

# FEB., 2026

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## 30 PAGER NOTES

FEBRUARY 2026 DECODED FOR  
PRELIMS — WHERE  
GOVERNANCE, ECONOMY,  
SCIENCE, ENVIRONMENT, AND  
MAPS CONVERGE INTO EXAM-  
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## Polity

### Acts and Bills

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Topic	Easy Explanation	Relevance / Example
<b>DPDP Act, 2023 (SC Challenge)</b>	The primary law governing digital privacy; challenged in Feb 2026 for impacting transparency.	Petitioners argue Section 44(3) removes "public interest" overrides in the RTI Act, potentially shielding corruption.
<b>IT Rules, 2026 Amendment</b>	New regulations requiring platforms to prominently label AI-generated or "synthetic" content.	Mandatory "Watermarking" to combat deepfakes; reduces takedown window to 3 hours for govt orders.
<b>SHANTI Act (Nuclear)</b>	Legislation allowing private sector participation in nuclear plant operations for the first time.	Removes "right of recourse" against suppliers and caps operator liability at ~₹3,900 cr; sparks safety debates.
<b>Pesticides Management Bill</b>	Proposed law to update the 1968 Insecticides Act and regulate modern chemical usage.	Aims to promote biological alternatives as India ranks in the top 4 globally for ecosystem toxicity (TAT).

## Constitutional Provisions and Federalism

Topic	Easy Explanation	Relevance / Example
<b>16th Finance Commission</b>	The Art 280 body determining how central taxes are shared with and among states for 2026–31.	Maintained 41% vertical devolution; introduced "State's contribution to GDP" to reward economic efficiency.
<b>Article 324 (EC Independence)</b>	Constitutional provision ensuring the autonomy of the Election Commission of India.	2023 appointment law (excluding CJI from selection) is under SC scrutiny for executive overreach.
<b>Women's Reservation Act</b>	The 106th Amendment providing 33% seats for women in Lok Sabha and Assemblies.	Implementation tied to post-2026 Census/Delimitation; likely delayed until 2034, creating a "representation gap."
<b>Article 15(3) &amp; Menstrual Health</b>	Clause allowing special provisions for women, used in recent judicial interpretations.	Cited by SC to mandate state-funded menstrual hygiene products in schools as a part of the Right to Health.

## Governance and Judicial Reforms

Topic	Easy Explanation	Relevance / Example
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<b>PM CARES Transparency</b>	The PMO's directive to block Parliamentary questions regarding the fund's specific outlays.	Raises "Public Authority" debates under RTI; govt argues it uses voluntary funds, not the Consolidated Fund.
<b>Platform Liability (Intermediaries)</b>	Legal debate on whether apps (like <a href="https://www.google.com/url?sa=E&amp;source=gmail&amp;q=Shaadi.com">https://www.google.com/url?sa=E&amp;source=gmail&amp;q=Shaadi.com</a> ) are liable for fraud occurring between users.	SC examining "Safe Harbour" under Sec 79 of IT Act; suggests mandatory ID vetting to prevent scams.
<b>Regional SC Benches Bill</b>	A proposal to establish Supreme Court branches in Delhi, Mumbai, Chennai, and Kolkata.	Aims to improve "Access to Justice" (Art 39A) and reduce the massive 90,000+ case backlog.
<b>Decentralised Judicial Tech</b>	Proposal to grant High Courts financial autonomy for e-filing and AI-driven case management.	Moves away from "one-size-fits-all" central missions; empowers HCs under their Art 227 supervisory roles.

## Economy

### SUSTAINABLE DEVELOPMENT

Topic	Easy Explanation	Relevance / Example
<b>Green Ammonia SECI Auction</b>	India's first auction for 7.2 lakh tonnes/year of green ammonia for fertilizer and fuel.	Discovered prices (₹50–65/kg) are 40% cheaper than EU; reduces reliance on volatile natural gas imports.
<b>District Cooling Systems (DCS)</b>	Centralized plants piping chilled water to urban clusters to replace individual AC units.	50% more energy-efficient; mitigates "Urban Heat Islands" and flattens peak summer power demand.
<b>Carbon Capture (CCUS) Mission</b>	Tech to capture CO <sub>2</sub> from heavy industries (Steel/Cement) for storage or industrial reuse.	₹20,000 cr Budget allocation; essential to counter the EU's Carbon Border Adjustment Mechanism (CBAM).





<b>Sodium-ion Battery Strategy</b>	A strategic pivot toward sodium batteries to bypass the "Lithium Monopoly" held by specific nations.	Sodium is globally abundant; safer for stationary storage and can utilize existing Li-ion production lines.
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## ECONOMIC TRENDS

Topic	Easy Explanation	Relevance / Example
<b>Nominal GDP Growth Lag</b>	Situation where growth at current prices (~8%) is low despite "real" growth (~7.4%).	Shrinks the "Tax-to-GDP" ratio; limits the government's ability to fund large-scale social welfare schemes.
<b>Gold ETF Surge &amp; CAD</b>	Massive ₹24,000 cr inflow into paper-gold, shifting savings away from traditional bank deposits.	Contributed to a \$35B trade deficit in Jan 2026, putting devaluation pressure on the Indian Rupee.
<b>Crowding Out Effect</b>	High government borrowing keeping bond yields high (7.2%+) despite RBI interest rate cuts.	High yields act as a floor for lending rates, making it expensive for private firms to borrow and invest.
<b>Fiscal Consolidation (4.5%)</b>	The target to reduce the fiscal deficit to 4.5% of GDP for the 2025–26 financial year.	Signals fiscal discipline to global rating agencies but necessitates cuts in rural and agricultural subsidies.

## Sectoral Trends and Infra

Topic	Easy Explanation	Relevance / Example
<b>Global Capability Centres (GCC)</b>	MNC units in India shifting from "back-office support" to high-end R&D and AI strategy.	Now contribute 1% to GDP; India is becoming a "Global Brain Trust" for Agentic AI and chip design.
<b>Urban Challenge Fund (UCF)</b>	A competitive grant system where cities must raise 50% of funds via bonds to get a 25% govt grant.	Incentivizes "Fiscal Autonomy" for cities but risks widening the gap between rich and poor municipalities.
<b>Biopharma SHAKTI Mission</b>	A ₹10,000 cr mission to scale India's capabilities in biologics, biosimilars, and gene therapy.	Aims to move Indian pharma from "Low-Value Generics" to "High-Value Innovation" (Value Gap).





<b>Kerala RRTS (Elevated)</b>	A 583 km high-speed corridor built on pillars to minimize land acquisition conflicts.	Replaces the controversial "SilverLine"; aims to reduce cross-state travel from 12 hours to 4 hours.
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## Science Tech

### Space Missions in News

Mission Name	Space Agency	Year Launched	Objectives	Special Feature
<b>NASA Artemis Programme (Moon Mission Delay)</b>	NASA	Artemis I (2022); Artemis II upcoming	To return humans to the Moon and establish sustained lunar exploration.	February update: <b>launch postponed to March 2026</b> ; highlights challenges in <b>human spaceflight readiness</b> and mission complexity.
<b>SpaceX &amp; Blue Origin Lunar Plans (Private Moon Missions)</b>	SpaceX, Blue Origin	Ongoing	To support lunar missions including cargo delivery and human landing systems.	Increasing competition in <b>commercial lunar exploration</b> ; private players accelerating Moon mission timelines.
<b>Deep Space Navigation using Stellar Parallax (New Horizons context)</b>	NASA (research using New Horizons data)	New Horizons launched 2006	To enable spacecraft navigation using <b>stars instead of Earth-based tracking</b> .	Demonstrates that <b>only two stars can locate spacecraft in deep space</b> , reducing reliance on Earth-based systems.
<b>India's Astronomy Telescope Expansion (Upcoming Observatories)</b>	India (various institutions)	Upcoming	To enhance <b>astronomical observation capability</b> and research.	New telescopes expected to be a <b>game-changer for astronomy research in India</b> .

### Diseases in News

Name	Symptoms	Causing Organism	Mode of Infection	Areas Spread	Genetic Material	Treatment	Vaccine



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<b>Cancer (Preventable Cancers Study)</b>	Tumour growth, fatigue, organ dysfunction	Multifactorial (genetic + environmental)	Non-infectious	Global	Not applicable	Surgery, chemo, immunotherapy	Limited (HPV for cervical cancer)
<b>HIV (Drug Target Discovery)</b>	Immune suppression, infections	Human Immunodeficiency Virus	Blood, sexual contact	Global	RNA virus	Antiretroviral therapy (ART)	No
<b>Cervical Cancer (HPV-related)</b>	Abnormal bleeding, pelvic pain	Human Papillomavirus (HPV)	Sexual transmission	Global; India focus	DNA virus	Surgery, radiation, chemo	Yes (HPV vaccine)
<b>Lifestyle Diseases (Smoking-related illnesses)</b>	Lung disease, heart disease	Tobacco exposure	Non-infectious	Global	Not applicable	Lifestyle change, medication	No

## VACCINES in News

Name	Type of Vaccine	Used in India?	Effective Till
<b>HPV Vaccine (Cervical Cancer)</b>	Subunit vaccine (virus-like particles)	Yes (introduced in India)	Long-term protection (years; booster policy evolving)

## Discoveries and Inventions

Name	What It Does	Sector	Applications	Shortcomings
<b>Genome Editing Strategy for Multiple Disorders</b>	Single editing approach to treat multiple genetic diseases.	Biotechnology / Gene Editing	Could treat wide range of inherited disorders.	Still experimental; ethical and safety concerns.
<b>AI-powered ECG for Silent Heart Attacks</b>	Uses AI to detect hidden cardiac risks early.	AI / Healthcare	Early diagnosis, preventive cardiology.	Requires large-scale validation.





<b>Quantum Sensor Proteins</b>	Proteins engineered to act as sensors inside the body.	Quantum Biology / Biotech	Real-time monitoring of biological processes.	Early-stage research.
<b>Ancient Gene for Sex Determination (Insects)</b>	Discovery of gene controlling sex in ants, bees, wasps.	Genetics / Evolutionary Biology	Helps understand evolution and species control.	Limited to specific species.
<b>Improved Apple Rootstocks</b>	New plant varieties for higher yield.	Agricultural Science	Better productivity for farmers (Kashmir).	Region-specific applicability.
<b>Bamboo as Sustainable Material</b>	Re-emphasis on bamboo's utility as eco-friendly material.	Green Materials / Ecology	Construction, sustainability.	Requires scaling and processing tech.

## Defense Technology

Name / Project	Developed By	What It Is	Special Feature / Relevance
<b>India's Defence Modernisation Push (Strategic Context)</b>	Government of India	Expansion of defence capabilities across domains.	Highlighted as <b>strategic maturity</b> , not militarism; focus on capability building.
<b>Nicobar Infrastructure Project (Strategic + Tech)</b>	India	Large-scale infrastructure with military-logistics implications.	Strategic location in <b>Indian Ocean region</b> ; dual-use infrastructure.

## Green Technology

Name	What It Is	Sector	Purpose / Use
<b>Carbon Capture &amp; Utilisation (CCUS)</b>	Capturing CO <sub>2</sub> emissions and reusing/storing them.	Climate Tech	Key to achieving <b>net-zero emissions</b> .





<b>District Cooling Systems</b>	Centralised cooling for buildings using chilled water.	Urban Sustainability	Reduces energy use and urban heat.
<b>Green Ammonia Energy Pathway</b>	Using ammonia as clean fuel.	Clean Energy	Supports India's energy transition.
<b>Wetland Conservation (Nature-based Tech)</b>	Ecosystem-based climate mitigation approach.	Ecology / Climate	Flood control, biodiversity, carbon sink.
<b>Sodium-ion Battery Strategy</b>	Alternative battery tech to lithium-ion.	Energy Storage	Reduces dependence on lithium; supports EV ecosystem.

## Environment

### Protected Areas

Protected Area / Region	Location	Key Details	Famous For
Great Nicobar Island	Andaman & Nicobar Islands	₹72,000 crore infrastructure project (port + airport + township); ~18% of island affected; rapid environmental clearances criticised; ecological + tribal concerns.	Leatherback turtle nesting (Galathea Bay); endemic species like Nicobar megapode; part of UNESCO Biosphere Reserve.
Galathea Bay	Great Nicobar Island	Site of proposed transshipment port; one of world's key nesting grounds of leatherback turtles; coral ecosystem at risk.	Largest nesting site of Leatherback Turtle in Indian Ocean region.
Wetlands (India – general, Ramsar context)	Across India	~40% wetlands lost in 30 years; 50% degraded; poor implementation of Wetlands Rules, 2017; treated as “national public goods.”	Flood control, groundwater recharge, biodiversity hotspots; India has 98 Ramsar sites.
Dal Lake (Restoration issue)	Srinagar, Jammu & Kashmir	Restoration plan shelved; highlights governance and urban wetland degradation issues.	Urban freshwater lake; tourism + livelihood + ecological importance.





## Animal/Plant Species in News

Name	Why in News?	Important Information	IUCN Status
<b>Loggerhead Turtle (Caretta caretta)</b>	Report on climate change threats.	Marine turtle; temperature-dependent sex determination; warming leads to skewed sex ratios; long migratory routes.	<i>Vulnerable</i>
<b>Asiatic Cheetah</b>	Discussion on possibility of rewilding outside Iran.	Critically endangered; only found in Iran; extremely low population (<50); different from African cheetah introduced in India.	<i>Critically Endangered</i>
<b>Tigers (relocation issue)</b>	“Tigers far away from home” article.	Translocation challenges; habitat suitability critical; human-wildlife conflict risks.	<i>Endangered</i>
<b>Invasive Plant Species (Arctic context)</b>	Arctic warming enabling spread of invasive plants.	Climate change expands range of invasive species; threatens native biodiversity.	Not Applicable
<b>Bamboo</b>	Rediscovered as sustainable resource.	Fast-growing grass; high carbon sequestration potential; eco-friendly alternative to timber/plastic.	Not Threatened
<b>Apple Rootstocks (Kashmir)</b>	New rootstocks improving yield.	Climate-resilient agriculture; improved disease resistance and productivity.	Not Applicable

## Environmental Laws/Governance

Why in News?	Key Points	Main Objective
<b>Wetlands (Conservation &amp; Management) Rules, 2017 – Implementation gap</b>	Weak coordination; poor enforcement; need for mapping → notification → protection → restoration cycle.	Conserve wetlands and maintain ecological character.
<b>Forest Rights Act (FRA), 2006 concerns (Great Nicobar)</b>	Allegations of lack of informed tribal consent; PVTGs at risk.	Protect forest rights of tribal and forest-dwelling communities.
<b>Environmental Impact Assessment (EIA) issues</b>	Great Nicobar project based on single-season data; fast-tracked clearances criticised.	Assess environmental consequences before project approval.
<b>Carbon Capture &amp; Utilisation (CCUS)</b>	Highlighted as key to achieving net-zero goals.	Reduce industrial CO <sub>2</sub> emissions by capturing and reusing carbon.
<b>Green Ammonia (Energy transition)</b>	Emerging pathway for decarbonisation and energy storage.	Promote clean fuel alternatives and hydrogen economy.





<b>Pesticide toxicity concerns (India)</b>	India major contributor to global pesticide toxicity.	Reduce ecological and health risks from chemical use.
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## Terminology

Term	Meaning	Context / Where Used	Key Points
<b>Wetlands (as National Public Goods)</b>	Ecosystems that provide shared ecological benefits like flood control, water purification, and biodiversity support.	Wetlands editorial (India).	Not privately replaceable; require state protection; multi-use systems.
<b>Hydrological Connectivity</b>	Natural flow of water between wetlands, rivers, groundwater, and catchments.	Wetland degradation discussion.	Disruption (dams, roads, mining) damages ecosystems.
<b>Eutrophication</b>	Excess nutrient enrichment (nitrogen, phosphorus) leading to algal blooms and oxygen depletion.	Wetland pollution.	Caused by sewage, fertilisers; leads to fish kills.
<b>Nature-Based Solutions (NbS)</b>	Use of natural ecosystems to address environmental problems (e.g., flood control via wetlands).	Wetlands & climate resilience.	Cost-effective alternative to grey infrastructure.
<b>Compensatory Afforestation</b>	Planting trees elsewhere to offset forest loss due to development.	Great Nicobar project.	Ecologically ineffective if done in different ecosystems.
<b>Coral Translocation</b>	Moving coral colonies to new locations to protect them from damage.	Great Nicobar project.	Low success rate globally; fragile ecosystems.
<b>Particularly Vulnerable Tribal Group (PVTG)</b>	Tribal communities with low population, isolation, and vulnerability.	Shompen tribe (Great Nicobar).	Highly sensitive to disease and displacement.





<b>Environmental Impact Assessment (EIA)</b>	Process to evaluate environmental effects of projects before approval.	Great Nicobar controversy.	Single-season data = inadequate assessment.
<b>Carbon Capture and Utilisation (CCUS)</b>	Capturing CO <sub>2</sub> emissions and reusing/storing them.	Net-zero discussion.	Important for industrial decarbonisation.
<b>Green Ammonia</b>	Ammonia produced using renewable energy (via green hydrogen).	Energy transition.	Used as fuel and hydrogen carrier.
<b>Temperature-Dependent Sex Determination (TSD)</b>	Sex of offspring determined by incubation temperature.	Loggerhead turtles.	Climate warming skews sex ratios.
<b>Invasive Species Expansion</b>	Spread of non-native species due to changing climate conditions.	Arctic warming discussion.	Threatens native biodiversity.
<b>Urban Wetland Degradation</b>	Loss of wetlands due to encroachment, pollution, and urbanisation.	Dal Lake case.	Linked to flooding, water scarcity.
<b>Pesticide Toxicity Load</b>	Overall environmental and health impact of pesticide use.	India's global contribution.	Not just quantity, but toxicity matters.
<b>Carbon Sequestration (Bamboo)</b>	Absorption and storage of CO <sub>2</sub> by plants.	Bamboo article.	Bamboo is fast-growing, high sequestration potential.

## Organizations

Organisation	Formed (Why)	Members	Observers	Why in News (Feb 2026)	India's Role
<b>IEA</b>	1974 – Ensure energy security after oil crisis	31 members (USA, Japan, Germany, etc.); India = Association	Partner countries	India's <b>full membership debate</b> ; needs charter amendment	Moving toward full membership; key for energy





					transition influence
<b>WHO</b>	1948 – Global public health coordination	194 countries	NGOs, health agencies	Supports <b>LNT radiation safety model</b>	Works with WHO on health programs & standards
<b>ICRP</b>	1928 – Radiation protection guidelines	Expert body (not country-based)	WHO, UNSCEAR	Continues global radiation safety standards (LNT)	India follows ICRP via nuclear regulatory framework
<b>UNSCEAR</b>	1955 – Study radiation effects	27 countries (India, USA, UK, etc.)	WHO, IAEA	Supports precautionary radiation approach	India is member; contributes to global research
<b>WTO</b>	1995 – Regulate global trade & disputes	164 countries	IMF, World Bank, UNCTAD	Weakening multilateral trade system; evolving agreements	Defends agriculture, food security & SDT
<b>BRICS</b>	2006/2009 – Cooperation among emerging economies	Brazil, Russia, India, China, South Africa (+ new members)	Partner countries	Used more for <b>economic cooperation</b> in changing world order	Key platform for Global South & financial cooperation
<b>European Union (EU)</b>	1993 – Economic & political integration	27 European countries	Trade partners	India–EU <b>FTA negotiations</b> highlighted	Negotiating FTA for trade & tech cooperation
<b>Arctic Council</b>	1996 – Arctic cooperation & sustainability	8 Arctic states (USA, Russia, Canada, etc.)	India, China, EU, etc.	Arctic warming & ecological changes	Observer; focuses on climate research





<b>SDGs (UN)</b>	2015 – Global development goals	All UN members	NGOs, global institutions	Mentioned via <b>SDG 12.3.1 (food loss)</b>	Integrated into national planning
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## Maps

### Arctic Region

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The Arctic region lies north of **66°33'N latitude (Arctic Circle)**.

It is centered on the **Arctic Ocean**.

#### Surrounding Countries (Arctic littoral states)

- Russia
- Canada
- United States (Alaska)
- Norway





- Denmark (via Greenland)

## Major Marginal Seas of the Arctic Ocean

- Barents Sea
- Kara Sea
- Laptev Sea
- East Siberian Sea
- Chukchi Sea
- Beaufort Sea
- Greenland Sea

## Important Strait

Bering Strait — connects Arctic Ocean with Pacific Ocean.



## Greenland

Greenland is the **largest island in the world**.

### Location

Between the **Arctic Ocean (north)** and **North Atlantic Ocean (south-east)**.

### Water Bodies Around Greenland

- Greenland Sea (east)
- Baffin Bay (west)
- Davis Strait (south-west)
- Arctic Ocean (north)

### Nearest Countries

Canada (across Nares Strait and Baffin Bay)

Iceland (south-east, across Denmark Strait)



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## Physical Features

Greenland Ice Sheet  
(covers ~80% of island)

Fjords along the western and eastern coasts



## RED SEA REGION

The Red Sea lies between north-east Africa and the Arabian Peninsula.

**Countries on the African Side**

- Egypt
- Sudan
- Eritrea
- Djibouti

**Countries on the Arabian Side**

- Saudi Arabia
- Yemen

**Northern Division**

The Red Sea splits into:

- Gulf of Suez (west)
- Gulf of Aqaba (east)

Countries around Gulf of Aqaba:

- Egypt



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- Israel
- Jordan
- Saudi Arabia

### **Southern Connection**

Bab-el-Mandeb Strait connects:

Red Sea → Gulf of Aden → Arabian Sea → Indian Ocean

Bab-el-Mandeb lies between:

Djibouti/Eritrea (west)

Yemen (east)

