through the legal services institutions.
- The board undertakes at least one inspection visit every month of residential facilities for children in conflict with law and recommends action for improvement in quality of services to the District Child Protection Unit and the state government.

6. Assam Accord (1985)

Context: Recently, the Assam government has announced that a broad consensus has been reached on most of the recommendations made under Clause 6 of the Assam Accord, 1985.

About the Assam Accord (1985)

- It was signed on August 15, 1985, between the Government of India, the All-Assam Students' Union (AASU), and the All Assam Gana Sangram Parishad (AAGSP).
- It marked the end of a six-year-long anti-foreigner agitation in Assam (1979–1985), which was driven by concerns over large-scale illegal immigration from Bangladesh and its impact on the state's demography, culture, and economy.

Key Provisions of the Accord

- **Cut-off Date for Citizenship:** All foreigners who entered Assam before January 1, 1966 were to be granted citizenship.
 - Those who came between January 1, 1966, and March 24, 1971 would be detected and allowed to stay after registering as foreigners for 10 years.
 - Those who entered after March 24, 1971, were to be detected and deported.
- **Clause 6 of the Assam Accord:** It promised 'constitutional, legislative, and administrative safeguards' to protect the 'cultural, social, and linguistic identity' of the Assamese people.
- **Border Security:** The Accord called for the sealing and fencing of the India-Bangladesh border to prevent further illegal immigration.
- **Detection and Deportation Mechanism:** A mechanism was to be established for the detection and deportation of illegal immigrants, including the updating of the National Register of Citizens (NRC).

7. Constitution Day

Context: Since 2015, Constitution Day has been observed annually on 26 November to mark the adoption of the Constitution of India on 26 November 1949.

- Constitution Day is observed on 26th November every year to mark the adoption of the Indian Constitution by the Constituent Assembly in 1949. In 2025, the Government launched the Constitution in nine languages, reaffirming India's commitment to constitutional values and democratic principles.
- The Constitution officially came into force on 26th January 1950, aligning with the Poorna Swaraj resolution of 1930, which symbolizes India's full sovereignty and republican status. Constitution Day was officially declared by the Government of India in 2015, coinciding with Dr. B.R. Ambedkar's 125th birth anniversary, who is

regarded as the chief architect of the Constitution.

8. Fundamental Duties

Context: On the occasion of Constitution Day, the Prime Minister urged every citizen to honour Fundamental Duties and proactively participate in reinforcing the nation's democratic fabric.

- The **Swaran Singh Committee** recommended adding Fundamental Duties, but not all of its recommendations were incorporated. For example, it suggested penalties for non-compliance, but the 42nd Amendment did not adopt these stricter provisions, meaning the Committee's proposals were only partially accepted.
- The **86th Constitutional Amendment** added the 11th duty related to educating children, but it did **not** make Fundamental Duties enforceable. They remain **non-justiciable**, and courts cannot enforce them as rights.
- Fundamental Duties were indeed placed in **Part IVA** by the **42nd Amendment in 1976**, and this amendment did **not** introduce any new Directive Principles at the same time. Therefore, the placement of duties occurred independently of changes to the DPSPs.

9. Article 141

Context: The Supreme Court has recently raised concern over the trend of coordinate benches overturning each other's decisions, stressing that judicial pronouncements must remain consistent and

uniform.

- Article 141 provides that **the law declared by the Supreme Court shall be binding on all courts within the territory of India**, ensuring **uniformity and consistency in judicial interpretation** nationwide. This prevents lower courts from pronouncing contradictory interpretations of law and maintains legal certainty.
- **Only the *ratio decidendi* (the core legal reasoning necessary to decide a case)** is binding under Article 141. **Obiter dicta**—additional comments or observations made by judges that are **not essential to the decision—do not have binding force**, although they may carry persuasive value.
- Article 141 plays a critical role in **maintaining uniform legal standards** across the judiciary. It ensures that **once the Supreme Court settles a question of law, all subordinate courts must follow it**, regardless of geographic location or previous rulings.



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ECONOMY

1. Marine Fisheries Census

Context: The Union Ministry of Fisheries, Animal Husbandry and Dairying launched the Marine Fisheries Census (MFC) 2025 Household Enumeration and the VYAS – BHARAT and VYAS- SUTRA app.

About

- **Fully Digital and Geo-Referenced Census:** The MFC 2025 departs from **traditional paper-based methods** used in earlier editions.
- It is the fifth edition of the Marine Fisheries Census.
- It is a **coast-wide activity fully funded by the Department of Fisheries, Government of India.**
- **Nodal Agency:** ICAR-Central Marine Fisheries Research Institute (CMFRI) as the nodal agency and Fishery Survey of India (FSI) as the operational partner.
 - The fifth edition covers around **1.2 million** fisher households across 5,000 marine fishing villages in **13 coastal States and Union Territories**, including the Andaman & Nicobar Islands and Lakshadweep.
- **Digital Architecture:** The digital process is powered by three multilingual Android applications developed by the ICAR–Central Marine Fisheries Research Institute (CMFRI):
 - **VyAS–NAV:** For validation of fishing villages and harbours.
 - **VyAS–BHARAT:** For household and infrastructure enumeration.
 - **VyAS–SUTRA:** For real-time supervision and monitoring of data collection.
- **Expanded Socio-economic Data:** For the first time, the enumeration includes detailed information on crucial indicators like total family income, homeownership, outstanding liabilities, and sources of credit.

2. National Company Law Appellate Tribunal

Context: The Supreme Court refused to intervene with an order of the National Company Law Appellate Tribunal (NCLAT) which had allowed Aakash Educational Services Ltd, a subsidiary of Byju's, to proceed with its proposed rights issue.

About National Company Law Appellate Tribunal (NCLAT)

- The National Company Law Appellate Tribunal (NCLAT) was constituted under **Section 410** of the **Companies Act, 2013**, with effect from **2016**.
- It functions as a **quasi-judicial body** to hear appeals against orders of the National Company Law Tribunal (NCLT) and several other regulatory authorities.
- It also serves as the Appellate Tribunal for hearing appeals against orders passed by the
 - **National Company Law Tribunal** (under Section 61 of the Insolvency and Bankruptcy Code, 2016),
 - **Insolvency and Bankruptcy Board of India** (under Sections 202 and 211 of the IBC),
 - **Competition Commission of India (CCI)**, and
 - **National Financial Reporting Authority (NFRA)**.

3. International Cooperative Alliance

Context: Amul's parent company, Gujarat Cooperative Milk Marketing Federation Ltd, is ranked as the top co-operative in the world in the ICA World Cooperative Monitor 2025 rankings.

About International Cooperative Alliance (ICA):

- The ICA is a non-profit international association which unites, represents and serves cooperatives worldwide.
- Founded in 1895, it is one of the oldest non-governmental organisations and one of the largest ones measured by the number of people

represented with one billion cooperative members on the planet.

- It is the apex body representing cooperatives, which are estimated to be around 3 million worldwide, providing a global voice and forum for knowledge, expertise, and coordinated action for and about cooperatives.
- The ICA is the guardian of the Statement on the Cooperative Identity, which includes a definition, 10 values, and 7 operational principles; it is the minimum common denominator for all cooperatives in all sectors and all regions.
- The ICA's members are international and national cooperative organisations from all sectors of the economy.
- More than 306 organisations from 105 countries are members of the ICA.
- **ICA operates a central office in Brussels, Belgium, and four regional offices for Africa, the Americas, Asia-Pacific and Europe.**
- The ICA structure also has sectoral organisations for cooperatives active in agriculture, industry and services, consumer retail, banking, fisheries, health, housing, and insurance.

4. Technical Textiles

Context: Recently, the National Technical Textiles Mission supported the development of Indigenous Thermal Testing Instruments for Protective Textiles in association with Northern India Textile Research Association (NITRA).

What are Technical Textiles?

- Technical textiles are defined as textile materials and products used primarily for their technical performance and functional properties rather than their aesthetic or decorative characteristics.
- Other terms used for defining technical textiles include industrial textiles, functional textiles, performance textiles, engineering textiles, invisible textiles, and hi-tech textiles.
- These products are broadly classified into 12 different categories- Agrotech, Oekotech, Buildtech, Meditech, Geotech, Clothtech,

Mobiltech, Hometech, Sportstech, Indutech, Protech, Packtech.

- **Applications:** They are used in products that help protect people, improve machinery, and solve practical problems, such as in car parts, building materials, medical equipment, and safety gear.

5. Financial Sector Assessment (FSA) Report

Context: The latest Financial Sector Assessment (FSA) report has stated that India is achieving its vision to become a \$30 trillion economy by 2047.

About Financial Sector Assessment (FSA) Report

- It was published by the World Bank.

Key Highlights of the Report

- India's financial system has become more resilient, diversified, and inclusive.
- It acknowledges that financial sector reforms helped India recover from various distress episodes of the 2010s as well as the pandemic.
- India's 'world class' digital public infrastructure and government programmes have significantly improved access to a wider range of financial services for men and women.
- WB welcomed the scale-based regulation for NBFCs which recognises the different needs of this diverse industry.
- India's capital markets (equity, government bonds and corporate bonds) have increased from 144 percent to about 175 percent of GDP since the last Financial Sector Assessment Program.

6. Bond yield

Context: Indian government bonds saw a significant rise on November 11, fueled by substantial buying over the past two days, widely believed to be from the central bank.

Scenarios in which bond yield would rise:

- **RBI Hikes Policy Rates:** When the RBI raises the repo rate, borrowing costs rise and yields on

government bonds also rise. Higher short-term rates push up long-term yields as well.

- **Higher Inflation Expectations:** If retail inflation (CPI) begins rising or is expected to rise, investors demand higher yields to compensate for loss of real returns.
- **Rupee Depreciation Pressure (Currency/External Factors):** A persistent depreciation of the Rupee makes imports (especially crude oil) costlier, which fuels domestic inflation. This, in turn, increases inflation expectations, pushing yields higher.

While,

- **Fiscal Deficit narrowing:** The government typically covers its fiscal deficit by borrowing money through issuing bonds (Government Securities or G-Secs). When the deficit narrows, the government needs to borrow less. This reduces the supply of new government bonds in the market. Lower supply against stable demand pushes bond prices up and, consequently, bond yields down.
- **Foreign Investor inflows:** When Foreign Portfolio Investors (FPIs) pour money into the Indian bond market, it represents a surge in demand for Indian bonds. Higher demand pushes bond prices up and, consequently, bond yields down.

7. EBLR

Context: State Bank of India (SBI), the country's largest public sector lender, has kept its key lending rates unchanged for November 2025, retaining its Marginal Cost of Funds Based Lending Rate (MCLR) and External Benchmark-linked Rates such as Repo Linked Lending Rate (RLLR).

EBLR and Its Benefits:

About:

- To ensure **complete transparency and standardization**, RBI mandated the banks to adopt a uniform external benchmark within a loan category, effective **1st October, 2019**.

- Unlike MCLR which was internal system for each bank, RBI has offered banks the options to choose from **4 external benchmarking mechanisms**:
 - The RBI repo rate
 - The 91-day T-bill yield
 - The 182-day T-bill yield
 - Any other benchmark market interest rate as developed by the **Financial Benchmarks India Pvt. Ltd.**
 - **T-Bill or Treasury bills** are money market instruments issued by the Government of India as a promissory note with guaranteed repayment at a later date.
 - **Financial Benchmarks India Pvt. Ltd** was recognised by the Reserve bank of India as an independent Benchmark administrator on 2nd July 2015.
- The implementation of **EBLR** (mandated by the RBI in 2019) was specifically designed to make **lending rates** and, consequently, the broader economy, **more responsive** to the RBI's monetary policy directives (like changes to the repo rate).
 - Unlike MCLR which was internal system for each bank, RBI has offered banks the options to choose from **4 external benchmarking mechanisms**:
 - The RBI repo rate
 - The 91-day T-bill yield
 - The 182-day T-bill yield
 - Any other benchmark market interest rate as developed by the **Financial Benchmarks India Pvt. Ltd.**

8. NPCI International Payments Limited

Context: NPCI International Payments Limited (NIPL), the international arm of the National Payments Corporation of India (NPCI), and BENEFIT, Bahrain's leading fintech and electronic financial transactions company, have entered into a partnership to enable real-time cross-border remittances between India and Bahrain.

- The Gulf of Bahrain is an inlet of the Persian Gulf, and it lies to the west of the Qatar peninsula.

Essentially, it separates the island nation of Bahrain from the eastern coast of Saudi Arabia. Iran lies across the main body of the Persian Gulf, or the Arabian Gulf, a considerable distance to the northeast of Bahrain; thus, the Gulf of Bahrain does not form the boundary between Bahrain and Iran.

- The King Fahad Causeway is a series of bridges and causeways spanning approximately 25 kilometers. It connects the western coast of the island of Bahrain, near the city of Manama, to the eastern coast of Saudi Arabia, near Khobar. It is an important transportation and economic link between the two nations.



9. 16th Finance Commission

Context: The 16th Finance Commission (2026–31), led by Dr. Arvind Panagariya, submitted its report to President Droupadi Murmu on 17 November 2025, following a one-month extension to its tenure.

- The 16th Finance Commission has addressed the **principles for sharing the divisible tax pool** between the Union and States, as well as the **inter-state distribution formula**. This falls at the core of the Finance Commission's constitutional

mandate and has been explicitly included in its submitted report.

- The constitutional provision empowering the Finance Commission to recommend ways to **augment the financial resources of Panchayats and Municipalities** is **Article 280**, not Article 275. Article 275 pertains to **grants for the welfare of Scheduled Tribes and administration of Scheduled Areas**.
- The Commission reviewed the **utilisation structure of disaster-related funds** created under the **Disaster Management Act, 2005**, including State and National Disaster Response and Mitigation Funds. This was part of its broader assessment of **disaster financing mechanisms**, confirming the accuracy of the statement.

10. Pradhan Mantri Fasal Bima Yojana

Context: The Ministry of Agriculture and Farmers Welfare recently announced that it has now recognised the modalities for covering crop loss due to attack by wild animals and paddy inundation under the Pradhan Mantri Fasal Bima Yojana (PMFBY) from the Kharif season 2026.

- The **PM Fasal Bima Yojana**, launched in 2016, is a **Central Sector Scheme** under the Ministry of Agriculture & Farmers' Welfare. Its primary objectives are to provide **financial support to farmers facing crop loss or damage**, stabilize their **income**, and ensure the continued **flow of credit** to the agriculture sector. The scheme also promotes **modern agricultural practices and crop diversification**.
- All **farmers**, including **sharecroppers and tenant farmers**, growing **notified crops in notified areas** are eligible under PMFBY. The **premium rates** payable by farmers are **2% for Kharif crops**, **1.5% for Rabi crops**, and **5% for commercial and horticultural crops**, ensuring affordable coverage across crop types.
- The **premium is shared equally (50:50)** by the **Central and State Governments** in most states. However, in **North-Eastern and Himalayan states**,

the **Central Government** bears **90% of the premium**, with the remaining 10% contributed by the respective State Governments. This special provision ensures higher **subsidy support** in difficult-to-insure regions.

11. National Industrial Classification 2025

Context: The Ministry of Statistics and Programme Implementation (MoSPI) recently released the National Industrial Classification (NIC) 2025 during the 'Culmination Ceremony' of the 75th anniversary of National Sample Survey (NSS) and World Statistics Day 2025.

About National Industrial Classification 2025

- The NIC is the standardized system used to classify all economic activities in India for statistical surveys, censuses (like the Annual Survey of Industries), and national accounts (GDP calculation).
- First introduced in 1962, it has been revised periodically in line with international standards and the changing economic landscape, leading to NIC 1970, NIC 1987, NIC 1990, NIC 1998, NIC 2004, and NIC 2008.
- The NIC 2025 represents the latest updated national standard for classifying economic activities in India.
- The NIC 2025 has been prepared by the MoSPI in alignment with the International Standard Industrial Classification of All Economic Activities (ISIC) Revision 5, developed by the United Nations Statistics Division (UNSD).
- The revision was carried out under the guidance of the Expert Committee for Revision of Economic Classifications (ECREC).

12. Codex Alimentarius Commission

Context: India has been re-elected to the Codex Alimentarius Commission's Executive Committee for the Asia region during the 48th session, securing this position until the end of CAC50 in 2027.

What is Codex Alimentarius Commission (CAC)?

- **About:** CAC is an international food standards body established jointly by the Food and Agriculture Organization (FAO) and the World Health Organization (WHO) in May 1963 with the objective of protecting consumer's health and ensuring fair practices in food trade.
- **Recognition:** The Agreement on Application of Sanitary and Phytosanitary Measures (SPS) of the World Trade Organization (WTO) recognises Codex standards, guidelines and recommendations as reference standards for international trade and trade dispute settlement.
- **Members:** Currently the Codex Alimentarius Commission has 189 Codex Members made up of 188 Member Countries and European Union. India became the member of Codex Alimentarius in 1964.

Codex Standards:

- **General Standards, Guidelines and Codes of Practice:** These core Codex texts typically deal with hygienic practice, labelling, contaminants, additives, inspection & certification, nutrition and residues of veterinary drugs and pesticides and apply horizontally to products and product categories.
- **Commodity Standards:** Codex commodity standards refer to a specific product although increasingly Codex now develops standards for food groups.
- **Regional Standards:** Standards developed by the respective Regional Coordinating Committees, applicable to the respective regions.

13. Index of Eight Core Industries

Context: India's core infrastructure output stagnated in October 2025, recording 0% growth, the worst performance in 14 months.

About Index of Eight Core Industries:

What it is?

- The Index of Eight Core Industries (ICI) is a monthly economic indicator that measures the

combined and individual performance of eight crucial infrastructure sectors that drive industrial activity in India.

Published by: Office of the Economic Adviser (OEA)

- Ministry of Commerce & Industry, Government of India

History / Background:

- Introduced to track the health of India's industrial base and serve as a leading indicator for Index of Industrial Production (IIP).
- Base year:** 2011–12, aligned with the base revision of national accounts.
- Over time, it has become a key tool for assessing monthly economic momentum.

Sectors Covered:

The eight core industries are:

- These sectors collectively make up **40.27% of the weight of the entire IIP**.

Sector	Coal	Crude Oil	Natural Gas	Refinery Products	Fertilizers	Steel	Cement	Electricity	Overall Index
Weight	10.33	8.98	6.88	28.04	2.63	17.92	5.37	19.85	100.00

14. Serious Fraud Investigation Office (SFIO)

Context: The Serious Fraud Investigation Office (SFIO) has introduced new technical and procedural safeguards to prevent impersonation and misuse of its summons and notices.

Serious Fraud Investigation Office (SFIO)

- Established under the Companies Act, 2013, SFIO functions under the Ministry of Corporate Affairs and is intended as a specialized body for white-collar crime investigations rather than routine company law violations.
- It brings together experts from accountancy, forensic audit, banking, law, IT, capital markets, taxation and company law to handle serious and complex corporate frauds.

- It investigates complex corporate frauds under **Section 212 of the Act**, while summons issued during investigations are governed by Section 217.
- It is **headed by a Director** who holds a rank not below Joint Secretary to the Government of India.

15. Capital Gains Account Scheme (CGAS), 1988

Context: The Ministry of Finance recently notified the Capital Gains Accounts (Second Amendment) Scheme, 2025, introducing changes to the Capital Gains Account Scheme (CGAS), 1988.

About Capital Gains Account Scheme (CGAS), 1988

- It was introduced by the Central Government in 1988 to help taxpayers claim exemptions on long-term capital gains.
- Under Section 54 of the Income Tax Act, income from capital gains must be reinvested within 3 years to avoid tax liability.
- However, there could be instances when the due date for filing income tax falls during this specified tenure.
- If a taxpayer is unable to invest in such a short period of time, they can deposit such underutilised capital gains under CGAS.
- However, taxpayers must deposit such funds before filing their Income Tax Returns.
- Investing the gains in this account is treated the same as direct reinvestment for exemption purposes.
- However, short-term capital gains are not eligible for the CGAS, as exemptions apply only to long-term capital gains.

Who Can Deposit in CGAS?

- Any taxpayer who earns long-term capital gains and wants to claim exemption can deposit in the CGAS.
- This includes Individuals, Hindu Undivided Families (HUFs), Companies, Trusts, and any other person eligible for capital gains exemption.

- The scheme is mainly used when the taxpayer is unable to reinvest the capital gains before the due date of filing their income tax return but intends to invest within the specified period to claim exemption.
- The deposited amount must then be used within the stipulated period to invest in the eligible asset; otherwise, it will be treated as taxable capital gain in the year the deadline expires.

Capital Gains Accounts (Second Amendment) Scheme, 2025

- Previously, CGAS deposits were largely limited to public sector banks and a few older institutions.
- **Under the new notification, all non-rural branches of 19 major private banks are now authorised to receive deposits and maintain CGAS accounts.**
- The “non-rural branch” condition means that only branches at centres with population 10,000 or more (per 2011 census) are in scope.
- The amended scheme explicitly defines ‘electronic mode’ of deposit to include credit/debit cards, net banking, UPI, IMPS, RTGS, NEFT, BHIM/Aadhaar Pay etc.

16. Operation Flood

Context: The birth anniversary of Dr. Verghese Kurien is observed on 26th November, commemorated across the country as National Milk Day.

- Dr. Kurien was the central figure behind **Operation Flood**, which launched India’s **White Revolution**, and he also played a major role in introducing **Dhara** in 1979. These initiatives emerged through the institutions he built, particularly the **National Dairy Development Board**.
- The sequence of awards is reversed; he first received the **Ramon Magsaysay Award in 1963**, while the **World Food Prize** came much later in 1989.

17. Milk production

Context: The report highlights that India’s livestock sector is rapidly strengthening, emerging as a crucial driver of the nation’s agricultural economy. It records notable increases in production, rapid adoption of digital technologies across the value chain, and a highly competitive standing in international markets.

- India holds **global rank 1 in milk production**. For the year **2024–25**, the total milk production in the country is estimated to be about **247.87 million tonnes**. This continues the long-standing trend of India being the **world’s largest milk producer**, supported by an extensive network of small dairy farmers and cooperative structures.
- The **top five milk-producing states** are **Uttar Pradesh (15.66%)**, **Rajasthan (14.82%)**, **Madhya Pradesh (9.12%)**, **Gujarat (7.78%)** and **Maharashtra (6.71%)**. When these shares are added, their **combined contribution is 54.09%** of the total milk production in India. Since 54.09% is **more than half**.
- The per capita availability of milk has increased from **319 grams/day in 2014–15** to **485 grams/day in 2024–25**. The absolute increase is **166 grams/day**. If we compare this to the base value (319 g/day), the rise is roughly **52%**, which is indeed **more than 50%**. This shows a significant improvement in **per capita milk availability**, reflecting both production growth and better supply distribution.

18. Tex-RAMPS scheme

Context: The Government of India has approved the **Textiles Focused Research, Assessment, Monitoring, Planning and Start-up (Tex-RAMPS) Scheme**, to **Strengthen Research, Innovation and Competitiveness in Textiles Sector**.

- The Tex-RAMPS scheme is designed to **future-proof India’s textiles and apparel ecosystem** by strengthening **Research, Innovation and Competitiveness**. It is funded for **₹305 crore** for

the period 2025-26 to 2030-31, which makes its duration **six years**.

- Although the scheme encourages **start-up participation**, it is **not restricted only to start-ups**. It also supports **research institutions, industry bodies, incubators, and academia-industry collaborations**.
- A central feature of the scheme is the development of a **Real-time Integrated Textiles Statistical System (ITSS)**. It is intended to provide **data-driven support for policy formulation, monitoring and decision-making** through real-time analytics on production, employment, and supply chains.

19. Paradip Port

Context: The Paradip Port Authority (PPA) has recorded its quickest achievement of 100 MMT cargo throughput in history, marking the ninth straight year of surpassing the 100 MMT milestone — and reaching it 12 days earlier than in the previous financial year.

- Paradip Port** is a major deep-water port on the eastern coast of India in Odisha, located near the confluence of the Mahanadi River and the Bay of Bengal. It is operated by the **Paradip Port Authority** under the **Ministry of Ports, Shipping & Waterways**.
- Paradip Port is a **key port for handling India's iron ore exports**, along with other commodities such as coal, POL, steel, containerized cargo, and coastal shipments. Its deep-water facilities allow

it to handle **large bulk carriers**, making it strategically important for India's mineral exports.



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INTERNATIONAL RELATIONS

1. Ayni Air Base

Context: India has rounded off its operation at the strategic Ayni Air Base in Tajikistan after helping it run since 2002.

About Ayni Air Base

- It is located in Tajikistan.
- It is the first overseas military facility operated by India.
- Located just west of Dushanbe, the capital of Tajikistan, the base had been a neglected Soviet-era facility before India stepped in to modernize it.
- India began developing the Ayni airbase in the early 2000s under an agreement with Tajikistan.
- India invested close to \$100 million in the development and modernization of the airbase.
- Ayni Air Base lies in western Tajikistan, near Dushanbe.
- **If a plane flies due south from there, it would first cross:**
 - Afghanistan (immediately south of Tajikistan),
 - then Pakistan,
 - and further south, India - before eventually reaching the Indian Ocean.



2. BIMSTEC

Context: Kochi hosted the First BIMSTEC-India Marine Research Network (BIMReN) Conference from November 4–6, 2025, marking a major milestone in advancing regional blue economy cooperation and marine research collaboration among Bay of Bengal nations.

About BIMSTEC

- **Established:** In 1997, through the Bangkok Declaration to promote regional cooperation.
- **Geographic Focus:** Connects South and Southeast Asian nations around the Bay of Bengal.
- **Members:** 7 countries: Bangladesh, Bhutan, India, Myanmar, Nepal, Sri Lanka, and Thailand.
- **Founding Members:** Bangladesh, India, Sri Lanka, and Thailand.
- **Core Objective:** Foster economic cooperation, social progress, and collaboration in science, technology, and development across the region.

3. Iran

Context: While women can now hold jobs, political office and a car license, since its 1979 Islamic Revolution the country has imposed a strictly conservative, Shia Islam understanding of conduct by women. That includes Iran's mandatory hijab law, which sparked mass demonstrations in 2022 after the death of Mahsa Amini, who had allegedly been detained over not wearing a headscarf.

- The southern coast of the Caspian Sea runs along the Elburz or Alborz Mountains, acting as a natural barrier between it and the Iranian plateau.
- Lake Urmia falls wholly within northwestern Iran, primarily between the two provinces of West Azerbaijan and East Azerbaijan. Turkey does not share this lake.



4. Gulf Cooperation Council

Context: In a major step toward deeper regional integration, the Gulf Cooperation Council (GCC) has approved a “one-stop” travel system that will simplify movement across member nations.

More on the news:

- The one-stop travel system eliminates redundant travel procedures and foster stronger cooperation between member states.

About Gulf Cooperation Council (GCC)

- Overview:** The Gulf Cooperation Council (GCC) is a regional political and economic grouping of six Arab countries in the Persian Gulf.
- Established:** 1981 (Riyadh).
- Members:** Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and UAE.
- Economic significance:** The GCC accounts for ~30% of global oil reserves and around 20% of global gas reserves.

Note: Iraq is not a member of the Gulf Cooperation Council. The GCC's membership is strictly limited to the six Arab states of the Persian Gulf listed above. While Iraq is an Arab state with a coastline on the Persian Gulf, it has never been a member of the GCC.

5. UN Office on Drugs and Crime

Context: The Supreme Court has requested the Union government to take a position regarding India's ratification of the United Nations Convention against Cybercrime.

- The Convention does **not** enter into force immediately after adoption by the UNGA.
- It becomes operational **90 days after the 40th State deposits its ratification**. Hence, the treaty has a clear ratification threshold before it comes into force.
- India **has not signed** the Convention yet.
- Additionally, the Convention was **developed by the UN Office on Drugs and Crime (UNODC)**, which coordinated negotiations and drafting to create the first **universal legally binding instrument** against cybercrime.

6. Colombo Security Conclave

Context: The 7th National Security Adviser level meeting of the Colombo Security Conclave was held in New Delhi recently.

About Colombo Security Conclave

- It is a regional security grouping comprising India, Bangladesh, Sri Lanka, Maldives, Mauritius, and Seychelles.
- The CSC's core objective is to promote regional security by addressing transnational threats and challenges of common concern to the member states.
- CSC brings together National Security Advisors (NSAs) and Deputy NSAs of the member countries.

Origin:

- The CSC, initially known as the Trilateral for Maritime Security Cooperation, evolved out of trilateral meetings between NSAs and Deputy NSAs from India, Maldives, and Sri Lanka, starting in 2011.

- It came to a standstill after 2014 due to rising tensions between India and the Maldives.
- After its revival and rebranding as the CSC in 2020, Mauritius joined the CSC in 2022, while Bangladesh joined in 2024.
- More recently, Seychelles has become the sixth member of the CSC.

7. IBSA Dialogue Forum

Context: Prime Minister Shri Narendra Modi on November 23 participated in the India-Brazil-South Africa (IBSA) Leaders' Meeting held in Johannesburg, South Africa. The meeting was hosted by the President of South Africa, H.E. Cyril Ramaphosa of South Africa and attended by the President of Brazil, H.E. Luiz Inácio Lula da Silva.

- The IBSA Dialogue Forum was formalized with the adoption of the Brasilia Declaration on June 6, 2003, when the Foreign Ministers of India, Brazil, and South Africa met in Brasília. Its primary goal is to promote South-South cooperation and coordinate positions on global issues, serving as a platform for the Global South.
- While originally the Heads of State and Government agreed to have an annual summit (as decided in the 1st Summit in 2006), the practical implementation has largely followed a biennial (once every two years) pattern, with the host country rotating among the three members (India, Brazil, and South Africa). The Presidency of the Forum also rotates among the member countries.

8. Sri Lanka

Context: India Launches Operation Sagar Bandhu to Support Sri Lanka After Cyclone Ditwah. External Affairs Minister Dr S Jaishankar said that a total of 27 tonnes of relief material have been delivered by air and sea to Colombo.

- Sri Lanka, historically known as Ceylon, is an **island country in the Indian Ocean**, located southwest of the **Bay of Bengal**. It is separated from India by the **Gulf of Mannar** and the **Palk Strait**, which are key maritime channels connecting the two countries.
- The **Port of Colombo**, the largest port of Sri Lanka, is strategically located at the **mouth of the Kelani Ganga river**, providing access to shipping traffic. The **Port of Hambantota**, also called Magapura Mahinda Rajapaksha port, is located in the **southern part of Sri Lanka**, close to major **Asian and European maritime trade routes**, including the **Suez Canal** and **Malacca Strait**, making it important for international shipping.





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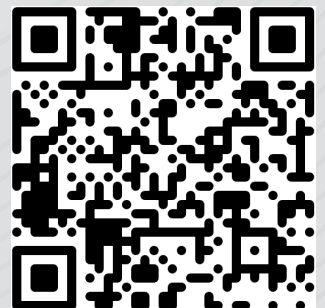
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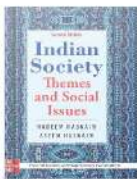
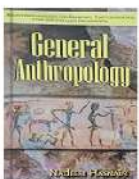
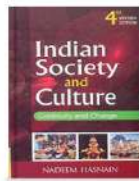
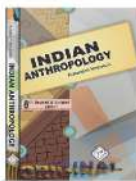
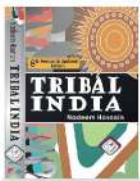
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ENVIRONMENT

1. Kunming Biodiversity Fund

Context: Recently, seven countries have secured \$5.8 million from the Kunming Biodiversity Fund to enhance nature-friendly agriculture.

About Kunming Biodiversity Fund

- It is a Multi-Partner Trust Fund (MTPF) launched in 2021 during Part 1 of the COP 15 of Convention of Biological Diversity.
- It aims to facilitate the successful implementation of the Kunming-Montreal Global Biodiversity Framework (KMGBF) at regional, national, subnational and local level.
- **Initial contribution:** 1.5 billion yuan (about \$200 million) from China.
- It was established under the leadership of the Ministry of Environment and Ecology (MEE) of China and the United Nations Environment Program (UNEP), with the Secretariat of the Convention on Biological Diversity (SCBD) and United Nations Development Programme (UNDP).
- **Focus area:** It supports developing countries to accelerate and upscale their actions for the National Biodiversity Strategies and Action Plans (NBSAPs).

2. Pampadum Shola National Park

Context: The Pampadum Shola National Park which was once dominated by invasive Australian wattles is undergoing a remarkable transformation and its grasslands are being restored, reviving streams and native species.

About Pampadum Shola National Park

- **Location:** It is located in the eastern part of Southern Western Ghats of Kerala.
- It is the smallest national park of Kerala and shares a border with Dindigul district of Tamil Nadu.

- It was declared a national park in 2004.
- It is the southernmost shola–grassland mosaic in the Western Ghats, one of the world's oldest mountain systems predating the Himalayas.
- It is a part of Palani hills stretched up to Vandaravu peak.
- It connects the Eravikulam National Park and the Palani Hills, providing a free range for many animals.
- Pampadum Shola Forests receive heavy rain in the North-East monsoon.
- **Topography:** The terrain is undulating with hillocks of varying heights. The altitudes range between 1600-2400 m.
- **Flora:** The park's unique shola forests are a mix of grasslands and patches of tropical montane forests. The park is rich in medicinal plants, orchids, ferns, and other native species.
- **Fauna:** Nilgiri marten, Kerala laughing thrush, black-and-orange flycatcher etc.

3. Kalahari Desert

Context: India is set to bring another batch of eight cheetahs from Botswana by December 2025 under Project Cheetah, aimed at strengthening its ongoing reintroduction efforts after the species went extinct in 1952.

- The Kalahari Desert is a vast semi-arid sandy savanna that covers about 70% of Botswana's land area, extending into Namibia and South Africa. This includes the large Central Kalahari Game Reserve.
- The Limpopo River forms a long section of the border between Botswana and South Africa. The Tropic of Capricorn line cuts the Limpopo River, and this intersection point is located along the border shared by Botswana and South Africa, before the Limpopo makes its final turn east toward Zimbabwe.

4. Indian Mouse Deer

Context: A rare Indian mouse deer was recently photographed at Tungareshwar Wildlife Sanctuary in Vasai.

About Indian Mouse Deer

- The Indian Mouse Deer, or Indian Spotted Chevrotain, is a species of even-toed ungulate belonging to the family Tragulidae.
- Scientific Name: Moschiola indica
- **It is the smallest deer species found in India and is known for its elusive and shy nature. (smallest deer species in the world is generally considered to be the Southern Pudu (Pudu puda), native to South America.)**

Indian Mouse Deer Distribution

- It is endemic to the Indian Subcontinent.
- **It is mainly found in peninsular India, with some old records from Nepal.**
- Sri Lanka has a separate species called the spotted chevrotain (Moschiola meminna).
- Within India, it is commonly encountered in a number of forest areas along the Western Ghats, in the Eastern Ghats up to Orissa, and in the forests of central India.

Indian Mouse Deer Features

- It is small, 25-30 cm at shoulder height, and weighs from two to four kg.
- The fur color is dark brown with white underparts.
- There are four or five light rows of white spots on the back.
- Males of this species have tusk-like upper canines.
- A unique feature of this group is that instead of a four-chambered stomach like in other ruminants, they have a three-chambered stomach.
- Diet: It forages on the forest floor for fruits, roots, leaves, and herbs. It has occasionally been observed eating insects, crustaceans, and even small mammals.

- Life Span: 8 to 12 years.

Indian Mouse Deer Conservation Status

- **It is classified as 'Least Concern' under the IUCN Red List.**

5. Kali Tiger Reserve

Context: Recently, a rare striped hyena (*Hyaena hyaena*) was spotted in the Kali Tiger Reserve in Uttara Kannada district, Karnataka.

About Kali Tiger Reserve

- It is situated in the Uttara Kannada district of Karnataka.
- It covers an area of 834.16 sq.km.
- It is composed of Dandeli Wildlife Sanctuary and Anshi National Park.
- These two protected areas are contiguous to each other and form a single tract of the protected area located in the biologically sensitive Western Ghats.
- **River:** The Kali River, which forms the major source of water for Uttara Kannada, flows through the tiger reserve, and hence the name.
- **Vegetation:** It is a blend of semi-evergreen and moist deciduous forests, interspersed with patches of bamboo and grasslands.
- **Flora:** The reserve is rich in plant diversity, featuring species like teak, silver oak, eucalyptus, and various medicinal plants.
- **Fauna:**
 - Animals found in the Tiger Reserve include Tiger, Leopard, Elephant, Bison, Wild dog, Sambar, Spotted deer, Sloth bear, Wild boar, Hanuman langur, Bonnet macaque, etc.
 - The area holds one of the highest populations of Great Indian Hornbills in the Western Ghats.
 - It is also home to rare black panthers.

6. UN Water Convention

Context: Bangladesh became the first country in South Asia to join the U.N.'s Water Convention earlier.

About UN Water Convention

- It is also known as the **Convention on the Protection and Use of Transboundary Watercourses and International Lakes** which was adopted in Helsinki in 1992 and entered into force in 1996.
- It was originally negotiated as a regional framework for the pan-European region.
- Following an amendment procedure, since March 2016 all UN Member States can accede to it.

Features of UN Water Convention

- It is a **unique legally binding instrument promoting the sustainable management of shared water resources, the implementation of the Sustainable Development Goals, the prevention of conflicts, and the promotion of peace and regional integration.**
- It requires Parties to prevent, control and reduce transboundary impact, use transboundary waters in a reasonable and equitable way and ensure their sustainable management.
- Parties bordering the same transboundary waters have to cooperate by entering into specific agreements and establishing joint bodies.
- As a framework agreement, the Convention does not replace bilateral and multilateral agreements for specific basins or aquifers; instead, it fosters their establishment and implementation, as well as further development.
- The United Nations Economic Commission for Europe (UNECE), which services the UN Water Convention.
- Significance: It is a powerful tool to promote and operationalize the achievement of the 2030 Agenda for Sustainable Development and its SDGs.

Note: India has not ratified the UN Water Convention as of now.

7. Lichen

Context: Researchers recently discovered four new lichen species, enhancing biodiversity understanding in the Western Ghats.

About Lichen

- A lichen is a symbiosis between different organisms — a fungus and an algae or cyanobacterium.
- The basis of their relationship is the mutual benefit that they provide each other.
- The photosynthetic algae or cyanobacteria form simple carbohydrates that, when excreted, are absorbed by fungi cells and transformed into a different carbohydrate.
- They also produce vitamins that the fungi need.
- Fungi contribute to the symbiosis by absorbing water vapour from the air and by providing much-needed shade for the light-sensitive algae beneath.
- The composite body of a lichen is called a thallus (plural thalli); the body is anchored to its substrate by hairlike growths called rhizines.
- Lichens are found worldwide and occur in a variety of environmental conditions.
- A diverse group of organisms, they can colonize a wide range of surfaces and are frequently found on tree bark, exposed rock, and as a part of biological soil crust.
- Lichens are considered keystone species because they provide essential ecosystem services like nitrogen fixation, soil formation, and habitat for various organisms.
- Lichens are extremely sensitive to SO₂, ozone, nitrogen pollutants, and changes in temperature/humidity. Hence, their presence or absence directly reflects ecosystem health and air quality.
- Lichens are keystone species because of their ecological roles, while their bioindicator status is a related but separate attribute.

8. National Board for Wildlife

Context: The Standing Committee of the National Board for Wildlife (NBWL) recently recommended 13 defence and paramilitary projects, most of them in high-altitude protected areas of Ladakh and one in Arunachal Pradesh.

About National Board for Wildlife

- It is a statutory body constituted by the Central Government in 2022 under Section 5A of the Wildlife (Protection) Act, 1972.
- NBWL is India's top-level advisory body to the government on matters pertaining to wildlife conservation, particularly within Protected Areas (PAs).
- It is responsible for guiding the government's decisions on matters related to wildlife conservation and issuing approvals for projects in PAs.
- National Board for Wildlife Organisation Structure
- It is a 47-member committee, headed by the Prime Minister and the Minister of Environment, Forest, and Climate Change as vice chairperson.
- In addition to offices and institutions directly involved in conservation and protection of wildlife, the NBWL also has the chief of army staff, defence secretary, expenditure secretary to the Government of India as members.
- Further, the central government nominates 10 members who are eminent conservationists, ecologists, and environmentalists.
- The Additional Director General of Forests (WL) & Director, Wildlife Preservation is the Member-Secretary to the Board.

9. Climate Investment Fund

Context: Recently, during COP 30 of UNFCCC, Germany and Spain announced a \$100 million commitment for the Climate Investment Fund's (CIF) new programme called Accelerating Resilience Investments and innovations for Sustainable Economies (ARISE).

About Climate Investment Fund

- It was launched in 2008.
- It is a multilateral climate fund that enables climate action in over 70 low and middle income countries.
- **Purpose:** The purpose of CIF is to finance comprehensive measures for climate change mitigation and adaptation in developing and emerging economies.
- CIF deploys highly concessional finance to empower transformations in clean technology, energy access, climate resilience, nature-based solutions, and other areas.
- **CIF comprises two funds: the Clean Technology Fund (CTF) and the Strategic Climate Fund (SCF).**
- It is the only climate fund working exclusively through six AAA-rated multilateral development banks (MDBs) namely;
- Asian Development Bank, African Development Bank, European Bank for Reconstruction and Development, Islamic Development Bank International Finance Corporation and World Bank
- **Governance:** The Clean Technology Fund (CTF) Trust Fund Committee is the decision-making body responsible for determining and overseeing the operations and activities of the fund.
- In 2024, CIF became the first multilateral climate fund to list bonds on the capital markets, with the CIF Capital Markets Mechanism (CCMM).
- **Secretariat:** The CIF Secretariat is hosted by the World Bank.

10. Sunabeda Wildlife Sanctuary

Context: Eight booths located inside Sunabeda wildlife sanctuaries recorded 70 percent polling in the bypoll to the Nuapada assembly seat.

About Sunabeda Wildlife Sanctuary

- It is located in the Nuapada district of Odisha, adjoining Chhattisgarh.
- It is spread over an area of 600 sq.km. It was declared a sanctuary in 1983.

- It adjoins the Sitanadi and Udanti sanctuaries of Chhattisgarh.
- The sanctuary harbors a great diversity of wildlife habitats, with a vast plateau, canyons, and 11 waterfalls.
- It also forms the catchment area of the Jonk River (tributary of the Mahanadi River), over which a dam has been constructed to facilitate irrigation.
- **Vegetation:** The important vegetation of this sanctuary comprises dry deciduous tropical forests.
- **Flora:** Bija, Teak, Sisoo, Asan, Dharua, Mahul, Char, Sandalwood, Sidha, etc.
- **Fauna:**
 - It is an ideal habitat for the Barasingha (swamp deer).
 - Other important animals found are tigers, Leopards, hyenas, Barking Deer, Chital, Gaur, Sambar, Sloth Bear, Hill Myna, etc.
 - It also works as a migration link for rare wild buffaloes between the states of Odisha and Chhattisgarh.

11. Himalayan Black Bear

Context: Recently, wildlife experts in Uttarakhand raised concern that Himalayan Black bears (*Ursus thibetanus laniger*) are turning aggressive as erratic weather disrupts their hibernation patterns.

About Himalayan Black Bear

- It is a subspecies of the Asian black bear.
- It is a large forest-dwelling bear of the Himalayas, also called Asiatic black bear or Moon bear.

Distribution of Himalayan Black Bear

- They are mainly found in the Himalayas, in Tibet, India, Nepal, Pakistan, and China.
- In India, they are found throughout the Himalayas, from Jammu & Kashmir to Arunachal Pradesh, and in hilly regions of other north-eastern states.
- **Habitat:** It prefers heavily forested, broadleaved, and coniferous forests as habitat.

Characteristics of Himalayan Black Bear

- **Appearance:** It has soft and shiny hair, with a white V patch on their chest.
- **Life span:** 25 to 30 years in the wild.
- **Diet:** They are omnivorous creatures. Their diet consists of acorns, nuts, fruit, honey, roots, and various insects such as termites and beetle larvae.
- **Behaviour:** It is naturally diurnal but many are largely nocturnal in order to avoid contact with humans.
- **Conservation Status:** IUCN: Vulnerable.

12. Global Carbon Project

Context: New research by the Global Carbon Project was released during COP30 in Belem, Brazil.

Global Carbon Project

- It was founded in 2001 through a collaboration of International Geosphere-Biosphere Programme (IGBP), the International Human Dimensions Programme on Global Environmental Change (IHDP), the World Climate Research Programme (WCRP) and Diversitas.
- It is a Global Research Project of Future Earth and partner of the World Climate Research Programme.

Purpose

- It was established to build a shared scientific knowledge base that informs policy and action to curb greenhouse gas emissions.
- It focuses on the global biogeochemical cycles of carbon dioxide (CO₂), methane (CH₄), and nitrous oxide (N₂O)—examining both natural and human drivers and exploring low-carbon pathways.
- Its work complements international efforts under the UNFCCC, including the Kyoto Protocol and Paris Agreement, aimed at balancing greenhouse gas sources and sinks to stabilize the climate system.

Key Findings of recent research

- **Global carbon emissions** are projected to rise by 1.1% in 2025, reaching 38 billion tonnes.
- **China's emissions** will rise by 0.4% and emissions are projected to grow in the United States (+1.9%) and the European Union (0.4%) in 2025.
- Despite reforestation efforts offsetting half of deforestation emissions, **total CO₂ emissions have slowed to 0.3%** annual growth over the past decade.
- The remaining **carbon budget** to limit warming to 1.5°C, 170 billion tonnes—is expected to be **exhausted before 2030**, prompting warnings that climate change is weakening natural carbon sinks.

13. Saranda Forest

Context: The Supreme Court directed the Jharkhand government to declare the ecologically rich Saranda forest as a wildlife sanctuary.

About Saranda

- Saranda Forest in Jharkhand is **Asia's largest Sal (Shorea robusta) forest**, spanning approximately 820-900 square kilometers. It is famously called the **"land of seven hundred hills,"** reflecting its hilly terrain.
- The forest is part of the **Chhotanagpur bio-geographic zone** and forms a natural landscape continuum with forests of Odisha and Chhattisgarh.
- It is home to critically endangered species, including the endemic sal forest tortoise, four-horned antelope, Asian palm civet, and wild elephants.
- It has been inhabited by the **Ho, Munda, Uraon and allied Adivasi communities** whose subsistence and cultural traditions are intrinsically tied to forest produce.
- It also accounts for **26% of India's iron ore reserves**.

14. Caracal

Context: In a significant zoological discovery, the endangered Asiatic Caracal has been observed in the Ramgarh region of Jaisalmer, Rajasthan, marking a rare and noteworthy sighting.

- **About the Caracal:** The Caracal (Caracal caracal) is an **elusive medium-sized wild cat**, sometimes mistakenly called a desert lynx. In India, it is known as **siya gosh**, meaning "black ear." Globally, caracals are found in **Africa, Central Asia, the Middle East, northwestern India, and arid regions of Pakistan**. However, Indian populations have drastically declined to **around 50 individuals**, primarily confined to Rajasthan and Gujarat.
- Their habitats range widely—**semi-deserts, savannahs, shrublands, steppes, forests, and woodlands**—but they **prefer dry, low-rainfall regions**. A notable feature is their **black ear tufts**, which give them their name.
- India's caracal population has dwindled to roughly **50 individuals**, found mainly in **Rajasthan and Gujarat**, indicating these are their natural surviving habitats in the country.
- Although popularly called a "desert lynx," caracals are **not closely related to true lynxes**. They are genetically closer to the **African golden cat and the Serval**.
- Caracals do **not prefer high-rainfall or dense tropical forests**. They prefer **dry habitats with very little rainfall**, such as semi-deserts and arid shrublands.
- The **black ear tufts** are highlighted as a **vital identifying feature** of the species.

15. Tiger safaris

Context: The Supreme Court recently directed that tiger safaris may be set up only on non-forest land or degraded forest land in buffer zones, provided these areas are not part of any tiger corridor.

- The Supreme Court has *prohibited* tiger safaris in **core areas** and **tiger corridors** altogether. Safaris have been permitted only on **non-forest** or **degraded forest land** located in the **buffer zone**, not in core habitats.
- The Court has directed States to classify **human–wildlife conflict (HWC) incidents as natural disasters**, enabling quicker deployment of relief measures and ensuring access to funds under disaster response mechanisms. This is intended to standardise and accelerate compensation, especially in cases of human fatalities.
- The Supreme Court has instructed the **National Tiger Conservation Authority (NTCA)** to prepare **draft HWC mitigation guidelines within six months**, which will then be mandatory for all States to implement. The directive aims to create a uniform national framework to reduce conflict and improve management practices.

16. Leopards

Context: The MoEFCC recently granted approval to the Maharashtra government's proposal for a leopard birth control programme, making it the first such initiative in India.

- Leopards are indeed distributed across **India, Nepal, Bhutan, and parts of Pakistan**, but they are **absent from mangrove forests and deserts**. They prefer forests, grasslands, and scrublands where cover and prey are available, making the inclusion of mangroves and deserts factually wrong.
- Leopards are **primarily nocturnal predators**. They spend most of their resting time on **trees**, using the ground mainly to move between locations or hunt. This arboreal habit distinguishes them from other big cats and helps them avoid competition and threats from larger predators like tigers and lions.
- In India, leopards are protected under **Schedule I of the Wildlife (Protection) Act, 1972**, providing the highest level of legal protection. Globally, the **IUCN Red List** classifies them as

Near Threatened, and they are listed under **CITES Appendix I**, reflecting their conservation importance and vulnerability to threats such as habitat loss and poaching.

17. Ratanmahal Wildlife Sanctuary

Context: A wild tiger has made a return to Gujarat after several decades, establishing a permanent presence in Dahod's Ratanmahal Wildlife Sanctuary.

About Ratanmahal Wildlife Sanctuary

- **Location:** It is located in the state of Gujarat.
- The sanctuary falls on the border of Gujarat with Madhya Pradesh.
- It was declared as a wildlife sanctuary in March 1982.
- It is also known as "Ratanmahal Sloth Bear Sanctuary," due to its highest population of sloth bears in the state.
- **Rivers:** It forms the catchment of river Panam- a major river of Central Gujarat.
- **Vegetation:** It consists of dry teak forests at the foothills and mixed deciduous forests with dry bamboo brakes on the periphery.
- It consists of a high population of 'Mahudo' trees intermixed with pure patches of 'Sadad' and 'Timru' forest on plateaus of the hills.
- **Flora:** Teak, dudhlo, sadad, timru, amla, bamboo, dhavdo, kakadiyo, mahuda, tanach, charoli, ber, jamun, khakhro etc.
- **Fauna:** Leopard, Palm civet, Indian civet, Four-horned antelope, Loten's sunbird, Large green barbet.

18. Global Methane Status Report

Context: The recent Global Methane Status Report 2025 warns that crop-residue burning is turning India into a global methane hotspot.

About Global Methane Status Report

- It is produced by the UN Environment Programme and the Climate and Clean Air Coalition (CCAC).

- It provides updates on global progress on methane mitigation and the remaining work needed to achieve the Global Methane Pledge.

Global Methane Pledge

- **The Global Methane Pledge was launched officially at the UN Climate Change Conference (COP26) held in Glasgow in November 2021, under the leadership of the United States and the European Union.**

Key Objective & Impact

- **The Commitment:** Participating countries agree to work together to collectively reduce global human-caused methane emissions by at least 30% by 2030 (compared to 2020 levels).
- **The Importance:** Methane is a potent short-lived climate pollutant. While it stays in the atmosphere for only about a decade, its warming potential is extremely high-about 84 times greater than carbon dioxide (CO₂) over a 20-year period. Rapidly cutting methane emissions is considered the fastest available lever to slow the rate of global warming and is necessary to keep the goal of limiting warming to 1.5 degree within reach.
- **Potential Benefit:** Achieving the goal of the Pledge could eliminate over 0.2 degree of warming by 2050.

19. Joint Crediting Mechanism

Context: Recently, the Union Minister for Environment, Forest and Climate Change participated in the 11th Joint Crediting Mechanism (JCM) Partner Countries' Meeting.

About Joint Crediting Mechanism

- **It was first proposed by the Government of Japan and was officially launched in 2013.**
- **Aim:** It is a Japanese initiative that aims to facilitate diffusion of leading decarbonizing technologies and infrastructure through investment by Japanese entities and contributes

to sustainable development of partner countries.

- **It's a bilateral mechanism which is being implemented in accordance with Article 6 of the Paris Agreement.**
- The JCM contributes to the achievement of both countries' NDC (Nationally Determined Contribution) by evaluating Japan's contributions in a quantitative manner and acquiring the part of credit.
- It operates under the United Nations Framework Convention on Climate Change (UNFCCC).
- It complements other existing mechanisms, such as the Clean Development Mechanism (CDM) and Joint Implementation (JI).
- **India is one of the 31 partner countries of the Joint Crediting Mechanism.**

Focus Area of Joint Crediting Mechanism

- This mechanism focuses on priority sectors which includes renewable energy with storage, sustainable aviation fuel, compressed biogas, green hydrogen and green ammonia, and in hard-to-abate sectors.

20. Boramdev Wildlife Sanctuary

Context: Poachers have killed two bison recently at the Chilfi East Range of the Boramdev Sanctuary at Kawardha in Chhattisgarh.

About Boramdev Wildlife Sanctuary

- Boramdev Wildlife Sanctuary, also known as Boramdeo Wildlife Sanctuary, is located in the Kawardha district of Chhattisgarh.
- It was notified in the year 2001.
- It is part of the larger Maikal range of the Satpura hills, which is known for its unique ecosystem.
- It is part of the Kanha-Achanakmar Corridor, which connects Kanha National Park in Madhya Pradesh with Achanakmar Wildlife Sanctuary in Chhattisgarh.
- Named after the famous Boramdeo Temple situated nearby, the sanctuary covers an area of approximately 352 sq.km.

- Boramdeo Temple, an ancient temple complex dating back to the 7th to 11th centuries, was built by the Nagvanshi dynasty.
- The temple is dedicated to Lord Shiva and is often referred to as the “Khajuraho of Chhattisgarh,”.
- The sanctuary’s terrain is characterized by undulating hills, dense forests, and numerous streams.
- The region surrounding Boramdev Wildlife Sanctuary is inhabited by various tribal communities, including the Baiga, Gond, and Kanwar tribes.
- **Rivers:** This wildlife sanctuary is the origin of the Fen and Sankari rivers.
- **Vegetation:** The sanctuary’s diverse ecosystem includes tropical moist and dry deciduous forests.
- **Flora:** Lush forests of Saaj, Sal, Tendu, and Nilgiri trees.
- **Fauna:** It is home to a variety of wildlife, including tigers, leopards, sloth bears, and various species of deer and birds.

21. INS Taragiri

Context: INS Taragiri was recently handed over to the Indian Navy at Mumbai’s Mazagon Dock

Shipbuilding Ltd (MDL).

- INS Taragiri is indeed the fourth ship of the Nilgiri-class (Project 17A), built by Mazagon Dock Shipbuilding Ltd (MDL). The ship is designed by the Warship Design Bureau (WDB), which is responsible for designing modern warships for the Indian Navy. It carries forward the legacy of the erstwhile INS Taragiri, a Leander-class frigate.
- The P17A ships, including INS Taragiri, are fitted with a more advanced **weapon and sensor suite** than the earlier Shivalik-class (P17) frigates, featuring improved **stealth, weapon systems, and sensors**.



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SCIENCE AND TECHNOLOGY

1. Alfvén Waves

Context: Researchers have made a major advance in solar physics by capturing the first direct evidence of small-scale torsional Alfvén waves in the Sun's outer atmosphere, known as the corona.

About Alfvén Waves

- Alfvén waves are low-frequency, transverse electromagnetic waves that propagate along the Sun's magnetic field lines.
- It occurs in a plasma (or conducting fluid), resulting from the interaction of the magnetic fields and electric currents within it.
- These waves were first proposed in 1942 by Nobel Prize-winning physicist Hannes Alfvén, are magnetic fluctuations that transfer energy through plasma.
- Larger and more sporadic Alfvén waves linked to solar flares have been detected before.
- **What Researchers have found?**
 - The breakthrough was made possible by the unique capabilities of the Daniel K. Inouye Solar Telescope's Cryogenic Near Infrared Spectropolarimeter (Cryo-NIRSP).
 - This is the first time the subtle, ever-present twisting waves, thought to be powerful enough to heat the corona, have been directly confirmed.
 - The study suggests that Alfvén waves may account for at least half of the energy needed to heat the corona.

2. Dhvani Missile

Context: India's Defence Research and Development Organisation (DRDO) is on the verge of a historic breakthrough with the upcoming test of Dhvani, a cutting-edge hypersonic missile that promises to catapult the nation into an elite club of military superpowers.

About Dhvani Missile

- It is a hypersonic missile being developed by India's Defence Research and Development Organisation (DRDO).
- The Dhvani is being developed as a Hypersonic Glide Vehicle (HGV), a revolutionary weapon system that combines blistering speed with unprecedented manoeuvrability.
 - Unlike conventional cruise missiles that follow predictable flight paths, the Dhvani will be launched to extreme altitudes before gliding toward its target at hypersonic speeds.
 - This unique capability makes it nearly impossible to detect and even harder to intercept, rendering most existing missile defence systems obsolete.
 - It will be capable of striking both land-based and maritime targets with pinpoint precision.
 - It can fly at speeds exceeding Mach 5 or 6, nearly 7,400 km per hour.
- It has estimated ranges between 6,000 to 10,000 kilometres.

3. Nuclear Doctrines by Nuclear Weapon states

Context: U.S. President Donald Trump's announcement about potentially resuming nuclear testing has reignited global debates on arms control, prompting calls for India to re-evaluate its voluntary moratorium on nuclear tests amid a shifting global strategic landscape.

Various Nuclear Doctrines by Nuclear Weapon states:

- **Minimum Credible Deterrent (MCD):** A doctrine adopted by nations like France and the United Kingdom, and formerly by Pakistan, emphasizing a small, but survivable and secure, nuclear force sufficient to inflict unacceptable damage.
- **Credible Minimum Deterrence (CMD):** The declared doctrine of India, which is based on a

No First Use (NFU) pledge and a commitment to massive retaliation only if attacked by nuclear weapons.

- **Full Spectrum Deterrence (FSD):** The current nuclear posture of **Pakistan**, which aims to deter conventional, sub-conventional, and nuclear aggression by employing a range of nuclear weapons, including tactical ones, which implies a potential First Use policy.
- **Deliberate Ambiguity:** The long-standing, unstated policy of **Israel**, which neither confirms nor denies its possession of nuclear weapons, maintaining deterrence through strategic uncertainty.

4. Research, Development and Innovation (RDI) Scheme Fund

Context: PM Modi launched the ₹1 Lakh Crore Research, Development and Innovation (RDI) Scheme Fund while inaugurating the Emerging Science, Technology and Innovation Conclave (ESTIC) 2025 in New Delhi.

About the scheme

- The scheme has an outlay of **Rs 1 lakh crore over 6 years**, with Rs 20,000 crore allocated for FY 2025–26, funded from the Consolidated Fund of India.
- **The Department of Science and Technology (DST) will serve as the nodal department for implementation of the RDI Scheme.**
- **Key objectives** of the Scheme are as follows;
 - **Encourage the private** sector to scale up research, development, and innovation (RDI) in sunrise domains and in other sectors relevant for economic security, strategic purpose, and self-reliance,
 - Finance transformative projects at higher levels of **Technology Readiness Levels (TRL)**,
 - **Support acquisition of technologies** which are critical or of high strategic importance,
 - **Facilitate setting up of a Deep-Tech Fund of Funds.**

- **The Governing Board of Anusandhan National Research Foundation (ANRF), chaired by the Prime Minister, will provide overarching strategic direction to the RDI Scheme.**

5. Monoclonal Antibodies

Context: The Indian Council of Medical Research (ICMR) has invited Expressions of Interest (Eoi) from eligible organisations and manufacturers for the development and production of monoclonal antibodies (mAbs) against Nipah viral disease.

What are Monoclonal Antibodies (mAbs)?

- Monoclonal antibodies are lab-engineered proteins designed to **target specific antigens** (foreign substances like viruses, bacteria, or cancer cells).
- They are derived from a single clone of a **B-cell** and hence are **identical in structure and specificity**.
- mAbs mimic the natural immune response but are **highly specific**, making them powerful tools in treating diseases.

6. Interstellar Comet 3I/ATLAS

Context: Recently, NASA astronomers have confirmed the detection of water's chemical fingerprint on the interstellar comet 3I/ATLAS.

About Interstellar Comet 3I/ATLAS

- It is the third known interstellar object from outside our solar system after 1I/'Oumuamua (2017) and 2I/Borisov (2019).
- It has hyperbolic orbit and travels at 57–68 km/s speed relative to the Sun.
- It will exit the solar system permanently after a brief interaction with the Sun.
- This interstellar comet was first seen by a NASA-supported telescope in Rio Hurtado, Chile, which is part of the ATLAS (Asteroid Terrestrial-impact Last Alert System) survey.

Physical Characteristics of Interstellar Comet 3I/ATLAS

- 3I/ATLAS is confirmed to be an active comet, with a visible coma, a cloud of ice particles and dust surrounding the nucleus.
- As it nears the Sun, it is expected to develop a tail, a characteristic cometary feature formed by solar heating.
- Photometric analysis shows a reddish hue suggests the surface may be rich in complex organic compounds or water ice.
- The nucleus is estimated to be 10–30 km wide.

7. Black Hole Morsels

Context: A new theoretical study proposes that tiny “black hole morsels”, micro-black holes formed in violent cosmic collisions, could produce detectable gamma-ray bursts and offer a rare test of quantum gravity via Hawking radiation.

About Black Hole Morsels:

What they are?

- These are extremely **tiny black holes**, much smaller than the usual ones we hear about — imagine something as **massive as an asteroid**, but squeezed into a point. Because they’re so small, they get **very hot** and shine faintly by giving off energy known as **Hawking radiation**.

Proposed by:

- Scientists **Giacomo Cacciapaglia** and **Francesco Sannino** came up with this idea in a recent study accepted in Nuclear Physics B.

How they form?

- When two huge black holes crash into each other, the collision might “**pinch off**” tiny blobs of space so dense that they become mini-black holes, or “morsels.” These morsels don’t last long - they slowly **evaporate**, disappearing in anything from a **split second to a few years**, depending on their size.

What makes them special?

- Because they’re small, they’re **much hotter** and give off stronger radiation than normal black holes.
- As they vanish, they release **powerful flashes of energy**—bursts of gamma rays that could be seen from Earth.
- These bursts would spread out **in all directions**, unlike normal gamma-ray bursts, which are usually narrow beams.

Why it matters?

- **Detecting one would give scientists a real-world glimpse of quantum gravity — the link between gravity and quantum physics that’s never been observed directly.**
- The team has already looked at telescope data to check for signs of these events — their first step toward testing the theory.
- These tiny black holes could act as “natural cosmic labs,” helping us study the universe at energy levels far beyond what any human-made experiment can reach.

8. Junk DNA

Context: A new study from Duke University School of Medicine has uncovered a surprising role for what was once considered “junk DNA.” Researchers found that these overlooked parts of our genetic code help stem cells sense their surroundings and decide what kind of cells to become during early development.

About Junk DNA:

- **In genetics, the term junk DNA refers to regions of DNA that are noncoding.**
- **DNA contains instructions (coding) that are used to create proteins in the cell.**
- However, the amount of DNA contained inside each cell is vast, and not all of the genetic sequences present within a DNA molecule actually code for a protein.
- Some of this noncoding DNA is used to produce non-coding RNA components such as transfer RNA, regulatory RNA and ribosomal RNA.

- However, other DNA regions are not transcribed into proteins, nor are they used to produce RNA molecules, and their function is unknown. These are known as junk regions of DNA.
- The proportion of coding versus noncoding DNA varies significantly between species.
- In the human genome, for example, almost all (98%) of the DNA is noncoding, while in bacteria, only 2% of the genetic material does not code for anything.
- However, over the years, researchers have found evidence to suggest that junk DNA may provide some form of functional activity.
- Some lines of evidence suggest that fragments of what were originally non-functional DNA have undergone the process of exaptation throughout evolution.
- Exaptation refers to the acquisition of a function through means other than natural selection.

9. Melanin

Context: Melanin tells the tale of how our ancestors survived from the Sun's heavy UV rays 50000 years back.

About Melanin

- Melanin is a natural pigment found in most living organisms.
- It is present in human and animal skin to varying degrees, and is responsible for your unique eye, hair and skin color.
- Melanin is produced within special structures called melanosomes. Melanosomes are found inside melanin-producing pigment cells called melanocytes.
- Human skin pigmentation varies across populations due to evolutionary adaptation to different levels of UV radiation. Patterns of melanin (high or low) reflect ancient migrations, environments, and selection pressures. Hence, melanin distribution is indeed a marker of human evolutionary history.
- Lower melanin levels evolved not due to cold temperatures or ice-age survival, but due to low

UV exposure in northern latitudes, which required more efficient vitamin D synthesis. Temperature or ice conditions had no direct role in selecting for lighter skin.

10. Christmas Island

Context: Google plans to build a large artificial intelligence data centre on Australia's remote Indian Ocean outpost of Christmas Island after signing a cloud deal with the Department of Defence earlier this year.

About Christmas Island

- It is an island in the Indian Ocean.
- It lies about 360 km south of the island of Java and 1,400 km northwest of Australia.
- It is administered as an external territory of Australia.
- The island is the summit of an oceanic mountain whose highest point on the island is Murray Hill, rising to 1,184 feet (361 metres) in the western part of the island.
- The main settlement and chief port is at Flying Fish Cove on the northeastern part of the island.



11. Volcanic Lightning

Context: Volcanoes are incredible but highly dangerous natural phenomena and they also have the power to create lightning.

About Volcanic Lightning

- It is a mysterious and powerful phenomenon that occurs during volcanic eruptions rather than thunderstorms.
- It is in the form of a powerful barrage of lightning which occurs at the early stages of a volcanic eruption.
- **Cause:** The main cause is the collision between ash particles within the volcanic plume.
- The collision and rubbing of these particles together lead to the generation of static electricity, which, in turn, builds up charges and creates flashes of lightning.
- This type of lightning can be found in two places
- At the dense ash clouds located closer to the ground.
- Higher up in the eruption plume where ice particles form (from water vapourised from the magma) and collide, building electric charges and creating lightning visible strikes at higher levels.
- The water content found in volcanic plumes is higher than that in thunderstorms.
- Volcanic lightning occurs during **explosive eruptions**, where ash particles collide, generating **electrostatic charges** and lightning within the ash plume.
- While eruptions may release some water vapour, water vapour clouds are not the primary cause of volcanic lightning. The major cause is charge separation from collisions among ash, dust, and rock particles, not water-vapour-induced clouds.

12. Odd Radio Circles

Context: Citizen scientists from India's RAD@home astronomy group, led by Prof. Ananda Hota of the University of Mumbai, have discovered a rare twin "Odd Radio Circle" (double ORC) using LOFAR telescope data — only the second such known instance globally.

About Odd Radio Circles (ORCs):**What it is?**

- Odd Radio Circles (ORCs) are mysterious, circular astronomical structures visible only in radio wavelengths.

- They are vast rings of radio emission surrounding distant galaxies, thought to arise from powerful shockwaves caused by extreme galactic events such as black hole mergers or massive energy outflows.

Discovered in:

- First identified in **2019** through data from the **Australian Square Kilometre Array Pathfinder (ASKAP)** telescope and later studied using international facilities such as **LOFAR** and India's **Giant Metre wave Radio Telescope (GMRT)**.
- ORCs (Odd Radio Circles) are extremely rare, and a double ORC is even rarer.
- They arise from powerful shockwaves caused by extreme galactic events such as black hole mergers or massive energy outflows. (Although their origin is still debated among scholars.)

13. Ricin

Context: The Gujarat Anti-Terrorism Squad (ATS) foiled an alleged terror plot and arrested men with suspected links to terrorism who were reportedly attempting to produce Ricin chemical

About Ricin

- **Ricin is a highly toxic protein extracted from the castor bean plant (*Ricinus communis*).**
- It blocks protein synthesis in cells, causing multiple organ failure and death within hours of exposure. Even a few milligrams can be fatal.
- **It is listed under Schedule-1 of the Chemical Weapons Convention (CWC)** (because of its high toxicity and potential for weaponization), supervised by the Organisation for the Prohibition of Chemical Weapons (OPCW), as it has no legitimate civilian use.
- There is **no known antidote for Ricin poisoning**.

14. Rift Valley Fever

Context: The World Health Organization (WHO) confirmed an outbreak of Rift Valley Fever (RVF) affecting Mauritania and Senegal in Western Africa.

About Rift Valley Fever (RVF)

- RVF derives its name from Kenya's Rift Valley, where the disease was first recognised in the early 1930s.
- It is caused by a **Phlebovirus** belonging to the **Phenuiviridae** family.
- It primarily affects animals such as sheep, goats, cattle, and camels.
- Humans become infected through close contact with infected animals or by the bite of infected mosquitoes.
- There is **no evidence of human-to-human transmission**.
- Currently, there is **no specific antiviral treatment**.
- The World Health Organization (WHO) confirmed an outbreak of Rift Valley Fever (RVF) affecting Mauritania and Senegal in Western Africa. It has yet not declared RVF a pandemic.
- It primarily affects animals such as sheep, goats, cattle, and camel. Humans become infected through close contact with infected animals or by the bite of infected mosquitoes.

15. RUDRA Brigade

Context: India's RUDRA Brigade led Operation Akhand Prahar in Jaisalmer, demonstrating multi-domain desert warfare readiness with drones, AI surveillance, and indigenous tech.

What is RUDRA Brigade

- The RUDRA Brigade is an all-arms/integrated combat brigade concept within the Indian Army.
- It is not a new separate branch like Army, Navy, Air Force; it's more about a new kind of brigade because it has been designed in a way to combine different combat and support elements under one unified command.
- Such a brigade could act as a self-contained, highly mobile, and flexible force that could rapidly deploy, under operational necessity, to conduct multi-domain operations: infantry, Armor/mechanized, artillery, possibly air defence, reconnaissance, among others.

16. Moon's Sphere of Influence

Context: ISRO confirmed that the Chandrayaan-3 Propulsion Module (PM) re-entered the Moon's Sphere of Influence (MSI) during its high-altitude Earth-bound orbit, undergoing two lunar flybys.

About Moon's Sphere of Influence (MSI):**What it is?**

- The Moon's Sphere of Influence (MSI) is the region around the Moon where its gravitational influence dominates over Earth's for orbital calculations.
- Inside this region, it is mathematically more accurate to treat a spacecraft as orbiting the Moon, with Earth acting as a perturbing body.

Located in:

- The MSI is an **imaginary, approximately spherical (or oblate spheroid) region** surrounding the Moon.
- For the Earth–Moon system, the MSI radius is roughly **~66,000 km** from the Moon's center (approximate, varies with models).
- During translunar flight, mission navigation switches from Earth-centered gravitational models to Moon-centered models after the spacecraft enters the Sphere of Influence (SOI) of the Moon.
- The SOI is the region within which the Moon's gravity dominates over that of the Earth for trajectory calculations.
- Because the spacecraft enters into a region where Moon's gravitational effect becomes dominant, mission control must switch the gravitational reference from Earth to Moon.

17. Hindustan Zinc Ltd

Context: Hindustan Zinc Ltd (HZL) has obtained a new licence authorizing the company to explore and extract tungsten from a designated mining block in the state of Andhra Pradesh.

- Tungsten **never occurs as a pure metal** in nature. It is always found **combined with other chemicals in rocks and minerals**, which makes its extraction more complex. The text clearly states that it is found only in mineral forms, not as native tungsten.
- Tungsten has the **highest melting point of all metals (3410°C)**, the **lowest vapor pressure**, and the **highest tensile strength** at very high temperatures (over 1650°C). These exceptional thermal and mechanical properties ensure that it is **solid at room temperature**.
- Tungsten has been **classified as a Critical Mineral by the Government of India**. This classification is due to its essential industrial applications and the fact that India relies heavily on external sources, as major global production is dominated by a few countries—**China (major producer)**, **Vietnam**, **Russia**, and **North Korea**.
- Tungsten naturally occurs in specific mineral ores, most notably **wolframite** and **scheelite**, which are the primary commercial sources of the element.

18. Mercury and Minamata Disease

Context: Parties to the Minamata Convention have resolved to completely phase out mercury-containing dental amalgam by 2034 as part of global mercury reduction efforts.

- **About Mercury and Minamata Disease:** Mercury is a **highly toxic heavy metal**, especially dangerous in its organic form **methylmercury**, which accumulates in aquatic food chains. Chronic exposure affects the **central nervous system**, leading to severe neurological damage.
- Minamata Disease was first identified in **1950s Japan**, when residents consuming fish from **Minamata Bay** suffered poisoning due to industrial discharge of methylmercury. Symptoms included sensory loss, paralysis, impaired vision, speech difficulties, and in extreme cases, death. It became a global symbol

of industrial pollution and the need for stringent chemical safety standards.

- The Minamata Convention was **adopted in 2013** by 92 countries. India **ratified it in 2018**, five years later—not before its adoption.
- The Minamata Convention is coordinated by the **United Nations Environment Programme (UNEP)**. Its objective is to safeguard **human health and the environment** by reducing mercury emissions, phasing down products containing mercury, and preventing pollution from industrial and waste sources.

19. Ammonium Nitrate

Context: Ammonium nitrate, identified as one of the substances responsible for the recent incident, is drawing serious scrutiny because the same chemical used in the Delhi blast had also been used earlier in the five coordinated Mumbai blasts.

- **About Ammonium Nitrate:** Ammonium nitrate (NH_4NO_3) is a **crystal-like white solid** produced in large industrial quantities. It is a **salt of ammonia (NH_3) and nitric acid (HNO_3)**. Given its **high nitrogen content**, it is widely used as a **fertilizer**. Because it acts as an **oxidizing agent**, it is also used in **commercial explosives**—notably as the primary component in **slurry explosives** for mining. It has a **melting point of 170°C** and is **highly water soluble**.
- Ammonium nitrate is **not explosive by itself**. It requires additional substances such as **fuel oil** to form an explosive mixture (such as ANFO). Even then, it **cannot detonate** without a proper initiator like a **detonator or booster**. Thus, the claim that it can explode without mixing with fuel is wrong.
- When ammonium nitrate is dissolved in water and **heated**, it **decomposes** to release **nitrous oxide (laughing gas)**. This decomposition pathway is specifically mentioned in the text.
- Ammonium nitrate's dual-use nature is reflected in its role in both **agriculture** (as a high-nitrogen fertilizer) and **mining**, where it is the **main**

component of slurry explosives used for blasting operations.

20. Adam Chini Rice

Context: Agricultural researchers at Banaras Hindu University (BHU) have recently made major advancements in enhancing the resilience and productivity of the Adam Chini Rice variety through the use of mutagenesis techniques.

- Adam Chini Rice is an **aromatic black rice variety famous for its rich fragrance, distinctive taste, and unique soft texture** after cooking. Its intermediate amylose content ensures that the grains remain fluffy and separate even after cooling, unlike sticky rice types that clump together.
- It is also a **long-duration crop with a maturity period of about 155 days**, which is characteristic of many traditional indigenous rice varieties. These features, combined with its intermediate alkali digestion value, give it superior culinary qualities.
- Adam Chini Rice is not a high-yielding variety; in fact, it has **relatively low yields of around 20–23 quintals per hectare**, which limits its large-scale commercial cultivation.
- It is also not grown in the Tarai region of Uttarakhand. Instead, its primary cultivation **areas lie in eastern Uttar Pradesh, particularly the districts of Chandauli, Varanasi and the broader Vindhya region**. Furthermore, the rice received its Geographical Indication (GI) tag in 2023, not 2024.
- The crop is recognized not only for its aroma and flavor **but also for its sugar-crystal-like grains**, tall plant height reaching up to 165 cm, and resilience in the form of drought tolerance and disease resistance. These attributes make it a culturally significant and agronomically valuable traditional variety of the region.

21. National Action Plan on Antimicrobial Resistance

Context: The Union Minister recently launched the second edition of the National Action Plan on Antimicrobial Resistance (NAP-AMR) for 2025–29.

- NAP-AMR 2.0 was formulated to address the **gaps identified in the first National Action Plan (2017–2021)** and is fully aligned with the **Global Action Plan on Antimicrobial Resistance (AMR)** by WHO.
- The plan includes **specific action plans for each key stakeholder ministry/department**, with clearly defined **timelines and budget allocations**, allowing for effective monitoring of implementation and measurable progress.
- The plan emphasizes **inter-sectoral coordination** to ensure a unified approach against AMR, strengthening **laboratory capacity and infection control measures in healthcare facilities**, and fostering greater **engagement with the private sector**.
- These strategies aim to improve surveillance, rational use of antimicrobials, and overall governance in combating antimicrobial resistance across human, animal, and environmental sectors.

22. CRISPR

Context: Union Minister of State (Independent Charge) for Science & Technology; Earth Sciences; MoS PMO, Personnel, Public Grievances, Pensions, Atomic Energy and Space, Dr. Jitendra Singh today launched India's first indigenous "CRISPR" based gene therapy for Sickle Cell Disease, which particularly affects India's tribal population. The therapy, named "BIRSA 101" is dedicated to Bhagwan Birsa Munda, whose 150th anniversary was observed few days back and who is remembered as a great tribal freedom fighter.

- CRISPR, which stands for **Clustered Regularly Interspaced Short Palindromic Repeats**, is a

powerful **genome-editing technology**. It uses a **guide RNA** to precisely locate the target DNA sequence and **Cas9 protein**, which acts as **molecular scissors** to cut the DNA.

- This allows scientists to **edit or modify genes** with high precision, and it has applications in treating genetic disorders.
- **Sickle-cell disease (SCD)** is a **hereditary disorder** affecting haemoglobin in red blood cells.
- The mutation causes red blood cells to become **rigid and sickle-shaped**, which can obstruct blood flow and reduce oxygen transport. In India, SCD has a **significant prevalence among tribal populations**, with approximately **1 in 86 births among Scheduled Tribes** affected, highlighting the disease's regional and genetic significance.

23. National Policy for Organ Transportation

Context: The Supreme Court recently stated that a **uniform national policy is essential to establish a consistent and transparent mechanism for organ transplantation across the country.**

- The **Transplantation of Human Organs and Tissues Act (THOTA), 1994**, amended in 2011, forms the **legal basis** for regulating the donation, storage, and transplantation of human organs and tissues in India.
- It governs **consent, allocation, and penalties for illegal organ trade**, ensuring ethical and legal compliance in organ transplantation.
- The **National Organ and Tissue Transplant Organization (NOTTO)** functions under the **Ministry of Health and Family Welfare** and is responsible for **national-level coordination and networking** for organ and tissue procurement, allocation, and distribution.
- The **National Organ Transplant Program (NOTP)** complements NOTTO by establishing **efficient systems for retrieval and transplantation**, particularly emphasizing **deceased donor organ procurement** to expand the availability of organs for patients in need.

24. GAVI the Vaccine Alliance

Context: Gavi, the Vaccine Alliance and UNICEF have announced a new agreement that will make the **R21/Matrix-M malaria vaccines significantly more accessible.**

About GAVI the Vaccine Alliance

- It is an independent **public-private partnership** that was created in **2000** to improve access to new and underused vaccines for children living in the **world's poorest countries.**
- Based in Geneva, Switzerland, Gavi brings together public and private sectors with the shared goal of creating equal access to vaccines for children, wherever they live.
- It brings together developing country and donor governments, the World Health Organization, UNICEF, the World Bank, the vaccine industry, research and technical agencies, civil society organizations, and private philanthropists.
- Gavi's main activities include supporting low- and middle-income countries' access to new and underused vaccines for vulnerable children through financial support, technical expertise, and market-shaping efforts, such as negotiating with manufacturers, to help lower the cost of procuring vaccines.
- By bringing the key stakeholders in global immunisation together around one mission, Gavi combines the technical expertise of the development community with the business know-how of the private sector.

25. Scheme for Manufacturing of Sintered Rare Earth Permanent Magnets

Context: The Union Cabinet has cleared the "Scheme for Manufacturing of Sintered Rare Earth Permanent Magnets (REPMs)" with the objective of ensuring a **stable long-term domestic supply of rare earth magnets** and **minimizing India's reliance on imported magnets.**

- The scheme targets **6,000 MTPA of REPM manufacturing**, but **each selected beneficiary may receive only up to 1,200 MTPA**, not 1,500 MTPA. The capacity will be allocated to **five beneficiaries through global competitive bidding**.
- The scheme provides **sales-linked incentives worth ₹6,450 crore** and **capital subsidy of ₹750 crore**, with a **total outlay of ₹7,280 crore**, which exceeds ₹7,200 crore.
- The scheme supports **end-to-end manufacturing integration**, ensuring the creation of facilities converting **rare earth oxides → metals → alloys → sintered rare earth permanent magnets**, thereby reducing import dependence and securing long-term domestic supply.

26. Indonesia

Context: India and Indonesia are moving significantly closer to finalizing the BrahMos missile deal, as progress at the recent defence dialogue indicates heightened strategic cooperation between the two nations.

Indonesia, being the world's largest archipelagic nation, has **both land and maritime borders** due to its location between the **Indian and Pacific Oceans**, spread across both hemispheres.

- Indonesia and India share a **maritime boundary** in the Andaman Sea region, particularly near **Great Nicobar and Aceh**.
- Indonesia shares a **maritime boundary** with Australia in the **Timor Sea and Arafura Sea**, south of the Indonesian archipelago.
- Thailand does not share a land border but shares a **maritime boundary** with Indonesia in the **Andaman Sea region**.
- Indonesia and Vietnam share a **maritime boundary** in the **South China Sea**.
- Although Cambodia lies near Southeast Asian maritime zones, it **does not share any land or maritime boundary** with Indonesia.



27. International Astronomical Union

Context: Seven Indian names — including Periyar River, Bekal Fort, and Varkala Beach — have been featured in the latest list of planetary geological feature names released by the IAU's Working Group for Planetary System Nomenclature.

- The International Astronomical Union (IAU) was **established in 1919**, not after World War II. Its **headquarters are located in Paris, France**, not Geneva. Moreover, its primary focus is **promoting and safeguarding the science of astronomy**, and not specifically space exploration, which is the mandate of other organisations like NASA or ESA.
- India is indeed a **national member of the IAU**, and its representation is through the **Indian National Science Academy (INSA)**. The IAU currently has **85 National Members**, and India is one of them. Through INSA, Indian astronomers participate in international scientific collaboration, standardization of astronomical nomenclature, and global research initiatives.
- The IAU is also known for its **major scientific contributions**, including defining planetary status (famously leading to Pluto's reclassification), establishing **standard celestial coordinate systems**, and supporting astronomy education and development across the world.

28. Vikram-1

Context: The Prime Minister inaugurated Vikram-1, marking the launch of India's latest privately developed orbital-class rocket.

- Vikram-1 is indeed a **four-stage rocket**, but **only the first three stages use solid-fuel boosters**. The **upper fourth stage uses the liquid-propellant "Raman" engine**, allowing **precise orbital insertion**, unlike a fully solid-fuel configuration.
- Vikram-1 is not designed for **payloads exceeding 500 kg**. It can carry up to **350 kg to Low Earth Orbit (LEO)** and **260 kg to Sun-Synchronous Orbit (SSO)**, making it suitable specifically for **small satellites and rideshare missions**, not heavier payloads.

29. NASA's Mars 2020 Mission

Context: In a major scientific development, NASA's Perseverance rover has detected electrical activity in the Martian atmosphere for the first time.

- Perseverance, part of **NASA's Mars 2020 Mission**, is the first rover to land in an **ancient river delta inside Jezero Crater**. It carries the **MOXIE instrument**, which can generate **oxygen from the carbon dioxide-rich Martian atmosphere**, marking a major milestone in in-situ resource utilization.
- The rover **collects rock and soil samples**, but it **does not return them directly to Earth**. Instead, the samples are **encased in tubes and left on Mars**, to be retrieved and returned to Earth by a **future mission**. This strategy enables a multi-stage sample return process rather than a direct return.

30. Hansa-3 (NG)

Context: The CSIR–National Aerospace Laboratories (NAL), Bengaluru, has recently rolled out the production variant of the indigenously developed Hansa-3 (NG) trainer aircraft.

- Hansa-3 (NG) is India's first **indigenously developed flying trainer aircraft**, designed and developed by **CSIR-National Aerospace Laboratories (CSIR-NAL), Bangalore**, under the aegis of **CSIR**. It serves as a trainer for novice pilots and strengthens India's domestic aerospace capabilities.
- The aircraft is powered by a **Rotax Digital Control Engine** and incorporates advanced features like **Just-In-Time Prepreg (JIPREG) lightweight composite airframe**, a **glass cockpit**, a **bubble canopy** for panoramic visibility, and **electrically operated flaps**, all of which enhance pilot training and aircraft performance.
- The **maximum cruise speed** of Hansa-3 (NG) is **98 knots calibrated airspeed (KCAS)**, and it has an **endurance of 7 hours**.



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GEOGRAPHY AND MAPPING

1. Kunar River

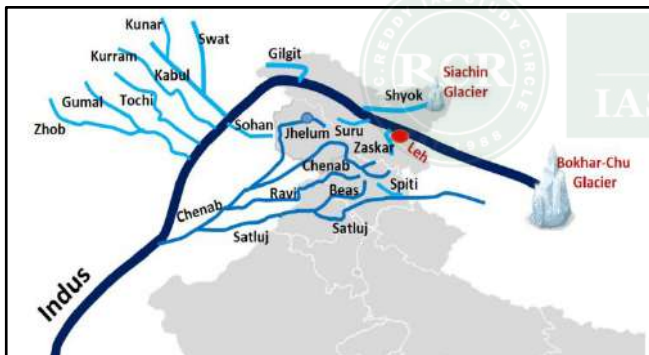
Context: New Delhi recently extended its support to Afghanistan to build a dam over the Kunar River, which it shares with Pakistan, at a time when the two nations are at loggerheads.

Right Bank tributaries of Indus Rivers:

- Kabul River is a major right bank tributary.
- Kurram River is also a right bank tributary, joining Indus near Isa Khel.
- Gomai River is another right bank tributary.

While,

- Kunar River is a tributary of the Kabul River (which later joins Indus), but is not a direct right bank tributary of the Indus itself.



2. Neighbours of Mali

Context: In Bamako's business district, hundreds of cars and motorcycles sit stranded day and night on a boulevard, waiting for one of three side-by-side petrol stations to finally have fuel.

Neighbours of Mali:

- Mali, a large landlocked country in West Africa, shares its borders with seven countries. The neighbouring countries of Mali are:
 - Mauritania to the northwest
 - Algeria to the north and northeast
 - Niger to the east

- Burkina Faso to the southeast
- Côte d'Ivoire (Ivory Coast) to the south
- Guinea to the southwest
- Senegal to the west



3. Atlas Mountains

Context: The UN Security Council voted on 31 October in favor of a resolution backing Morocco's autonomy plan for Western Sahara as the "most feasible" solution for the disputed territory, triggering celebrations in Rabat but angering Algeria.

Morocco:

- The Atlas Mountains are a major mountain range in North Africa that stretches across Morocco, Algeria, and Tunisia.
- The Moroccan portion includes the **High Atlas** (which contains Jbel Toubkal, the highest peak in North Africa), the **Middle Atlas**, and the **Anti-Atlas** ranges.

- **Casablanca is the largest city and the economic capital of Morocco. It is an integral and fully sovereign part of the Kingdom of Morocco.**
- The only **European enclaves** enclosed by Morocco are the Spanish autonomous cities of **Ceuta** and **Melilla** (and a few smaller Spanish-controlled islands).



4. Gogabeel Lake

Context: India's one more wetland, Gogabeel Lake in Katihar district of Bihar, has got a tag of international importance as a Ramsar site.

About Gogabeel Lake

- **Location:** It is a part of trans-Gangetic plains of land located in the state of Bihar.
- Gogabil lake is an 'ox-bow' type of wetland.
- It is flanked by the river Mahananda to the North-East and the river Ganga to the South.
- It was declared Bihar's first 'Community Reserve'.
- Local cultural traditional festivals like Sirva, Adra, Chhat are observed in this wetland.
- **Flora and Fauna of Gogabeel Lake**
 - **Flora:** These natural landscapes consist of tropical dry deciduous forests.
 - **Fauna:** It provides wintering habitat to several migratory bird species and species of global conservation significance.

- It is home to the Smooth Coated Otter (*Lutrogale perspici lata*) and Helicopter Catfish (*Walogattu*).
- It serves as a breeding ground for Vulnerable fish species *Walogattu*.

5. Negros Island

Context: An earthquake measuring 5.8 in magnitude struck Negros Island, Philippines, recently.

About Negros Island

- It is one of the Visayan Islands, central Philippines.
- It is the fourth largest and third most populous island in the Philippines.
- It is a boot-shaped island that is 217 km long and 35 to 79 km wide.
- It is separated from the island of Panay to the northwest by the Guimaras Strait and from Cebu Island to the east by the Tanon Strait.
- The island is bordered on the north and south by the Visayan and Sulu seas, respectively.
- A central mountain range runs through the entire island and is deeply dissected by erosion.
- The range contains Mount Canlaon, an active volcano that at 8,086 feet (2,465 metres) is the highest point in Negros.
- This island has a rugged mountain interior, underwater coral gardens, and beautiful beaches.
- The island's major rivers are the Binalbagan, Ilog, Tolong, and Tanjay.
- It is famed for its rich marine biodiversity and as the nation's "Sugar Capital."



6. Maldives

Context: The Maldives has become the first country worldwide to impose a historic generational ban on tobacco and vaping.

- Vilufushi island is not the biggest island in the Maldives. The largest natural island is Gan Island in the Laamu Atoll, not Vilufushi. Vilufushi is relatively small compared to Gan Island and other larger islands like Fuvahmulah or Hithadhoo.
- The Equator does not pass through Male, the capital of Maldives. Male is located north of the Equator, whereas some southern islands like those in Addu Atoll lie just south of the Equator.



7. Iraq

Context: Iraq will hold parliamentary elections on November 11, with analysts saying Iran will be watching closely as it hopes to retain influence over its neighbour after losing regional leverage during the Gaza war.

- Iraq has a small coastline along the Persian Gulf. Specifically, Iraq's coastline is about 58 km (36 miles) long, making it the shortest coastline among the Persian Gulf countries. The main

coastal area is around the port city of Umm Qasr, and Iraq's coastline is considered strategically important despite its small size.

- The Tigris River originates not directly inside Iraq but from the Taurus Mountains in Turkey, flowing into Iraq. However, several tributaries of the Tigris originate from the Zagros Mountain range in Iran, and these tributaries contribute to the river flow within Iraq. Thus, part of the Tigris basin's water supply comes from the Zagros Mountains.



8. Greece

Context: In a country where many think nothing of dumping used appliances, old furniture and even toilets on the street with their garbage, the municipality of North Corfu has launched a programme that has residents sort their waste into more than a dozen bins.

Neighbours of Greece:

- Macedonia
- Turkey
- Bulgaria
- Albania



9. Myanmar

Context: Recent raids on one of Myanmar's most notorious Internet scam hubs sparked a recruitment rush as fleeing workers scrambled to enlist at nearby fraud factories, experts and insiders said.

- While the Shan Plateau is rich in minerals, its most notable and historically famous resources are precious and semi-precious stones (especially rubies and sapphires), along with large deposits of silver, lead, and zinc.
- The Irrawaddy River flows almost entirely from north to south, passing through the central plains of Myanmar and emptying into the Andaman Sea. Its source is well north of the Tropic of Cancer, and it does not cross the line twice.

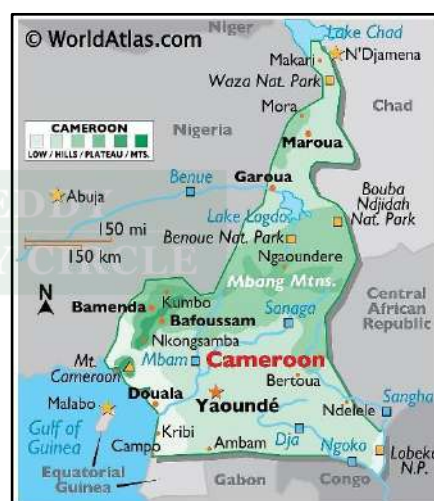


10. Cameroon

Context: Cameroon's security forces killed 48 civilians as they responded to protests against the re-election of President Paul Biya, according to data shared by two UN sources. The majority of the victims were killed by live rounds although several died from wounds sustained when they were beaten with batons, they added.

Neighbours of Cameroon:

- The countries that border Cameroon are Nigeria to the west and northwest, Chad to the northeast, the Central African Republic to the east, Equatorial Guinea, Gabon, and the Republic of the Congo to the south and southeast.



11. Ethiopia

Context: Ethiopia has announced plans to adopt India's Deendayal Antyodaya Yojana – National Rural Livelihoods Mission (DAY-NRLM) model to tackle rural poverty and promote women's empowerment.

- Ethiopia is a landlocked country and does not have any coastline along the Gulf of Aden or any other sea. The country lost its access to the Red Sea in 1993 after Eritrea became independent.
- The Afar Depression (also called the Afar Triangle) is located in the northeast of Ethiopia

and stretches into Djibouti and Eritrea, while the Ogaden Desert (Ogaden Plateau) is situated in the southeast of Ethiopia. These are distinct geographical regions and the Afar Depression is not an extension of the Ogaden Desert.



12. Kazakhstan

Context: The US President confirmed Kazakhstan has formally joined the Abraham Accords.

Neighbours of Kazakhstan:

Kazakhstan shares land borders with 5 countries:

- Russia
- China
- Kyrgyzstan
- Uzbekistan
- Turkmenistan



13. Peru

Context: Recently, the 9th round of India-Peru trade agreement was successfully concluded in Peru.

About Peru

- **Location:** It is situated just to the south of the Equator in South America.
- It is the third largest country in South America, after Brazil and Argentina.
- **Bordering Countries:** Ecuador (North), Brazil (East), Bolivia (Southeast) and Chile (South)
- **Bordering Ocean:** Its western border lies along the Pacific Ocean.
- **Capital City:** Lima.
- Peru does not share any land border with Venezuela.
- Lake Titicaca is shared by Peru and Bolivia only, not Argentina.



14. Denmark

Context: Recently, Denmark's government announced a political agreement to ban access to social media for anyone aged under 15.

About Denmark

- **Location:** It is located in north central Europe and it is part of the Scandinavian countries.

- It also encompasses the Faroe Islands and the island of Greenland, both located in the North Atlantic Ocean.
- **Bordering Country:** It shares a land border with Germany in the south.
- **Water bodies:** It is surrounded by bodies of water including the Baltic Sea, North Sea, Kattegat Bay and Kiel Bay.
- **Capital City:** Copenhagen.



15. Tanzania

Context: Tanzania charged more than 200 people with treason, a lawyer and judicial sources said, with the Opposition saying on November 8 yet another of their leaders had been arrested.

- The Equator (0° latitude) passes through the northern part of Africa, running through countries like Gabon, Republic of the Congo, Democratic Republic of the Congo, Uganda, Kenya, and Somalia. The Equator does not pass through Tanzania. Tanzania lies entirely to the south of the Equator.

- Rwanda is located north of Tanzania. The border between Tanzania and Rwanda is primarily marked by the Kagera River and a land boundary, not Lake Tanganyika. Lake Tanganyika's northern tip is significantly south of the Rwanda border.



16. Indonesia

Context: Indonesian police seized explosive powder and writings from the home of a 17-year-old suspect in an attack on a mosque at a high school that injured scores of students, and are investigating his possible links to hate groups, officials said on November 8.

- The Equator (0° latitude) passes through several Indonesian islands, including Borneo (where the Indonesian part is called Kalimantan), Sumatra, Sulawesi, and Halmahera.
- The Makassar Strait is located entirely within Indonesia. It separates the Indonesian islands of Borneo (Kalimantan) to the west and Sulawesi (Celebes) to the east.



17. Angola

Context: Recently, the President of India is on a four-day state visit to Angola, the first by an Indian President.

About Angola

- **Location:** It is located on the southwestern Atlantic Coast of Africa.
- **Bordering Countries:** It is bordered by the Republic of the Congo (Northwest), Democratic Republic of the Congo (North & Northeast), Zambia (Southeast) and Namibia (South)
- **Maritime Boundary:** It shares a border with the Atlantic Ocean.
- **Capital City:** Luanda.



18. Lake Volta

Context: The task force's 14 members call themselves the Jema Anti-Galamsey Advocacy, and their arrests of suspected illegal miners have sparked debate in Ghana's Western North region over their potential abuse of power.

- Lake Volta (one of the world's largest artificial lakes) is in Ghana, and the Volta River system (Black Volta, White Volta, and Red Volta) flows through Ghana.
- Ghana does not enclose Togo. Togo is an independent country to the east of Ghana, bordering Benin to the east and Burkina Faso to the north. It is not landlocked and has a coastline on the Gulf of Guinea.



19. Lake Turkana

Context: A drying climate in East Africa reduced the amount of water in Kenya's Lake Turkana over thousands of years, which unleashed earthquakes and volcanoes from underneath it.

About Lake Turkana

- Lake Turkana, formerly Lake Rudolf, is a vast, shallow lake located in the arid part of northern Kenya, with its northern end extending into Ethiopia.
- It lies along the Eastern Rift Valley, separated from Lake Logipi on the south by a group of young volcanoes known as the Barriers.
- The three main rivers flowing into the lake are Omo, Kerio, and Turkwel, with the Omo River contributing about 90% of the inflow annually.

	Lakes	Countries
1	Lake Mead	USA
2	Lake Poopó	Bolivia
3	Lake Urmia	Iran
4	Mumbai	Ethiopia, Kenya

20. Red River

Context: Severe coastal erosion caused by Typhoon Kalmaegi exposed a centuries-old shipwreck in Vietnam, providing a narrow window to salvage what, experts say, could be a historically significant find.

- The Red River (or Song Hong/Yuan Chiang) originates in Yunnan province, China, in the mountains south of Dali. It flows southeast, entering Vietnam at Lào Cai province, before continuing through northern Vietnam and emptying into the Gulf of Tonkin.
- The Tropic of Cancer is a line of latitude located at approximately 23° 26' N. It passes through the northernmost part of Vietnam, specifically through the northern provinces near the border with China. The Mekong River flows through Southern Vietnam, forming the large Mekong Delta before emptying into the South China Sea. All of the Mekong River's course in Vietnam is located significantly south of the Tropic of Cancer.

**21. Oman**

Context: Oman has been elected as a member of the UNESCO Man and the Biosphere (MAB) Council for the 2025–2029 term during the 43rd UNESCO General Conference in Samarkand.

- The Tropic of Cancer passes through Oman, UAE, and Saudi Arabia on the Arabian Peninsula.
- Masirah Island belongs fully to Oman. There is no dispute between Oman and Iran over Masirah.



22. Georgia

Context: A Turkish military cargo plane carrying 20 passengers and crew crashed in Georgia on its way home from Azerbaijan, the Defence Ministry said on November 11.

Neighbours of Georgia:

- The country of Georgia (in the Caucasus region) is bordered by four neighbouring countries:
 - Russia to the north and northeast.
 - Azerbaijan to the east and southeast.
 - Armenia to the south.
 - Turkey to the south.
- Georgia also has a coastline on the Black Sea to the west.



23. Penganga River

Context: Four women and three children trapped for almost two hours in the gushing water of the Penganga River, near the famous Sahastrakund waterfall, were rescued recently.

About Penganga River

- The Painganga River (also known as the Penganga River) is the chief river of the Yavatmal district in Maharashtra state.
- It is a major tributary of the Wardha River, the other major river in the district.

Origin:

- It originates in the Ajantha ranges in Aurangabad district in Maharashtra.
- It then flows through Buldhana & Washim District & flows through the border of Washim & Hingoli District.
- Then it acts as a boundary between Yavatmal and Nanded districts of Maharashtra.
- The river flows along the State border between Maharashtra and Telangana before converging into Wardha river.
- The Wardha River flows into the Wain Ganga River to form the Pranhita River, which finally joins the Godavari River, which empties into the Bay of Bengal.

Godavari River:

- The Godavari River, often called the Dakshina Ganga (Ganges of the South), has several major tributaries.
- Right Bank Tributaries:** The most significant right bank tributaries that join the Godavari are the Pravara, the Purna, and the Manjira. The Maner River is also a right bank tributary.
- Left Bank Tributaries:** The major left bank tributaries are the Penganga, Wardha, and Wainganga (which combine to form the Pranhita), the Indravati, and the Sabari.

24. Gulf of Fonseca

Context: Venezuelan migrants sent by the United States to El Salvador were "tortured," subjected to sexual violence and other abuses in the mega-prison where they were held for four months, human rights groups have alleged.

- The only country from Central America that does not border the Atlantic Ocean, or the Caribbean

Sea, is El Salvador. It has only one coastline, entirely on the Pacific Ocean.

- The Gulf of Fonseca is a shared body of water bordered by three countries: El Salvador, Honduras, and Nicaragua. Thus, it indeed lies between El Salvador and Nicaragua, with Honduras sharing the gulf.



25. Uturuncu Volcano

Context: A team recently mapped the inside of Bolivia's Uturuncu volcano and found that its strange surface motions come from hot fluids and gases moving below the crater, not rising magma ready to erupt.

About Uturuncu Volcano

- It is a large dormant volcano located in southwestern Bolivia, within the Andes Mountains.
- It is a stratovolcano dominated by dacitic lava domes and flows.
- Elevation:** About 6,008 meters (19,711 feet) above sea level; it is the tallest mountain in the southern part of Bolivia.

- 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.
- 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.
- Uturuncu is known as a "zombie" volcano because of its ongoing but non-eruptive activity.
- The "zombie"-like unrest of Uturuncu is due to the movement of liquid and gas beneath the crater, with a low likelihood of an imminent eruption.**
- The volcano currently experiences hundreds of small earthquakes per year.

26. Lake Turkana

Context: A new Nature Scientific Reports study found that falling water levels in East Africa's Lake Turkana over the past 6,000 years accelerated earthquake activity.

About Lake Turkana:

- What it is?**
 - Lake Turkana is the world's largest permanent desert lake and the fourth-largest of Africa's Great Rift Valley lakes, known for its unique jade-green waters and active tectonic setting.
- Located in:** Located mainly in northern Kenya, with its northern tip extending into southern Ethiopia, situated in the eastern arm of the East African Rift System.

	Lakes	Shared Between
1	Lake Titicaca	Peru and Bolivia
2	Lake Geneva	Switzerland and France
3	Lake Turkana	Kenya and Ethiopia
4	Lake Erie	Canada and United States

27. Siliguri Corridor

Context: Amid evolving regional developments after the regime change in Bangladesh and rising worries about China's expanding footprint near the sensitive Siliguri Corridor, the Indian Army has strengthened its eastern front by setting up three additional garrison bases in the region.

- The Siliguri Corridor lies approximately **130 km** from China's **Chumbi Valley**, where the India–China–Bhutan tri-junction lies. This close proximity makes the corridor highly sensitive to military developments in the region.
- Nepal lies to the **west** of the Siliguri region, but **Bangladesh lies to the south and southeast**, not to the west. Therefore, both are not on the west of the corridor.
- The Siliguri Corridor does **not** separate Bhutan from Bangladesh.
In fact, Bhutan lies to the **north**, while Bangladesh lies to the **south** of the corridor. The corridor lies *between* the two, but they do not share a boundary that is being separated by it.
- Kalimpong district**, located north of the corridor and south of the Doklam–Chumbi Valley region, acts as an important **strategic buffer zone**. Its high terrain and location between the corridor and the China–Bhutan border enhances India's defence depth.



28. Venezuela

Context: Venezuela recently expressed keen interest in enhancing cooperation with India in the critical minerals sector and attracting investments, the Commerce Ministry said.

- Venezuela is situated on the **northern coast of South America**, sharing land borders with **Guyana to the east, Brazil to the south, and Colombia to the southwest and west**. Its northern boundary meets the **Caribbean Sea** and extends into the **Atlantic Ocean**, giving it strategic maritime access.
- The country's **terrain varies significantly**. The **Andes Mountains** and **Maracaibo Lowlands** occupy the northwest region, the **central plains (llanos)** form the heart of the country, and the **Guiana Highlands** dominate the southeast. These distinct geographic regions influence climate, biodiversity, and human settlement patterns.
- Venezuela's **highest peak is Pico Bolivar**, located in the Andes. It also hosts **Angel Falls**, the **world's tallest waterfall**, situated in the Guiana Highlands, making the country unique for both mountainous and highland topography as well as significant hydrological landmarks.



29. Chile

Context: Former Chilean President Michelle Bachelet was recently awarded the Indira Gandhi Peace Prize for 2024.

- Chile is a **long, narrow country in South America**. It shares **land borders with Peru and Bolivia to the north and Argentina to the east**. These are the only countries that share land

boundaries with Chile, while its western edge meets the Pacific Ocean.



- Chile's western boundary is entirely along the **Pacific Ocean**, and it **does not share land borders with Brazil, Ecuador, or Colombia**, which are located elsewhere in South America. This makes Chile's geopolitical boundary unique, with a limited number of land neighbors.

Chile's terrain is structured into **three parallel north-south units**. The **Andes Mountains** run along the eastern border, the **longitudinal valley** forms an intermediate depression in the center, and the **coastal ranges** lie along the Pacific coast. This geography influences its climate, agriculture, and settlement patterns.

30. Volcanoes

Context: A volcano on Indonesia's main island of Java erupted recently, throwing ash and gas kilometres into the sky and forcing officials to raise the alert status to its highest level.

	Volcanoes	Locations
1	Semeru	Indonesia
2	Sakurajima	Japan
3	Nyamulagira	Democratic Republic of Congo
4	Kanlaon	Philippines

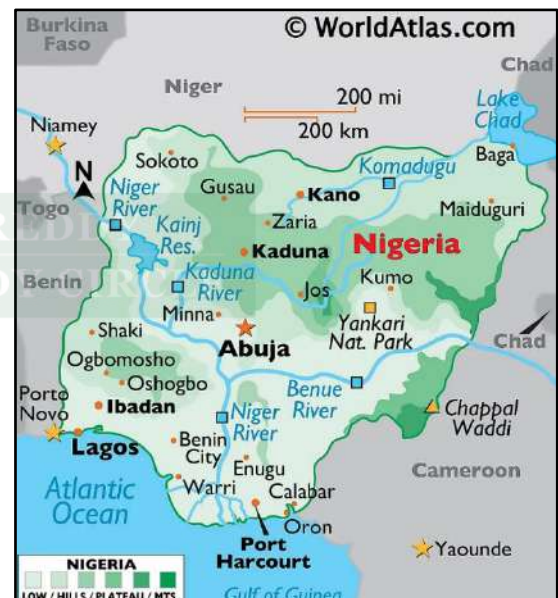
31. Nigeria

Context: Gunmen have kidnapped more than 300 students and teachers in one of the largest mass kidnappings in Nigeria, a Christian group said on Saturday, as security fears mounted in Africa's most populous nation.

Neighbors of Nigeria:

Nigeria shares land borders with four countries in West and Central Africa:

- Benin** to the west.
- Niger** to the north.
- Chad** to the northeast (primarily across Lake Chad).
- Cameroon** to the east.



32. Yemen

Context: A court operating under Yemen's Houthi militants on November 22 sentenced 17 people to death for spying on behalf of Israel, the United States and Saudi Arabia, local media said.

- The Tropics of Cancer passes through countries like Saudi Arabia, the UAE, and Oman on the Arabian Peninsula. Yemen lies entirely south of the Tropic of Cancer. Its northern border is significantly south of this latitude line.

- The Socotra island belongs to Yemen. It is located in the Arabian Sea (part of the Indian Ocean), near the Gulf of Aden and the Guardafui Channel. The Red Sea is the body of water to the west of mainland Yemen. Socotra is located far to the southeast of the mainland.



33. Bosnia and Herzegovina

Context: Voters in Bosnia's Serb Republic voted in the snap election on November 23, after the former President Milorad Dodik was stripped of office.

Neighbours of Bosnia and Herzegovina

- The neighbours of Bosnia and Herzegovina are **Croatia** to the north and west, **Serbia** to the east, and **Montenegro** to the southeast.
- It also has a very short coastline on the Adriatic Sea.



34. Slovenia

Context: Researchers from Poland, the United States, and Slovenia recently worked out exact equations for stalagmite shapes, then checked them on real cave specimens from Postojna Cave in Slovenia.

Neighbors of Slovenia:

- The neighbors of Slovenia are:
 - Italy to the west.
 - Austria to the north.
 - Hungary to the northeast.
 - Croatia to the south and southeast.



35. Hayli Gubbi Volcano

Context: Recently, the Hayli Gubbi volcano erupted for the first time after 10,000 years.

About Hayli Gubbi Volcano

- Location:** It is located in Ethiopia's Afar region about 800km northeast of Addis Ababa near the Eritrean border.
- It is a shield volcano that sits within Ethiopia's Danakil Depression, one of the hottest and most remote areas on the planet.
- It is the southernmost volcano in the Erta Ale range.

- The Erta Ale range is known for its persistent lava lakes and is primarily made up of shield volcanoes.
- Hayli Gubbi has no previously recorded eruptions in modern history.

36. Fujiwhara Effect

Context: Two potential cyclonic storms are forming in the Bay of Bengal, with global forecast models indicating a possible Fujiwhara interaction between them.

About Fujiwhara Effect:

What is the Fujiwhara Effect?

- A rare meteorological phenomenon where two nearby cyclonic systems begin to rotate around a common centre due to interaction of their wind circulations.
- Identified by Sakuhei Fujiwhara (1921), it occurs mostly in the tropical cyclone belt when storms are within ~1,400 km of each other.

Factors Aiding Its Occurrence:

- **Proximity of two cyclones** within a threshold distance (typically <1400 km in the Indian Ocean).
- **Similar rotational direction** (counter-clockwise in the Northern Hemisphere).
- **Favourable sea surface temperatures** >26°C supporting sustained convection.
- **Low vertical wind shear** allowing stable cyclone structure.
- The Fujiwhara effect is the mutual rotation of two cyclonic vortices. The interaction can have several outcomes: orbiting around a common center, one system being ejected, or the two systems spiraling inward and merging into a single, larger, and often more powerful cyclone.
- In most observed Fujiwhara effect events, the two interacting cyclones are not of the same size and strength. It is the storm with considerably larger mass and angular momentum-the strong system-that determines the motion. The weaker

storm orbits the stronger one, and the gradient in the momentum/vorticity fields is the physical mechanism that causes the smaller, weaker system to be drawn into and eventually be absorbed by the stronger vortex, effectively merging.

37. India–Slovenia Joint Trade Committee

Context: The India–Slovenia Joint Trade Committee convened to evaluate and discuss the progress of their bilateral trade cooperation.

- On a European map, Slovenia is located in **Central Europe**, and its northern boundary touches **Austria**, while its northeastern boundary touches **Hungary**. **Italy** lies fully to its **west**, and this spatial arrangement is accurately represented in the statement.
- Slovenia has a short maritime boundary along the **Adriatic Sea**, which is a northern extension of the **Mediterranean Sea**. Therefore, Slovenia's coastline is indeed part of the wider Mediterranean basin. Both statements align with Slovenia's geographical position and its land and maritime boundaries.



38. Anamudi

Context: Seven Indian names — including Periyar River, Bekal Fort, and Varkala Beach — have been featured in the latest list of planetary geological feature names released by the IAU's Working Group for Planetary System Nomenclature.

- **Anamudi**, located in the **Western Ghats**, is the **highest peak in Kerala at 2,695 m**, and **Ponmudi Hill**, with an elevation of **1,100 m**, is one of the smaller notable hills.
- While Kerala's major rivers include **Periyar, Bharathapuzha, Pamba, and Manjeswaram Puzha**, the **longest river in the state is Periyar (~244 km)**, not Bharathapuzha.
- Kerala's **coastal plains and backwaters lie at sea level**, and the state is **famous for its tropical forests, biodiversity, and spice cultivation**, accurately reflecting its physical and ecological characteristics.

39. Seismic Zonation Map

Context: India has introduced an updated Seismic Zonation Map as part of the revised Earthquake Design Code (BIS, 2025), incorporating factors such as geological faults, maximum probable seismic events, attenuation patterns, tectonic features, and lithology.

- The revised Seismic Zonation Map under BIS 2025 introduces a new **Zone VI**, the **highest-risk**

category. The **entire Himalayan arc** is now included in Zone VI, whereas previously it was split between Zones IV and V. This reflects the high seismic vulnerability of the region based on **fault lines, maximum likely events, tectonics, and lithology**.

- The revised map gives priority to **geological and seismic factors** over administrative boundaries. Towns lying at the borders of zones are now automatically assigned to the **higher-risk category** to ensure safer structural design standards.
- The number of zones has not been reduced; instead, a new **Zone VI** has been added. The previous four-zone system (Zones II, III, IV, and V) has been expanded to five zones, not reduced to three.



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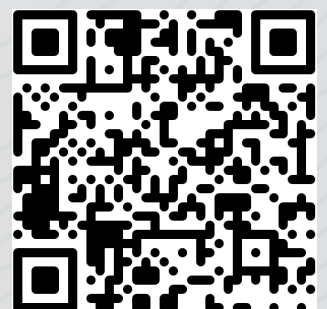
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ART AND CULTURE

1. UNESCO Creative Cities Network

Context: Recently, Lucknow has officially joined the UNESCO Creative Cities Network (UCCN) under the Gastronomy category during the 43rd Session of the UNESCO General Conference.

About UNESCO Creative Cities Network

- It was created in 2004 to promote cooperation among cities that have identified creativity as a strategic factor for sustainable urban development.
- It was launched to promote UNESCO's goals of cultural diversity and strengthen resilience to threats such as climate change, rising inequality, and rapid urbanisation.
- The network covers seven creative fields: crafts and folk arts, media arts, film, design, gastronomy, literature and music.
- Aim of UCCN: The network is aimed at leveraging the creative, social, and economic potential of cultural industries.
- Indian Cities in the UCCN: Kozhikode (Literature) and Gwalior (Music) Jaipur (Crafts and Folk Arts), Varanasi (Music), Chennai (Music), Mumbai (Film), Hyderabad (Gastronomy), Lucknow (Gastronomy), and Srinagar (Crafts and Folk Arts).

	Cities	Categories
1	Kozhikode	Literature
2	Varanasi	Music
3	Lucknow	Gastronomy
4	Mumbai	Film

2. Baliyatra

Context: The President extends greetings on the occasion of the historic 'Baliyatra' festival to the people of Odisha.

About

- Baliyatra is an annual festival celebrated in coastal Odisha on the day of Kartika Purnima, commemorating the ancient maritime trade and cultural links between Odisha (ancient Kalinga) and Southeast Asian countries like Bali, Java, and Sumatra.
- The festival is associated with the legend of 'Taapoi' and includes rituals such as 'Bhalukuni Osha' (or 'Khudurukuni Osha') and 'Bada Osha'.
- During Baliyatra, people traditionally float miniature boats with lamps on the Mahanadi River, symbolizing the sea voyages made by their ancestors.

	Festivals	States/UTs
1	Teppa Utsavam	Andhra Pradesh
2	Karanja Festival	Karnataka
3	Hiyang Tannaba	Manipur
4	Baliyatra Festival	Odisha

3. Dogri Language

Context: In recent years, growing concern has emerged over the gradual decline of the Dogri language in the Jammu region.

About Dogri Language

- It is an Indo-Aryan language, part of the larger Indo-European family of languages.
- It is spoken in India, chiefly in the Jammu region of Jammu and Kashmir.
- It is also spoken in the state of Himachal Pradesh and in northern Punjab, other parts of Jammu and Kashmir, and elsewhere.
- The earliest written reference to Dogri (using the paleonym Duggar) is found in the Nuh sipihr ("The Nine Heavens"), written by the poet Amir Khosrow in 1317 CE.
- It has its origin in the old Indo-Aryan language, i.e., language of the Vedas and Laukik Sanskrit.

- Like other modern Indo-Aryan languages, Dogri has also passed through Old Indo-Aryan (Sanskrit) and Middle Indo-Aryan (Pali, Prakrit, and Apabhramsha) stages of development and entered the modern Indo-Aryan stage around the 10th century A.D.
- Hence, it shows its three-fold process of development of its sound structure, expressing its affinity with Shaurseni Prakrit.
- Initially written in the Takri script, Dogri now uses the Devanagari script, which is also utilized by several other Indian languages.

4. Ambaji Marble

Context: Recently, the Ambaji Marble has been awarded the Geographical Indication (GI) tag for its high-quality white stone.

About Ambaji Marble

- It is named after the town of Ambaji in the state of Gujarat, where it is predominantly quarried.
- It is a type of marble known for its milky white colour, durability and natural beauty.

Features of Ambaji Marble

- **Appearance:** It is characterized by its pristine white color, which often features subtle gray or beige veining.
- The veins can vary in intensity and they occur naturally due to the presence of minerals and impurities during the marble formation process.
- **Durability:** It has very long-lasting shine and durability.
- **Applications of Ambaji Marble:** It has been used in the construction of Ambaji temple and many other religious places, memorials and grand buildings.

	Items/Products	States/UTs
1	Kannadippaya	Kerala
2	Panruti Cashew	Tamil Nadu
3	Borsuri Tur Dal	Maharashtra
4	Ambaji Marble	Gujarat

5. Guru Tegh Bahadur

Context: The Sikh community in Maharashtra will commemorate the 350th martyrdom anniversary of Guru Tegh Bahadur through a series of year-long events.

- Guru Tegh Bahadur was born in Amritsar, Punjab, in 1621 and was the youngest son of Guru Hargobind Ji, the sixth Sikh Guru. He became the ninth Sikh Guru and is remembered as a spiritual leader, warrior, and defender of the oppressed.
- Guru Tegh Bahadur founded the town of Chak Nanki in Punjab, which later expanded into the city of Shri Anandpur Sahib, a significant center for Sikhism. He was also bestowed the honorific title 'Hind Di Chadar', reflecting his role as a protector of Hindu religious freedoms during Mughal rule.
- His teachings and hymns, included in the Guru Granth Sahib, stress equality, peace, courage, and religious freedom. He actively opposed superstitions, caste-based discrimination, and untouchability, advocating universal brotherhood and justice.

6. Brihadeeswarar Temple

Context: Marking World Heritage Week, the Archaeological Survey of India (ASI) organised a heritage walk and clean-up drive at the Brihadeeswarar Temple (Big Temple) in Thanjavur recently.

About Brihadeeswarar Temple

- It is a Hindu temple dedicated to Shiva located in Thanjavur, Tamil Nadu.
- It is also known as Periya Kovil, RajaRajeswara Temple and Rajarajesvaram.
- It is one of the largest temples in India and is an example of Dravidian architecture during the Chola period.

- It was built by emperor Raja Raja Chola I and completed in 1010 AD.
- It is part of the UNESCO World Heritage Site known as the “Great Living Chola Temples”, with the other two being the Brihadeeswarar Temple, Gangaikonda Cholapuram and Airavatesvara temple.

Brihadeeswarar Temple Architecture

- The temple stands amidst fortified walls that were probably added in the 16th century.
- ‘The vimanam (temple tower) is 216 ft (66 m) high and is the tallest in the world.
- The Kumbam (the apex or the bulbous structure on the top) of the temple is carved out of a single rock and weighs around 80 tons.
- The temple complex spans over 40 acres and is decorated with masses of sculptures and inscriptions that spotlight the era's devotion and craftsmanship.
- There is a big statue of Nandi (sacred bull), carved out of a single rock measuring about 16 ft (4.9 m) long and 13 ft (4.0 m) high at the entrance.
- The entire temple structure is made out of granite.

7. G.V. Mavalankar

Context: The Speaker of the Lok Sabha offered floral tributes to Ganesh Vasudev Mavalankar, acknowledging his legacy as the first Speaker of the Lok Sabha.

- G.V. Mavalankar was affectionately known as “**Dadasaheb**” and is widely regarded as the **first Speaker of the Lok Sabha** in independent India. In recognition of his towering contribution to the evolution of **parliamentary democracy** and the functioning of the **lower house**, he was referred to as the “**Father of the Lok Sabha**”.
- This title was **conferred by Jawaharlal Nehru**, India's first **Prime Minister**, who deeply appreciated Mavalankar's role in shaping the conventions, procedures and dignity of the

House. Nehru acknowledged that under Mavalankar's stewardship, the nascent Parliament learned to conduct itself with discipline, decorum and constitutional responsibility.

- G.V. Mavalankar had earlier served as **Speaker of the Bombay Legislative Assembly (1937–1946)**, then as **President of the Central Legislative Assembly (1946)**, and later became **Speaker of the Provisional Parliament in 1949**, before assuming the position of the first Speaker of the Lok Sabha. These roles cemented his legacy as a **pioneering parliamentary figure**, which led Nehru to describe him as the “**Father of the Lok Sabha**”.

8. Arunachalesvara Temple

Context: Recently, encroachments surrounding the Arunachaleswarar Temple in Tiruvannamalai were cleared to widen roads and ensure smoother movement for pilgrims during the Karthigai Deepam festival.

- The Arunachalesvara Temple is dedicated to **Lord Shiva (Arunachalesvara)**, not Vishnu. It is also **located at the base of Arunachala Hill**, not on top of it.
- Although the site is mentioned in **ancient scriptures and Tamil Saiva texts**, the major temple construction took place during the **early Chola period (9th century AD)**. It was later **expanded by the later Cholas, the Hoysala (Bhosala) kings, and the Vijayanagara Nayakas**, reflecting multi-dynastic patronage over centuries.
- The temple is a landmark example of **Dravidian architecture**, marked by **massive gopurams, large mandapas, intricate sculptures, and expansive courtyard complexes**, all of which are defining elements of the South Indian temple architectural tradition.

9. Decline of the Harappan civilization

Context: A study in the journal *Communications Earth & Environment* has revealed that the decline of the Harappan civilisation was not triggered by any single sudden catastrophe.

- Research published in *Communications Earth & Environment* shows that the Harappan civilization did not collapse due to a single event but experienced four major droughts between 2425 and 1400 BCE, each lasting over 85 years. These prolonged dry periods stressed resources and undermined societal stability.
- The desiccation of rivers, lakes, and soils disrupted agriculture and water supply, compelling the Harappan population to frequently relocate to areas with more reliable resources. This environmental stress played a central role in their gradual decline.
- There is no substantial evidence suggesting that invasions by external groups were the primary cause. While governance challenges and food shortages contributed, environmental factors like droughts and dwindling water resources were the dominant causes.

10. Ellora Caves

Context: Scottish historian William Dalrymple has urged the Maharashtra government to highlight the lesser-known heritage spots at Ellora — including the unoccupied tomb of the last Ottoman Caliph, the tomb of Malik Ambar, the first Peshwa's tomb, and the Sufi as well as Naga traditions associated with the caves.

- The Ellora Caves are indeed a complex of **34 rock-cut monasteries and temples** carved into a high **basalt cliff**. They span over **2 km** and represent the three major religions of **Buddhism, Hinduism, and Jainism**, showcasing a blend of spiritual and architectural heritage.
- The **Kailasanatha Temple (Cave 16)** is one of the largest **monolithic structures** in the world, but it is carved **vertically from a single rock**, not horizontally from multiple rocks. It took **18 years** to complete, demonstrating extraordinary engineering and craftsmanship.
- Geographically, the Ellora Caves are located about **30 km northwest of Aurangabad** and **80 km southwest of the Ajanta Caves** in Maharashtra, situating them in the northwest-central part of the state.



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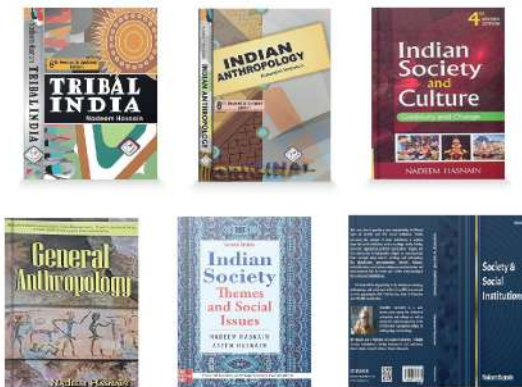
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MISCELLANEOUS

1. Alprazolam

Context: Recently, the Directorate of Revenue Intelligence (DRI) has busted a clandestine factory manufacturing alprazolam in Valsad under “Operation White Cauldron”.

About Alprazolam

- Alprazolam is a psychotropic substance under the Narcotics, Drugs and Psychotropic Substances (NDPS) Act 1985.
- This drug falls under the benzodiazepines class of drugs and is a tranquillizing agent used in the treatment of anxiety disorders.
- Benzodiazepines belong to the group of medicines called central nervous system (CNS) depressants, which are medicines that slow down the nervous system.
- It is used to treat anxiety disorders, panic disorders, and anxiety caused by depression.

2. Rare Earth Hypothesis

Context: New insights from exoplanet studies revive and reshape the debate over the Rare Earth Hypothesis.

About Rare Earth Hypothesis

- The Rare Earth hypothesis posits that the emergence of complex life on planets outside Earth is highly unlikely due to a unique combination of specific conditions required for such life to thrive.
- Proposed by paleontologist Peter Ward and astronomer Donald Brownlee in 2000, the hypothesis suggests that while microbial life may be abundant throughout the universe, the prerequisites for complex organisms are exceedingly rare.
- Key factors influencing the probability of complex life include the planet's location within its galaxy, the type and distance of its star,

geological characteristics like size and tectonic activity, and the presence of a large moon.

- This perspective contrasts sharply with the principle of mediocrity, which suggests that Earth is just one of many planets capable of supporting complex life.
- The Rare Earth hypothesis provides insight into the Fermi paradox—highlighting why, despite the vastness of the universe, intelligent life has yet to make contact with humanity.
- By analyzing the requirements for both astronomical and biological conditions, the hypothesis concludes that the chance of finding another planet with complex life is minimal.
- If validated, this view could reposition Earth from being a typical planet to one characterized as extraordinarily special in the context of the universe.

3. RuTAG Initiative

Context: Recently, the Principal Scientific Adviser (PSA) to the Government of India chaired the second annual review meeting of the Rural Technology Action Group (RuTAG) 2.0 initiative.

About RuTAG Initiative

- The Rural Technology Action Group (RuTAG) is an initiative of the Office of the Principal Scientific Adviser (OPSA) which was launched in 2004.
- It was conceptualized as a mechanism to provide a higher level of Science & Technology intervention and support for rural areas.
- Under this initiative, the interventions are designed to be primarily demand-driven, focusing on bridging technology gaps at the grassroots level, upgrading technology, and providing training and demonstrations through innovative projects.

Objectives of RuTAG Initiative

- **Connecting Stakeholders:** Collaborating with stakeholders Non-Government Organizations, Self Help Groups, Community Organizations, and Start-ups to identify sector-specific technology needs.
- **Demand-driven technologies:** Developing technologies based on socio-economic data coherent with national/regional priorities.
- **Prototype Validation:** Validating developed prototypes and explored commercialization with scalability aspects.
- **Commercialization:** Commercializing the potentially validated technologies for national/global markets.

What is RuTAG 2.0?

- It was launched by the Office of the PSA in April 2023.
- **Focus:** With a focus on commercialization and broader dissemination of developed technologies as products, ensuring wider accessibility and socio-economic impact.
- It will emphasize translating innovation into market-ready products reflecting its commitment to driving transformative changes in rural areas and empowering communities for sustainable development.

4. Greenland Sea

Context: The Parliament of Greenland has approved new legislation that places limits on property ownership by non-residents, thereby curbing the rights of foreigners to acquire land or real estate on the island.

- The Greenland Sea lies to the **east** of Greenland, not west. The west of Greenland is bordered by **Baffin Bay** and the **Davis Strait**, which separate Greenland from Canada.
- Both **Baffin Bay** (to the west) and **Davis Strait** (to the southwest) are water bodies **between Greenland and the North American mainland**, mainly Canada.

- The **Arctic Ocean** lies to the **north**, not to the east of Greenland. The east is bordered by the **Greenland Sea**.
- Gunnbjorn's Fjeld, located in eastern Greenland within the **Watkins Range**, is closer to the **Greenland Sea (east)** and not on the Atlantic-facing southeastern side. It is not closer to the Atlantic than to the Arctic.



5. e-Jagriti Platform

Context: The e-Jagriti Platform has quickly become a major digital system for resolving consumer grievances, having registered more than two lakh users since its rollout on January 1, 2025.

- The platform merges multiple older consumer-dispute systems—OCMS, E-Daakhil, NCDRC Case Monitoring System, CONFONET OCMS, NCDRC CMS—into a **single integrated interface**, making it easier for commissions and consumers to access and manage cases.
- e-Jagriti incorporates **AI-based smart search**, which uses metadata and keyword generation for archived cases. It also includes **AI/ML-driven voice-to-text conversion** to digitize judgments and case histories, improving searchability and transparency.
- The platform is designed for **global accessibility**, allowing **NRIs and citizens abroad** to file and manage cases from any location. Therefore, access is **not restricted** to residents of India.

6. Curacao

Context: With a population of just 156,000, Curacao has qualified for the 2026 FIFA World Cup, becoming the smallest country in history to reach the tournament.

About Curacao

- Curacao is an island country situated in the south Caribbean Sea, about 60 km north of the coast of Venezuela.
- It is also a territorial country of the Netherlands.
- The country includes the main island of Curacao and the island of Klein Curacao, which cover a combined total area of 171 square miles.
- Although physiographically part of the South American continental shelf, Curaçao and neighboring islands off the northern coast of South America are usually considered to constitute the southwestern arc of the Lesser Antilles.
- Until the Netherlands Antilles was dissolved in October 2010, the country was one of its island territories and was governed as the "Island Territory of Curacao."
- Currently, Curacao is administered by an independent government established by the people of Curacao and is fully autonomous in most matters, except those outlined in the Charter for the Kingdom of the Netherlands.
- **Government:** Constitutional Monarchy (multi-party system)
- The head of state is the Dutch monarch, represented by a governor, and the head of government is the prime minister.



7. Sangai

Context: Recently, the Sangai Festival in Manipur began amid a protest by internally displaced persons (IDPs) and members of NGOs, impacting attendance.

Key Facts about Sangai

- It is a subspecies of Eld's deer endemic to Manipur.
- It also has immense cultural relevance to Manipur.
- **Distribution:** It is found only in Keibul Lamjao National Park – the largest single mass of phumdi is in the Loktak Lake – in Manipur's Bishnupur district.
- **Appearance:** It is a medium-sized deer, with uniquely distinctive antlers, with extremely long brow tine, which form the main beam.

Conservation status

- **IUCN:** Critically Endangered.
- **Wildlife Protection Act 1972:** Schedule-1.

8. Operation Pawan

Context: The Chief of the Army Staff (COAS) honored the soldiers who sacrificed their lives in Operation Pawan by laying tributes at the National War Memorial.

- **Operation Pawan** was a major military intervention undertaken by the **Indian Peace Keeping Force (IPKF)** in Sri Lanka in 1987. It followed the **Indo-Sri Lanka Accord**, which aimed to bring peace to the island nation after years of ethnic conflict between the Sri Lankan government and Tamil militant groups.
- The primary objective of the operation was to **disarm the Liberation Tigers of Tamil Eelam (LTTE)** and other militant factions so that a political settlement could be implemented. Instead of cooperating, the LTTE resisted, leading to intense combat operations for several years. The mission became one of India's most complex external military engagements,

involving urban warfare, jungle operations, and peacekeeping duties simultaneously.

9. Pradhan Mantri Jan Vikas Karyakram

Context: The government assessed the progress of PMJVK and emphasized the need for improved utilization of its dedicated portal and the SNA-SPARSH system.

- *Pradhan Mantri Jan Vikas Karyakram (PMJVK)* is indeed a **Centrally Sponsored Scheme implemented by the Ministry of Minority Affairs**. Its main purpose is to improve the quality of life in **Minority Concentrated Areas (MCAs)** by providing **basic infrastructure and amenities**, such as schools, health centres, hostels, community halls, drinking water facilities, toilets, and skill development centres.
- The scheme focuses on narrowing development gaps between minority-dominated regions and other areas of the country.
- The scheme **does not require a 50% minority population threshold** for eligibility. Rather, districts or areas become eligible if the **minority population exceeds 25% of the total population within a catchment area of 15 km radius**.
- Therefore, several districts qualify even without a majority (50%+) minority population.

10. International Maritime Organization

Context: India has secured re-election to Category B, which includes nations with major stakes in global maritime and seaborne trade.

- The **International Maritime Organization (IMO)** was originally established in 1948 as the **Inter-Governmental Maritime Consultative Organization (IMCO)**. In 1982, the organization officially adopted the name **IMO**, reflecting its broader mandate and recognition as a global regulatory authority for maritime affairs.
- The **IMO is a specialized agency of the United Nations**, responsible for **ensuring the safety,**

security, and environmental performance of international shipping. Its key role is to **develop a regulatory framework for the shipping industry that is fair, effective, universally adopted, and implemented**, making it a central authority in global maritime governance.

11. Central Ground Water Board

Context: The Central Ground Water Board (CGWB) has released the **Annual Groundwater Quality Report 2025**.

- The Central Ground Water Board (CGWB) was established in 1970 by renaming the Exploratory Tube Wells Organization and functions under the Ministry of Jal Shakti. Its primary responsibilities include the management, exploration, monitoring, and regulation of groundwater resources across India, ensuring sustainable and scientific use.
- The CGWB also performs the functions of the Central Ground Water Authority (CGWA), constituted under the Environment Protection Act, 1986. In this role, it regulates groundwater extraction, enforces sustainability measures, and provides guidance for groundwater conservation, playing a crucial role in managing India's water resources.



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