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FOR UPSC CIVIL SERVICE EXAMINATION

FEBRUARY 2026

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UNESCO World Heritage Tentative List

Context: UNESCO has included Odisha's 'Diamond Triangle' (Ratnagiri, Udayagiri and Lalitgiri) in India's Tentative List for the UNESCO World Heritage Sites. Inclusion in the tentative list is the first step before final inscription as a World Heritage Site.

About the 'Diamond Triangle'
- The Diamond Triangle is a cluster of three major Buddhist monastic and stupa complexes — Lalitgiri, Udayagiri and Ratnagiri.
- Location: Jajpur and Cuttack districts of Odisha.
- Religious Importance: These sites show the development of the three main Buddhist traditions — Hinayana, Mahayana and Vajrayana.
- Name Origin: The term "Diamond" comes from Vajra (diamond/thunderbolt) associated with Vajrayana Buddhism.

World Heritage Sites (WHS)
- Sites with Outstanding Universal Value (OUV) due to cultural, natural, or mixed importance.
- Legal Basis: UNESCO World Heritage Convention.
- Governing Body: World Heritage Committee.
- India: Joined the convention in 1977 and currently has 44 World Heritage Sites.

Tentative List
- It is the official list of sites that a country plans to nominate for the World Heritage List in the future.
- India's Tentative List: Around 70 sites, including cultural, natural and mixed heritage.

Major Sites of the Diamond Triangle
Ratnagiri
- Means "Hill of Jewels", located about 100 km from Bhubaneswar between the Birupa and Brahmani rivers.
- A major Vajrayana Buddhist centre (4th-12th century CE) under the Bhaumakara dynasty.
- Known for a unique monastery with a curvilinear roof.

Lalitgiri
- Also called Naltigiri.
- One of the oldest Buddhist sites in India, with occupation from 2nd-3rd century BCE to 13th century CE.

Udayagiri
- Known as "Sunrise Hill".
- Largest complex of the triangle, located on a hill near the Birupa river.
- Flourished as a major centre of Buddhist learning (1st-13th century CE).

Vasai Cathedral Receives UNESCO Award

Context: The 475-year-old Our Lady of Grace Cathedral in Vasai, Palghar district of Maharashtra received the Award of Merit at the 2025 UNESCO Asia-Pacific Awards for Cultural Heritage Conservation, organised by UNESCO.

About Vasai Cathedral (Our Lady of Grace Cathedral)
- Location: Vasai (earlier called Baçaim) on India's western coast, once an important Portuguese stronghold.
- Period: Built about 475 years ago during Portuguese rule in the Konkan region.
- Construction: Made using traditional stone and mud mortar, without modern cement, reflecting 16th-century construction techniques.

Architectural Features
- Style: Portuguese ecclesiastical architecture with heavy stone masonry and a fortress-like structure.
- Key Elements:
  - A prominent bell tower and restored colonnade.
  - Hand-carved liturgical elements and wooden altars inside the cathedral.
  - Use of traditional materials such as lime, wood, and stone to preserve the original structure.

Buddhist Circuit Development

Context: In the Union Budget 2026–27, the Government of India announced a scheme for the development of the Buddhist Circuit in Northeast India.
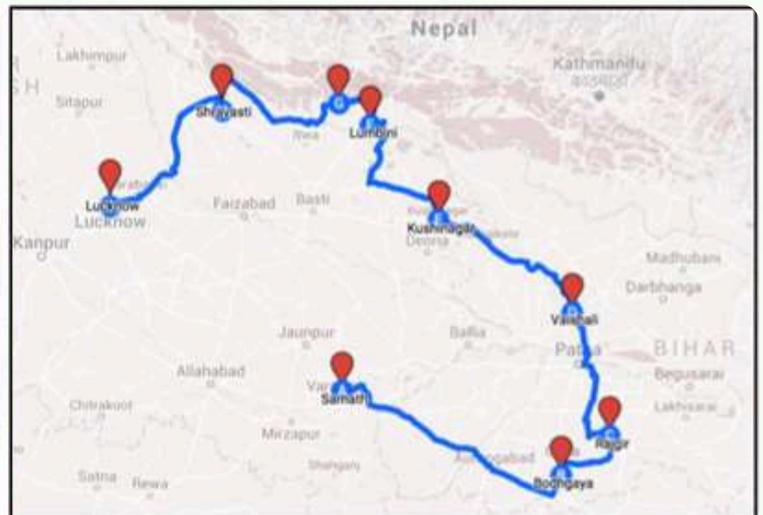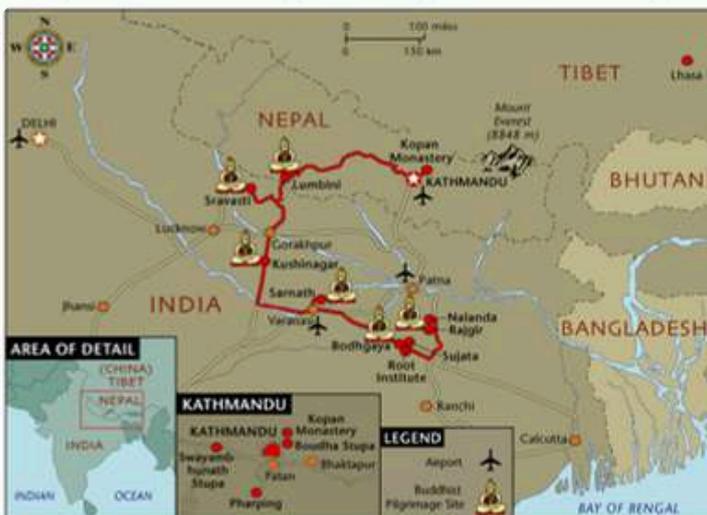
About the Buddhist Circuit Scheme
- The Buddhist Circuit is a heritage and tourism initiative aimed at preserving and promoting Buddhist monasteries and pilgrimage sites in the Northeast.
- Nodal Ministry: Ministry of Tourism.
- Coverage: Arunachal Pradesh, Sikkim, Assam, Manipur, Mizoram and Tripura.
- The scheme is linked to the Swadesh Darshan Scheme, which develops thematic tourist circuits across India.

Key Components
- Heritage Conservation: Restoration and preservation of Buddhist temples and monasteries.
- Pilgrimage Interpretation Centres: Centres explaining the historical, cultural, and spiritual importance of Buddhist sites.
- Connectivity and Facilities: Improved transport links and pilgrim-friendly amenities.

Related Budget Announcements
- East Coast Industrial Corridor: Proposed extension into the Northeast to boost industry and investment.
- Tourism Development: Creation of five tourism destinations in Purvodaya states.
- Green Mobility: Deployment of 4,000 electric buses to improve sustainable regional connectivity.
- CITY Economic Regions (CERs): ₹5,000 crore per region over five years for integrated urban–industrial development.

Purvodaya Initiative
- A development initiative for eastern India covering Bihar, Jharkhand, West Bengal, Odisha and Andhra Pradesh, aimed at overall regional development.

Tamil Brahmi Inscriptions Found in Egypt

Context:Around 30 inscriptions in Tamil Brahmi, Prakrit, and Sanskrit have been discovered in tombs in Egypt's Valley of the Kings, highlighting ancient contacts between India and Egypt.

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ண-ந்-கை- தீ-ரா-ன்
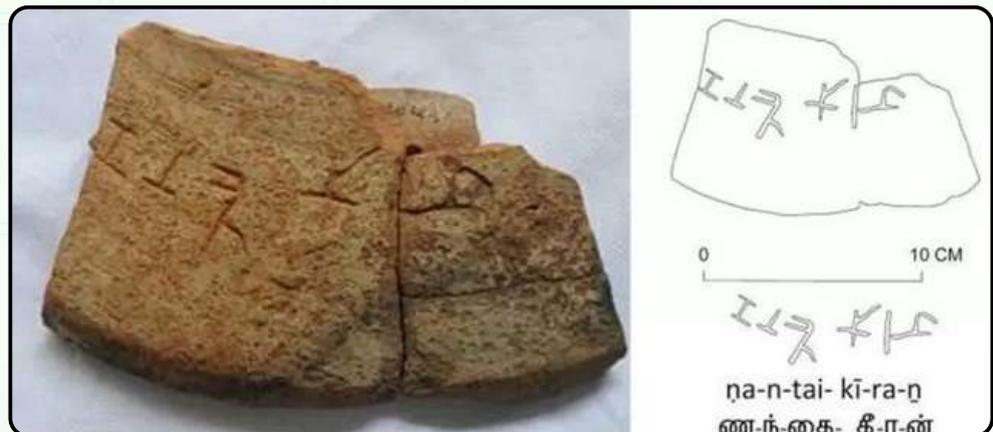
About the Discovery
- Location: Found in six tombs of the Theban Necropolis in the Nile Valley region of Egypt.

- **Script & Language:** Written in Tamil Brahmi, along with Prakrit and Sanskrit, indicating visitors from different parts of India.
- **Time Period:** Dated to 1st–3rd century CE, when Indo-Roman maritime trade was at its peak.
- **Nature of Inscriptions:**
  - Mostly personal names and short graffiti carved on tomb walls and entrances.
  - Visitors followed the Greek custom of writing names as commemorative marks.

Names Identified
- **Cikai Korran:** Appears eight times across five tombs, indicating a strong Tamil presence.
- **Kopāṉ:** Inscription reads "Kopāṉ varata kantan" (Kopāṉ came and saw), reflecting a visitor-style graffiti tradition.
- Other names include **Cātaṉ** and **Kiraṉ**.

Significance
- **Evidence of Indo-Roman Trade:** Supports maritime trade links between ancient Tamilakam and the Roman world through the Red Sea and Nile routes.
- **Merchant Mobility:** Visitors were likely traders, sailors, or intermediaries.
- **Literary Linkages:** Similar names appear in Sangam literature, strengthening historical connections.

About the Valley of the Kings
- **Location:** West of the Nile River near Luxor in Upper Egypt.
- **Historical Role:** Burial site of pharaohs from the 18th–20th dynasties (1539–1075 BCE).
- **Recognition:** Declared a World Heritage Site in 1979 by UNESCO as part of the ancient Thebes complex.

Lakkundi

Context: Recent archaeological excavations at Lakkundi village in Gadag district of Karnataka have uncovered Neolithic-period artefacts, indicating early human settlement in the region.

About Lakkundi

- Location: About 12 km from Gadag town; historically known as Lokkigundi.
- Historical Reference: Mentioned in 11th–12th century inscriptions, where it was compared to Amaravati, the capital of Amaravati, for its prosperity.
- Political Importance: Ruled by the Chalukyas, Yadavas, and Hoysalas; served as the capital of Hoysala king Veeraballala in 1192 CE.
- Economic Centre: Known for its "tankashale" (mint), indicating economic significance.
- Architecture: Temples display the Kalyana Chalukya architectural style.

Key Archaeological Findings

- Neolithic Pottery: A broken grey clay pot belonging to the Neolithic (New Stone Age) period.
- Stone Tools: Discovery of a stone axe and a cross-shaped stone pedestal.
- Cowrie Shells: Presence of cowrie shells (kavade) suggesting early trade or ritual practices.
- Jain Influence: A stone pedestal with a Jina figure, indicating the presence of Jainism in medieval Lakkundi.

Mandatory Health Warnings on Packaged Foods

Context: The Supreme Court of India directed the Food Safety and Standards Authority of India (FSSAI) to consider mandatory front-of-package warning labels on foods high in sugar, salt, and saturated fat.

Front-of-Package Labelling (FoPL)

- According to the World Health Organization, FoP labels provide simple nutrition information on the front of food packages.
- They warn consumers about high levels of unhealthy nutrients such as sugar, sodium, and fats.
- The Codex Alimentarius Commission states that FoPL helps consumers easily understand nutritional quality.

Need for FoPL in India

- Rising NCDs: Increase in diseases like diabetes, obesity, hypertension, and cardiovascular diseases linked to processed foods.
- Informed Choices: Current nutrition details are often printed in small text on the back of packages.
- Public Health Goal: Supports SDG-3 (Good Health and Well-being).
- Behavioural Impact: Warning labels can discourage unhealthy consumption and push industries to reformulate products.
- Growing Packaged Food Consumption: Due to urbanisation and lifestyle changes.

Challenges
- **Policy Delays:** Multiple committees since 2015 but limited progress.
- **Industry Resistance:** Food companies opposed strict warning labels like red colour coding.
- **Diluted Norms:** Later drafts shifted from total sugar/fat to added sugar and saturated fat, reducing effectiveness.

Way Forward
- **Scientific Nutrient Limits:** Set thresholds based on WHO recommendations.
- **Policy Integration:** Link FoPL with initiatives like Eat Right India and National Programme for Prevention and Control of Cancer, Diabetes, Cardiovascular Diseases and Stroke.
- **Consumer Awareness:** Run nationwide campaigns to help people interpret FoPL labels.

Evolution of FoPL in India
- **2014:** First proposed by an expert committee set up by FSSAI.
- **2019:** Draft Food Safety and Standards (Labelling and Display) Regulations introduced FoPL provisions.
- **2022:** FSSAI proposed the Health Star Rating system for front-of-package labelling.

Menstrual Health in Schools and Right to Life

Context: The Supreme Court of India ruled that menstrual health and access to menstrual hygiene management (MHM) in schools are part of the fundamental right to life and dignity under Article 21 of the Constitution of India.

Key Observations of the Court
1. Article 21 and Dignity
- The Court stated that dignity must exist in real conditions, not just as an abstract idea.
- Lack of menstrual hygiene facilities can lead to humiliation, stigma, and exclusion for girls.

2. Menstrual Health as a Fundamental Right
- Absence of MHM facilities in schools violates the right to live with dignity for menstruating girls.

Impact of Lack of MHM in Schools
- **Bodily Autonomy:** Girls may miss school or use unsafe hygiene practices, affecting their health and autonomy.
- **Educational Impact:** Menstrual poverty prevents many girls from attending school regularly.
- **Long-Term Consequences:** Disruption in schooling affects future opportunities and socio-economic participation.

Substantive Equality in Education
- **Gender Barrier:** Lack of sanitary napkins creates a gender-specific obstacle to education.
- It undermines free and compulsory education under Article 21A and the Right of Children to Free and Compulsory Education Act, 2009.
- The judgment supports substantive equality under Article 14 and special provisions for women under Article 15(3).

State's Responsibility
- The Court emphasised that the State cannot force girls to choose between dignity and education.
- Providing menstrual hygiene facilities in schools is a constitutional obligation of the State.

Role of Men in Menstruation Awareness
- **Sensitisation:** The Supreme Court of India emphasised educating male teachers and students about menstruation to remove myths and stigma.
- **Preventing Harassment:** Awareness can help prevent harassment, stigma, or intrusive questioning of menstruating students.

Menstrual Hygiene Management (MHM): It refers to access to clean menstrual products, privacy for changing, adequate water and sanitation facilities, safe disposal systems, and proper awareness, enabling menstruation with dignity.

Waste-Pickers Enumeration under NAMASTE Scheme

Context: The Union Government released national data on the enumeration of waste-pickers under the NAMASTE Scheme.

Definition of Waste Pickers
- Under the Solid Waste Management Rules, 2016, waste pickers are individuals or groups who informally collect recyclable or reusable waste from streets, bins, or disposal sites to earn their livelihood.

Key National Findings
Social Composition
- 84.5% belong to SC, ST, and OBC communities.
- 10.7% belong to the General category.

Gender Profile
- 48.7% women, 51.3% men, and 0.007% transgender, showing near gender balance.

State-Level Variations

- In Delhi and Goa, General category waste pickers outnumber SC/ST/OBC groups.
- In West Bengal, about 42.4% waste pickers belong to the General category.
- These variations reflect regional labour markets, migration patterns, and urban socio-economic structures.

Hazardous Cleaning Deaths

- Since 2014, 859 deaths have been reported during sewer and septic tank cleaning, including 43 deaths in 2025, highlighting the need for mechanisation and worker safety.

About NAMASTE Scheme

- NAMASTE (National Action for Mechanized Sanitation Ecosystem) aims to eliminate manual cleaning of sewers and septic tanks through mechanisation, safety measures, and livelihood support.
- Launched by: Ministry of Social Justice and Empowerment and Ministry of Housing and Urban Affairs.
- Implemented by: National Safai Karamcharis Finance and Development Corporation.
- Type: Central Sector Scheme.
- Budget: ₹349.73 crore (FY 2023–24 to FY 2025–26).
- Coverage: Profiling of over 1 lakh sanitation workers across about 4,800 Urban Local Bodies (ULBs).

Denotified Tribes Seek Constitutional Recognition

Context: Denotified Tribes (DNTs), Nomadic Tribes (NTs), and Semi-Nomadic Tribes (SNTs) have demanded constitutional recognition and a separate column in the 2027 Census caste enumeration.

Who are DNTs, NTs and SNTs?

- Most Vulnerable Groups: Also called "Vimukt Jatis", these communities are among the most marginalised sections of society.
- Colonial Background: Many DNTs were labelled as "criminal tribes" under the Criminal Tribes Act, 1871 and faced strict surveillance and social stigma.
- Post-Independence: The Act was repealed in 1952, and these communities were denotified.
  - Many were later included in SC, ST, or OBC categories, while several remain unclassified.

Types of Communities
- Nomadic Tribes (NTs):
- Communities that move from place to place without permanent settlement, engaging in activities such as trading, performing arts, fortune-telling, and pastoralism.
- Examples: Gujjars, Gadia Lohars.
- Semi-Nomadic Tribes (SNTs):
- Groups that migrate for part of the year but return to a fixed settlement during certain seasons.
- Examples: Dhangars, Lambadas.

Common Issues
- Lack of land ownership and permanent housing.
- Limited access to identity documents, education, healthcare, and welfare schemes.
- Exclusion from proper classification in SC/ST/OBC categories in many cases.

Population
- According to the Census of India 2001, about 10.74 crore people belong to DNT, NT, and SNT communities in India.

Sangtam Community

Context: The apex body of the Sangtam community in Nagaland has passed a resolution to protect pangolins, the world's most trafficked wild mammal.

About the Sangtam Community
- Tribe: One of the 16 major Naga tribes.
- Location: Mainly found in Kiphire and Tuensang districts of eastern Nagaland, part of the Indo-Myanmar Biodiversity Hotspot.
- Language: Speak Sangtam, a Sino-Tibetan (Tibeto-Burman) language.
- Society:
  - Egalitarian structure with clan-based villages and strong kinship ties.
  - Follows a patriarchal system of lineage and inheritance.
- Governance: Managed through village councils and apex bodies like the United Sangtam Likhum Pumji (USLP).
- Economy: Traditionally based on jhum (shifting) cultivation, growing rice and millet, along with hunting and gathering.

About Pangolins
- Pangolins, also called scaly anteaters, are nocturnal mammals belonging to the order Pholidota.
- They are the most trafficked wild mammals due to illegal trade and habitat loss.

Key Facts

- Species: 8 species worldwide — 4 in Asia and 4 in Africa.
- Habitat: Forests, grasslands and savannas; some are arboreal while others live in burrows.
- Diet: Feed mainly on ants and termites, helping control insect populations.

Conservation Status

- All species are threatened on the IUCN Red List.
- Indian Pangolin: Endangered.
- All eight species are listed in Appendix I of CITES, prohibiting international commercial trade.

Polar Vortex

Context: A severe winter storm hit the United States in January 2026 as the Polar Vortex expanded southward, causing extreme cold and heavy snowfall.

About Polar Vortex

- The Polar Vortex is a large low-pressure system of cold air that circulates around the poles.
- The term "vortex" refers to its rotating wind pattern, similar to a whirlpool in the atmosphere.
- It extends from the troposphere to the stratosphere (up to ~50 km).
- The vortex strengthens during winter when the poles receive little sunlight, leading to intense cooling.
- It mainly exists over the Arctic (Northern Polar Vortex) and Antarctica (Southern Polar Vortex).

Formation Mechanism

- Polar Cooling: Lack of sunlight during polar night causes extremely low temperatures.
- Temperature Contrast: A large temperature difference develops between cold polar regions and warmer mid-latitudes.
- Jet Streams: Strong west-to-east winds (jet streams) form in the upper atmosphere.
- Cold Air Containment: These winds circulate around the pole, trapping cold air inside a rotating vortex.
- Seasonal Nature: Strongest in autumn and winter, and weakens in summer.

Types of Polar Vortex
1. **Stratospheric Polar Vortex**
   - Located in the stratosphere.
   - More stable, particularly over Antarctica.
2. **Tropospheric Polar Vortex**
   - Occurs in the lower atmosphere.
   - Can lead to cold air outbreaks at the surface when the stratospheric vortex weakens.
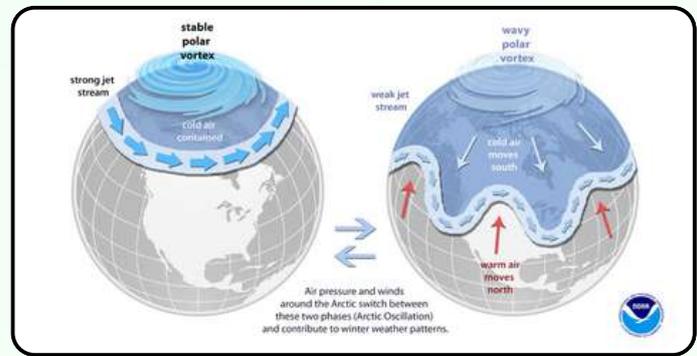
Smoke Vortex

Context: Recent atmospheric studies explain how wildfire smoke reaching the stratosphere forms rotating smoke vortices, which spin in opposite directions in different hemispheres.

About Smoke Vortex
- **Smoke Vortex (Smoke Rings):** Compact, circular vortices of smoke or gas that rotate around a central core while moving through the atmosphere.
- These structures maintain their shape for long periods, allowing smoke to travel large distances.

Formation Mechanism
- **Solar Heating:** Smoke particles absorb sunlight, warming the surrounding air and making it buoyant, causing it to rise into the stratosphere.
- **Earth's Rotation:** Due to the Coriolis Effect, the vortex rotates
  - Clockwise in the Northern Hemisphere
  - Counterclockwise in the Southern Hemisphere.
- **Rotating Bubble:** The spinning motion forms a collar-like ring around the smoke, preventing rapid mixing with surrounding air.
- **Layered Atmosphere:** As the heated smoke rises, rotation becomes concentrated around the smoke bubble, helping the vortex remain stable.

Key Characteristics
- The rotating vortex acts like a container, keeping warmer smoke concentrated in the centre.
- This allows the smoke to rise higher and persist longer in the atmosphere.

Examples
- Wildfire smoke vortices observed over the northeast Pacific in 2020.
- Volcanic vortex rings formed during eruptions such as those at Mount Etna, when gases rapidly escape through circular vents.

Union Cabinet Approves Renaming Kerala as "Keralam"

Context: The Union Cabinet approved a proposal to rename the state of Kerala as "Keralam", initiating the constitutional process for the change.

Key Developments
- After Cabinet approval, the President will refer the Kerala (Alteration of Name) Bill, 2026 to the Kerala Legislative Assembly for its views as required under Article 3 of the Constitution of India.
- The Kerala Legislative Assembly had earlier passed a unanimous resolution on 24 June 2024 requesting the name change.

Article 3 of the Constitution
- Empowers Parliament to:
  - Form new states.
  - Alter areas, boundaries, or names of existing states.
  - Increase or reduce the territory of a state.

Procedure for Renaming a State
1. Proposal by State Government.
2. Examination by the Ministry of Home Affairs, which seeks NOCs from agencies like the Ministry of Railways, Intelligence Bureau, Department of Posts, Survey of India and Registrar General of India.
3. Bill introduced in Parliament.
4. Approval by simple majority and official notification, after which the new name takes effect.

Guidelines for Renaming Places (1953)
- Should involve minor or phonetic changes, not radical alterations.
- Must not be based on communal or sectarian grounds.
- Should avoid confusion in postal, railway, and administrative services.
- Should not affect the interests of other states or UTs.

Reasons for Renaming Places in India
- Urbanisation and administrative changes.
- Honouring national leaders or cultural icons.
- Assertion of linguistic or regional identity.
- Political or symbolic reinterpretation of history.

Urban Challenge Fund (UCF)

Context: The Union Cabinet approved the launch of the Urban Challenge Fund (UCF) to support urban development initiatives announced in the Union Budget 2025–26.

About the Urban Challenge Fund
- Type: Centrally Sponsored Scheme of the Ministry of Housing and Urban Affairs.
- Total Central Assistance: ₹1 lakh crore.
- Objective: Promote initiatives such as Cities as Growth Hubs, Creative Redevelopment of Cities, and Water & Sanitation improvements.

Financing Structure
- At least 50% of project funding must come from market sources such as:
  - Municipal bonds
  - Bank loans
  - Public–Private Partnerships (PPPs)
- The remaining share will be contributed by States, Union Territories, and Urban Local Bodies (ULBs).

Coverage

The fund will support:
- Cities with population above 10 lakh.
- State and UT capitals not included above.
- Major industrial cities with population above 1 lakh.
- ULBs in hilly and North-Eastern states and smaller towns through a Credit Repayment Guarantee Scheme.

Key Features
- Competitive Selection: Projects will be chosen through a transparent challenge-based approach.
- Reform-Oriented Focus: Emphasis on reforms in urban governance, financial systems, operational efficiency, and urban planning.
- Private Sector Participation: Encouraged through risk-sharing frameworks and service delivery benchmarks.
- Credit Enhancement: A ₹5,000 crore corpus to improve creditworthiness of over 4,200 cities, especially Tier-II and Tier-III cities.
- Bankable ULBs: Aims to make Urban Local Bodies financially credible and capable of accessing market finance.

Right to Recall

Context: A Member of Parliament in the Rajya Sabha recently proposed introducing the Right to Recall, allowing voters to remove non-performing representatives before their term ends.

What is the Right to Recall?
- A democratic mechanism that allows voters to remove an elected representative before the completion of their term.
- Usually initiated through a recall petition signed by a required percentage of voters.
- If the majority supports removal in a recall vote, the representative must vacate office.

Historical Advocacy
- M. N. Roy (1944): Proposed recall in his Draft Constitution for decentralized democracy.
- Jayaprakash Narayan (1974): Advocated recall during the Total Revolution Movement.

Judicial Observations
- Mohan Lal Tripathi v. District Magistrate Rae Bareilly (1993): SC upheld recall provisions at the local level.
- Smt. Ram Beti v. District Panchayat Raj Adhikari (1998): Emphasized safeguards to prevent misuse.
- State of Madhya Pradesh v. Shri Ram Singh (2000): Highlighted accountability while warning against political instability.

Rationale for Right to Recall
- Democratic Accountability: Ensures representatives remain responsive throughout their tenure.
- Control on Corruption: Acts as a deterrent against misconduct or poor performance.
- Participatory Democracy: Strengthens popular sovereignty by allowing direct voter intervention.

Status in India
- No constitutional provision exists to recall MPs or MLAs under the Constitution of India.
- Under the Representation of the People Act, 1951, removal of representatives is possible only through disqualification or conviction.

Local-Level Provisions
- Some states allow recall of Panchayat or municipal representatives, including:
  - Madhya Pradesh, Chhattisgarh, Bihar, Rajasthan, Jharkhand
  -

Example: In 2008, three local body chiefs were removed through recall in Chhattisgarh.

Pennaiyar River Dispute

Context: The Supreme Court of India directed the Union Government to set up a tribunal to resolve the water dispute between Tamil Nadu and Karnataka over the Pennaiyar River.

Background of the Dispute
- **Origin:** Tamil Nadu approached the Supreme Court in 2018, opposing Karnataka's construction of dams and diversion structures on the river.
- **Core Issue:** Alleged excess upstream utilisation of water by Karnataka, reducing downstream flow to Tamil Nadu.
- **Impact:** The river is important for irrigation and drinking water in northern Tamil Nadu.

About Pennaiyar River
- **Other Names:**
  - Dakshina Pinakini in Kannada
  - Thenpennai / Ponnaiyar / Pennaiyar in Tamil.
- **Origin:** Eastern slopes of Nandi Hills.
- **Course:** Flows through Karnataka and Tamil Nadu before draining into the Bay of Bengal.
- **Length:** About 497 km, the second-longest river in Tamil Nadu after Kaveri River.
- **Major Tributaries:** Markandeyanadhi, Pambar, Vaniyar, Kallar, and Thurinjalar rivers.

Constitutional Provisions on Inter-State River Disputes

Seventh Schedule
- **Entry 56 (Union List):** Union can regulate and develop inter-state rivers.
- **Entry 17 (State List):** States control water supply, irrigation and canals, subject to Union powers.

Article 262
- Allows Parliament to create mechanisms for resolving inter-state water disputes.
- Can also exclude court jurisdiction over such disputes.

Laws under Article 262
- **River Boards Act, 1956:** Provides for establishing River Boards for development and regulation of inter-state rivers.
- **Inter-State River Water Disputes Act, 1956:** Enables the Union Government to set up tribunals when states request adjudication.

Judicial Limitation: Courts generally cannot question the award of a water disputes tribunal.

Place in Electoral Roll is a "Qualified Right"

Context: The Election Commission of India informed the Supreme Court of India that inclusion in the electoral roll is a "qualified right," not an absolute one, during hearings related to the Special Intensive Revision (SIR) of electoral rolls.

Background
- Finalised during the 16th India-EU Summit (New Delhi, Jan 2026) by PM Narendra Modi and EU Commission President Ursula von der Leyen.
- Talks began in 2007, resumed in 2022, and concluded after nearly two decades.
- Agreement will take effect after legal review and parliamentary approvals, expected by late 2026.
- Forms the economic pillar of the "Towards 2030: India-EU Strategic Agenda."

Key Outcomes of the FTA
1. Tariff Reduction & Market Access
- Duties removed on over 90% of bilateral trade.
- EU to remove duties on 99.5% of Indian exports, boosting sectors like:
    - Textiles & apparel
    - Leather & footwear
    - Gems & jewellery
- India to phase out tariffs on over 90% of EU goods, including machinery, chemicals, and pharmaceuticals.
2. Automobiles, Wines & Spirits
- Luxury cars tariffs cut from 110% to 10% over five years (with import quota).
- Wine duties reduced from 150% to 20-30%; spirits to about 40%.
3. Services & Mobility
- India gains access to 144 EU service sub-sectors (IT, finance, R&D).
- Easier mobility and visa rules for professionals and students.
- Recognition opportunities for AYUSH practitioners in some EU countries.
4. Sustainability & Climate Cooperation
- EU to provide €500 million support for India's green transition.
- Cooperation under Carbon Border Adjustment Mechanism (CBAM) to help Indian exporters comply with carbon norms.
5. Protection of Sensitive Sectors
- India protected key sectors like dairy, rice, wheat, and poultry from tariff cuts.
- GI protection ensured for products such as Darjeeling Tea and European products like Champagne.

Strategic Significance
- Diversifies India's trade away from excessive reliance on the US.
- Positions India as an alternative manufacturing hub under China-plus-one strategy.
- Adoption of EU standards improves global competitiveness of Indian goods.
- Supports India's long-term goal of Viksit Bharat @2047 through trade, services mobility, and green growth.
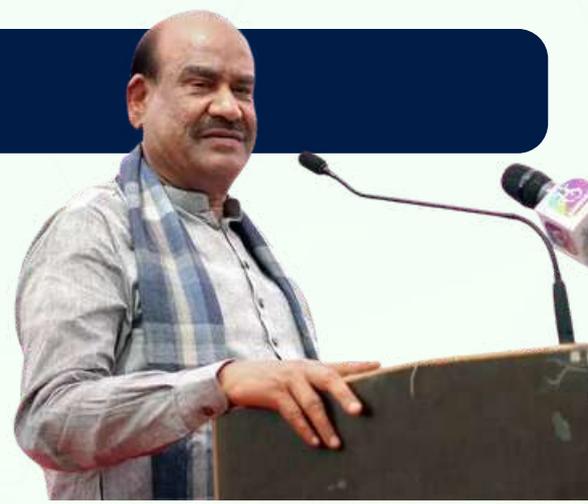
Context: Opposition parties are considering moving a resolution to remove Om Birla, alleging partisan conduct in the functioning of the Lok Sabha.

Reason Behind the Proposed Resolution
- **Alleged Partisan Functioning:** Opposition leaders claim the Speaker acted in a biased manner during parliamentary proceedings.
- **Issue Raised:** The Leader of Opposition was allegedly not allowed to speak during the debate on the Motion of Thanks to the President's Address.

Motion of Thanks
- A formal resolution moved in both Houses of Parliament to thank the President for the address at the start of a parliamentary year or after a general election.
- It is delivered during a joint sitting of Parliament by the President of India.
- **Origin:** Derived from the Westminster parliamentary tradition.

Speaker of the Lok Sabha
- The Speaker is the presiding officer of the Lok Sabha, responsible for regulating debates, maintaining order, and conducting the House's business.

Constitutional Provisions
- **Article 93:** Lok Sabha elects a Speaker and Deputy Speaker.
- **Article 95:** Deputy Speaker performs duties when the Speaker's office is vacant.

Salary and Allowances
- Charged on the Consolidated Fund of India, meaning they are not subject to parliamentary voting.

Election of the Speaker
- **Eligibility:** Must be a member of the Lok Sabha.
- **Election Process:**
  - Elected by simple majority of members present and voting.
  - The President of India fixes the election date, usually soon after the first sitting of a new Lok Sabha.

Convention
- Generally chosen from the ruling party after consultations with opposition parties to ensure impartiality and wider acceptance.

Tenure
- **Duration:** Normally remains in office for the life of the Lok Sabha.
- **After Dissolution:** Continues until the first meeting of the next Lok Sabha.

Removal of the Speaker

Grounds
- Ceases to be a member of the Lok Sabha
- Resigns by writing to the Deputy Speaker
- Removed by a resolution passed by the Lok Sabha

Procedure
- Removal requires an effective majority in the Lok Sabha.
- 14 days' advance notice is mandatory and must be supported by at least 50 members.
- Under Article 96, the Speaker cannot preside during the consideration of the removal motion, but can participate in debate and vote (except in case of a tie).

Historical Instances of Removal Motions
- G. V. Mavalankar (1954) – Motion defeated due to government majority.
- Balram Jakhar (1987) – Motion also defeated as the ruling party held majority.

Substantive Motion

Context: A substantive motion has reportedly been moved against the Leader of Opposition in the Lok Sabha by a member of the ruling party.

What is a Substantive Motion?
- A substantive motion is an independent proposal placed before the House seeking a definite decision.
- If adopted, it represents the formal opinion or will of the House on a particular matter.

Examples
- Motion for the election of the Deputy Chairman of the Rajya Sabha
- Motion of Thanks to the President of India for the Presidential Address
- Motion to declare a member's seat vacant when leave of absence has not been granted

Key Features

1. Self-Contained Nature
- A substantive motion is complete in itself and not linked to any other item of business under discussion.

2. Speaker's Approval
- Under the Rules of Procedure of the Lok Sabha, such motions can be admitted only with the approval of the Speaker.

3. Discretion of the Speaker
- The Speaker of the Lok Sabha has the authority to accept or reject the notice and decide how and when it should be taken up.
- If admitted, it can be debated and put to vote.

4. Distinct from Routine Discussions
- Unlike ordinary debates or interventions, a substantive motion requires the House to formally deliberate and take a decision.

5. Discussion on Conduct of High Authorities
- The conduct of persons in high authority can only be discussed through a properly framed substantive motion.

Procedural Requirements
- Notice: A member must give prior notice of the motion.
- Mover: It can be moved only by the member who submitted the notice.

Seconding Requirement
- Generally does not require seconding, except in special cases such as:
  - Election of the Deputy Chairman of the Rajya Sabha
  - Motion of Thanks on the President's Address

Exception for Ministers
- If the motion stands in the name of a Minister, another minister may move it on their behalf, provided this is clearly stated.

Guidelines on Vande Mataram

Context: The Ministry of Home Affairs has issued guidelines standardising the protocol for singing and playing India's National Song, Vande Mataram, at official events, educational institutions, and ceremonial occasions.

Constitutional Status
- Neither Vande Mataram nor Jana Gana Mana is explicitly mentioned in the Constitution of India.
- Their status derives from a resolution of the Constituent Assembly of India on 24 January 1950.

Key Guidelines

Order of Playing
- When both the National Song and National Anthem are played at an event, Vande Mataram should be played before Jana Gana Mana.

Duration
- The official version includes six stanzas with a total duration of 3 minutes 10 seconds (190 seconds).

Mandatory Standing
- Citizens present must stand at attention when the National Song is sung or played in official settings.

Occasions for Official Playing
- Flag unfurling ceremonies
- Arrival or departure of the President of India or Governors
- Before or after Presidential or Governors' addresses
- National parades and investiture ceremonies such as the Padma Awards

Singing Guidelines

- Cultural/Public Events: Mass singing encouraged during National Flag unfurling ceremonies (except parade ceremonies).
- Public Functions: Collective singing recommended during the arrival of the President at public functions and before departure.

Guidelines for Educational Institutions

- Schools are encouraged to begin the day with community singing of Vande Mataram.
- Institutions should promote awareness and respect for the National Song, National Anthem, and National Flag.

Exemptions and Special Provisions

- Cinema Halls: Unlike the National Anthem, Vande Mataram will not be played in movie theatres.
- Documentaries/Newsreels: If used in documentaries or news segments, audiences are not required to stand to avoid disruption.

About the National Song

- Author: Bankim Chandra Chatterjee
- Adoption: Officially adopted as the National Song on 24 January 1950 by the Constituent Assembly.

About the National Anthem

- Author: Rabindranath Tagore
- Adoption: Also adopted on 24 January 1950.
- First Sung: 27 December 1911 at the Indian National Congress Calcutta Session 1911.

Pax Silica Initiative

Context: India joined the Pax Silica Initiative during the AI Impact Summit 2026.

More on the News

- India was not a signatory at the initial summit, though the reasons remain unclear.
- The first Pax Silica Summit was held in Washington D.C. in December 2025.

About Pax Silica

- Pax Silica is a U.S.-led strategic coalition of trusted nations aimed at securing the global silicon supply chain.
- It focuses on building a secure, innovation-driven ecosystem covering:
  - Critical minerals and energy inputs
  - Semiconductor manufacturing
  - Artificial Intelligence infrastructure
  - Technology logistics and supply chains.

Strategic Objective

- To streamline global supply chains and build a trusted technology ecosystem.
- The initiative is based on the idea that economic security is closely linked with national security.

Technology Focus

The initiative aims to secure key technology "stacks", including:

- Semiconductor hardware
- Software platforms
- AI models
- Digital infrastructure.

Member Countries

Members include:

- Australia, Greece, Israel, Japan, Qatar, Republic of Korea, Singapore, United Arab Emirates, United Kingdom, India.

Meaning of the Term "Pax Silica"

- Pax: Latin word meaning peace, stability, and prosperity, similar to historical concepts like Pax Romana and Pax Americana.
- Silica: Refers to the compound refined into silicon, the key material used in semiconductor chips.

Symbolism: The term reflects the idea that control over semiconductor and chip supply chains will shape global power and stability in the AI era.

Significance for India

- Supply Chain Security: Helps reduce dependence on China in sensitive sectors like telecom, semiconductors, and AI.
- Technology Development: Provides opportunities for investment, partnerships, and advanced manufacturing ecosystems.
- Strategic Positioning: Strengthens India's role in the emerging global technology and semiconductor order.

India's Bid for Full Membership in the IEA

Context: The International Energy Agency (IEA) has welcomed progress on India's request for full membership. India has been an Associate Member since 2017, and full membership would require major legal and strategic changes.

About the International Energy Agency (IEA)

- The IEA is an independent intergovernmental organisation that provides policy advice, analysis, and data on global energy markets.
- Headquarters: Paris
- Members: 32 member countries, 13 association countries, and 5 accession countries.
- It was established in 1974 in response to the 1973 Oil Crisis under the framework of the Organisation for Economic Co-operation and Development.
- India joined as an Associate Member in 2017.

Mandatory Requirements for IEA Membership

1. OECD Membership

- Traditionally, countries must be members of the OECD to join the IEA.
- India is not an OECD member and has not shown immediate interest in joining the organisation.

2. Strategic Oil Reserves

- Members must maintain oil reserves equal to at least 90 days of net oil imports.
- India's Strategic Petroleum Reserves (SPR) and company stocks currently cover about 66–70 days of imports.

3. Demand Restraint Mechanism

- Members must have policies to reduce national oil consumption by 7-10% during supply disruptions.

Orange Economy

Context: The Union Budget 2026 prioritised the Orange Economy, promoting sectors such as digital content, design education, and heritage tourism as key drivers of economic growth.

What is the Orange Economy?

- It refers to economic activities based on creativity, culture, and intellectual property.
- Includes sectors such as animation, gaming, design, film, music, media, heritage tourism, and digital content creation.

Source: UNCTAD
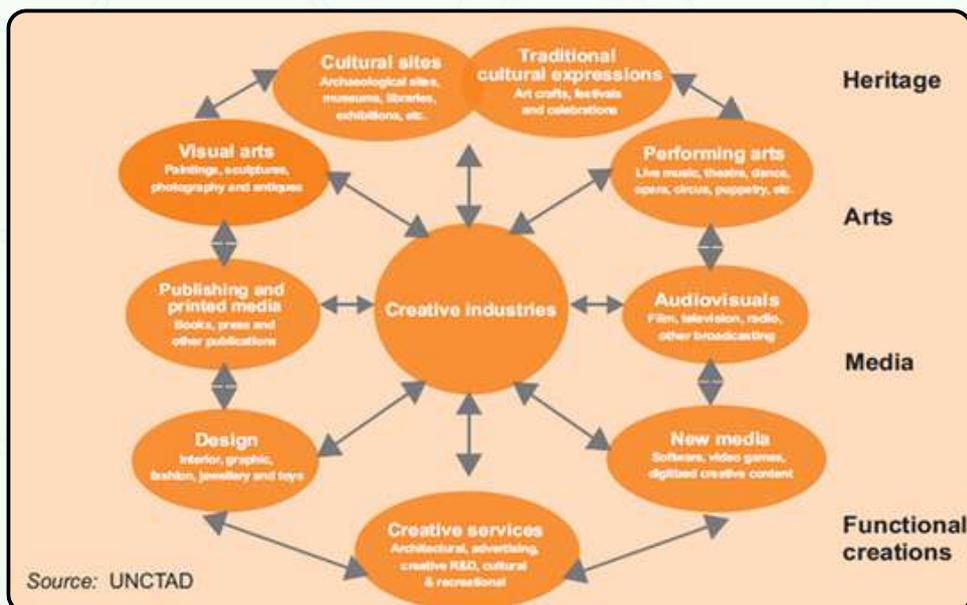
Key Budget 2026 Initiatives

1. AVGC Content Creator Labs
- Labs for Animation, Visual Effects, Gaming and Comics (AVGC) to be set up in 15,000 schools and 500 colleges.
- India's AVGC sector may require 2 million professionals by 2030.

2. Design Education Expansion
- A new National Institute of Design campus to be established in eastern India.

3. Creative Technology Support
- Financial support for the Indian Institute of Creative Technologies to boost high-tech creative exports.

4. Heritage Tourism Development
- Archaeological sites such as Lothal, Dholavira, and Sarnath will be developed as experiential cultural destinations.

5. AI in Creative Industries
- Integration of AI tools in animation, gaming, and immersive storytelling.

6. Youth and Women Empowerment
- Skilling and entrepreneurship programs to promote youth and women participation in creative sectors.

7. Global Promotion
- Continued push for the World Audio Visual and Entertainment Summit (WAVES) to position India as a global creative hub.

Key Challenges

Financial and Structural Issues
- Limited fiscal incentives compared to manufacturing or IT.
- Difficulty in obtaining loans due to lack of collateral.
- High GST on gaming and regulatory complexity.

Market Risks
- Revenue concentration among a few creators.
- Dependence on global digital platforms and algorithms.

Talent Gap
- Shortage of trained designers and technical artists.
- Regional and gender imbalance in creative education.

IP and Data Issues
- Weak copyright enforcement and digital piracy.
- Lack of reliable data on the sector's contribution to GDP.

Government Initiatives
- All India Initiative on Creative Economy to promote India's creative industry.
- National Creative Fund to finance high-risk creative startups.
- Development of immersive heritage tourism and digital cultural documentation.

Way Forward
- Single-Window Clearance for events and film production.
- Creation of AVGC-XR clusters in cities like Mumbai, Bengaluru, Hyderabad, and Pune.
- Promotion of IP-backed financing and stronger copyright protection.
- Formalisation of gig workers through platforms like e-Shram Portal.

Circular Economy in Agriculture: Waste to Wealth

Context: The Government of India has highlighted the role of the Circular Economy in agriculture to convert farm waste into valuable resources, improving sustainability and economic efficiency.

- India's circular economy could reach $2 trillion and create about 10 million jobs by 2050.

Waste-to-Wealth Approach

- It involves converting waste into useful products such as bioenergy, compost, recycled goods, or industrial inputs.
- This approach helps reduce pollution while generating income and sustainable livelihoods.

Status of Agricultural Waste

- India generates around 350 million tonnes of agricultural waste annually.
- Proper utilisation could produce over 18,000 MW of power.

What is Circular Agriculture?

- A sustainable farming model that reuses and recycles farm resources like crop residues and animal waste.
- Supports SDG 2 by promoting food security and sustainable agriculture.

Major Circular Agricultural Practices

- Crop Residue Management: Using stubble for mulching, composting, or bioenergy instead of burning.
- Integrated Farming Systems: Linking crops, livestock, fisheries, and agroforestry.
- Organic Manure & Biofertilisers: Converting biomass and animal waste into compost or biogas.
- Water Recycling: Using treated wastewater for irrigation.
- Agroforestry & Mixed Cropping: Enhancing soil fertility and biodiversity.

Benefits

- Energy Generation: Waste can produce bioenergy and electricity.
- Improved Soil Health: Organic manure reduces dependence on chemical fertilizers.
- Environmental Protection: Reduces pollution caused by stubble burning.

Key Challenges

- High Initial Costs: Biogas and bio-CNG plants require large investments.
- Technology & Skill Gaps: Lack of awareness and technical expertise.
- Market Constraints: Weak markets for compost and bio-products.
- Fragmented Landholdings: Small farms hinder efficient waste collection.

Government Initiatives

- GOBARdhan Scheme: Converts cattle dung and crop residues into compressed biogas and manure.
- Crop Residue Management Scheme: Promotes in-situ and ex-situ use of stubble; over 3.24 lakh machines distributed.
- Agriculture Infrastructure Fund: Supports storage, processing, and value chains.
- Animal Husbandry Infrastructure Development Fund: Promotes waste-to-wealth in dairy and feed sectors.
- Water reuse initiatives under programmes like the Jal Shakti Abhiyan.

Way Forward

- Expand financial support and subsidies for waste-to-energy projects.
- Promote decentralised biogas plants at village level.
- Increase mechanisation and Custom Hiring Centres for residue management.
- Strengthen market linkages through Farmer Producer Organisations (FPOs).

Centres for the Fourth Industrial Revolution (C4IR)

Context: The World Economic Forum announced the launch of five new Centres for the Fourth Industrial Revolution (C4IR), including one in Andhra Pradesh.

About the C4IR Network

- Launched in 2017 by the World Economic Forum.
- It is a global multi-stakeholder platform linking governments, industry, academia, and civil society.
- Objective: To ensure that emerging technologies are developed and governed responsibly, maximising societal benefits while reducing ethical, security, and economic risks.

C4IR in India

- Location: Andhra Pradesh
- Name: Centre for Energy and Cyber Resilience.
- It will be India's third C4IR centre, after centres in Mumbai and Telangana.

Key Objectives

- Promote innovation in energy transition and green energy systems.
- Strengthen cyber resilience across industries.
- Develop cybersecurity strategies and trusted digital systems.
- Support workforce upskilling in emerging technologies.

Fourth Industrial Revolution (4IR)

- Definition: A phase of rapid technological change where physical, digital, and biological technologies converge.
- The concept was popularised by Klaus Schwab in 2016.

Key Features
- **Speed:** Technological change occurs at an unprecedented pace.
- **Scale:** Impacts almost all sectors and countries.
- **Systemic Transformation:** Leads to major shifts in production, governance, and economic systems.

Coking Coal

Context: The Government of India has classified Coking Coal as a Critical and Strategic Mineral under the Mines and Minerals (Development and Regulation) Act, 1957.

About Coking Coal
- A sedimentary rock also known as metallurgical coal.
- It differs from Thermal Coal due to:
  - Higher carbon content
  - Lower ash and moisture

Unique Property
- When heated in the absence of air, it softens, swells, and fuses together, forming coke, a strong, lightweight, porous fuel used in steelmaking.

Classification of Coking Coal

Type	Key Properties
Primary Coking Coal	Low ash, low volatile matter, high coking strength
Medium Coking Coal	Low ash, medium volatile matter, moderate caking index
Semi/Weak Coking Coal	High volatile matter, low caking index; usually blended with better grades

Importance
- **Steel Production:** Essential in the blast furnace process, which is crucial for infrastructure, manufacturing, defence, and construction sectors.
- **Strategic Resource:** Availability influences steel industry capacity, cost competitiveness, and supply security.
- **Major Global Producers:** China, Australia, Russia, United States, and Canada.

Domestic Availability in India
- **Estimated Resources:** About 37.37 billion tonnes.
- **Major Reserves:**
  - Jharkhand (largest share), Madhya Pradesh, West Bengal, Chhattisgarh

Import Dependence
- Imports increased from 51.20 million tonnes (2020–21) to 57.58 million tonnes (2024–25).
- Nearly 95% of the steel sector's requirement is met through imports, leading to high foreign exchange expenditure and supply risks.

Rare Earth Corridors

Context: In the Union Budget 2026-27, the government proposed establishing Rare Earth Corridors in coastal states such as Odisha, Kerala, Andhra Pradesh, and Tamil Nadu to strengthen rare earth exploration and processing.

State-wise Rare Earth Locations
- **Odisha:** The Chhatrapur area (OSCOM) has the highest rare earth processing activity in India.
- **Andhra Pradesh:** Deposits found along the coast in Srikakulam, Visakhapatnam, and Nellore.
- **Tamil Nadu:** Rich beach sand deposits at Manavalakurichi and other southern coastal districts.
- **Kerala:** Major reserves located at Chavara and near Vizhinjam Port.

Dedicated **Rare-Earth Corridors**

Odisha
Andhra Pradesh
Kerala
Tamil Nadu

Source: Union Budget 2026-27

Key Properties
- Very high magnetic strength
- High energy density
- Compact size and better performance than ferrite or alnico magnets

Limitations
- Brittle and corrosion-prone
- Usually nickel-coated or plated for protection.

Rare Earths in India
- **Primary Source:** Beach Sand Minerals (BSM) are the main source of rare earth elements in India.
- **Monazite Deposits:** BSM contains Monazite, rich in rare earth elements like Neodymium and Praseodymium.
- Monazite also contains Uranium and Thorium, making it strategically important.
- Due to radioactive content, Monazite is regulated under the Atomic Energy Act, 1962.
- Rare earth elements are classified as critical minerals because of their role in advanced technologies and national security.

Rare Earth Magnets
- Rare-earth permanent magnets are the strongest commercially available permanent magnets.
- Made from rare earth metal alloys combined with iron and boron.
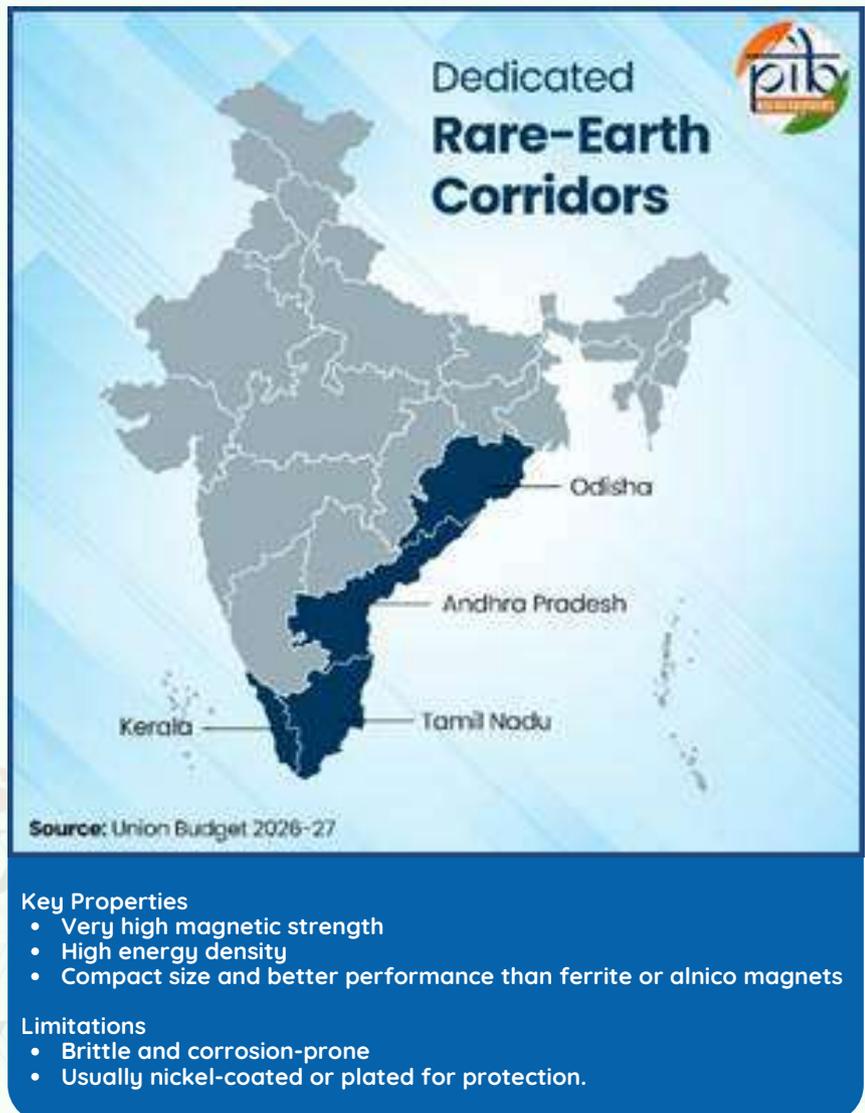
AgriStack

Context: In the Union Budget 2026, the Finance Minister announced Bharat-VISTAAR, a multilingual AI platform integrating AgriStack with data from the Indian Council of Agricultural Research.

About AgriStack
- AgriStack is a Digital Public Infrastructure (DPI) for agriculture launched in 2024 under the Digital Agriculture Mission.
- Nodal Ministry: Ministry of Agriculture and Farmers Welfare
- Objective: Create a unified platform for farm-related data to improve delivery of agricultural services and schemes.

Core Components
1. Farmer Registry
2. Crop Sown Registry
3. Geo-referenced Village Maps

These registries are maintained by State Governments and Union Territories.

Key Features
1. Farmer Registry
- Provides a unique digital Farmer ID, similar to Aadhaar.
- Linked with land records, crops, livestock, demographic details, and scheme benefits.
- Progress: 8.62 crore Farmer IDs created out of the 11-crore target.
- Benefit: Enables farmers to access services digitally, reducing paperwork and physical visits.

2. Crop Sown Registry
- Records season-wise crop data through digital surveys.
- Target: Cover 30 crore farm plots in 604 districts by Kharif 2026.

3. Geo-referenced Village Maps
- Connect land records with GPS-based mapping for accurate farm identification.
- Progress: 5.4 lakh villages mapped out of 6.75 lakh villages.
- Target: Complete mapping by March 2027.

Bharat-VISTAAR (Virtually Integrated System to Access Agricultural Resources)
- An AI-driven multilingual agricultural platform announced in the Union Budget 2026.
- Integrates AgriStack data with ICAR's agricultural practices database.

Key Features
- AI-based location-specific crop advisory.
- Multilingual recommendations for farmers.
- Real-time information on weather, pest control, soil health, crop management, and market prices.
- Reduces information gaps and improves last-mile delivery of agricultural knowledge.

New Series of the Consumer Price Index (CPI)

Context: The Ministry of Statistics and Programme Implementation released a new Consumer Price Index (CPI) series with base year 2024, replacing the earlier 2012 base year series.

The updated index is based on the Household Consumption Expenditure Survey 2023–24.

About Consumer Price Index (CPI)
- CPI measures the change in retail prices of a basket of goods and services consumed by households over time (indicator of inflation).
- Published by: National Statistical Office under MoSPI.
- Frequency: Monthly release.
- Base Year: 2024.

Types of CPI
- CPI-IW: CPI for Industrial Workers (compiled by Labour Bureau).
- CPI-AL: CPI for Agricultural Labourers.
- CPI-RL: CPI for Rural Labourers.
- CPI Combined: National CPI compiled by NSO.

Key Features of the New CPI Series
- Lower Food Weight: Food & beverages weight reduced to 36.75% (from 45.86%).
- Expanded Basket: 358 items included (earlier 299) to reflect current consumption patterns.
- Wider Coverage: Prices collected from more markets across India.
- Online Prices Included: Data from 12 online marketplaces added for the first time.
- Global Standard: Follows COICOP 2018 with 12 consumption categories (earlier 6 groups).
- Better Global Comparability: Improved classification and detailed divisions.

Changes in CPI Basket

New Items Added
- Rural house rent (first time)
- Online streaming/OTT services
- Value-added dairy products
- Barley products
- Pen drives and external hard disks
- Attendant/babysitter services
- Exercise equipment
- Cleaner fuels (CNG/PNG)

Items Removed
- VCR/VCD/DVD players
- Tape recorders and radios
- CD/DVD cassettes
- Second-hand clothing
- Coir/rope products

Need for Revision
- Outdated Base Year: The earlier CPI was based on 2012 data and 2011–12 consumption patterns.
- Changing Consumption Trends: Rise of digital services, online shopping, and new products.
- Policy Relevance: A modern CPI helps provide a more accurate measure of inflation for economic policy and decision-making.

Karimpuzha Wildlife Sanctuary

Context: A recent faunal survey has expanded biodiversity records in Karimpuzha Wildlife Sanctuary. The survey was conducted by the Kerala Forest Department with support from the Society for Tropical Ecology and Research and the Travancore Natural History Society.

Key Findings of the Survey
- Bird Diversity: 171 bird species recorded, including 8 new species, increasing the total to 247 species.
- Insect Diversity: 177 butterfly species and 42 odonate species recorded; totals now 223 butterflies and 63 odonates.
- Ecological Connectivity: Observations of altitudinal butterfly migration and frequent elephant movement indicate strong habitat connectivity.

About Karimpuzha Wildlife Sanctuary
- Location: Malappuram district, on the western slopes of the Nilgiri Hills.
- Established: 2020.
- Area: 227.21 sq km.
- Named after the Karimpuzha River.

Ecological Importance
- Part of the Nilgiri Biosphere Reserve.
- Included within the Nilambur Elephant Reserve.
- Shares boundaries with Silent Valley National Park and Mukurthi National Park.

Key Features
- Unique Topography: Altitude ranges from 40 m to 2,550 m, supporting all seven forest types found in Kerala.
- Flora: Teak, rosewood, bamboo, and endemic orchids.
- Fauna: Includes Nilgiri Tahr, Lion-tailed Macaque, Bengal Tiger, Asian Elephant, and Malabar Mahseer.
- Tribal Community: Home to the Cholanaikan Tribe.

India Added Two New Ramsar Sites

Context: Patna Bird Sanctuary and Chhari-Dhand Wetland Reserve have been designated as Wetlands of International Importance under the Ramsar Convention.

Ramsar Sites in India
- With these additions, India now has 98 Ramsar sites (earlier 96).
- Top State: Tamil Nadu with 20 Ramsar sites.
- Second: Uttar Pradesh with 11 sites after the latest inclusion.

Patna Bird Sanctuary
- Location: Jalesar.
- Established: 1991.
- A natural freshwater shallow wetland located in the Gangetic plains.
- Biodiversity: Hosts over 106 species of migratory and resident birds.
- Vegetation: Dominated by aquatic plants such as Water Hyacinth and Potamogeton.

Important Bird Species
- Lesser Whistling Duck
- Graylag Goose
- Ruddy Shelduck
- Eurasian Wigeon
- Northern Pintail

Chhari-Dhand Wetland Reserve
- Location: Near Banni Grasslands.
- Type: Seasonal saline wetland fed by monsoon rainfall.
- Part of the arid ecosystem of Kutch.

Biodiversity
- Supports 250+ bird species.
- Important wintering and breeding ground for birds like:
  - Greater Flamingo
  - Lesser Flamingo
  - Pelicans, cranes, ducks, and raptors.

World Wetlands Day
- Celebrated every year on 2 February.
- Marks the adoption of the Ramsar Convention.
- Theme 2026: "Wetlands and traditional knowledge: Celebrating cultural heritage."

India-AI Impact Summit 2026

Context: The India-AI Impact Summit 2026 was held in New Delhi, marking a shift from the "safety-first" regulatory approach to an "impact-first" development-oriented model of AI governance.
Switzerland will host the next summit in Geneva in 2027.

New Delhi Declaration - Adopted by 89 countries and international organisations, focusing on the democratic diffusion of AI.

Key Pillars
- Democratising AI Resources: Promote affordable connectivity and digital infrastructure.
- Economic Growth & Social Good: Encourage open-source AI applications for wider adoption.
- Secure & Trusted AI: Strengthen security across the AI lifecycle.
- AI for Science: Improve access to AI for scientific research.
- Social Empowerment: Use AI to expand access to knowledge and services.
- Human Capital Development: Promote AI literacy, workforce training, and reskilling.
- Resilient Infrastructure: Encourage energy-efficient AI systems and infrastructure.

Key Highlights of the Summit
- Charter for Democratic Diffusion of AI: Treats high-performance computing (HPC) and datasets as Global Public Goods to prevent technological dependency.
- "Sarvajan Hitaya, Sarvajan Sukhaya" Principle: Promotes AI for welfare and inclusive development.
- MANAV Vision (Human-centric AI framework):
  - M – Moral Systems: Ethical AI safeguards.
  - A – Accountable Governance: Transparency and algorithm audits.
  - N – National Sovereignty: Data sovereignty.
  - A – Accessible & Inclusive: Support for all 22 official Indian languages.
  - V – Valid & Legitimate: Watermarking and traceability for AI content.
- Economic Commitments:
  - Around $250 billion investment pledged for AI infrastructure.
  - $20 billion allocated for deep-tech research.
- Technology Initiatives:
  - Launch of Sarvam-105B, optimized for Indic languages.
  - Expansion of IndiaAI Mission to increase national compute capacity.

About Artificial Intelligence (AI) - Artificial Intelligence refers to computer systems capable of learning, reasoning, and self-correction.
Major AI Technologies
- Machine Learning, Natural Language Processing, Computer Vision, Deep Learning, Robotics.

Significance
- Strategic Autonomy: India aims to build a sovereign AI technology stack.
- Global South Leadership: Promotes AI as Digital Public Infrastructure (DPI) for development.
- Economic Growth: Large investments in AI research and infrastructure.
- Technology Governance: Establishes frameworks for ethical and inclusive AI.

Challenges
- Non-binding commitments may limit implementation.
- Infrastructure gaps in computing capacity and energy supply.
- Risks of deepfakes and misinformation.
- Job displacement due to automation and AI adoption.

Sovereign AI Models

Context: India unveiled three Sovereign AI Models at the India-AI Impact Summit 2026 to strengthen India-first AI capabilities.

About Sovereign AI Models
- Sovereign AI models are AI systems developed, trained, and governed within a country's jurisdiction, ensuring national control over data, infrastructure, and regulations.
- In India, these models operate under the IndiaAI Mission, approved in March 2024 with an outlay of ₹10,000 crore.

Key Features
- Domestic Data Control: AI training datasets stored and processed within India.
- Local Compute Infrastructure: Use of sovereign cloud servers and government-supported GPU clusters.
- Regulatory Oversight: Governed by national AI policies, cybersecurity rules, and data protection laws.
- Strategic Autonomy: Reduces dependence on foreign technology platforms.

Major Sovereign AI Models in India

1. Sarvam AI
- Developed two Large Language Models (LLMs):
  - 30-billion parameter model
  - 105-billion parameter model
- Trained from scratch in India with focus on Indian languages and governance needs.
- Applications: Public service delivery, enterprise AI, government chatbots, and multilingual digital platforms.

2. Gnani.ai
- Voice-first AI models optimized for Indian accents and dialects.
- Features:
    - High-accuracy speech-to-text (ASR)
    - Voice biometrics and anti-spoofing
    - Real-time conversational AI
- Applications: Customer support automation, banking, telecom, and e-governance voice interfaces.

3. BharatGen
- Multilingual generative AI supporting all 22 scheduled Indian languages (currently 15+).
- Works across text, speech, and vision.
- Developed through a consortium-based model trained on Indian datasets.
- Applications: Education, research, translation, and inclusive digital services.

Biopharma SHAKTI

Context: In the Union Budget 2026, the government announced the Biopharma SHAKTI scheme to develop India as a global hub for biopharmaceutical manufacturing.

About Biopharma SHAKTI
- Full Form: Strategy for Healthcare Advancement through Knowledge, Technology and Innovation.
- Financial Outlay: ₹10,000 crore over five years.
- Nodal Ministry: Department of Pharmaceuticals.
- Objective: Build a strong ecosystem for domestic production of advanced biopharmaceutical products, improving healthcare security and industrial competitiveness.

Focus Areas
- Disease Focus: Targets non-communicable diseases (NCDs) such as
    - Cancer
    - Diabetes
    - Autoimmune Disorders

Medicines Covered
- Biologics
    - Complex drugs produced from proteins, cells, or genes.
- Biosimilars
    - Provide cost-effective treatment alternatives.

Strategic Importance
- Biopharmaceuticals require advanced manufacturing processes, including purification, processing, and strict quality control.
- The scheme aims to reduce import dependence, strengthen domestic research and manufacturing, and improve access to affordable medicines.

Fluorescent Proteins

Context: Two studies published in Nature (February 2026) show that fluorescent proteins can detect magnetic fields and radio waves inside living cells, acting as quantum sensors.

Key Findings
- Scientists modified Enhanced Yellow Fluorescent Protein (EYFP) and developed a new magneto-sensitive protein called MagLOV.
- These engineered proteins can detect magnetic signals inside Escherichia coli even at room temperature.
- The discovery could enable genetically encoded quantum sensors and new quantum-biological technologies.

What is EYFP?
- EYFP is a modified version of Green Fluorescent Protein (GFP).
- It emits yellow fluorescence and is widely used to visualize and track cellular processes in living cells.

What is MagLOV?
- MagLOV is a newly engineered fluorescent protein that can sense magnetic fields inside living cells.
- It works by linking changes in electron spin to changes in fluorescence.

About Fluorescent Proteins
- Fluorescent proteins absorb light at one wavelength and emit it at a longer wavelength.
- Example: GFP, originally discovered in jellyfish.
- The discovery and application of GFP in biology led to the Nobel Prize in Chemistry 2008.

How Fluorescent Proteins Work
- They contain a chromophore (light-sensitive component).
- When light hits the protein, electrons absorb energy and become excited.
- As electrons return to their normal state, visible light is emitted, producing fluorescence.

Quantum Sensors
- Quantum sensors use quantum properties such as electron spin and superposition to measure very small physical changes.
- They can detect extremely weak:
  - Magnetic fields, Electric fields, Temperature variations, Gravitational changes

Applications
- Cell Biology: Tracking protein movement and cell division.
- Neuroscience: Mapping neural circuits in the brain.
- Medical Research: Drug discovery and disease modelling.
- Plant Science: Studying plant stress responses and pathogens.
- Synthetic Biology: Designing and monitoring engineered gene circuits.

Kyasanur Forest Disease (KFD)

Context: The Indian Council of Medical Research has started Phase I clinical trials of an improved indigenous vaccine for Kyasanur Forest Disease.

About Kyasanur Forest Disease (KFD)
- KFD is a tick-borne viral haemorrhagic fever caused by the Kyasanur Forest Disease Virus (KFDV).
- First identified in 1956 in Karnataka.
- Endemic Region: Mainly found in the Western Ghats, particularly in Karnataka, Kerala, Tamil Nadu, Goa, and Maharashtra.
- It mostly affects forest-dependent communities.

Transmission
- Spread through the bite of infected forest ticks, mainly Haemaphysalis spinigera.
- Infection can also occur through contact with infected animals, especially sick or dead monkeys.

Symptoms
- High fever
- Severe muscle pain
- Bleeding manifestations
- Low blood pressure

There is no specific antiviral treatment; patients receive supportive care.

Prevention
- Vaccination in endemic areas.
- Use of tick repellents (e.g., DEPA oil).
- Protective clothing for forest workers.
- Monitoring monkey deaths, which often signal disease outbreaks.

Kyasanur Forest Disease (KFD) Virus Ecology
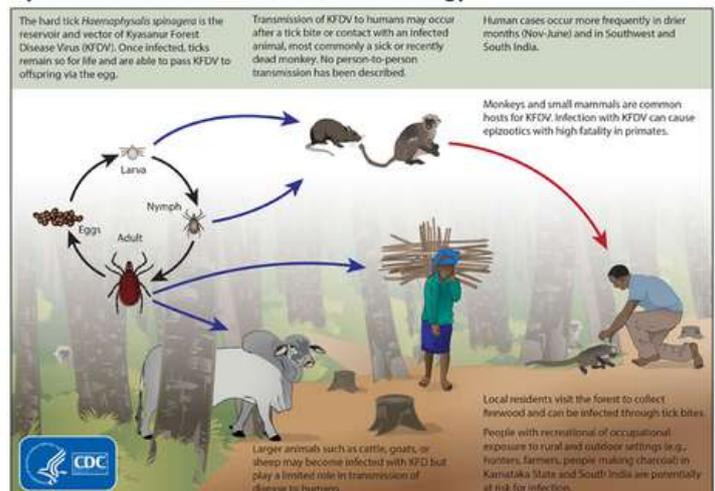
PRAHAAR: India's First Anti-Terror Policy

Context: The Union Government has introduced PRAHAAR, India's first comprehensive national counter-terrorism policy, notified by the Ministry of Home Affairs.

About PRAHAAR-
- PRAHAAR is based on a Zero-Tolerance approach to terrorism.
- It adopts a Whole-of-Government and Whole-of-Society approach, involving security agencies, civil society, technology experts, and psychologists.
- The framework emphasizes a secular and non-profiling approach, focusing on criminal networks rather than religion or ethnicity.

Seven Pillars of PRAHAAR

- **P – Prevention:** Intelligence-led disruption of terror networks through agencies like the Multi Agency Centre.
- **R – Response:** Swift and coordinated action; local police act as first responders with support from the National Security Guard.
- **A – Aggregating Capacities:** Modernization of law-enforcement agencies using AI and advanced technologies.
- **H – Human Rights:** Ensuring investigations follow the rule of law and strong legal procedures.
- **A – Addressing Radicalization:** Community engagement, psychological counselling, and rehabilitation of misguided youth.
- **A – Aligning International Efforts:** Strengthening global cooperation and legal treaties to curb terror financing and safe havens.
- **R – Recovery & Resilience:** Focus on victim support and quick restoration of normal life after attacks.

Why the Policy Was Needed

- **Lack of Unified Strategy:** Earlier, India relied mainly on laws like Unlawful Activities (Prevention) Act rather than a single national strategy.
- **Emerging Threats:** Use of drones, encrypted communication, and cyber-attacks by terror groups.
- **Terror-Crime Nexus:** Funding through narcotics trafficking and organized crime.
- **Digital Radicalization:** Recruitment through social media and online platforms.
- **Protection of Critical Infrastructure:** Growing risks to power grids, nuclear facilities, and digital networks.

Key Challenges

- **Federal Concerns:** Police and public order fall under state jurisdiction.
- **Privacy Issues:** Balancing surveillance with citizens' digital rights.
- **Resource Gaps:** Local police often lack advanced cyber and technical capabilities.
- **Information Silos:** Coordination gaps among intelligence agencies.

Way Forward

- Strengthen legal and forensic systems to improve conviction rates.
- Develop indigenous cybersecurity and drone-detection technologies.
- Expand community-based de-radicalization programmes.
- Enhance international cooperation and intelligence sharing.

Solid Fuel Ducted Ramjet Technology (SFDR)

Context: The Defence Research and Development Organisation successfully conducted a flight demonstration of Solid Fuel Ducted Ramjet (SFDR) technology from the Integrated Test Range, Chandipur. With this achievement, India joins a select group of countries possessing advanced ramjet propulsion technology.

About SFDR Technology

- Solid Fuel Ducted Ramjet (SFDR) is an advanced air-breathing missile propulsion system.
- The missile first accelerates using a booster rocket and then sustains high-speed flight using a ramjet combustor powered by atmospheric oxygen while burning solid fuel.
- Developed by Defence Research and Development Laboratory.
- Combat Role: Provides fighter aircraft an advantage in Beyond Visual Range (BVR) air combat.

Why SFDR is a Game-Changer

- Sustained Supersonic Speed: Enables missiles to maintain Mach 2–3.8 speeds for longer periods.
- Extended Range: Can engage manoeuvrable aerial targets at 50–340 km.
- Operational Flexibility: Works from sea level to 20 km altitude with rapid altitude changes.
- Higher Lethality: Creates a wider "no-escape zone", making evasion by enemy aircraft difficult.

Working Mechanism of SFDR

1. Booster Phase
- Missile is accelerated to supersonic speed using a nozzle-less booster.
- Propellant developed by the High Energy Materials Research Laboratory.

2. Sustainer Phase
- A ramjet engine takes over for long-duration powered flight.
- Uses boron-based high-energy solid fuel with atmospheric oxygen for combustion.

3. Thrust Control
- A hot gas valve regulates thrust according to speed and altitude.

4. Air Intake
- Titanium alloy air intakes open during flight to compress incoming air.

5. Advanced Systems
- Includes onboard computer, inertial navigation system, RF seeker, data link, and electro-mechanical actuators.

6. Warhead
- Equipped with a fragmentation warhead and proximity fuse for effective target destruction.

About Ramjet Engines

- A ramjet is an air-breathing engine that compresses incoming air using the vehicle's forward motion rather than compressors.
- Requires initial rocket boost to reach the speed necessary for operation.

Tulu Language

Context: The Karnataka government is considering declaring Tulu as the second official language of the state under Article 345.

About Tulu Language
- Tulu is an ancient Dravidian language mainly spoken in the Dakshina Kannada and Udupi districts of Karnataka and parts of Kerala.
- Key Features:
  - History of over 3,000 years.
  - Has its own script known as Tigalari Script.
  - Known for rich oral literature, folklore, and ritual traditions.

Contemporary Importance
- Tulu acts as a cultural identity marker for the Tuluva community and plays an important role in preserving regional heritage.

Official Languages of States in India
- States can adopt one or more official languages for administrative purposes, reflecting India's linguistic diversity.
- Under Article 345, state legislatures may declare any language used in the state as an official language, even if it is not listed in the Eighth Schedule of the Constitution.

Examples of Second Official Languages
- Andhra Pradesh – Urdu as the second official language.
- West Bengal – Additional languages recognized in certain regions.

Fuego Volcano

Context: Volcán de Fuego, one of Central America's most active volcanoes, recently erupted explosively, sending ash plumes up to 14,000–16,000 feet.

About Fuego Volcano
- Volcán de Fuego ("Volcano of Fire") is an active basaltic stratovolcano located in Guatemala.
- Altitude: 3,763 m (12,346 ft).
- It is one of the three volcanoes overlooking Antigua Guatemala.

Location:
- Situated between:
  - Volcán de Acatenango
  - Volcán de Agua
- Lies along the Pacific Ring of Fire, a region with frequent earthquakes and volcanic activity.

About Stratovolcano (Composite Volcano)
- A stratovolcano is a tall, steep, cone-shaped volcano formed by alternating layers of lava and pyroclastic materials (ash, volcanic rocks, and debris).
- These volcanoes are known for explosive eruptions due to viscous lava and trapped gases.

Micro Minority Tag

Context: The Syro-Malabar Church has sought "micro minority" status from the Union government, raising debates about minority classification and constitutional safeguards.

What is the Micro Minority Tag?
- Micro minority refers to very small communities within officially recognised minority groups that seek targeted welfare and policy support.
- It is not an officially recognised legal category in India.

Constitutional & Legal Framework
- Article 29 – Protects the right of minorities to conserve their culture and language.
- Article 30 – Allows minorities to establish and administer educational institutions.
- Minority status in India is notified under the National Commission for Minorities Act, 1992.
- Any sub-classification must comply with Article 14.

Rationale Behind the Demand
- Smaller denominations within larger minority groups often receive limited benefits from welfare schemes.
- The micro minority tag is sought to ensure:
  - Better access to scholarships and welfare schemes
  - Protection of educational and cultural institutions
  - Equitable distribution of minority benefits.

PANCHAM Digital Chatbot

Context: The Ministry of Panchayati Raj has launched the PANCHAM Digital Chatbot to assist village panchayats across India.

About PANCHAM Digital Chatbot
- Full Form: Panchayat Assistance and Messaging Chatbot.
- Developed by: Ministry of Panchayati Raj in partnership with UNICEF.
- Platform: WhatsApp-based AI chatbot.
- Purpose: Acts as a digital support tool for Panchayat representatives, including Sarpanches, ward members, and officials at the grassroots level.

Key Features
- Two-way Communication: Panchayat representatives can ask questions, provide feedback, and receive updates from the ministry.
- Multilingual Support: Available in 22 Indian languages through integration with BHASHINI.
- Voice & Text Assistance: Provides real-time information on government schemes and administrative processes.
- Training Support: Offers short videos and guidance modules on governance tasks.
- Official Updates: Delivers circulars, advisories, and policy messages directly to local representatives.

Principle of "Just Deserts"

Context: The principle of "Just Deserts" has recently been discussed in debates on criminal justice policy and sentencing reforms.

About the Principle of Just Deserts
- The Just Deserts principle is a theory of punishment which states that offenders should receive punishment proportional to the seriousness of their crime.
- The central idea is that punishment is justified because the offender morally deserves it.

Key Features
- Retributive Justice: Based on the concept of Retributive Justice, where punishment is imposed because a crime has been committed.
- Proportionality: The punishment must be proportionate to the gravity of the offence (e.g., minor theft vs. murder).
- Moral Responsibility: Assumes individuals are rational agents responsible for their actions.
- Backward-Looking Approach: Focuses on the crime already committed, unlike deterrence theories that focus on preventing future crimes.

4B Movement

Context:

- The 4B Movement has re-emerged in public debate as a response to patriarchy and gender-based violence.

The Four 'Nos'

The movement is based on four principles:

- **No Marriage (Bihon):** Rejects marriage as it often leads to unequal power relations and unpaid care work.
- **No Childbirth (Bichulsan):** Refuses motherhood in response to societal pressure on women to reproduce.
- **No Dating (Biyeonae):** Avoids dating cultures that involve emotional labour and gendered expectations.
- **No Sex (Bisekseu):** Withholds sexual relationships as a form of resistance against coercion and entitlement.

PAIMANA Portal

Context: The Ministry of Statistics and Programme Implementation has launched the PAIMANA Portal to monitor Central Sector infrastructure projects worth ₹150 crore and above.

About PAIMANA Portal

- **Full Form:** Project Assessment, Infrastructure Monitoring & Analytics for Nationbuilding.
- **Nature:** A centralised digital platform for monitoring major central infrastructure projects.
- **Replaces:** Online Computerized Monitoring System (OCMS-2006).
- **Nodal Ministry:** Ministry of Statistics and Programme Implementation (MoSPI).

Purpose

- Strengthen monitoring, evaluation, and analytics of large infrastructure projects.
- Use a technology-driven approach for improved tracking of project progress, delays, and performance.

✓ Significance:
The PAIMANA portal will improve transparency, accountability, and efficiency in the implementation of major infrastructure projects across India.

'Kaushal Rath'

Context: The Ministry of Electronics and Information Technology has launched 'Kaushal Rath' under the Yuva AI for All initiative to promote basic AI literacy among young people.

About 'Kaushal Rath'
- Kaushal Rath is a mobile Artificial Intelligence awareness unit under the Yuva AI for All programme.
- It functions as a fully equipped mobile computer lab with internet-enabled systems, audio-visual tools, and training modules.
- The unit will travel to schools, colleges, Industrial Training Institutes (ITIs), and community centres.
- It provides hands-on exposure to AI and Generative AI tools, guided by trained facilitators using India-specific case studies.

About "Yuva AI for All"
- A four-hour, self-paced AI learning programme consisting of six modules.
- No prior coding knowledge required.
- Focus Areas:
  - AI fundamentals
  - AI ethics
  - Real-world AI applications
- Objective: Build a future-ready workforce with basic AI literacy.
- Implemented in collaboration with platforms such as Future Skills Prime, iGOT Karmayogi, Coursera, and TCS iON.

✓ **Significance:**
'Kaushal Rath' will help expand AI awareness and digital skills among youth, supporting India's goal of building a skilled workforce for the AI-driven economy.

Pangolakha Wildlife Sanctuary

Context: A recent forest fire affected around 12 hectares inside Pangolakha Wildlife Sanctuary, located near the Indo–China border.

About Pangolakha Wildlife Sanctuary
- Established: 2002
- Location: Sikkim, along the Indo–China border.
- Recognised as an Important Bird Area (IBA) due to its rich avian biodiversity.

Ecological Connectivity
- Forms an ecological corridor with forests of Bhutan and Neora Valley National Park.
- Located along the Pangolakha Range, below the Chola Range, which separates Sikkim from Bhutan.

Geography
- Terrain: Steep mountains, alpine meadows, marshes, and forested valleys.
- Important Passes:
  - Nathu La Pass
  - Jelep La Pass
- Rivers: Headwaters of the Rangpo and Jaldhaka rivers originate nearby.

Vegetation
- Displays an alpine-temperate-subtropical vegetation gradient.
- Major species include rhododendron, silver fir, juniper, oak forests, and bamboo thickets.

Fauna
- Home to species such as:
  - Tiger
  - Leopard
  - Takin
  - Red Panda (State animal of Sikkim)
  - Musk Deer
  - Serow
  - Asiatic Black Bear

✓ Significance:
   Pangolakha Wildlife Sanctuary is ecologically important for Himalayan biodiversity conservation and cross-border wildlife connectivity.

Bactrian Camels

Context: Two Bactrian camels, named Galwan and Nubra, participated in the Republic Day Parade 2026 as part of the Indian Army Animal Contingent.

About Bactrian Camels
- The Bactrian Camel is known for its two humps and ability to survive in extreme cold and arid desert environments.

Origin and Domestication
- Domesticated about 5,000-6,000 years ago in Central Asia (present-day Uzbekistan and West Kazakhstan).
- Named after the ancient region of Bactria.
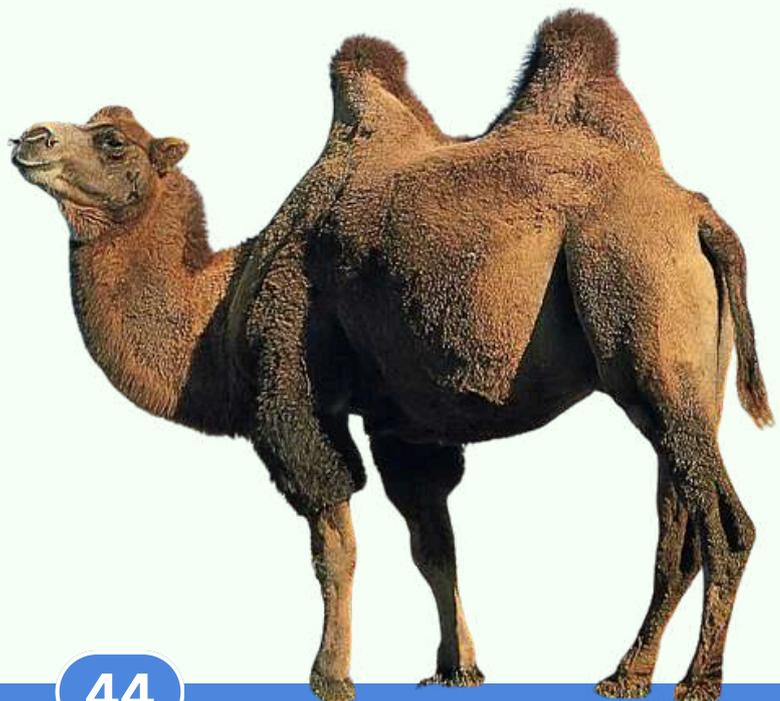
Species and Distribution
- **Domesticated Bactrian Camel (Camelus bactrianus):**
  - Found from southern Ukraine and the Middle East to Mongolia.
  - Historically important to Central Asian nomadic societies.
- **Wild Bactrian Camel (Camelus ferus):**
  - Survives only in isolated areas of China and Mongolia.
  - Considered one of the world's rarest large mammals.
- **In India:**
  - Found exclusively in Nubra Valley, making it a rare region-specific species.

Key Features
- **Dual Humps:** Store fat (not water), providing energy during long periods without food.
- **Cold Adaptation:** Thick shaggy winter coat protects against sub-zero temperatures and is shed in summer.

Cultural Significance
- Bactrian camels were vital to trade along the Silk Road, transporting goods such as jade, horses, and textiles, earning them the title "Ships of the Silk Road."

Loggerhead Turtles

Context: A 17-year study in Cabo Verde shows that climate change, warming oceans, and declining marine productivity are significantly affecting the population of Loggerhead Sea Turtle.

About Loggerhead Turtles
- **Scientific Name:** Caretta caretta
- One of the most widespread sea turtle species in the world.
- Named for their large head and powerful jaws.

Physical Characteristics
- **Carapace (Top Shell):** Reddish-brown and heart-shaped.
- **Plastron (Bottom Shell):** Pale yellowish colour.
- **Head:** Exceptionally large and strong.
- **Flippers:** Adapted for long-distance swimming.

Diet
- Mainly feeds on hard-shelled marine invertebrates, including:
  - Conchs
  - Whelks
  - Crabs
  - Clams
  - Sea urchins
- Also eats jellyfish and some plant material, making it omnivorous.
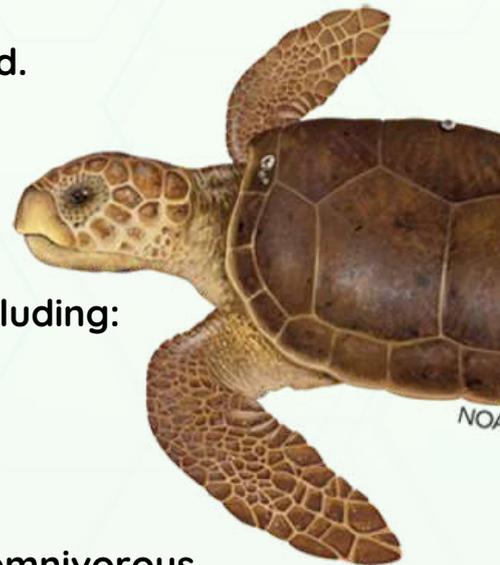
Habitat and Distribution
- Found across temperate and subtropical oceans worldwide, including:
  - Atlantic Ocean
  - Pacific Ocean
  - Indian Ocean
  - Mediterranean Sea
- Highly migratory, travelling thousands of kilometres between feeding and nesting areas.

Reproduction
- Natal Homing: Females return to the same beaches where they were born to lay eggs.
- Navigation is believed to use the Earth's magnetic field.
- Lay multiple clutches (about four) every 2–3 years.

Ecological Importance
- Considered a keystone species in some marine ecosystems.
- Their feeding behaviour helps recycle calcium from shells and maintain ecological balance.

Conservation Status
- International Union for Conservation of Nature: Listed as Vulnerable on the IUCN Red List.
- Wildlife Protection Act 1972: Protected under Schedule I.
- Convention on the Conservation of Migratory Species of Wild Animals: Listed in Appendix I.

Major Threats
- Bycatch in fishing gear
- Coastal development and beach erosion
- Marine pollution
- Boat strikes
- Climate change, which affects nest temperature and ocean productivity

Tetrodotoxin (TTX)

Context: Food safety authorities suspect tetrodotoxin contamination after several people fell critically ill from consuming fish roe at a restaurant in Kerala.

About Tetrodotoxin (TTX)

- Tetrodotoxin (TTX) is a naturally occurring, extremely potent marine neurotoxin.
- Considered one of the most powerful non-peptide neurotoxins known.

Key Characteristics
- **Heat-Stable Toxin:**
- Resistant to normal cooking methods such as boiling or frying.

Bacterial Origin:
- Produced mainly by bacteria such as Vibrio and Pseudomonas.
- Animals accumulate the toxin through the food chain.

Source Organisms:
- Most famously associated with Pufferfish.
- Also found in:
- Blue-ringed Octopus
- Certain snails and starfish
- Crabs
- Some amphibians such as newts and frogs

High Concentration in Organs:
- Particularly concentrated in liver and ovaries (roe) of pufferfish and similar species.

No Antidote:
- Currently no specific antidote exists for tetrodotoxin poisoning.
- Treatment is mainly supportive medical care.

What are Neurotoxins?
- **Definition:** Substances that damage or disrupt the nervous system (brain, spinal cord, and nerves).
- **Mechanism:** They block or interfere with nerve signal transmission, leading to paralysis or neurological damage.
  - Sources of Neurotoxins
    - Biological: Venoms from snakes, spiders, scorpions, and marine animals.
    - Heavy Metals: Lead, mercury, arsenic.
    - Chemicals: Certain pesticides and industrial solvents.
- Medical Relevance
  - Although dangerous in large amounts, small controlled doses of some neurotoxins are used in medicine and research for therapeutic purposes.

Chicory

Context: The Food Safety and Standards Authority of India (FSSAI) has mandated that all blended coffee packets must clearly display the chicory content on the front of the package.

What is Chicory?
- Chicory is a plant whose root is dried, roasted, and ground to be used as an additive in coffee.

Key Characteristics
- Caffeine-Free: Naturally contains no caffeine.
- Taste and Appearance: Gives coffee a dark colour and earthy, slightly woody flavour.
- Texture: Enhances the body and thickness of the beverage.

Economic Aspect
- Low Cost: Much cheaper than real coffee beans.
- Used by mass-market coffee brands to reduce production costs while maintaining colour and flavour.

Historical Background
- Chicory was originally used as a coffee substitute during wartime coffee shortages.
- Over time, it became commercially accepted in blended coffee products.

Use in India
- Chicory is widely used in coffee blends in India, especially in South Indian filter coffee, to provide strong colour and flavour.

Regulatory Provision
- Under Indian food regulations, coffee blends can contain up to 49% chicory.
- The new FSSAI rule aims to increase transparency for consumers by clearly indicating chicory content on packaging.

VoicERA

Context: The Ministry of Electronics and Information Technology launched VoicERA at the India AI Impact Summit 2026 in New Delhi.

About VoicERA
- VoicERA is an open-source, end-to-end Voice AI execution stack built on the BHASHINI National Language Infrastructure.
- BHASHINI aims to bridge literacy, language, and digital divides through AI-based language technologies.

Launch and Development
- Launched by the Digital India BHASHINI Division under Digital India Corporation.
- Developed in collaboration with:
  - EkStep Foundation
  - COSS
  - IIIT Bengaluru
  - AI4Bharat

Key Features

1. Open-Source & Interoperable Framework
- Designed as a digital public good with open standards.
- Prevents vendor lock-in and reduces duplication across platforms.

2. Multilingual Real-Time Voice AI
- Enables speech recognition, conversational AI, and multilingual telephony.
- Supports multiple Indian languages to improve citizen access to digital services.

3. Pluggable & Scalable Architecture
- Uses a modular API-based structure.
- Easily integrates with existing government digital systems and supports large-scale deployment.

4. Flexible & Secure Deployment
- Supports cloud and on-premise deployment.
- Provides a secure execution layer to ensure safe voice-data processing and reliable service delivery.

C. Rajagopalachari's Bust Replaces Edwin Lutyens' Statue

Context: The Droupadi Murmu unveiled a bust of C. Rajagopalachari at Rashtrapati Bhavan, replacing the statue of Edwin Lutyens as part of India's decolonisation initiative.
- The move symbolises India's effort to replace colonial-era symbols with national leaders associated with the freedom movement and post-independence governance.

About C. Rajagopalachari (Rajaji)

- Full Name: Chakravarti Rajagopalachari (1878–1972).
- Historic Role: First and only Indian Governor-General of independent India (1948–1950).
- Senior leader of the Indian National Congress.

Early Political Career
- Participated in the Calcutta Session of the Indian National Congress 1906 and Surat Session of the Indian National Congress 1907.
- Joined the Home Rule League in 1916.
- Became closely associated with Mahatma Gandhi after 1919.
- Served as President of the Salem Municipal Council (1917).

Key Contributions
- Took part in the Civil Disobedience Movement.
- Led the Vedaranyam Salt Satyagraha in 1930.
- Proposed the C.R. Formula (1944) to resolve the Congress-Muslim League political deadlock over Pakistan.
- Served as Premier of the Madras Presidency (1937–1939).
- Founded the Swatantra Party in 1959.

Legacy
- Known for administrative integrity, social reform advocacy, and literary contributions.
- Emphasised decentralised governance and market-oriented policies.
- Awarded the Bharat Ratna in 1954, becoming the first recipient.

About Edwin Lutyens
- Sir Edwin Lutyens (1869–1944) was a British architect who designed major buildings of imperial New Delhi.
- Commissioned after the Delhi Durbar 1911 to design the new capital.

Major Contributions
- Designed the Viceroy's House (completed in 1929), now Rashtrapati Bhavan.
- Played a key role in planning the Central Vista and several government buildings.

PM RAHAT Scheme

Context: The Government of India has launched the PM Road Accident Victim Hospitalisation and Assured Treatment (PM RAHAT) Scheme to provide cashless medical treatment up to ₹1.5 lakh for road accident victims.

About PM RAHAT Scheme
- PM RAHAT is a national initiative approved by the Narendra Modi to ensure immediate and cashless medical treatment for road accident victims across India.

Beneficiaries
- All road accident victims in India are eligible.
- Coverage Period: Treatment expenses covered for up to 7 days from the date of the accident.

Administration
- Nodal Ministry: Ministry of Road Transport and Highways.
- Implemented in coordination with:
  - National Health Authority
  - State governments and authorities
- Integrated with the Emergency Response Support System 112 to facilitate ambulance and hospital access.

Funding Mechanism
- Hospitals are reimbursed through the Motor Vehicle Accident Fund.

Reimbursement Model
- Insured cases: Paid by general insurance companies.
- Uninsured or hit-and-run cases: Covered through government budgetary support.

Key Features
- Cashless Treatment: Up to ₹1.5 lakh for emergency medical care.
- Digital Integration: Links the Electronic Detailed Accident Report (eDAR) with Transaction Management System (TMS 2.0) for faster processing.
- Grievance Redressal: Managed by a Grievance Redressal Officer nominated by the District Road Safety Committee, chaired by the District Collector/District Magistrate.

Terms in News

SaaSpocalypse

- Meaning: "SaaSpocalypse" refers to the fear that AI agents may replace traditional Software-as-a-Service (SaaS) platforms, potentially making many SaaS companies obsolete.
- Context: Global tech stocks declined after Anthropic launched AI workplace tools that could utomate tasks currently handled by multiple SaaS applications.

Moltbook

- Moltbook is a Reddit-like social networking platform designed for AI agents rather than humans.
- Bots created by users can post, comment, and upvote content on the platform.
- Launch: January 2026 by AI entrepreneur Matt Schlicht.

Operation Chivalrous Knight 3

- A humanitarian mission launched by the United Arab Emirates to provide aid and relief to Palestinians in Gaza amid ongoing conflict.

Tender Years Doctrine

- A common law principle in family and custody law.
- Presumes that young children (generally below five years) should remain with their mother unless she is proven unfit.
- Recently discussed when the Delhi High Court held that the best interests and welfare of the child must override this doctrine.

Neo-Royalism

- A political concept describing a system where power becomes concentrated around a single leader and a close personal network, resembling a modernised form of monarchy within a democratic framework.
- It suggests that state institutions and policy decisions may reflect elite or personal interests rather than institutional processes.

Padma Awards

Context: The Droupadi Murmu approved the conferment of 131 Padma Awards for 2026, recognising outstanding contributions across various fields in India and abroad.

About Padma Awards
- Instituted in 1954, the Padma Awards are among India's highest civilian honours, after the Bharat Ratna.
- They recognise distinguished service and exceptional contributions to society.

Types of Padma Awards
1. **Padma Vibhushan**
   - Awarded for exceptional and distinguished service.
2. **Padma Bhushan**
   - Awarded for distinguished service of a high order.
3. **Padma Shri**
   - Awarded for distinguished service in any field.

Padma Vibhushan

Padma Shri

Padma Bhushan

Key Features

- Announcement: Made annually on Republic Day.
- Presentation: Conferred by the President of India usually during March–April at Rashtrapati Bhavan.
- Award Components: Recipients receive a Sanad (certificate) and a medallion.
- Not a Title: Under Article 18(1) of the Constitution, it cannot be used as a prefix or suffix.
- Limit: Maximum 120 awards annually, excluding posthumous and overseas categories.

Padma Awards 2026

- Total Awards: 131 (including two duo cases)

Distribution

- Padma Vibhushan: 5
- Padma Bhushan: 13
- Padma Shri: 113

Notable Awardees

- Padma Vibhushan (Posthumous):
    - V. S. Achuthanandan – Public Affairs
    - Dharmendra – Art
    - Shibu Soren – Public Affairs
- Other Awardees:
    - K. T. Thomas
    - N. Rajam
    - P. Narayanan

Grammy Award to Dalai Lama

Context: Tenzin Gyatso, 14th Dalai Lama won his first Grammy Award in 2026 in the category Best Audio Book, Narration and Storytelling Recording for the work "Meditations: The Reflections of His Holiness the Dalai Lama."

About the Grammy Awards

- The Grammy Awards are among the most prestigious honours in the global music and audio recording industry.
- Awarding Authority: Presented by the National Academy of Recording Arts and Sciences.

Major Categories

- Music: Performance, composition, and production.
- Spoken Word: Audiobooks, narration, and storytelling recordings.
- Global Music: Recognising international musical collaborations and traditions.

Notable Indians with Grammy Awards
- Ravi Shankar – Multiple Grammy wins.
- A. R. Rahman – Two Grammys in 2009.
- Zakir Hussain – Multiple Grammy Awards.
- Shakti – Grammy winner for global music collaboration.

Panchayat Advancement Index (PAI) 2.0

Context: The Ministry of Panchayati Raj released Panchayat Advancement Index (PAI) 2.0, with Tripura emerging as the top performer.

About Panchayat Advancement Index (PAI)
- PAI is a multi-domain and multi-sectoral index designed to assess the holistic development, performance, and progress of Panchayats.
- It acts as a performance measurement tool to evaluate the development progress of Gram Panchayats using local-level data.

Institutional Collaboration
Developed with support from:
- NITI Aayog
- Ministry of Statistics and Programme Implementation
- UNICEF
- UNFPA
- Various non-governmental organisations (NGOs).

Indicators of Panchayat Advancement Index

Poverty-Free and Enhanced Livelihoods Panchayat | Healthy Panchayat | Child Friendly Panchayat | Water Sufficient Panchayat | Clean and Green Panchayat | Panchayat with Self-Sufficient Infrastructure | Socially Just and Socially Secured Panchayat | Panchayat with Good Governance | Women Friendly Panchayat

Indicators and Framework
- Based on 435 local indicators:
  - 331 mandatory indicators
  - 104 optional indicators
- These indicators are grouped under 9 thematic areas, aligned with the Sustainable Development Goals (SDGs).

Top Performers (2023–24)
1. **Jugal Kishore Nagar Village Committee**
   - Location: Jampuijala RD Block, Sepahijala District, Tripura
   - Score: 88.44
2. **South Nalchar Gram Panchayat**
   - Location: Nalchar RD Block, Sepahijala District, Tripura
   - Score: 88.14
3. **Chesrimai Gram Panchayat**
   - Location: Charilam RD Block, Sepahijala District, Tripura
   - Score: 87.85

Privilege Breach Notice

Context: A breach of privilege notice was recently moved against Piyush Goyal for briefing the media about an Indo-U.S. trade deal while Parliament was in session.

About Privilege Breach Notice
- A privilege notice is a formal motion moved by a Member of Parliament (MP) alleging that a parliamentary privilege has been violated by a minister, MP, or an outsider.

Constitutional Provisions
- Article 105 – Privileges of Members of Parliament.
- Article 194 – Privileges of State Legislatures.

Purpose
- To protect the dignity, authority, and functioning of Parliament.
- Ensures that MPs can perform their duties without obstruction, intimidation, or undue influence.

What Constitutes a Breach of Privilege?
- A breach occurs when rights or immunities essential for Parliament's functioning are violated or when contempt of the House is committed.
  - Examples
    - Making false or defamatory statements about MPs.
    - Publishing expunged parliamentary proceedings.
    - Premature disclosure of committee reports.
    - Obstructing or intimidating MPs while performing their duties.

Procedure
- An MP submits a written notice to:
  - Speaker of Lok Sabha or
  - Chairperson of Rajya Sabha.
- Governed by:
  - Rule 222 of Lok Sabha.
  - Rule 187 of Rajya Sabha.
- If admitted, the matter may be discussed in the House or referred to the Committee of Privileges.

Committee of Privileges
- Lok Sabha: 15 members.
- Rajya Sabha: 10 members.

Possible Actions / Punishments
Depending on the severity, Parliament may:
- Admonish or reprimand the offender, Suspend or expel a member, Imprison an outsider in extreme cases