



UPSC MONTHLY MAGAZINE

AI Powered Magazine for Smarter UPSC Prep'



From the Editor's Desk

Dear Aspirants,

Welcome to the first issue of **PadhAI** — an AI-powered magazine designed to make UPSC preparation **smarter, faster, and deeply exam-oriented**.

This concise edition brings you the most relevant national and international updates of **November 2025**, rewritten into crisp, high-retention smart notes. Each topic is restructured to focus on **concept clarity, governance relevance, and analytical value** for both Prelims and Mains.

Let's make learning intelligent — not overwhelming.
Stay consistent, stay curious.

– Team PadhAI

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POLITY



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1. Census Self-Enumeration Trial Run – India’s Step Toward Digital Population Mapping

Why in the news?

In 2025, the **Office of the Registrar General and Census Commissioner of India (ORGI)** under the **Ministry of Home Affairs (MHA)** launched the **Census Self-Enumeration Trial Run**, a pilot project enabling citizens to digitally record their household details through an online portal or mobile app.

What is the Census Self-Enumeration System?

- Citizens can **log into the official census portal** or **mobile app**, fill household and demographic details, and submit data online.
- The process is linked to **Aadhaar authentication** and **DigiLocker verification**, ensuring accuracy and transparency.
- Field enumerators will verify data randomly through **QR-based digital IDs** assigned to each household.
- The initiative follows the success of the **House Listing and Housing Census Pilot (2023–24)**.

Constitutional & Governance Relevance

- Conducted under the **Census Act, 1948**, empowering the Central Government to collect demographic data for policy and planning.
- Census data form the backbone for:
 - **Delimitation of constituencies**
 - **Allocation of funds and welfare schemes**
 - **Socio-economic and caste mapping** (including SECC correlation)
- Promotes **citizen participation in governance**, enhancing accountability and transparency in policy design.

Benefits	Challenges
• Reduces human error and duplication in data entry.	• Digital divide and low digital literacy in rural areas.
• Enhances efficiency, accuracy, and real-time monitoring.	• Data privacy concerns and risk of misuse of sensitive personal information.
• Cost-effective compared to traditional methods	Ensuring security of demographic databases and interoperability

	between central and state systems.
Encourages urban digital participation while providing assisted support for rural users.	

UPSC Previous Year Question (UPSC GS Paper II – 2020)

Q. “Discuss the role of digital governance in improving public service delivery and citizen participation in India.

PadhAI Generated Practice MCQ

With reference to India’s Census Self-Enumeration initiative, consider the following statements:

1. It is being conducted under the legal framework of the Census Act, 1948.
2. The process allows citizens to voluntarily fill demographic data online.
3. It replaces the entire field enumeration process with self-reporting.

- (a) 1 and 2 only
(b) 2 and 3 only
(c) 1 and 3 only
(d) 1, 2 and 3

Answer: (a) 1 and 2 only

PadhAI Explanation: While the initiative enables digital self-reporting, **field verification by enumerators** will still occur. Hence statement 3 is incorrect.

PadhAI insight

This topic fits **GS Paper II (Governance – E-Governance, Citizen-Centric Initiatives)** and **GS Paper III (Data Management & Policy Planning)**.

UPSC may ask questions on:

- “Digitization of governance processes and citizen data management.”
- “Legal and ethical challenges in digital population census.”

2. Sikh Pilgrims Granted Visas for Pakistan Visit – Strengthening Faith Ties Amid Diplomatic Strain

Why in the news?



In **October 2025**, the **Government of Pakistan** granted special **pilgrimage visas** to **Indian Sikh devotees** to visit sacred Gurdwaras located across Pakistan, including **Gurdwara Nankana Sahib**, **Gurdwara Panja Sahib (Hasan Abdal)**, and **Gurdwara Dera Sahib (Lahore)**.

Key Details

- Around **3,000 Sikh pilgrims** received visas for the **Gurpurab celebrations of Guru Nanak Dev Ji** (Nov 2025).
- The visit is coordinated by **Pakistan's Evacuee Trust Property Board (ETPB)** and the **SGPC** on India's side.
- **Kartarpur Corridor** (opened in 2019) remains operational, allowing visa-free travel for pilgrims to **Gurdwara Darbar Sahib (Kartarpur)**.
- The pilgrimage reinforces the **"People-to-People Diplomacy"** approach amid political tensions.

Legal and Diplomatic Framework

- Governed by the **1974 Bilateral Protocol on Visits to Religious Shrines**, renewed periodically.
- Managed through **mutual coordination between Ministries of External Affairs** (India) and **Religious Affairs & Interfaith Harmony** (Pakistan).
- The protocol covers **15 major shrines** – including Nankana Sahib, Panja Sahib, and Katas Raj in Pakistan; and Ajmer Sharif and Nizamuddin Dargah in India.

Cultural and Strategic Significance

- Promotes **religious harmony** and **soft diplomacy** in South Asia.
- Reinforces **India's civilizational linkages** with pre-partition heritage.
- Provides a framework for **track-II engagement** amid border tensions.
- Encourages **regional cultural connectivity** under the *Neighborhood First* policy framework.

Previous Year Question (UPSC GS Paper II – 2019)

Q. "Discuss India's cultural diplomacy as a tool for regional peace and cooperation."

PadhAI generated practice MCQ

Under which bilateral agreement are Sikh and Hindu pilgrims from India allowed to visit religious shrines in Pakistan?

- (a) Lahore Peace Accord (1972)
- (b) Shimla Agreement (1972)
- (c) 1974 India–Pakistan Protocol on Visits to Religious Shrines
- (d) SAARC Religious Tourism Charter (2004)

✓ **Answer:** (c)

PadhAI Explanation: The 1974 bilateral protocol governs mutual pilgrimage visits between India and Pakistan, independent of political treaties like Shimla or Lahore Agreements.

PadhAI insight

This topic connects **GS Paper II (India & Neighbourhood Policy, Soft Diplomacy)** and **GS Paper I (Culture – Sikhism and Heritage Sites)**.

UPSC may ask analytical questions like:

- "Evaluate the role of cultural diplomacy in India–Pakistan relations."
- "Discuss how religious exchanges contribute to people-to-people trust building in South Asia."

3. Model Youth Gram Sabha – Empowering India's Rural Democracy Through Youth Leadership

Why in the news?

The **Ministry of Panchayati Raj (MoPR)** launched the **Model Youth Gram Sabha initiative** in 2025 to **promote participatory democracy among rural youth** and strengthen the **Panchayati Raj system**.

Key Objectives

- To create a **platform for rural youth** to voice their opinions on local issues.
- To promote **awareness about constitutional rights, duties, and local governance mechanisms**.
- To integrate youth perspectives into **Gram Panchayat Development Plans (GPDs)**.
- To nurture a culture of **volunteerism, transparency, and accountability** in Panchayat functioning.
- Youth Gram Sabhas discussed issues such as **waste management, digital education, water conservation, and skill training**.
- The initiative aligns with **Mission Antyodaya, SVAMITVA Scheme**, and the **National Rural Youth Policy (2024)**.
- It also promotes synergy between **Nehru Yuva Kendra Sangathan (NYKS)** and **Panchayati Raj Institutions (PRIs)**.

Legal and Constitutional Basis

- **Article 243A** of the Constitution empowers the **Gram Sabha** as the foundation of village-level self-governance.
- The **73rd Constitutional Amendment (1992)** institutionalized the Panchayati Raj system, ensuring



direct participation of citizens in local decision-making.

- Youth participation reinforces the **constitutional ideal of democratic decentralization** and inclusive governance.

Significance

- Strengthens **democratic participation** among rural youth.
- Encourages **local innovation** and **community problem-solving**.
- Acts as a **leadership incubator** for future Panchayat and state-level governance roles.
- Helps bridge the **generational gap** in rural decision-making.

Implementation Highlights

- Youth members elect representatives called **"Gram Yuva Mitras"**, who coordinate activities with Panchayat officials.
- Local issues are prioritized through **participatory planning exercises**.
- Special focus areas: *Digital Literacy, Gender Equality, Water Conservation, Sanitation, and Employment*.
- Model Gram Sabhas will serve as **training hubs** for replication nationwide.

Previous Year Question (UPSC GS Paper II – 2020)

"Discuss the role of Panchayati Raj Institutions in deepening democracy and achieving rural development."

PadhAI generated practice MCQ

With reference to the Model Youth Gram Sabha initiative, consider the following statements:

1. It is implemented by the Ministry of Panchayati Raj to promote youth participation in local governance.
2. It derives its legal basis from the 74th Constitutional Amendment Act.
3. It aims to include youth voices in Gram Panchayat Development Plans.

- (a) 1 and 3 only
(b) 1 and 2 only
(c) 2 and 3 only
(d) 1, 2 and 3

✔ **Answer:** (a) 1 and 3 only

PadhAI Explanation: The **73rd Amendment**, not the 74th, governs Panchayati Raj institutions (rural local bodies). Hence, statements 1 and 3 are correct.

PadhAI insight

This topic links **GS Paper II (Polity – Panchayati Raj, Citizen Participation)** and **GS Paper IV (Ethics – Civic Responsibility & Leadership)**.

UPSC may frame analytical questions such as:

- "Evaluate the role of youth in strengthening India's democratic decentralization."
- "How can the Model Youth Gram Sabha initiative transform local governance in rural India?"

4. Election Commission Faces Supreme Court Challenge on Special Intensive Revision

Why in the news?

In October 2025, the **Election Commission of India (ECI)** faced a **Supreme Court challenge** regarding its **Special Intensive Revision (SIR)** of electoral rolls.

A public interest litigation (PIL) alleged that the ECI's recent SIR exercise, conducted in several states, violated **voter inclusion norms**, particularly in conflict and migration-affected regions.

What is the Special Intensive Revision (SIR)?

- A periodic, large-scale review of the **electoral rolls** conducted by the ECI to ensure **accuracy, inclusion, and removal of duplicates or deceased voters**.
- SIRs are undertaken **before major elections** to ensure all eligible citizens are enrolled.
- Includes *door-to-door verification, digital voter ID linkage (EPIC-Aadhaar), and field officer revalidation*.

Legal & Constitutional Framework

- **Article 324:** Empowers the ECI to supervise, direct, and control elections to Parliament and State Legislatures.
- **RPA 1950 & 1951:** Provide the legal framework for electoral roll preparation and conduct of elections.
- **Judicial Precedent:** In *Mohinder Singh Gill v. Chief Election Commissioner (1978)*, SC upheld that ECI's powers are wide but subject to constitutional constraints of fairness and transparency.

Arguments in the Case

- **Petitioners:**
 - Claimed mass voter deletions and lack of due notice.
 - Alleged ECI's SIR violated the **right to vote** and **principle of natural justice**.



- **Election Commission:**
 - Defended SIR as a **routine administrative process**, essential for ensuring accurate rolls.
 - Stated that deletions were based on field verification and Aadhaar authentication.

Policy Significance

- Reflects the tension between **data-driven governance** and **citizen rights protection**.
- Highlights the need for **clear guidelines** on voter verification and **data privacy safeguards**.
- Prompts discussion on whether **electoral transparency laws** need a stronger **parliamentary framework**.

Previous Year Question (UPSC GS Paper II – 2020)

“Discuss the powers and responsibilities of the Election Commission of India in ensuring free and fair elections.”

PadhAI Generated Practice MCQ

With reference to the Election Commission’s Special Intensive Revision (SIR), consider the following statements:

1. The SIR is conducted under the constitutional authority of Article 324.
2. It requires prior approval from the Supreme Court before implementation.
3. It aims to update electoral rolls by verifying eligible voters and removing ineligible entries.

- (a) 1 and 2 only
(b) 2 and 3 only
(c) 1 and 3 only
(d) 1, 2 and 3

✓ **Answer:** (c) 1 and 3 only

PadhAI Explanation: The ECI does not require Supreme Court approval for conducting revisions; such powers are inherent to its constitutional mandate under Article 324.

PadhAI insight

This topic fits **GS Paper II (Polity – Electoral Reforms, Institutional Accountability)** and touches **Ethics (Integrity in Public Administration)**.

UPSC may ask:

- *“Evaluate the scope of judicial review over Election Commission decisions.”*
- *“How can India ensure transparency in voter data management under digital democracy?”*

5. Plea in Supreme Court on Framing Rules to Register Political Parties

Why in the news?

In **September 2025**, a **Public Interest Litigation (PIL)** was filed in the **Supreme Court of India** seeking the formulation of **uniform and transparent rules** for the **registration, functioning, and de-registration** of political parties under the **Representation of the People Act (RPA), 1951**.

Why the Plea Matters

- India currently has over **2,800 registered political parties**, of which many are *inactive* or *non-compliant* with election disclosure norms.
- The **ECI** lacks statutory power to **deregister non-serious parties** or penalize those misusing tax exemptions.
- The plea highlights the need for **statutory codification** of party registration norms, rather than relying on **administrative guidelines**.

Legal Framework

- **Article 324:** Empowers the ECI to supervise, direct, and control elections.
- **Section 29A, RPA 1951:** Deals with the registration of political parties.
- **Section 29C, RPA 1951:** Mandates parties to declare contributions above ₹20,000.
- The **Supreme Court**, in *Indian National Congress vs Institute of Social Welfare (2002)*, held that the ECI **cannot de-register** parties except in cases of fraud or misrepresentation at the time of registration.

Issues Raised in the PIL

1. **Lack of Legal Clarity:** No statutory basis for the *de-registration* or *suspension* of non-functioning political parties.
2. **Financial Irregularities:** Parties often misuse **income tax exemptions** and **electoral bond loopholes**.
3. **Democratic Deficit:** Many parties fail to conduct **internal elections** or maintain **transparency in candidate selection**.
4. **Misuse of Symbols:** Unregulated parties often contest under duplicate or misleading symbols, confusing voters.

Previous Year Question (UPSC GS Paper II – 2022)

Q. “Discuss the need for internal democracy and transparency in the functioning of political parties in India.”



PadhAI Generated Practice MCQ

With reference to political party registration in India, consider the following statements:

1. Political parties are registered under the Representation of the People Act, 1951.
2. The Election Commission of India has statutory power to de-register a political party.
3. Registration of a party enables it to claim a reserved election symbol.

- (a) 1 and 2 only
(b) 2 and 3 only
(c) 1 and 3 only
(d) 1, 2 and 3

✓ **Answer:** (c) 1 and 3 only

PadhAI Explanation: While the ECI can register parties under **Section 29A**, it has **no explicit statutory power** to de-register them — except under judicial directions.

PadhAI insight

This topic fits **GS Paper II (Polity – Electoral Reforms, Role of Political Parties)** and **GS Paper IV (Ethics – Political Accountability)**.

Possible UPSC angles:

- “Should India establish a Political Parties Regulatory Commission?”
- “Examine the role of the judiciary in ensuring transparency within political parties.”
- “Discuss the implications of unregulated political party registration on democratic integrity.”

6. India AI Governance Guidelines 2025 – Trust, Safety & Responsible Innovation

Why in the news?

In **October 2025**, the **Government of India** released the “**India AI Governance Guidelines**”, a national framework aimed at ensuring **ethical, transparent, and secure deployment of Artificial Intelligence (AI)** systems across sectors.

This marks a milestone in aligning India’s AI growth with global standards such as the **EU AI Act**, **OECD AI Principles**, and **UNESCO’s AI Ethics Charter**.

Core Principles of India’s AI Governance Model

1. **Transparency:**
 - Mandatory disclosure of AI system objectives, data sources, and decision logic.
2. **Accountability:**

- Developers, deployers, and data handlers are legally liable for bias or harm caused by AI models.

3. **Safety & Reliability:**

- AI products must pass **bias audits, security checks, and risk classifications** before public deployment.

4. **Human Oversight:**

- Human decision-making must remain central in critical areas like law enforcement, healthcare, and finance.

5. **Data Privacy & Consent:**

- Strict adherence to the **Digital Personal Data Protection Act, 2023 (DPDP Act)** and **AI Explainability** standards

Institutional Framework

- **Lead Agency:** MeitY (in coordination with NITI Aayog and the Department of Science & Technology).
- **Implementation Partners:**
 - *IndiaAI Innovation Centre* – for R&D support.
 - *CERT-In* – for cybersecurity and AI threat monitoring.
 - *DPDP Authority* – for data privacy enforcement.
- The framework is designed to complement India’s **National Strategy for AI 2.0 (NSAI 2024)**.

Significance

- Promotes **responsible innovation** in sectors such as education, agriculture, health, and governance.
- Strengthens **India’s position in global AI diplomacy**, especially in **G20 and Global Partnership on AI (GPAI)**.
- Balances **economic growth** with **ethical safeguards**, setting India apart from laissez-faire models.
- Encourages **public trust** by curbing bias, deepfakes, and algorithmic discrimination.

Challenges

- Need for **robust AI auditing infrastructure** across states.
- Balancing **innovation freedom vs. regulatory burden** for start-ups.
- Ensuring **algorithmic explainability** in complex AI models.
- Limited awareness of **ethical AI practices** at local governance levels.

Previous Year Question (UPSC GS Paper III – 2021)

Q. “Discuss the ethical and governance challenges of artificial intelligence in public administration.”



PadhAI generated practice MCQ (Conceptual Level)

With reference to the India AI Governance Guidelines 2025, consider the following statements:

1. They were issued by the Ministry of Electronics and IT (MeitY).
2. The framework mandates risk classification for all AI applications.
3. AI systems under the high-risk category are prohibited for public deployment.

- (a) 1 and 2 only
(b) 1 and 3 only
(c) 2 and 3 only
(d) 1, 2 and 3

✓ **Answer:** (a) 1 and 2 only

PadhAI Explanation: Only *prohibited-risk* systems (e.g., those manipulating human behavior) are banned; *high-risk* systems can operate under strict supervision.

PadhAI insight

This topic bridges **Polity (Digital Governance)**, **Ethics (Responsible AI Use)**, and **Economy (Tech Regulation & Innovation Policy)**.

UPSC may ask:

- “How can AI governance frameworks strengthen digital democracy?”
- “Critically examine India’s approach to balancing innovation with AI ethics.”
- “Compare India’s AI regulatory model with that of the EU or USA.”

7. Transparency Must in Issues of Religious Oppression

Why in the news?

The Supreme Court and civil society organisations have emphasized that **transparency, accountability, and data-driven mechanisms** are essential to ensure that citizens’ **religious rights are protected** under the Constitution.

Why Transparency Matters

1. **To prevent misuse of laws**
Vague or opaque application of laws related to religion can result in harassment, wrongful arrests, or selective targeting.
2. **To ensure accountability of state authorities**
Transparent processes prevent police or administrative overreach.

3. **To uphold constitutional morality**
Ensures that state actions align with **Articles 14, 15, 19, 21, and 25**.
4. **To counter misinformation**
Transparent reporting prevents communal polarization fuelled by rumours.
5. **To protect vulnerable groups**
Minorities, interfaith couples, and marginalized caste groups often face social and institutional discrimination.

Constitutional & Legal Framework

- **Article 25:** Freedom of conscience & right to freely profess, practice, and propagate religion
- **Article 26:** Freedom to manage religious affairs
- **Article 14:** Equality before the law
- **Article 15:** Prohibition of discrimination on grounds of religion
- **Article 21:** Protection of life and personal liberty

Judicial precedents such as *S.R. Bommai vs Union of India (1994)* highlight that **the State must maintain secular**

neutrality in all actions related to religion. **Broader**

Significance

- Helps maintain **social harmony** in a diverse country.
- Strengthens **international credibility** regarding human rights.
- Ensures **data-driven policy making** for minority welfare.
- Reduces scope for **politicisation of religious grievances**.

Previous Year Question (GS Paper II – 2019)

“Do you agree that India’s secular fabric can be strengthened through improved transparency in governance and accountability mechanisms? Discuss.”

Relevance: This topic directly links transparency, religious freedom, and secular governance.

PadhAI generated practice MCQ

With reference to constitutional protections related to religious freedom in India, consider the following statements:

1. Article 25 guarantees freedom of conscience and the right to profess, practice, and propagate religion.
2. The State cannot place any restriction on religious practices under any circumstances.
3. Transparency and accountability in state action help enforce secularism as part of the basic structure of the Constitution.



Choose the correct answer:

- (a) 1 and 2 only
- (b) 2 and 3 only

- (c) 1 and 3 only
- (d) 1, 2 and 3

✓ **Correct Answer: (c) 1 and 3 only**

Explanation: Article 25 is subject to **public order, morality, and health**, so Statement 2 is incorrect.

PadhAI insight

- This topic fits **GS Paper II (Polity – Fundamental Rights, Secularism, Governance)** and **Paper IV (Ethics – Accountability, Rule of Law)**.
- Likely UPSC questions:
 - “Why is transparency essential in cases involving religious freedoms?”
 - “Discuss the role of the State in preventing religious oppression while upholding constitutional morality.”

8. SC Pushes for Reform of Colonial-Era Property Laws

Why in the news?

The Court observed that these outdated laws often lead to **long litigation, land disputes, fraud, delay in urban development, and barriers to ease of doing business**.

Why the Issue Matters

1. **Colonial mindset in property governance:**
Many current laws were designed by the British to control land, monitor subjects, and extract revenue—not to protect citizen rights.
 2. **Outdated definitions of ownership & possession:**
This leads to high court pendency, complicated inheritance disputes, and unclear land titles.
 3. **Major cause of litigation:**
Nearly **66% of civil cases in India** involve land and property disputes.
 4. **Hindrance to urban and infrastructure development:**
Outdated property laws slow down housing projects, transportation corridors, and smart city planning.
 5. **Lack of uniformity across states:**
India’s patchwork of state and central laws creates confusion, overlaps, and legal contradictions.
- The Court highlighted that ambiguous legal terms—such as “*bona fide purchaser*,” “*valuable consideration*,” “*notice*,” and “*possession*”—result in **decades-long litigation**.

Key Colonial-Era Property Laws Under Scrutiny

1. Transfer of Property Act, 1882

- Governs sale, mortgage, lease, exchange, gift, and transfer of property.
- Language and provisions are **complex, outdated, and unsuitable** for modern real estate.

2. Registration Act, 1908

- Governs registration of property documents.
- Lacks modern safeguards like digital land records, fraud prevention, and biometric verification.

3. Indian Easements Act, 1882

- Defines rights like access, light, air, and pathways.
- Does not align with contemporary urban planning norms.

4. Land Acquisition Laws (Old versions)

- Colonial laws treated land as a resource for imperial extraction.
- Replaced by the **LARR Act, 2013**, but many colonial principles still influence state rules.

Why Reform Is Important Today

- India’s transition to a **\$5 trillion economy** requires clear land titles.
- Urbanisation demands **updated laws for land pooling, redevelopment, slum improvement, and dispute resolution**.
- Digital India initiatives (DILRMP, e-registeries) require **modern legal backing**.
- Ensures protection for vulnerable groups (tenants, women heirs, tribal communities).

Previous Year Question (GS Paper II – 2021)

“Discuss the need for reforms in land and property-related laws to ensure justice, transparency, and ease of living in India.”

Relevance: The Supreme Court’s 2025 remarks directly address structural weaknesses in colonial land statutes.



PadhAI generated practice MCQ

With reference to colonial-era property laws in India, consider the following statements:

1. The Transfer of Property Act, 1882 governs the sale, mortgage, and lease of property.
2. The Registration Act, 1908 makes digital registration of property mandatory.
3. The Supreme Court has recently called for modernization of multiple colonial-era property laws.

Choose the correct answer:

- (a) 1 and 2 only
- (b) 1 and 3 only
- (c) 2 and 3 only
- (d) 1, 2 and 3

✓ **Correct Answer: (b) 1 and 3 only**

Explanation: Digital registration is **not** mandatory under the Registration Act, 1908, making Statement 2 incorrect.

PadhAI insight

This topic overlaps **GS Paper II (Judiciary, Governance, Law Reforms)** and **GS Paper III (Infrastructure, Urban Development)**.

Expected UPSC angles:

- "Examine the challenges posed by colonial land laws in India's development framework."
- "How does judicial activism influence India's law reform process?"
- "Discuss the economic implications of outdated property laws."

9. 59% Unrecognised Political Parties Failed to Disclose Finances: ECI Data (2025).

Why in the news?

This raises serious concerns about **transparency, accountability, and the potential misuse of political party status** for tax benefits, money laundering, or electoral manipulation.

Why This Is a Serious Governance Issue

1. Opaque Funding Channels

Many unrecognised parties act as "shell organisations" with **no real political activity**.

2. Misuse of Tax Exemptions

Registered parties enjoy **income tax exemptions**, which may be exploited without proper audits.

3. Threat to Electoral Integrity

Hidden finances undermine the **level playing field** and encourage illegal campaign practices.

4. Rapid Growth of Unrecognised Parties

India has **2,800+ registered political parties**, many without offices, workers, or elections contested.

5. ECI's Limited Powers

Under current laws, the ECI **cannot de-register** non-compliant parties unless fraud is proven at the time of registration.

Legal & Institutional Framework

Section 29A, Representation of the People Act (RPA), 1951

- Governs registration of political parties.

Section 29C, RPA 1951

- Mandates disclosure of donations above ₹20,000.

ECI Guidelines (2024 Revision)

- Annual audited statements
- Contribution reports
- Return of election expenditure
- PAN-linked financial details

However, these guidelines lack statutory backing, making enforcement weak.

Why Strengthening Disclosure Matters

- Enhances **public trust** in electoral democracy.
- Reduces **black money** in elections.
- Helps prevent the creation of **fake political parties** for financial misuse.
- Aligns India with global norms on **party transparency** (EU, OECD, UNDP frameworks).
- Supports free and fair elections by ensuring **equal financial accountability**.



Previous Year Question (GS Paper II – 2018)

“Political parties need to be brought under a robust transparency mechanism. Discuss.”

Relevance: This topic directly reflects the urgent need for regulatory reforms in party funding in India.

PadhAI generated practice MCQ

With reference to political party finances in India, consider the following statements:

1. All political parties must submit audited financial statements annually.
2. The Election Commission has statutory power to de-register a party for not submitting financial disclosures.
3. Unrecognised political parties are entitled to income tax exemptions under certain conditions.

Choose the correct answer:

- (a) 1 and 2 only
- (b) 1 and 3 only
- (c) 2 and 3 only
- (d) 1, 2 and 3

✓ **Correct Answer: (b) 1 and 3 only**

Explanation: ECI **does not** have statutory power to de-register parties for non-disclosure; it can only recommend actions

PadhAI insight

This topic intersects **GS Paper II (Governance, Electoral Reforms)** and **GS Paper IV (Ethics – Transparency, Accountability)**.

UPSC may ask:

- “Should India create a Political Parties Regulatory Commission?”
- “Discuss the challenges posed by unrecognised political parties to India’s electoral system.”
- “Evaluate the need for statutory financial disclosure mechanisms.”

10. “Women Are the Largest Minority,” Says Supreme Court — Notes Receding Presence in Parliament

Why in the news?

In a significant 2025 observation, the **Supreme Court of India** expressed concern over the **declining representation of women in Parliament**, calling women the **“largest minority”** in democratic spaces despite constituting nearly **50% of India’s population**.

Why the Supreme Court’s Statement Matters

1. **Women form half the population but are underrepresented in legislatures.**
2. The term **“largest minority”** is symbolic — highlighting political exclusion, not numerical strength.
3. Reflects **structural biases in candidate selection**, party funding, and political leadership roles.
4. Reinforces the need for **quick implementation of the Women’s Reservation Act (Nari Shakti Vandan Adhiniyam), 2023**.
5. Emphasizes women’s representation as essential for **substantive**

Constitutional & Legal Framework

Article 14 — Equality before Law

Prohibits gender-based discrimination.

Article 15(3)

Allows the State to enact special provisions for women.

Article 326 — Universal Adult Franchise

Guarantees equal voting rights, but political equality remains incomplete.

Women’s Reservation Act, 2023

- Mandates **33% reservation for women in Lok Sabha and State Assemblies**.
- Implementation delayed until **delimitation after Census**.
- The SC noted that this delay risks defeating the spirit of the law.

Data Highlight: India vs World

- **India:** ~14% women in Parliament
- **World Average:** ~26%
- **Rwanda:** 61%
- **Nepal:** 33% (constitutional mandate)

India ranks **148th globally** in women’s representation.

Significance

- More women in legislatures improves:
 - ✓ gender-sensitive policymaking
 - ✓ social welfare outcomes



- ✓ representation of marginalized female communities
- ✓ economic and health indicators
- Enhances India's global democratic credibility.

Previous Year Question (GS Paper II – 2021)

“Women’s political participation is essential for meaningful democracy. Examine the challenges and suggest reforms to improve representation.”

Relevance: The Supreme Court’s 2025 remarks speak directly to this structural democratic concern.

PadhAI generated practice MCQ

Consider the following statements regarding women’s political representation in India:

1. The Women’s Reservation Act, 2023 mandates 33% reservation for women in Parliament.
2. The Act has been fully implemented for the 2024 and 2025 elections.
3. Women currently hold less than 20% of seats in the Lok Sabha.

Choose the correct answer:

- (a) 1 and 2 only
- (b) 1 and 3 only
- (c) 2 and 3 only
- (d) 1, 2 and 3

✓ **Correct Answer: (b) 1 and 3 only**

Explanation: The Act is **passed but not yet implemented**; delimitation is pending.

PadhAI insight

This topic falls under **GS Paper II (Polity – Representation, Electoral Reforms)** and **GS Paper I (Society – Gender Issues)**. Possible UPSC questions:

- “Why is women’s political representation in India declining despite legal and constitutional provisions?”
- “Critically examine the Supreme Court’s statement that ‘women are the largest minority’.”
- “How can India ensure timely implementation of women’s reservation?”

11. Petition in Supreme Court Warns: “GenAI May Create Fake Case Laws”.

Why in the news?

A recent petition filed in the **Supreme Court of India (2025)** raised concerns that **Generative Artificial Intelligence (GenAI)**

tools may produce **fabricated case laws, incorrect legal precedents, and misleading judicial citations**, posing a serious threat to the integrity of India’s justice system.

Why the Petition Was Filed

1. **GenAI hallucinations** can create non-existent case citations that appear real.
2. Lawyers, litigants, and law students increasingly rely on AI tools to summarize judgments.
3. Rapid growth of AI-generated legal content without **verification filters**.
4. Risks of manipulation—AI tools could be used **intentionally** to spread false legal information.
5. Threat to **rule of law**, judicial integrity, and public trust in the legal system.

Why This Is a Serious Legal Concern

1. Distortion of Legal Precedents

Fake citations could mislead courts in matters involving:

- bail
- property disputes
- constitutional interpretation
- criminal sentencing

2. Threat to Natural Justice

Bad or fake precedents undermine **fair hearing and legal certainty**.

3. Burden on Courts

Verifying every citation increases workload in an already overburdened judiciary.

4. Impact on Legal Education

Students trained on incorrect AI outputs may learn distorted legal principles.

5. Ethical Risks

Possibility of **misuse in political, corporate, or criminal cases**.

What the Petition Demands

1. **Mandatory AI Verification Layer**
All legal judgments produced by AI must be cross-checked with authoritative sources.



2. **Watermarking & Labeling**
AI-generated summaries should carry a default **"Not Verified"** watermark.
3. **Ethical Use Guidelines** for lawyers and law firms.
4. **Audit mechanisms** for public AI platforms that provide legal content.
5. Creation of a **National Repository of Authentic Case Laws** using blockchain for tamper-proofing.

Global Context

- **EU AI Act (2024)**: High-risk AI like legal AI tools require strict compliance.
- **US Courts**: Mandated affidavits confirming citations are not AI-fabricated.
- **UNESCO AI Ethics Charter**: Emphasises transparency and traceability.

India's policy space currently lacks such specific safeguards.

Previous Year Question (GS Paper II – 2022)

"Discuss the role of emerging technologies in judicial reforms and the need to balance innovation with accountability."

Relevance: This topic directly relates to AI regulation within judicial processes.

PadhAI generated practice MCQ

Consider the following statements about the risks posed by Generative AI in the legal system:

1. GenAI tools can produce fabricated case laws that appear legitimate.
2. Indian courts have already implemented a mandatory AI-verification protocol for all submissions.
3. The Supreme Court has received a petition seeking guidelines to regulate use of AI in legal practice.

Choose the correct answer:

- (a) 1 and 2 only
- (b) 1 and 3 only
- (c) 2 and 3 only
- (d) 1, 2 and 3

✓ **Correct Answer: (b) 1 and 3 only**

Explanation: India does **not** yet have a mandatory AI-verification protocol, making Statement 2 incorrect.

PadhAI insight

This topic sits at the intersection of **Polity (Judiciary), Governance (Regulation), and S&T (AI Ethics)**.

Potential UPSC angles:

- "Should India classify legal AI tools as 'high-risk' under national AI regulation?"
- "Examine challenges posed by AI hallucinations in law."
- "How can India build a responsible AI ecosystem for the justice sector?"

12. Digital Personal Data Protection (DPDP) Act Notified – A New Era of Data Rights in India.

Why in the news?

- The Act operationalizes the Supreme Court's landmark judgment in **Puttaswamy (2017)**, which recognized privacy as a **fundamental right under Article 21**.
- Its notification brings India closer to global data protection models like the **EU's GDPR**, while maintaining a uniquely Indian approach focused on **digital inclusion and simplified compliance**.

What the DPDP Act Aims to Achieve

1. **Protect personal data of citizens**
2. **Ensure accountability of data fiduciaries (companies & gov. bodies)**
3. **Empower individuals with control over their digital data**
4. **Provide a legal framework for data processing, consent, and grievance redressal**
5. **Strengthen cybersecurity and trust in digital governance**

Key Features of the DPDP Act (2025 Implementation)

1. Consent-Centric Framework

- Individuals ("data principals") must give **clear, informed, and revocable** consent.
- Apps must provide **simple opt-in and opt-out** options.

2. Data Fiduciary Obligations

- Entities handling personal data ("data fiduciaries") must:
 1. Use data only for **lawful purposes**
 2. Limit data retention
 3. Prevent data breaches
 4. Allow data correction and deletion



3. Rights of Individuals

- Right to access data
- Right to correction and erasure
- Right to grievance redressal
- Right to *nominate another person* in case of incapacity or death

4. Government Exemptions (Debate Area)

Government agencies may be exempted for:

- national security
- public order
- foreign relations
- crime prevention

5. Cross-Border Data Flow

- Allowed to countries notified by the government (whitelist-based approach).
- More liberal than the earlier draft, facilitating global digital trade.

6. Strict Penalties

- Up to **₹250 crore** fine per violation for companies
- Penalties for failure to prevent **data breaches** or ensure **consent compliance**

7. Data Protection Board of India (DPB)

- A new, independent body to:
 - adjudicate complaints
 - impose penalties
 - monitor compliance

Why the Notification Matters (2025 Context)

- India's digital economy has crossed **\$300 billion**, demanding stronger data governance.
- Increase in cyber fraud, AI data scraping, and biometric misuse cases.
- The rise of GenAI technologies requires **ethical data practices**.
- Online service providers (UPI, e-commerce, EdTech) must now reconfigure consent architecture.

India's Position in Global Data Governance

- India's approach is **balanced**:
 - ✓ GDPR-style rights for individuals
 - ✓ More flexibility for businesses
 - ✓ Sovereignty-minded government exemptions

- Positioned to be a **model for Global South** digital democracies.

Previous Year Question (GS Paper II – 2021)

"Right to privacy is protected under Article 21, but its implementation requires a robust legislative framework. Discuss."

Relevance: The DPDP Act is India's long-awaited legislative framework fulfilling this requirement.

PadhAI generated practice MCQ

With reference to the Digital Personal Data Protection Act, 2023, consider the following statements:

1. It establishes the Data Protection Board of India as an adjudicatory body.
2. It prohibits all forms of cross-border data transfer.
3. It grants citizens the right to correction and erasure of their personal data.

Choose the correct answer:

- (a) 1 and 2 only
- (b) 1 and 3 only
- (c) 2 and 3 only
- (d) 1, 2 and 3

✓ Correct Answer: (b) 1 and 3 only

Explanation: The Act **allows** cross-border data transfer to approved countries; hence Statement 2 is incorrect.

PadhAI insight

This topic fits **GS Paper II (Governance – Transparency, Data Protection)** and **GS Paper III (Cybersecurity, IT laws)**.

Possible UPSC questions:

- "Critically evaluate the DPDP Act in light of India's emerging digital economy."
- "Discuss whether government exemptions under the DPDP Act compromise citizens' privacy rights."
- "How does India's DPDP Act compare with global data protection laws?"
- Supports rehabilitation of **all** survivors.
- "Critically examine the implementation challenges of POCSO."

13. Presidential Reference: Governors Can't Stall Bills, but Courts Can't Fix Timelines – Key Supreme Court Verdict Explained.

Why in the news?





- The Supreme Court of India, through a **Presidential Reference under Article 143**, delivered a significant verdict clarifying the constitutional boundaries of **Governor's discretion, state legislative autonomy, and judicial intervention** in the delay of state Bills.
- The judgment comes in the backdrop of several states—Punjab, Tamil Nadu, Telangana, Kerala—accusing Governors of **sitting indefinitely on Bills**, disrupting the legislative process.

Why Was the Presidential Reference Made?

The President of India sought the Supreme Court's opinion on questions arising from growing conflicts between Governors and State governments, specifically:

- Can a Governor **delay assent** to Bills indefinitely?
- Can the Supreme Court **fix a timeline** for Governors to act?
- What is the meaning of "as soon as possible" under **Article 200**?

This reference was initiated after constitutional deadlocks in several states where up to **20+ Bills** were pending with Governors for months—some even exceeding a year.

Key Findings of the Supreme Court

Governor cannot stall Bills indefinitely

The Court held that the Governor **must act "as soon as possible"** under Article 200.

This phrase is **mandatory**, not discretionary.

Governor has four options under Article 200:

1. Give assent
2. Withhold assent
3. Return the bill (if not a Money Bill)
4. Reserve the Bill for President

But none of these options can be delayed without reason.

Courts cannot prescribe an exact timeline for Governors

Although the Governor must act expeditiously, the Court said:

- It cannot set a rigid number of days (e.g., 30 or 60 days).
- This is a constitutional function, not a judicially quantifiable timeframe.

Why?

The Constitution deliberately avoided specific timelines to maintain flexibility.

Returning Bills must be done with reasons

If the Governor returns a Bill to the legislature:

- It must contain "specific, cogent reasons".
- Vague or political objections are not acceptable.

If the assembly passes the Bill again → **Governor must give assent.**

Governors cannot withhold assent arbitrarily

The Court reaffirmed that the **Governor is not a parallel legislature.**

They must act on the **aid and advice of the Council of Ministers**, except in a few constitutionally defined discretionary areas.

Reserving Bills for the President must follow constitutional discipline

Governors cannot misuse Article 200 to reserve Bills unnecessarily.

It can be used only when:

- Bill conflicts with central laws (Article 254)
- Bill affects High Court powers
- Constitutional position requires Union involvement

Reserving all Bills indiscriminately violates federalism.

What the Judgment Means for Indian Federalism

✓ Strengthens State Governments

Governors can no longer use delays as a political tool.

✓ Protects Legislative Autonomy

States can function without executive obstruction.

✓ Reinforces Constitutional Morality



Governor's role is to be a **neutral constitutional head**, not an "appointed watchdog".

✓ Limits Judiciary

Courts cannot micromanage constitutional authorities.

Relevant Constitutional Articles

Article	Provision
Article 200	Governor's options on State Bills
Article 201	Bills reserved for President
Article 163	Aid and advice of Council of Ministers
Article 143	Presidential Reference
Article 254	Repugnancy between State and Union laws

Contemporary Context (2024–25)

The verdict came amid high-profile disputes:

- **Punjab:** Governor withheld 7 Bills, leading to a constitutional confrontation.
- **Tamil Nadu:** Bills pending beyond six months sparked litigation.
- **Kerala & Telangana:** Assemblies accused Governors of violating federal norms.

The Court provided constitutional clarity while avoiding political commentary.

- **Prelims – Articles 200, 201, 163, 143**

Previous Year Style Question (GS II – 2021 Inspired)

"Discuss the constitutional role of the Governor in State legislation. How does the recent Supreme Court interpretation of Article 200 reshape federal relations?"

PadhAI-Generated Practice MCQ

With reference to the Supreme Court verdict on the Governor's power to act on State Bills, consider the following statements:

1. The Governor must act "as soon as possible" and cannot indefinitely delay action on Bills.
2. The Supreme Court can fix a definite number of days within which the Governor must take a decision.
3. Once a Bill is returned and the Assembly passes it again, the Governor is bound to give assent.

Which of the above statements are correct?

- (a) 1 and 2 only
- (b) 1 and 3 only
- (c) 2 and 3 only
- (d) 1, 2 and 3

✓ **Correct Answer: (b) 1 and 3 only**

Statement 2 is incorrect — Courts cannot prescribe rigid timelines.

PadhAI Insight (Likely UPSC Questions)

- "Explain the constitutional limits on the Governor's discretion in the legislative process."
- "Why was the phrase 'as soon as possible' made mandatory in Article 200?"
- "Discuss the impact of the Supreme Court's interpretation of the Governor's role on cooperative federalism."

14. 50% Cases Pending in Juvenile Justice Boards Due to Staff Shortage: Issues, Impact & Way Forward.

Why in the news?

- A recent national audit revealed that **over 50% of cases in Juvenile Justice Boards (JJBs)** remain **pending primarily due to severe staff shortages**, inadequate infrastructure and administrative delays.
- This raises serious concerns about the functioning of the **Juvenile Justice (Care and Protection of Children)**



Act, 2015, which mandates a child-friendly, speedy justice system for minors in conflict with the law.

Why This Issue Is in News

- National inspection teams reported that **JJBs across many states** are functioning with:
 - vacant psychologist posts
 - missing probation officers
 - irregular sittings due to lack of magistrates
- States like Uttar Pradesh, Bihar, Rajasthan, West Bengal, and Odisha recorded the **highest pendency rates**.
- Some Boards operate with **only 1 member instead of 3**, affecting both legality & sensitivity in hearings.

Legal Background: What the JJ Act Requires

Under the **JJ Act, 2015**, each district must have a **fully functional Juvenile Justice Board**, comprising:

- Metropolitan or Judicial Magistrate** (Chairperson)
- Two social worker members**, including one woman

Mandatory roles:

- Probation Officer
- Child Welfare Police Officer
- Counsellor / Psychologist
- Legal Aid Advocate

Purpose of JJB:

- Child-friendly judicial process
- Speedy disposal of cases
- Rehabilitation & reintegration, not punishment

What the Data Shows (2024–25)

- 50%+ cases remain pending** due to inadequate Board sittings.
- One-third of posts** across JJBs remain vacant in many states.
- In several districts, **no dedicated counsellor or psychologist** exists.
- High turnover of social worker members leads to **inconsistent case handling**.
- Pendency worst in **POCSO-linked juvenile cases**, where delays harm both victims & accused children.

Consequences of High Pendency

Violation of Child Rights

Children wait months or years for hearings, violating the **UN Convention on the Rights of the Child (UNCRC)**.

Delayed Rehabilitation

Juvenile corrections depend on timely counselling, community service, or reformatory orders.

Overcrowding in Observation Homes

Delays lead to children staying beyond recommended periods.

Psychological Distress

Children in conflict with law often suffer trauma, anxiety, and social stigma.

Loss of Evidence Integrity

Delayed witness depositions reduce fairness in trials.

Root Causes Behind Pendency

- Vacant posts (Magistrate + Social Workers)
- Lack of child psychologists, counsellors
- Poor case documentation & digital record systems
- Infrequent Board sittings
- Lack of training in child-friendly judicial protocols
- Weak coordination between JJBs, Child Welfare Committees, and District Child Protection Units

Government Efforts So Far

- Guidelines under **Mission Vatsalya** for improved staffing
- Push to digitize JJB functioning through **TrackChild Portal**
- Ad hoc recruitment of contractual counsellors in some states
- Collaboration with NGOs for psychological support
- State-level directives to increase JJB sittings

However, implementation remains slow and inconsistent.

What Needs to Be Done (Reform Measures)

- Fill all JJB vacancies within fixed timelines
- Mandatory training for magistrates & social workers
- Dedicated budget lines for mental health support
- More counsellors, probation officers & CWPOs
- Digital case-monitoring dashboards



- Stronger oversight by State Child Protection Societies
- Periodic audits of case pendency

Previous Year Style Mains Question

“Despite having a progressive Juvenile Justice Act, India struggles with timely justice delivery for children. Discuss the causes and consequences of rising pendency in Juvenile Justice Boards, and suggest reforms.”

PadhAI-Generated Practice MCQ

With reference to the Juvenile Justice System in India, consider the following statements:

1. Every Juvenile Justice Board must include at least one woman social worker.
2. Probation Officers are mandatory statutory personnel under the JJ Act, 2015.
3. Juvenile Justice Boards are required to deliver final orders within 6 months of producing the child before the Board.

Which of the above statements are correct?

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

✓ **Correct Answer: (a) 1 and 2 only**

Statement 3 is not strictly mandatory; timelines are encouraged but not rigidly codified as a 6-month rule for all cases.

15. Experts Welcome New Labour Codes: Reform Potential, Concerns & Implementation Challenges.

Why in the news?

- India's long-awaited **four Labour Codes**—consolidating 29 central labour laws—have once again entered public debate after labour economists, industry bodies, and policy experts **welcomed the reform package** for modernizing India's labour market.
- The Codes aim to simplify compliance, expand social security, and improve ease of doing business, but their rollout has been delayed due to coordination issues between the Centre and states.

What Are the Four Labour Codes?

Labour Code	Replaces	Key Focus
1. Code on Wages (2019)	4 laws	Minimum wages, payment of wages, equal remuneration
2. Industrial Relations Code (2020)	3 laws	Layoffs, strikes, trade unions
3. Code on Social Security (2020)	9 laws	EPFO, ESIC, gig worker protection, maternity benefits
4. Occupational Safety, Health & Working Conditions (OSH) Code (2020)	13 laws	Safety, working hours, migrant workers

Why Experts Welcome the New Labour Codes

Simplification of 29 Complex Laws

Earlier labour laws were scattered, overlapping, and contradictory.

The new Codes merge them into a **streamlined and consistent framework**.

Increased Formalisation of Labour Market

- Universal minimum wage
- Mandatory appointment letters
- Incentives for EPFO/ESIC enrolment
- Gig & platform worker inclusion

Boost to Ease of Doing Business

Industries often faced:

- multiple inspections
 - different registers in every state
 - unclear compliance standards
- The Codes introduce **single licensing, digital compliance**, and **transparent norms**.



Expansion of Social Security Net

The Social Security Code extends benefits to:

- gig workers
 - platform workers
 - migrant labour
 - unorganised sector workers
- A major shift from employer-employee-centric welfare.

Flexibility for Industry

- Larger threshold for layoffs/closures (from 100 to 300 workers)
- Fixed-term employment without long-term liabilities
- Facilitates investment in labour-intensive manufacturing.

Concerns Raised by Labour Groups

Fear of Dilution of Worker Protections

Trade unions argue the Industrial Relations Code may weaken bargaining power.

Increased Employer Flexibility Could Reduce Job Security

Higher layoff thresholds without state permission may lead to contractualisation.

Monitoring Gig Worker Welfare Remains Weak

Fund creation & contributions unclear → enforcement gap.

Implementation Delays

States' readiness varies: some want more flexibility, others resist changes.

Absence of Strong Grievance Redressal

Many Codes create obligations but provide fewer mechanisms to enforce rights.

Why the Codes Are Not Yet Implemented?

- Labour is a **Concurrent List** subject
- States must frame their own rules
- Centre + States must synchronise timelines
- Several states requested **more autonomy** in thresholds & compliance

Why This Topic Is in News (2024–25)

- Industry groups (CII, FICCI) urged Centre for **full implementation** to boost manufacturing.
- Labour economists noted Codes are essential for supply-chain competitiveness.
- Gig worker platforms demanded clarity on social security contribution rules.
- States like Gujarat, Karnataka, MP, and UP signalled readiness for adoption.
- New data shows rising contractualisation → increasing urgency for updated regulatory framework.

Likely Impact of Full Implementation

Positive Outcomes

- Greater formalisation
- Better investment climate
- Faster dispute resolution
- National floor wage uniformity
- More inclusive social security

Possible Risks

- Reduced job stability
- Enforcement challenges
- Gig worker under-protection
- State-by-state inconsistency

Previous Year Style Mains Question

“Labour Codes seek to modernise India’s labour market, but their success depends on implementation and institutional capacity. Discuss the opportunities and challenges associated with the new Labour Codes.”

PadhAI-Generated UPSC Practice MCQ

With reference to India’s Labour Codes, consider the following statements:

1. The Social Security Code includes provisions for gig and platform workers.
2. The Industrial Relations Code increases the layoff threshold requiring government approval from 100 to 300 workers.
3. Labour is exclusively a Union List subject under the Constitution.



Which of the above statements are correct?

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

✓ **Correct Answer: (a) 1 and 2 only**

Statement 3 incorrect → Labour is a **Concurrent List** subject.

16. Justice Surya Kant Appointed as the New Chief Justice of India (CJI): Background, Significance & Judicial Priorities.

Why in the news?

- Justice **Surya Kant** has been appointed as the **53rd Chief Justice of India (CJI)**, succeeding Justice D.Y. Chandrachud. His elevation has generated wide attention due to his extensive judicial experience, strong administrative record, and reputation for accessible, citizen-centric justice.

Who is Justice Surya Kant? – Background

Detail	Information
Born	1957, Haryana
Legal Career	Practised in Punjab & Haryana High Court; Senior Advocate (2001)
Judicial Positions	Judge, Punjab & Haryana HC → Chief Justice, Himachal Pradesh HC (2018) → Judge, Supreme Court (2019)
Noted For	Practical interpretation, rural justice outreach, environmental jurisprudence, legal aid reforms
Administrative Strengths	Case-flow management, digitalisation initiatives, efficient judicial administration

Key Areas Expected to Shape Justice Surya Kant's Tenure

Reducing Case Pendency

India currently has:

- **80,000+ cases pending in the Supreme Court**
- **4.5 crore cases** across all courts
- Justice Surya Kant is expected to push for:
 - faster disposal mechanisms
 - standardised case management courts
 - more Special Benches for urgent matters

Strengthening District Judiciary

He has long advocated:

- filling vacancies rapidly
- upgrading infrastructure
- increasing training for judicial officers

Advancing Digital Justice

Focus areas include:

- live-streaming of hearings
- hybrid courts
- e-filing & digital case records
- AI-assisted court management tools

Social Justice & Accessibility

He is known for judgments favouring:

- marginalised groups
- rural communities
- environmental oversight
- legal aid expansion

Judicial Transparency & Collegium Reforms

Expect emphasis on:

- transparent collegium resolutions
- faster judicial appointments
- strengthening High Court functioning

His judgments reflect a **balance between judicial restraint and active protection** of constitutional rights.

Why This Appointment Matters (2024–25 Context)

- India debating judicial accountability & independence



- High pendency crisis
- Push for **legal tech adoption**
- Increased public criticism of judicial delays
- Need for faster constitutional bench decisions
- Importance of streamlined lower court functioning

Justice Surya Kant's administrative background makes him well-positioned to address these issues.

- (c) 1 and 3 only
(d) 1, 2 and 3

✓ **Correct Answer: (c) 1 and 3 only**

Statement 2 incorrect → Seniority is **constitutional convention**, not a constitutional mandate.

CJI Appointment: Constitutional Basis

Article	Provision
Article 124(2)	Judges of SC appointed by President
Convention	Senior-most Supreme Court judge becomes CJI
Tenure	Until age 65
Role	Head of Indian judiciary, master of roster, chair of collegium

Previous Year Style Mains Question

“Discuss the constitutional role and administrative responsibilities of the Chief Justice of India. In this context, evaluate how leadership changes—such as the appointment of Justice Surya Kant—shape judicial reforms.”

PadhAI-Generated UPSC Practice MCQ

With reference to the appointment of the Chief Justice of India, consider the following statements:

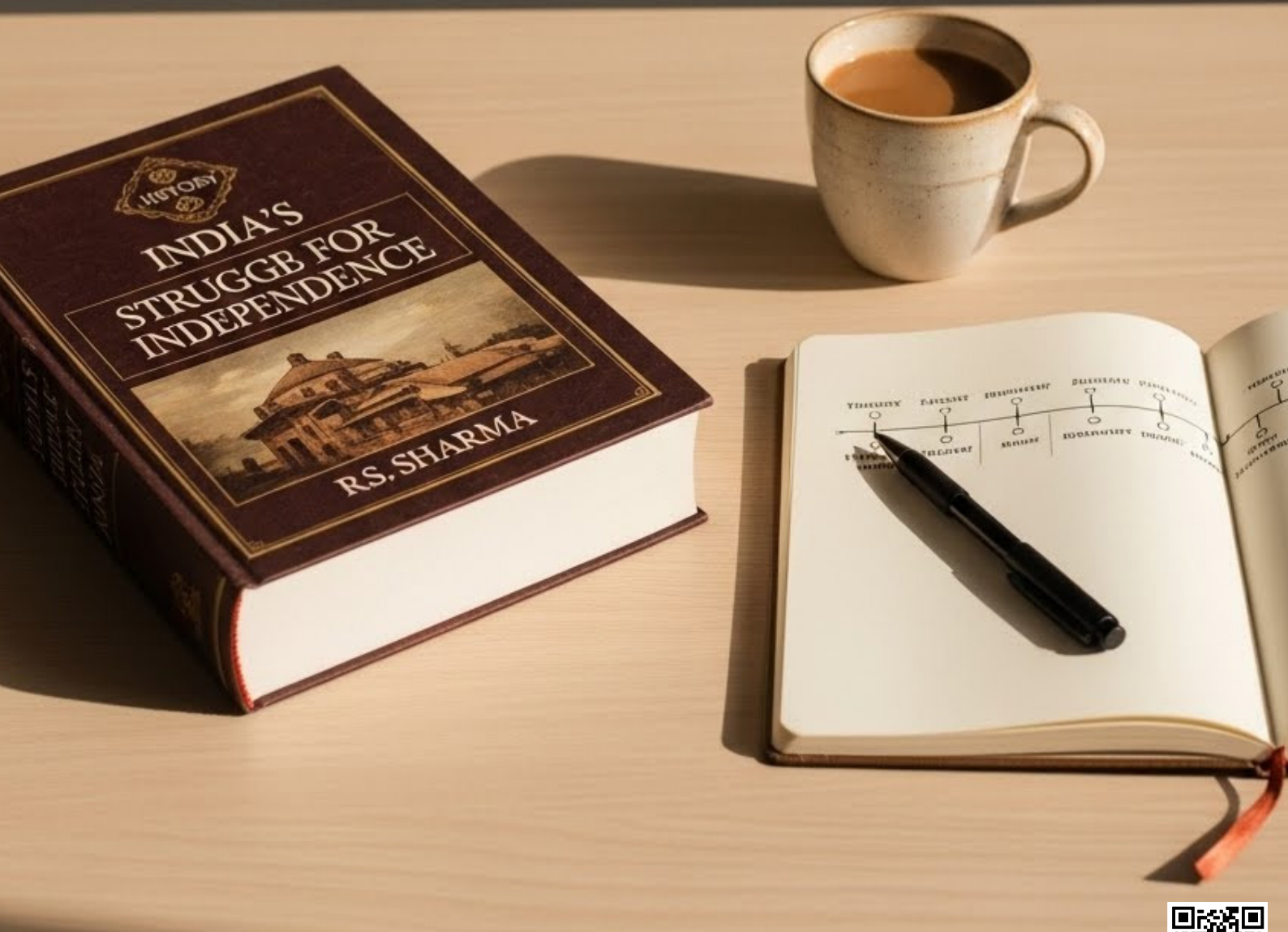
1. The Chief Justice of India is appointed by the President under Article 124(2).
2. The Constitution mandates that the senior-most judge of the Supreme Court must become the CJI.
3. The CJI is the head of the Collegium responsible for appointing judges to the Supreme Court and High Courts.

Which of the statements given above are correct?

- (a) 1 and 2 only
(b) 2 and 3 only



INTERNATIONAL RELATIONS



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1. US Conducts Subcritical Nuclear Test – Global Concerns Over Eroding Arms Control Regime

Why in the news?

In **October 2025**, the **United States Department of Energy's National Nuclear Security Administration (NNSA)** conducted a **subcritical nuclear test** at the **Nevada National Security Site**.

What Is a Subcritical Nuclear Test?

- A **subcritical test** involves the use of **plutonium and high explosives** but does **not trigger a self-sustaining nuclear chain reaction**.
- Such tests are used to **study plutonium aging, weapon safety, and reliability** under the **Stockpile Stewardship Program (SSP)**, without violating the letter of the CTBT (which bans full-scale nuclear explosions).
- However, critics argue that these tests **erode the spirit of the CTBT** and can serve as **technical precursors** to new-generation nuclear weapons.

Global Legal Framework

- **CTBT (1996)**: Prohibits all nuclear explosions; not yet in force due to non-ratification by key states including the **US, China, and North Korea**.
- **NPT (1968)**: Aims to prevent proliferation and promote peaceful nuclear technology; India, Pakistan, and Israel are not signatories.
- **UN Security Council Resolution 2310 (2016)**: Reaffirms the CTBT as a cornerstone of the global disarmament framework.

Implications

- **Erosion of Trust**: May reignite an **arms race** among nuclear powers, weakening decades of restraint.
- **Geopolitical Polarization**: Increases strategic distrust between **US–Russia–China** blocs.
- **Technological Gap**: Spurs modernization of nuclear arsenals using AI and computational modeling.
- **Impact on India**:
 - India maintains a **"No First Use" (NFU)** policy and advocates a **time-bound disarmament plan**.
 - This test could indirectly **pressure regional actors** like China and Pakistan to enhance deterrence capabilities.

Previous Year Question (UPSC GS Paper II – 2021)

Q. "Discuss the implications of recent developments in nuclear disarmament on India's security and foreign policy."

PadhAI Generated Practice MCQ

With reference to subcritical nuclear tests, consider the following statements:

1. They involve nuclear explosions below one kiloton of yield.
2. They do not produce a self-sustaining chain reaction.
3. They violate the Comprehensive Nuclear-Test-Ban Treaty (CTBT).

(a) 1 and 2 only

(b) 2 only

(c) 1 and 3 only

(d) 1, 2 and 3

✓ **Answer:** (b) 2 only

PadhAI Explanation: Subcritical tests involve no nuclear yield and hence **do not breach** the CTBT's technical provisions, though they challenge its spirit.

PadhAI insight

This topic bridges **GS Paper II (International Treaties, India–US Relations)** and **GS Paper III (Security & Technology – Nuclear Policy)**.

UPSC may ask:

- "Evaluate India's stance on CTBT and NPT in light of new nuclear developments."
- "How do subcritical nuclear tests influence global disarmament efforts?"
- "Discuss the role of emerging technologies in nuclear deterrence modernization."

2. APEC Summit 2025 – Navigating New Economic Corridors in the Indo-Pacific

Why in the news?

The **Asia-Pacific Economic Cooperation (APEC) Summit 2025** was held in **Seoul, South Korea**, under the theme **"Resilient Growth, Inclusive Innovation, and Sustainable Trade."** Leaders from **21 member economies** gathered to address supply chain resilience, digital trade, green transition, and inclusive economic recovery following pandemic-induced disruptions and global inflationary pressures.

Key Highlights of APEC 2025

1. **Digital Trade Framework Agreement (DTFA)**:
 - Members agreed on harmonized standards for **cross-border data flow, cybersecurity, and AI-driven trade systems**.





2. **Green Energy Investment Charter:**
 - A new initiative to mobilize **\$300 billion** in clean energy projects, led by Japan, South Korea, and Australia.
3. **Supply Chain Resilience Compact (SCRC):**
 - Strengthened logistics cooperation to **de-risk semiconductor and pharmaceutical supply chains**.
4. **Inclusive Growth Fund:**
 - Established to empower **MSMEs, women entrepreneurs, and digital skill programs** across member states.
5. **AI and Climate Transition Dialogue:**
 - Pledged ethical use of AI for climate data analysis, disaster response, and agricultural productivity.

1. APEC is an intergovernmental forum established to promote free trade and economic cooperation across the Asia-Pacific region.
2. India is one of the founding members of APEC.
3. Decisions in APEC are made by consensus and are non-binding in nature.

- (a) 1 and 2 only
(b) 2 and 3 only
(c) 1 and 3 only
(d) 1, 2 and 3

✓ **Answer:** (c) 1 and 3 only

PadhAI Explanation: India is *not* a member of APEC. The forum was founded in **1989** and decisions are made through *non-binding consensus*.

India's Perspective

- India's observer participation showcased its **strategic engagement with the Indo-Pacific economy** through initiatives such as:
 - **Indo-Pacific Economic Framework (IPEF)**
 - **BIMSTEC** and **QUAD Supply Chain Initiative**
 - **Digital India Stack** as a model for cross-border fintech and e-governance.
- India reiterated its readiness to **join APEC formally**, citing its **\$4 trillion GDP** and commitment to **rules-based regional trade**.

Challenges Ahead

- **US-China Rivalry:** Ongoing trade frictions risk dividing APEC members into competing blocs.
- **Non-Tariff Barriers:** Persistent issues in data protection, AI ethics, and local content laws.
- **Climate Financing Gap:** Developing economies seek equitable green transition funding.
- **India's Exclusion:** Despite consistent invitations, India remains **outside APEC's membership**, limiting its policy influence.

PadhAI insight

This topic links **GS Paper II (IR – Multilateralism, Global Governance)** and **GS Paper III (Economy – Globalization & Trade Policy)**.

UPSC may frame questions on:

- "Critically analyze India's engagement with APEC in the context of the Indo-Pacific Economic Order."
- "Discuss how APEC complements India's Act East and IPEF policies."

3. China-USA Trade Deal 2025 – A Reset Amid Strategic Rivalry

Why in the news?

In **October 2025**, the **United States and China** signed a **limited trade normalization agreement** aimed at easing tariff tensions and stabilizing global markets after years of strategic decoupling.

Key Features of the 2025 China-US Trade Deal

1. **Tariff Reduction Package:**
 - Gradual rollback of tariffs worth **\$250 billion** on Chinese goods imposed since 2018.
 - Reciprocal US tariff cuts on **EV batteries, rare earth elements, and solar equipment**.
2. **Technology & Semiconductor Access:**
 - Controlled export of **AI chips and semiconductor machinery** to Chinese firms under a new licensing framework.
 - US companies allowed **joint R&D collaborations** with Chinese tech firms under monitored transparency clauses.
3. **Green Energy Cooperation:**
 - Establishment of a **US-China Clean Tech Fund (\$50 billion)** for green hydrogen, solar manufacturing, and EV supply chains.

Previous Year Question (UPSC GS Paper II – 2020)

Q. "Regional economic groupings are increasingly defining global trade architecture. Discuss India's engagement strategy with such multilateral platforms."

PadhAI Generated Practice MCQ

With reference to the Asia-Pacific Economic Cooperation (APEC), consider the following statements:





4. **Agricultural Commitments:**
 - China pledged to **import \$80 billion worth of US agricultural goods** over two years to support American farmers.
5. **Currency & Financial Transparency:**
 - Beijing agreed to greater **currency exchange transparency** and **compliance with IMF data disclosure norms**.

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

✓ **Answer:** (c) 1 and 3 only

PadhAI Explanation: The agreement reduces — but does not completely remove — tariffs; hence statement 2 is incorrect.

Strategic Implications

- **Global Impact:** The deal signals a move toward **managed competition** rather than confrontation between the two superpowers.
- **For Indo-Pacific Nations:** Reduces economic uncertainty for ASEAN, Japan, and India, which are integrated into global supply chains.
- **For India:**
 - Could both help and hurt — lower global inflation benefits India's imports, but stronger China-US cooperation may narrow India's **trade diversification advantage**.
 - Offers India a chance to **position itself as an alternate investment hub** through *Make in India* and *PLI* schemes.

Economic Significance

- **The World Bank & IMF** hailed the deal as a “stabilizing factor” amid global slowdown.
- The **OECD** projected a **0.4% boost in global trade volume** by 2026.
- The **US dollar weakened slightly**, while **Asian currencies** strengthened on improved market confidence.
- **Previous Year Question (UPSC GS Paper II – 2020)**

Q. “Global trade disputes often shape the world economy. Discuss the implications of recent US-China trade developments for India.”

PadhAI generated practice MCQ (Conceptual Level)

With reference to the 2025 China-US trade deal, consider the following statements:

1. The deal was mediated under the World Trade Organization's framework.
2. It completely lifted all tariffs imposed during the 2018–2020 trade war.
3. It includes provisions for green energy and technology cooperation.

PadhAI insight

This topic bridges **GS Paper II (IR – Bilateral Relations, Global Trade)** and **GS Paper III (Economy – External Sector & Technology Policy)**.

Possible UPSC angles:

- “Evaluate the implications of the US-China trade deal for India's economic and strategic interests.”
- “Discuss how global trade realignments are reshaping the Indo-Pacific order.”
- “Examine the balance between competition and cooperation in US-China relations.”

4. India-US Sign 10-Year Defence Framework Amid Trade Tensions

Why in the news?

In **October 2025**, India and the United States signed a **renewed 10-year Defence Cooperation Framework Agreement (2025–2035)** in **Washington D.C.**, signaling a deepened strategic partnership despite ongoing trade and tariff disputes.

Key Features of the 10-Year Defence Framework

1. **Defence Technology & Industrial Cooperation (DTIC):**
 - Expansion of co-development under the **INDUS-X initiative**, focusing on **AI, drones, next-gen communication, and cyber security**.
 - US firms to collaborate with Indian startups via the **Innovation Bridge Programme**.
2. **Joint Production & Procurement:**
 - India and the US to co-produce **jet engines, long-endurance UAVs, and naval propulsion systems**.
 - Collaboration between **HAL, DRDO, GE Aerospace**, and **Lockheed Martin**.
3. **Maritime Security & Indo-Pacific Strategy:**
 - Strengthening the **Quadrilateral Security Dialogue (QUAD)** naval cooperation.
 - Joint surveillance in the Indian **Ocean Region (IOR)** through **Information Fusion Centre – Indian Ocean Region (IFC-IOR)**.
4. **Defence Trade & Logistics:**





- Operationalization of **LEMOA, COMCASA, and BECA** agreements for secure logistics and real-time intelligence.
 - Inclusion of **joint logistics hubs in Andaman & Nicobar Islands and Diego Garcia**.
5. **Space & Cyber Defence:**
- Launch of the **US–India Cyber and Space Security Dialogue (CSSD)** to counter digital threats and weaponization of space.

Strategic Implications

- Strengthens India's **defence manufacturing ecosystem** under *Atmanirbhar Bharat*.
- Enhances **interoperability** among QUAD members (India, US, Japan, Australia).
- Improves **maritime domain awareness** and **anti-submarine capabilities** in the Indo-Pacific.
- Reinforces deterrence amid **China's growing assertiveness** in the South China Sea and Indian Ocean.

Challenges

- Balancing **technology transfer restrictions** under US export laws.
- Managing **India's trade deficit** and concerns over **sanctions (CAATSA)** linked to Russian defence imports.
- Aligning India's **neutral strategic posture** with deepening Indo-Pacific military cooperation.

Previous Year Question (UPSC GS Paper II – 2022)

Q. "How has India–US defence cooperation evolved in the last decade, and what role does it play in maintaining Indo-Pacific stability?"

PadhAI Generated Practice MCQ

With reference to the India–US Defence Cooperation Framework 2025, consider the following statements:

1. It includes provisions for joint development of military technologies under INDUS-X.
2. It replaces the BECA and COMCASA agreements.
3. It extends the cooperation timeline up to 2035.

- (a) 1 and 2 only
(b) 1 and 3 only
(c) 2 and 3 only
(d) 1, 2 and 3

✓ **Answer:** (b) 1 and 3 only

PadhAI Explanation: The new framework *builds upon* existing foundational pacts (LEMOA, BECA, COMCASA) — it does not replace them.

PadhAI insight

This topic bridges **GS Paper II (IR – Bilateral Relations)** and **GS Paper III (Security – Defence Technology, Maritime Strategy)**. UPSC may frame analytical questions such as:

- "Discuss the evolution of India–US strategic partnership and its implications for Indo-Pacific security."
- "How does India balance its strategic autonomy while deepening defence cooperation with the United States?"

5. Iran Looks to BRICS Countries to Use Cryptocurrencies for Bypassing Western Sanctions.

Why in the news?

- Iran has intensified efforts in **2025** to collaborate with **BRICS nations**—especially Russia, China, India, Brazil, and South Africa—to explore **cryptocurrency-based financial channels** as an alternative to Western-dominated payment systems like **SWIFT**.
- This development signals a shift towards **blockchain-based "de-dollarized" economic systems** within the BRICS grouping.

Why Iran Is Turning to Crypto With BRICS

1. **SWIFT restrictions:** Iranian banks remain blocked from the global messaging system.
2. **Sanction-resistant payments:** Cryptocurrencies and CBDCs (Central Bank Digital Currencies) are harder to monitor or freeze.
3. **BRICS' de-dollarization agenda:** BRICS is already exploring a **new digital payments platform**.
4. **Growing intra-BRICS trade:** Iran wants seamless trade with Russia, China, and India—its largest energy and strategic partners.
5. **Reduced dependency on the US dollar:** Crypto-based settlement supports BRICS' broader push for **multipolar financial architecture**.

Geopolitical Significance

1. Strengthening BRICS financial sovereignty

Reduces dependence on Western-controlled IMF, World Bank, SWIFT.



2. Sanctions-proof trade

Countries like Russia, Iran, and China seek alternatives to bypass Western oversight.

3. Challenges US financial dominance

Decentralized digital money weakens dollar-based control mechanisms.

4. Energy trade diversification

Iran wants to sell oil to BRICS nations using alternative digital payment systems.

5. India's balancing act

India must navigate:

- strategic autonomy
- US ties
- BRICS obligations
- economic opportunities with Iran

Concerns & Challenges

- Crypto volatility and regulatory uncertainty.
- Risk of global financial fragmentation.
- Potential backlash from Western powers.
- Compliance issues for countries like India due to FATF norms.
- Cybersecurity and blockchain vulnerabilities.

Previous Year Question (GS Paper II – 2020)

"How are global economic sanctions reshaping international relations? Discuss India's position in balancing strategic autonomy with major powers."

Relevance: Iran's crypto strategy is a direct attempt to neutralize sanctions and reshape financial geopolitics.

PadhAI generated practice MCQ

With reference to Iran's recent attempt to bypass sanctions using cryptocurrencies, consider the following statements:

1. Iran is exploring crypto-based transactions with BRICS nations to reduce dependence on SWIFT.
2. BRICS is developing a joint blockchain-based digital payments platform.
3. The US and EU sanctions block Iran from trading with any BRICS country.

Choose the correct answer:

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

✓ **Correct Answer: (a) 1 and 2 only**

Explanation: Sanctions do not *block trade with BRICS nations*, but they restrict banking channels.

PadhAI insight

This topic integrates **IR, Economy, Technology, and Geopolitics**.

Possible UPSC questions:

- "Discuss how digital currencies are enabling a new era of sanctions-proof financial systems."
- "Examine the role of BRICS in reshaping global economic governance."
- "How should India respond to increasing de-dollarization efforts within BRICS?"

6. PM Modi Arrives in Johannesburg for the Three-Day G20 Leaders' Summit.

Why in the news?

- Prime Minister Narendra Modi arrived in Johannesburg, South Africa, for the three-day G20 Leaders' Summit, marking one of the most significant multilateral engagements of 2025.
- The summit brings together major advanced and emerging economies to shape global economic governance, climate commitments, digital transitions, and geopolitical stability.

Key Themes of the Johannesburg G20 Summit

Global Economic Stability & Inflation Control

Countries will discuss:

- synchronized global inflation management
- restoring supply chains disrupted by geopolitical tensions
- sustainable debt relief for low-income countries
- strengthening multilateral development banks (MDBs)

PM Modi is expected to reiterate India's calls for reforming global financial institutions to reflect the needs of the developing world.



Digital Public Infrastructure (DPI) & Technology Governance

India continues promoting the India Stack model, which includes:

- Aadhaar
- UPI
- Digital health IDs
- Digital payments interoperability

India will push for ethical AI frameworks, aligning with its global leadership in Digital Public Infrastructure (DPI).

Climate Finance, Green Transitions & Climate Justice

Discussions likely include:

- strengthening commitments under the Paris Agreement
- operationalising the Loss and Damage Fund
- increasing climate finance from \$100 billion to higher targets
- technology transfer for renewable energy projects

India will advocate for climate justice, emphasizing differentiated responsibilities.

Energy Security & Critical Minerals

G20 nations are set to explore:

- diversifying energy supply chains
- global hydrogen markets
- critical mineral partnerships (lithium, cobalt, rare earths)
- investment in battery manufacturing ecosystems

India will highlight the National Green Hydrogen Mission and its role in global green energy markets.

Geopolitical Dynamics

The Summit comes amid rising tensions in:

- Russia–Ukraine conflict
- Middle East instability
- Global Red Sea shipping disruptions
- US–China strategic competition

India's stance will continue emphasizing strategic autonomy, diplomacy, and peaceful resolution frameworks.

Importance of PM Modi's Visit for India

✓ Strengthening Global South leadership

India has positioned itself as a strong voice for developing nations, advocating fairer global governance.

✓ Expanding trade & investment partnerships

South Africa is a key partner in BRICS, IBSA, and G20.

✓ Enhancing strategic ties with Africa

India's outreach includes digital cooperation, climate adaptation, and health infrastructure.

✓ Continuing India's G20 legacy (New Delhi 2023)

India is expected to push for:

- Global Digital Public Infrastructure Repository
- Women-led development agenda
- Reforms in global financial architecture

G20: A Quick Refresher for UPSC

- Established in 1999 after Asian Financial Crisis
- Members: 19 countries + European Union + African Union (added in 2023 under India's presidency)
- Represents 85% of global GDP, 75% of global trade, two-thirds of humanity
- Works via Finance Track + Sherpa Track

Previous Year Style Question

"Discuss the role of the G20 in shaping global economic governance. How has India contributed to strengthening this multilateral platform?"

PadhAI-Generated Practice MCQ

With reference to the G20, consider the following statements:

1. The African Union became a permanent member of the G20 during India's presidency.
2. The G20 was established as a platform for cooperation on climate change negotiations.
3. The G20 represents more than 75% of global trade.



Which of the above statements are correct?

- (a) 1 and 2 only
- (b) 1 and 3 only
- (c) 2 and 3 only
- (d) 1, 2 and 3

✓ **Correct Answer: (b) 1 and 3 only**

Statement 2 incorrect → G20 was established for global economic coordination, not originally for climate change.

PadhAI Insight: Likely UPSC Questions

- “How does India’s leadership in Digital Public Infrastructure reshape G20 cooperation?”
- “Evaluate the relevance of G20 in a fragmented geopolitical order.”
- “Discuss India’s priorities at the Johannesburg G20 Summit.”

7. G20 SUMMIT 2025: KEY OUTCOMES, INDIA’S ROLE & GLOBAL SIGNIFICANCE

Why in the news?

The **G20 Summit 2025**, hosted in **Johannesburg, South Africa**, brought together the world’s major economies at a time marked by geopolitical fragmentation, rising debt crises, food insecurity, and climate stress.

This year’s summit placed a strong emphasis on **reforming global institutions, inclusive development, and reviving multilateralism**. India played an influential role in shaping the agenda, particularly on **digital public infrastructure (DPI)**, **Global South voice**, and **conflict de-escalation efforts**.

1. Why the 2025 G20 Summit Was Important

- The world is facing **inflation shocks, slowdown in global trade, and conflicts in Europe & Middle East**.
- Debt distress in developing nations reached a **20-year high**.
- Climate finance and technology transfer remain limited.
- Food supply disruptions from Ukraine–Russia conflict persist.
- Lack of consensus in earlier global forums made G20 the **only platform with real decision-making weight**.

2. Major Outcomes of G20 Summit 2025

Outcome 1: Global Institutional Reforms (IMF–World Bank)

- Agreement on **incremental quota reforms** to increase the voice of emerging economies.
- Push for **World Bank’s “Triple-A” lending expansion** for climate adaptation.
- Strengthening the **Global Sovereign Debt Roundtable (GSDR)** with a time-bound restructuring framework.

Outcome 2: Global Data & AI Governance Principles

- Adoption of “**Johannesburg Framework for Safe AI**”, focusing on:
 - ✓ transparency
 - ✓ anti-bias safeguards
 - ✓ cross-border data rules
 - ✓ ethical use in governance
- India’s DPIs recognised as **global model for AI regulation**.

Outcome 3: Climate & Energy Commitments

- Reaffirmation of **Net-Zero pathways**, but with “common but differentiated timelines”.
- \$40 billion pledge for **Global Adaptation Accelerator** (focus on Africa & South Asia).
- Agreement to expand **Green Hydrogen Corridors**.

Outcome 4: Food Security & Agriculture Resilience

- New **Global Food Systems Compact**:
 - resilient supply chains
 - climate-resilient seeds
 - fertiliser security
- India to lead the **Millet Innovation Mission 2.0**.

Outcome 5: Digital Public Infrastructure (DPI) Coalition

- 20+ nations join **Digital Inclusion Partnership** proposed by India.
- Adoption of open-source DPIs for:
 - ✓ digital payments
 - ✓ healthcare
 - ✓ education
 - ✓ social protection
- India is recognized for “**Digital India Stack**” as a global standard.

Outcome 6: Peace & Security Discussions

- Call for de-escalation in:
 - Ukraine conflict
 - Gaza humanitarian crisis
 - Indo-Pacific tensions



- No consensus on military clauses, but agreement on **humanitarian corridors**.

Outcome 7: Women-Led Development & MSME Cooperation

- Launch of **G20 Gender Digital Credit Exchange Platform**.
- New framework for **MSME interoperability** across digital platforms.

3. India's Role at the G20 Summit

India championed:

- Digital Public Infrastructure export
- Global South financing needs
- Rupee settlement framework for African nations
- Climate-resilient agriculture
- Counterterrorism cooperation
- Safety standards for AI misuse

India pushed for:

- Faster debt restructuring for low-income countries
- Equitable AI governance
- Global biofuel alliance expansion
- Green hydrogen supply chain development

4. Significance of the G20 2025 Outcomes

For India:

- Strengthens India's leadership among Global South.
- Opens markets for DPI export.
- Major push for India's renewable & hydrogen diplomacy.
- Support for food & fertiliser security.

For the World:

- Revival of multilateralism with concrete frameworks.
- More inclusive global financial governance.
- Roadmap for safe AI tools and cross-border digital cooperation.

Previous Year-Style Mains Question

"The G20 continues to be the most effective platform for global economic coordination. In light of the 2025 Johannesburg

Summit, discuss how India can leverage G20 outcomes to strengthen its economic and strategic ambitions."

PadhAI-Generated UPSC MCQ

With reference to the G20 Summit 2025, consider the following statements:

1. The 2025 Summit endorsed a global framework for safe and ethical AI use.
2. The Summit adopted the Global Food Systems Compact focusing on resilient agriculture.
3. The G20 Troika for 2025 included India as a member.
4. The Summit created a binding treaty for climate finance commitments.

Which of the above statements are correct?

- (a) 1, 2 and 3 only
- (b) 1 and 4 only
- (c) 2, 3 and 4 only
- (d) All four

✓ **Correct Answer: (a) 1, 2 and 3 only**

Statement 4 is incorrect → climate pledges remain **non-binding**.

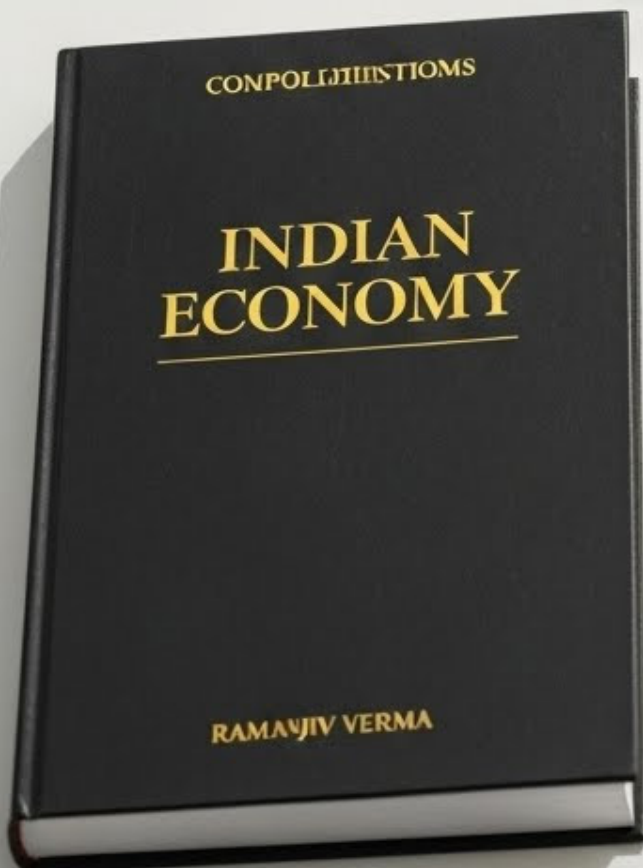
MAP-READY ANNOTATION POINTS FOR UPSC DIAGRAMMS

Use these bullet markers directly on your atlas maps:

- **Pacific Rim G20 nations** → USA, Canada, Mexico, Japan, South Korea, China, Australia
- **Indian Ocean Region G20 members** → India, Indonesia, Australia, Saudi Arabia, South Africa
- **Mediterranean G20 region** → Italy, France, Türkiye
- **BRICS within G20** → Brazil, Russia, India, China, South Africa
- **G20 nations with Arctic territory** → USA (Alaska), Canada, Russia
- **Only island G20 nations** → Japan, Australia, Indonesia, UK



ECONOMY



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1. Indian Railways to Patronise 'Aabhar' Online Store to Encourage Local Artisans

Why in the news?

The **Indian Railways** has partnered with the **Tribal Cooperative Marketing Development Federation of India (TRIFED)** and the **Ministry of Textiles** to promote "Aabhar", an online marketplace dedicated to **Indian artisans, weavers, and tribal craft workers**.

Economic Significance

- Strengthens **rural non-farm sector** and **micro-enterprise economy**.
- Integrates **digital economy with handicraft clusters**, increasing artisans' income potential.
- Creates sustainable livelihood opportunities, especially for **women-led and tribal SHGs**.
- Promotes **eco-friendly, hand-made products** within India's green economic framework.

Previous Year Question (UPSC GS Paper III – 2020)

Q. "How can e-commerce platforms contribute to rural economic transformation in India? Discuss in the context of government initiatives to empower artisans and small producers."

PadhAI Generated Practice MCQ

Which of the following statements best describes the economic significance of the 'Aabhar' initiative?

- It promotes large-scale mechanized textile manufacturing.
- It aims to provide direct digital market access to artisans and handicraft workers.
- It focuses exclusively on agricultural exports.
- It seeks to privatize railway production units.

✓ **Answer:** (b)

PadhAI Explanation: 'Aabhar' is a *digital empowerment and market-access initiative*, not an industrial or export policy. It embodies inclusive economic growth through technology-driven handicraft promotion.

PadhAI insight

This topic links with **GS Paper III (Inclusive Growth, Employment, Government Policies)** and **GS Paper II (Governance & E-Governance)**.

UPSC may ask conceptual questions on:

- Digital platforms and rural income diversification
- Public-Private Partnership in the informal economy
- Integration of artisans under Digital India and ONDC

2. New Indian Institute of Packaging (IIP): Enhancing India's Manufacturing Competitiveness

Why in the news?

The Government of India has approved the establishment of a **New Indian Institute of Packaging (IIP)** to strengthen research, innovation, and skill development in the **packaging sector** – a critical enabler of India's manufacturing and export industries.

Economic Significance

- The packaging industry is one of India's fastest-growing sectors, with a **compound annual growth rate (CAGR) of 18–20%**.
- The new IIP will cater to **food processing, pharmaceuticals, e-commerce, and export packaging**, ensuring **product safety and regulatory compliance**.
- Promotes **green packaging technologies** (biodegradable polymers, recyclable materials), aligning with **India's net-zero commitments by 2070**.
- Boosts **employment and skill creation** under *PM Gati Shakti* and *National Logistics Policy 2022*.

Key Highlights:

- The **new IIP campus** is expected to be established in **Guwahati (Assam)**, expanding the institute's presence beyond Mumbai, Delhi, Chennai, and Hyderabad.
- Focus areas include **smart packaging, AI-based supply chain analytics, and waste management in packaging industries**.
- The institute collaborates with **FSSAI, BIS, and UNIDO** for international packaging standards and export quality certification.

Previous Year Question (UPSC GS Paper III – 2021)

Q. "Discuss how infrastructure and logistics reforms can improve India's export competitiveness."

PadhAI Generated Practice MCQ

Which of the following best describes the objective behind establishing a new Indian Institute of Packaging (IIP)?

- To promote agricultural extension services in rural areas.





- (b) To enhance research, innovation, and training in sustainable packaging and logistics.
- (c) To regulate food safety standards in India.
- (d) To act as an export promotion council for textile products.

✓ **Answer:** (b)

PadhAI Explanation: The IIP aims to strengthen *packaging science, design innovation, and logistics management*, which are vital for exports and the manufacturing ecosystem.

PadhAI insight

This topic fits under **GS Paper III (Economy, Infrastructure, Industrial Growth)**.

Possible UPSC angles:

- Role of packaging in India's export competitiveness
- Sustainable packaging and circular economy
- Industry–Academia linkages in skill development

3. Indian Households Piling on Debt Faster Than Creating Assets: RBI Data Insight

Why in the news?

The latest **RBI data (2025)** reveals that Indian households are **accumulating debt at a faster pace than asset creation**, indicating growing **consumption-driven liabilities** and a potential stress on long-term financial stability.

Key Economic Highlights

- **Household debt-to-GDP ratio** rose to **39.5% in 2025**, up from 35% in 2022.
- Growth is concentrated in **unsecured loans** (credit cards, personal loans, EMIs) and **housing finance**.
- **Rural borrowing** has shifted from agricultural to consumption purposes, showing income–expenditure imbalances.
- RBI's **Financial Stability Report (FSR)** warns of potential risks if debt service ratios rise faster than income growth.

Previous Year Question (UPSC GS Paper III – 2020)

Q. "Discuss the changing pattern of household savings in India and its implications for economic growth."

PadhAI Generated Practice MCQ

According to recent RBI data, which of the following trends characterises the Indian household sector in 2025?

- (a) Savings rate has increased faster than household debt.

- (b) Household debt is expanding more rapidly than asset accumulation.
- (c) Credit growth has declined sharply due to interest rate hikes.
- (d) Agricultural borrowing dominates total household loans.

✓ **Answer:** (b)

PadhAI Explanation: Rising consumer loans, housing credit, and lifestyle borrowings have outpaced financial savings, leading to a widening household debt–asset gap.

PadhAI insight

This topic connects **GS Paper III (Economy – Financial Inclusion, Fiscal Stability)** and **GS Paper II (Governance – Policy Impact on Households)**.

Possible UPSC angles:

- Implications of rising household leverage on growth & consumption cycles
- Financial literacy and debt management reforms
- Balancing credit expansion with sustainable savings culture

4. GST Collections Rise 4.6% to ₹1.96 Lakh Crore in October 2025

Why in the news?

India's **Gross Goods and Services Tax (GST)** revenue in **October 2025** stood at **₹1.96 lakh crore**, marking a **4.6% year-on-year increase**, indicating stable consumption and compliance despite moderating growth momentum.

Key Highlights

- **Central GST (CGST):** ₹35,700 crore
- **State GST (SGST):** ₹44,100 crore
- **Integrated GST (IGST):** ₹1.02 lakh crore (includes imports component)
- **Cess:** ₹14,200 crore (includes ₹1,300 crore from imported goods)
- **Gross mop-up:** ₹1.96 lakh crore (4.6% YoY rise)

context:

- **Maharashtra, Gujarat, Karnataka, and Tamil Nadu** remain top GST contributors.
- Revenue from **services and e-commerce** grew faster than manufacturing segments.
- **RBI's monthly economic review** linked the moderate GST growth to "softening rural demand and delayed festival spending."
- **The GST Council** is considering **rate rationalization** and simplification of **input tax credit (ITC)** mechanisms to widen the base.





Economic Interpretation

- Despite slower growth, GST revenue indicates **resilient formalization** and **compliance efficiency**.
- The trend shows India's tax-to-GDP ratio improving steadily towards **12% target by FY27**.
- Fiscal consolidation remains achievable if **nominal GDP growth** sustains around 10–11%.

Previous Year Question (UPSC GS Paper III – 2020)

Q. "What are the main features of the Goods and Services Tax (GST)? Discuss its impact on India's revenue buoyancy and federal fiscal relations."

PadhAI Generated Practice MCQ

Which of the following factors primarily contributed to the stable yet moderate GST growth in October 2025?

- Decline in compliance and ITC mismatches.
- Improved e-invoicing, digital monitoring, and service sector expansion.
- Large tax cuts in petroleum and liquor sectors.
- Slump in direct tax collection.

✓ **Answer:** (b)

PadhAI Explanation: The digitalization of invoices and GSTN's use of AI analytics enhanced compliance and revenue efficiency, offsetting slower consumption growth.

PadhAI insight

This topic fits **GS Paper III (Fiscal Policy, Taxation, Government Budgeting)** and **Prelims (Current Affairs & Economy)**.

UPSC may ask conceptual or data-based questions on:

- *Tax buoyancy and digital governance*
- *GST Council reforms and fiscal federalism*
- *Impact of GST trends on macroeconomic stability*

5. India Needs More Financial Reforms to Hit \$30 Trillion Economy Goal – World Bank Assessment (2025)

Why in the news?

According to the **World Bank's India Development Update (2025)**, India has the potential to become a **\$30 trillion economy by 2047**, but this goal requires **deep structural financial reforms** and **strong institutional modernization**.

Key Findings of the Report

- India's financial system remains **bank-dominant**, with **limited long-term credit** to MSMEs, startups, and infrastructure projects.
- **Non-banking financial companies (NBFCs)** and **bond markets** must play a stronger role in channeling private capital.
- Calls for a **second-generation reform wave** – improving credit delivery, deepening corporate bond markets, and enabling fintech regulation.
- Highlights the need for **public-private investment synergy** to sustain long-term growth.
- The report aligns with India's own **Amrit Kaal Vision 2047** and **National Infrastructure Pipeline (NIP)** goals.

Implications for India's \$30 Trillion Vision

- India must increase **gross capital formation (GCF)** to **~35–36% of GDP** to sustain 8%+ long-term growth.
- Financial depth (credit-to-GDP ratio) must rise from **~55% to 100%** by 2047.
- A vibrant **corporate bond market** and fintech-led inclusion are key to this transition.

Previous Year Question (UPSC GS Paper III – 2022)

Q. "What are the key challenges to India's financial sector, and how can financial inclusion and capital market reforms accelerate sustainable economic growth?"

PadhAI generated practice MCQ (Conceptual Level)

According to the World Bank's assessment, which of the following is most essential for India to achieve a \$30 trillion economy by 2047?

- Increasing government subsidies and fiscal transfers.
- Expanding informal credit networks in rural areas.
- Deepening financial markets and improving capital access efficiency.
- Restricting private sector participation in infrastructure.

✓ **Answer:** (c)

PadhAI Explanation: Sustainable high growth needs *capital efficiency* and *institutional financial reforms* and not just public expenditure, as emphasized in the World Bank's India Development Update (2025).

PadhAI insight

This topic intersects **GS Paper III (Economic Reforms, Financial Sector, Investment Climate)** and **Essay Paper (Vision 2047 –**



Growth with Inclusion).

UPSC may ask analytical questions on:

- Financial sector deepening and growth acceleration
- Bond market reforms and fintech governance
- Global assessments of India's growth trajectory

6. Cabinet Approves Export Promotion Mission with ₹25,060 Crore Outlay to Strengthen India's Export Ecosystem.

Why in the news?

- The mission is designed to help India achieve its long-term export ambition of becoming a **\$2 trillion export economy** by 2030 and enhance global competitiveness amid shifting global supply chains.

Key Objectives of the Export Promotion Mission

1. **Boost India's export competitiveness**
Improve product quality, reduce logistics costs, and streamline paperwork.
2. **Diversify export markets and product baskets**
Reduce overdependence on a few markets and promote sunrise sectors.
3. **Support MSMEs and emerging exporters**
Bridge the capability and certification gaps faced by small exporters.
4. **Strengthen trade infrastructure**
Modernise ports, inland logistics, testing labs, and trade zones.
5. **Enhance compliance and global standards**
Assist exporters with certifications, quality standards, and market entry.

Breakdown of the ₹25,060 Crore Outlay

- **Export Infrastructure & Logistics Upgradation** – ports, ICDs, multimodal hubs
- **MSME Export Support Schemes** – capacity building, market linkages
- **Export Credit & Insurance Guarantees**
- **Trade Intelligence & Market Access Programs**
- **Quality Testing & Certification Labs**
- **Digital Trade Facilitation Systems**

The mission has a **five-year implementation window** and includes participation of states, export councils, and industry bodies.

Why the Mission Matters for India

1. Strengthening Atmanirbhar Bharat & Make in India

EPM enables Indian manufacturers to scale globally.

2. Helps MSMEs integrate into global value chains (GVCs)

India has nearly 63 million MSMEs, but only a small share of exports.

3. Improves India's global competitiveness

Upgraded infrastructure reduces turnaround time and costs.

4. Supports job creation

Export-led sectors (textiles, electronics, pharma, food processing) generate millions of jobs.

5. Enhances resilience in global trade shocks

New markets in Africa, Latin America, Central Asia reduce risks of dependency.

Challenges Ahead

- Non-tariff barriers in developed markets
- Compliance costs for quality standards
- High logistics and energy costs
- Limited export credit for MSMEs
- Skill gaps in export-oriented industries

EPM aims to systematically address these bottlenecks.

Previous Year Question (GS Paper III – 2021)

"India's export competitiveness depends on infrastructure, policy reforms, and integration into global value chains. Examine."

Relevance: This mission directly addresses all three pillars discussed in UPSC Mains.

PadhAI generated practice MCQ

With reference to India's Export Promotion Mission (EPM), consider the following statements:

1. The mission aims to enhance India's export competitiveness with an outlay of ₹25,060 crore.
2. One of its goals is to reduce India's logistics cost as a percentage of GDP.





- The mission is limited only to large exporters and excludes MSMEs.

Choose the correct answer:

- 1 and 2 only
- 2 and 3 only
- 1 and 3 only
- 1, 2 and 3

✓ **Correct Answer: (a) 1 and 2 only**

Explanation: EPM includes MSMEs as a major beneficiary; Statement 3 is incorrect.

PadhAI insight

This topic is crucial for **GS Paper III (Economy – External Sector, Growth, Trade Policy)** and can be asked in:

- Mains (export-led growth, industrial policy)
- Prelims (government schemes, trade bodies)
- Essay (India's economic transformation & global integration)

7. Talks Ongoing with RBI & Lenders for Creating “Big World-Class Banks” in India.

Why in the news?

- The move aligns with India's ambition to become a **\$30 trillion economy by 2047** and requires a robust banking system capable of supporting large-scale credit supply, global trade, and technological innovation.

Why India Wants World-Class Banks

- India's growing global economic footprint**
A large economy needs large banks capable of financing megaprojects, global acquisitions, and infrastructure expansion.
- Competing with global giants**
China's ICBC, US-based JPMorgan Chase, and Japan's MUFG have asset sizes **multiple times larger** than India's biggest banks.
- Support for long-term development goals**
Massive credit requirements for:
 - ✓ renewable energy transition
 - ✓ manufacturing growth
 - ✓ exports & value chains
 - ✓ infrastructure corridor building
- Need for stronger financial resilience**
Larger banks can better handle external shocks, global crises, and cybersecurity threats.

Why This Push Is Significant

1. India's Small Banking Footprint Globally

- India's largest bank (SBI) ranks **~55th globally** by asset size.
- India lacks a bank among the **top 20 global financial institutions**.

2. Dependence on foreign banks

Large corporations often rely on foreign banks for syndicated loans.

3. Need to support global Indian companies

India's multinationals require large domestic lenders for expansion.

4. Strengthening India's financial stability

Larger, well-capitalized banks reduce the likelihood of:

- liquidity crises
- credit crunch
- asset-quality shocks

Key Issues Under Discussion

1. Governance Reforms

- Strengthening board independence
- Merit-based appointments
- Improving risk management

2. Capital Requirements

- Meeting Basel III & future regulatory norms
- Need for long-term capital from the government and markets

3. Merger Models

- Horizontal consolidation (PSB + PSB)
- Vertical models (PSB + NBFC)
- Strategic private partnerships

4. Avoiding “Too Big to Fail” Risks

Ensuring larger banks do not create systemic vulnerabilities.

Previous Year Question (GS Paper III – 2020)

“Discuss the challenges and opportunities in consolidating India's banking sector.”



Relevance: The 2025 talks directly relate to consolidation and modernization of Indian banks.

PadhAI generated practice MCQ

Consider the following statements regarding India's move to create world-class banks:

1. The proposal includes further consolidation of Public Sector Banks.
2. One objective is to increase the global competitiveness of Indian lenders.
3. RBI has already finalized a list of mega banks to be merged under this plan.

Choose the correct answer:

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

✓ **Correct Answer: (a) 1 and 2 only**

Explanation: RBI has not finalized any merger list yet; discussions are ongoing.

PadhAI insight

This topic is central to **GS Paper III (Economy – Banking, Financial Reforms)**.

Likely UPSC questions:

- "Why does India need world-class global banks? Discuss."
- "Examine the role of banking consolidation in supporting India's \$30 trillion economy vision."
- "What challenges does India face in building globally competitive financial institutions?"

8. Punjab Becomes the First Indian State to Fully Implement the Amended "BharatNet Scheme" Across Its Territory

Why in the news?

- Punjab has become the **first state in India** to achieve **100% implementation** of the amended **BharatNet Scheme**, providing high-speed broadband connectivity to **every Gram Panchayat and village** across the state.

What This Achievement Means

1. **Complete fibre connectivity** to all villages in the state.
2. **Affordable last-mile broadband services** for rural citizens.

3. Improved **digital infrastructure for education, health, banking, and agriculture**.
4. Strengthened rural economy through digitally-enabled markets and services.
5. Faster and more reliable **internet penetration in border districts**, improving security-linked communication systems.

BharatNet Scheme – Key Features (Amended Version)

1. Public–Private Partnership (PPP) Model

The amended model allows private sector participation for:

- maintaining fibre networks
- delivering last-mile broadband
- improving service quality and uptime

2. Universal Fibre Coverage

Goal: connect all **6 lakh+ villages** in India through optical fibre.

3. Affordable Rural Broadband

- Packages below ₹200 expected for rural households
- Subsidies for rural digital entrepreneurs

4. Digital Public Infrastructure Support

Connectivity enables:

- Aadhaar-based services
- Digital payments
- Telemedicine
- e-commerce access
- Online education (DIKSHA, SWAYAM)

5. Upgrade to BharatNet Phase III

The 2024–25 amendments emphasize:

- fibre-to-home (FTTH) expansion
- 99% uptime mandate
- cybersecurity protocols
- integration with 5G rural backhaul systems

Why Punjab Achieved This First

- Strong collaboration between Punjab government, BSNL, BBNL, and private operators.
- Smaller geographical size but higher rural density → faster roll-out.



- Existing robust fibre network (Punjab is among India's top digital penetration states).
- High demand for digital services among farmers, students, and SMEs.
- Efficient execution through **Digital Punjab Mission**.

Benefits for Rural Punjab

✓ Education

Smart classrooms, online competitive exam prep, and digital libraries.

✓ Health

Telemedicine booths and remote diagnostics.

✓ Agriculture

Agri-tech solutions, weather forecasting, crop insurance portals.

✓ Governance

Digitisation of land records, pensions, subsidies and grievance redressal.

✓ Economy

Boost to rural startups, e-commerce sellers, and digital service centres.

Challenges Ahead

- Sustaining service quality
- Cybersecurity and data protection
- Ensuring digital literacy
- Maintaining fibre networks in flood-prone regions
- Preventing the digital divide among marginalised communities

Previous Year Question (GS Paper II – 2020)

“Digital connectivity is a key component of inclusive growth. Discuss the significance of optical fibre networks in rural India.”

Relevance: BharatNet is the largest rural digital network project globally.

PadhAI generated practice MCQ

With reference to the BharatNet Scheme, consider the following statements:

1. The amended BharatNet model allows private sector participation in last-mile connectivity.
2. Punjab is the first Indian state to fully implement the amended scheme across all villages.
3. BharatNet primarily aims to provide high-speed urban connectivity to Tier-1 cities.

Choose the correct answer:

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

✓ **Correct Answer: (a) 1 and 2 only**

Explanation: BharatNet focuses on **rural** digital connectivity, not Tier-1 urban cities.

PadhAI insight

This topic fits **GS Paper III (Economy – Infrastructure, Digital India, Inclusive Growth)** and **GS Paper II (Governance – Service Delivery)**.

Likely UPSC questions:

- “Discuss the role of BharatNet in bridging India's rural-urban digital divide.”
- “How do public-private partnerships enhance digital governance?”

9. Flexible Inflation Targeting (FIT).

Why in the news?

- Flexible Inflation Targeting (FIT) is the **monetary policy framework** adopted by India since **2016**, under which the Reserve Bank of India (RBI) aims to maintain inflation within a **specified target band**, while also supporting **growth, financial stability, and employment**.

What Is Flexible Inflation Targeting?

- FIT allows the RBI to **target inflation** while giving it **flexibility** to adjust policy rates depending on growth and economic conditions.
- India's official target:
 - **Headline CPI inflation: 4%**
 - **Tolerance band: 2% – 6%**
- The Monetary Policy Committee (MPC) is responsible for setting interest rates to achieve this target.

Why India Adopted FIT





1. **High and volatile inflation (2009–2014)** weakened household savings and investor confidence.
2. **Need for policy credibility**—anchor inflation expectations.
3. **Clear rule-based monetary policy** for transparency and accountability.
4. **Better coordination** between RBI and Government.

Key Features of India's FIT Framework

1. Monetary Policy Committee (MPC)

- 6 members:
 - ✓ 3 RBI officials
 - ✓ 3 Government nominees
- Decisions taken by **majority vote**.

2. Clear Inflation Target

- The target is jointly set by the RBI and Government for **five years**.

3. Accountability Mechanism

If inflation stays **outside the 2–6% band for 3 consecutive quarters**, RBI must:

- explain reasons
- propose corrective steps
- give a timeline for recovery
(This happened in **2022**, the first instance of an accountability review.)

4. Flexible Approach

- RBI may prioritize **growth** during economic shocks (e.g., COVID-19).
- It does not blindly chase inflation numbers without considering the economy.

Benefits of FIT for India

✓ Improved policy credibility

Inflation expectations among households and businesses stabilized.

✓ Reduced inflation volatility

India moved from persistent double-digit inflation to manageable levels.

✓ Transparent monetary policy

Regular MPC meetings, minutes, and voting records enhance transparency.

✓ Better investor confidence

Stable inflation helps attract FDI and strengthens bond markets.

✓ Supports growth with stability

Flexibility helps RBI respond during crises.

Criticisms & Challenges

- **Supply-side inflation** (food, fuel) is often beyond RBI control.
- Tight monetary policy may slow economic growth.
- Debate over whether the target should include:
 - core inflation
 - wholesale inflation
 - employment metrics
- Critics argue India needs a more **holistic mandate** like the US Federal Reserve.

Previous Year Question (GS Paper III – 2021)

“Inflation targeting has been a prominent feature of India's monetary policy. Critically examine its effectiveness.”

Relevance: FIT is central to India's monetary policy reforms and remains highly UPSC-relevant.

PadhAI generated practice MCQ

With reference to India's Flexible Inflation Targeting (FIT), consider the following statements:

1. India's inflation target under FIT is 4% with a tolerance band of $\pm 2\%$.
2. The Monetary Policy Committee consists entirely of RBI officials.
3. The RBI must submit a report if inflation stays outside the tolerance band for three consecutive quarters.

Choose the correct answer:

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

✓ **Correct Answer: (c) 1 and 3 only**

Explanation: Statement 2 is incorrect; MPC includes 3 government-nominated members.





PadhAI insight

This topic fits **GS Paper III – Indian Economy (Monetary Policy, Inflation, RBI)**.

UPSC may ask:

- “Should India revise its inflation target in light of post-pandemic economic shifts?”
- “How effective has FIT been in shielding India from global inflation shocks?”
- “Discuss the advantages and limitations of a rule-based monetary framework in India.”

10. Rural Unemployment Down, Urban Jobless Up (2025 Labour Market Trends).

Why in the news?

Recent labour force data for 2024–25 reveal a **diverging employment trend** in India:

- **Rural unemployment is declining**, driven by agriculture recovery, construction push, and rural welfare spending.
- **Urban unemployment is rising**, particularly among youth and women, due to structural weaknesses in high-skill job creation.

Rural Unemployment Declining – Why?

1. Agriculture Recovery & Allied Activities

Good monsoon distribution and higher procurement increased **farm labour demand**.

2. Surge in Rural Construction

Pradhan Mantri Awas Yojana (PMAY), rural roads (PMGSY), and irrigation works boosted employment.

3. MGNREGA Uptake Moderate but Stable

Steady demand for work acted as a fallback employment option.

4. Non-farm rural enterprises

Micro-units in dairy, food processing, tailoring, carpentry, and small manufacturing sectors expanded.

5. Rise of Rural Gig Work

Logistics, e-commerce delivery, and agri-tech services added flexible jobs.

Urban Unemployment Rising – Why?

1. Skill Mismatch

Urban youth aspire for salaried, high-paying jobs, but industries demand skilled, tech-ready workers.

2. Slower Growth in Manufacturing & IT Services

Automation, global slowdown, and AI adoption reduced hiring, especially in entry-level roles.

3. Gig Work Saturation in Cities

Delivery, ride-hailing, and e-commerce gig jobs have plateaued.

4. Women’s Workforce Drop

Safety, mobility, unpaid care burden, and lack of affordable childcare keep female LFPR low.

5. High Graduate Unemployment

More educated youth → fewer satisfactory job opportunities → higher open unemployment.

Structural Concerns Highlighted

- Employment growth remains **jobless or low-quality** in urban areas.
- Manufacturing’s share in employment remains stuck around **13%**.
- AI disruptions widening the gap—cities face loss of routine tasks (BPO, clerical, accounting).
- Rural India is growing only due to **low-productivity work**, not high-income opportunities.

Way Forward – Policy Suggestions

1. Urban Employment Guarantee Scheme

Pilot urban MGNREGA-type programs for green jobs, waste management, and public works.

2. Skilling & Re-skilling for AI-Age Jobs

Focus on tech-based skills, coding, mechatronics, logistics automation.

3. Boost Manufacturing & MSMEs



PLI 2.0, industrial corridors, and cluster-based manufacturing must expand urban blue-collar jobs.

4. Promote Women's Urban Participation

Safe transportation, creches, flexible work hours, workplace inclusion.

5. Strengthen Rural Non-Farm Sector

Agro-processing, handicrafts, rural tourism, and micro-enterprises must scale.

Previous Year Question (GS Paper III – 2023)

“Explain the spatial pattern of unemployment in India. Why does youth unemployment remain high despite economic growth?”

Relevance: The rural–urban unemployment divergence is a direct application of this question.

PadhAI generated practice MCQ

Consider the following statements regarding India's recent unemployment trends:

1. Rural unemployment has fallen due to growth in agriculture and rural construction.
2. Urban unemployment is rising mainly due to automation and weak high-skill job creation.
3. Female labour force participation has increased significantly in urban India over the last year.

Choose the correct answer:

- (a) 1 and 2 only
(b) 2 and 3 only
(c) 1 and 3 only
(d) 1, 2 and 3

✓ **Correct Answer: (a) 1 and 2 only**

Explanation: Female LFPR in urban India has **not** seen significant rise; challenges persist.

PadhAI insight

This topic integrates **GS Paper III (Employment, Growth) + GS Paper I (Society)**.

Likely UPSC questions:

- “Why does India face jobless growth in urban sectors?”
- “Examine the rural–urban employment divide in India.”
- “Discuss the impact of AI on urban labour markets.”

11. Barrier-Less Tolling Systems: Government to Revisit Bank-Centric Bidding Model.

Why in the news?

- The Government of India is reconsidering its **bank-centric bidding model** for the nationwide rollout of **barrier-less tolling**, also known as **free-flow tolling**, after concerns emerged regarding competition, technology neutrality, and financial risks.
- Barrier-less tolling uses **Automatic Number Plate Recognition (ANPR)**, **GPS-based vehicle tracking**, and **digital payment systems** to charge vehicles **without stopping**, thereby eliminating congestion at toll plazas.

Why Barrier-Less Tolling Is Being Introduced

1. **Eliminate toll plaza delays** – reduce waiting time and fuel consumption.
2. **Improve traffic flow** – smooth highway movement.
3. **Enhance toll collection efficiency** – minimize leakages and fraud.
4. **Align with global smart transport standards** (US, Europe, Singapore).
5. **Use of digital infrastructure** – GPS-based FASTag 2.0, ANPR cameras, and automated billing.

What Was the Bank-Centric Model?

- Banks were to be the **primary bidders and operators** of the toll collection ecosystem.
- Banks would take responsibility for:
 - ✓ toll collection
 - ✓ payment settlement
 - ✓ dispute redressal
 - ✓ technology integration
- This model aimed to leverage their digital payments expertise.

Why the Government Is Reconsidering This Model

1. Limited Competition

Most banks did not show strong interest due to **high capital costs** for ANPR cameras, sensors, and digital infrastructure.

2. Technology Lock-In

A bank-led model risked favoring one technology ecosystem over others, reducing innovation.

3. High Financial Risk



Banks feared losses due to:

- incorrect number plate detection
- toll evasion
- tracking failures
- slow grievance systems

4. Need for a Multi-Stakeholder Ecosystem

Barrier-less tolling requires cooperation across:

- tech companies
- telecom firms
- NHAI
- state governments
- enforcement agencies

5. Lessons from FASTag

- Banks struggled with grievance load, KYC issues, and fraud disputes.

Hence, the government is exploring a **hybrid PPP model** instead of a bank-led one.

What the New Model May Look Like

1. PPP-Based Tolling Ecosystem

Multiple stakeholders—tech firms, banks, and highway operators—may jointly manage tolling operations.

2. Technology-Neutral Framework

Allow ANPR, GPS-based tracking, satellite navigation, and digital toll wallets to coexist.

3. Strong Enforcement Mechanism

Penalty for:

- fake number plates
- toll evasion
- GPS tampering

4. Centralized Digital Platform

A national portal for:

- toll billing
- payment reconciliation
- grievance redressal
- vehicle database integration

5. National Highway Free Flow Tolling Program

Expected rollout: **Pilot in 2025** → **nationwide adoption by 2027**.

Benefits of Barrier-Less Tolling

- Reduce travel time by 20–25%
- Save fuel worth thousands of crores annually
- Lower air pollution at toll points
- Improve logistics efficiency
- Increase toll revenue accuracy
- Boost India's Ease of Mobility Index

Previous Year Question (GS Paper III – 2021)

“Discuss the role of digital infrastructure in transforming India's transport and logistics sector.”

Relevance: Free-flow tolling is a major digital infrastructure reform.

PadhAI generated practice MCQ

Consider the following statements regarding India's barrier-less tolling initiative:

1. The government initially adopted a bank-centric bidding model to roll out free-flow tolling.
2. Barrier-less tolling relies primarily on Automatic Number Plate Recognition (ANPR) and GPS-based tolling.
3. Under the revised model, banks alone will manage all tolling operations.

Choose the correct answer:

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

✓ Correct Answer: (a) 1 and 2 only

Explanation: The new proposal seeks a multi-stakeholder model; banks alone will *not* manage all operations.

PadhAI insight

This topic fits **GS Paper III (Infrastructure, Mobility, Technology, PPP models)**.

UPSC may ask:

- “What are the challenges in implementing free-flow tolling in India?”
- “Evaluate the shift from bank-centric tolling to a PPP model.”
- “Discuss how barrier-less tolling supports India's logistics competitiveness.”





12. Indian Rupee Hits Record Low of ₹89.46 Against the US Dollar Amid Surging Greenback Demand.

Why in the news?

- The Indian rupee fell to an **all-time low of ₹89.46 per US dollar**, driven by heightened demand for the American currency, global financial tightening, and persistent outflows from emerging markets.
- The depreciation signals stress in India's external sector and reflects larger global macroeconomic challenges impacting developing economies.
- This record fall has renewed concerns over imported inflation, costlier borrowing, and the economic burden on India's trade-dependent industries.

Why Did the Rupee Hit a Record Low?

Strong US Dollar Index (DXY) Rally

The US Dollar Index surged due to:

- strong US job data
- higher US bond yields
- safe-haven demand amid geopolitical tensions

A stronger dollar globally **pushes emerging market currencies downward**.

Heavy Demand for Dollars in Domestic Markets

Indian banks and corporates increased dollar buying due to:

- upcoming overseas debt repayments
- increased crude oil import bills
- rising demand for foreign portfolio outflows

This created a **supply-demand imbalance** in forex markets.

Foreign Portfolio Outflows (FPI)

Global investors pulled money out of Indian equities and debt due to:

- risk-off sentiment
- high US interest rates
- geopolitical uncertainty

When FPIs exit, they sell rupees → buy dollars → rupee weakens.

Rising Crude Oil Prices

India imports **over 85%** of its crude oil.

Higher oil prices → higher import bill → more dollar demand → rupee weakens.

Current Account Deficit (CAD) Pressure

CAD has widened due to:

- higher merchandise imports
- weaker export performance
- expensive energy imports

A widening CAD generally **puts downward pressure** on the rupee.

Immediate Implications for the Indian Economy

Imported Inflation May Rise

A weaker rupee makes imports costlier:

- petroleum
- electronics
- fertilizers
- edible oils

This feeds directly into **inflation**, affecting household budgets.

Cost of Overseas Borrowing Goes Up

Indian companies borrowing in USD face:

- higher interest costs
- higher repayment obligations
- reduced profitability

This can slow investments.

Export Competitiveness Improves

A weaker rupee can benefit:

- IT and ITes
- textiles
- pharmaceuticals
- auto components

However, global demand is weak, limiting gains.





Pressure on Forex Reserves

RBI may intervene by selling dollars to stabilize the currency. This reduces forex reserves temporarily.

Tourism and Education Abroad Become Costlier

Students & travelers face higher:

- tuition fees
- travel costs
- living expenses in dollar-linked economies

What Is the RBI Doing?

RBI typically uses a mix of tools to manage currency volatility:

- selling dollars from forex reserves
- conducting buy/sell swaps
- managing liquidity via VRR/VRR auctions
- addressing speculative positions in currency markets

However, RBI avoids “defending” a fixed rupee level; it prevents **excessive volatility** only.

Is Rupee Depreciation Always Bad?

Not necessarily.

A mild, gradual depreciation helps exports remain competitive.

But a sharp fall—like the current record low—creates **macroeconomic instability** by:

- elevating inflation
- affecting investor confidence
- worsening import dependence

Previous Year Style Question

“Explain the major factors influencing the exchange rate of the Indian rupee. How do global monetary conditions affect emerging market currencies?”

PadhAI-Generated Practice MCQ

With reference to the depreciation of the Indian rupee, consider the following statements:

1. A widening Current Account Deficit generally puts downward pressure on the rupee.
2. Higher US interest rates tend to strengthen the rupee against the dollar.

3. RBI directly fixes the exchange rate of the rupee under the market-determined regime.

Which of the statements given above is/are correct?

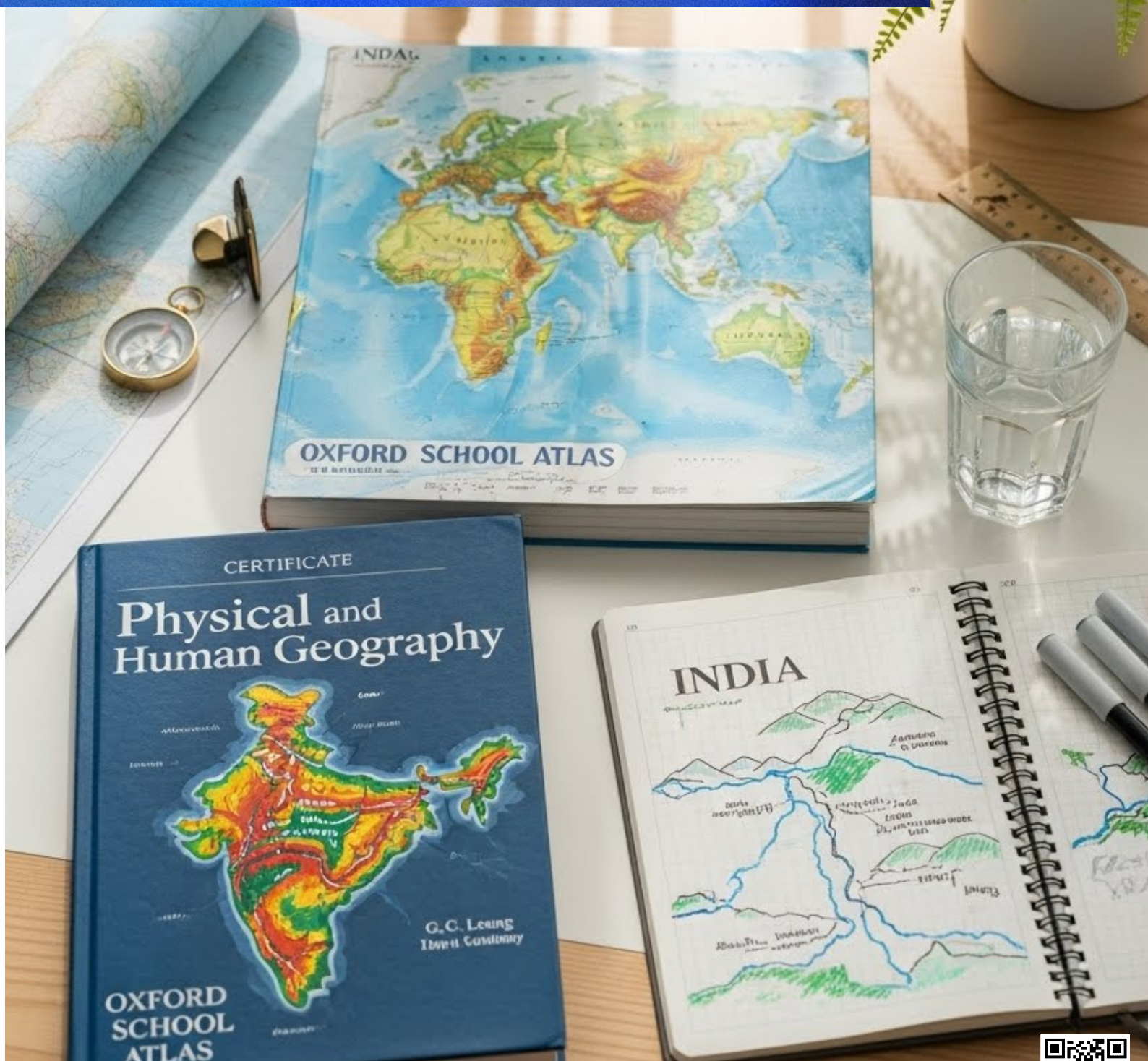
- (a) 1 only
- (b) 1 and 2 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

✓ Correct Answer: (a) 1 only

- Statement 2 wrong → higher US rates strengthen **USD**, not rupee
- Statement 3 wrong → rupee is **market-determined**, RBI only smooths



GEOGRAPHY



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1. Cloud Seeding: India's Experiment with Artificial Rainfall

Why in the news?

In 2025, India expanded its **cloud seeding experiments** in drought-affected areas of **Maharashtra, Karnataka, and Delhi NCR**, marking the most extensive government-backed rainfall enhancement program under the **National Rain Augmentation Mission (NRAM)**.

How Cloud Seeding Works

- **Step 1:** Aircraft or drones release hygroscopic particles (usually silver iodide or dry ice) into moisture-laden clouds.
- **Step 2:** These particles act as **condensation nuclei**, causing water vapor to cluster and form raindrops.
- **Step 3:** When droplets become heavy enough, they fall as rain.

Advantages and Limitations of Cloud Seeding

Advantages	Limitations
• Boosts precipitation in drought-prone regions.	• Effectiveness depends heavily on cloud moisture availability.
• Helps reduce air pollution by settling airborne particulates.	• Results are often localized and short-lived.
• Aids in hydropower generation and reservoir recharge.	• Silver iodide may cause environmental toxicity if used excessively.
• Can be used for hail suppression and fog dissipation at airports.	• High operational cost and scientific uncertainty remain major barriers.

Previous Year Question (UPSC GS Paper I – 2020)

Q. "Discuss the factors influencing rainfall patterns in India and how technology can aid in weather modification and drought management."

PadhAI Generated Practice MCQ

With reference to cloud seeding, consider the following statements:

1. It involves the dispersal of substances like silver iodide into clouds to stimulate rainfall.
2. It can be used for hail suppression and fog dissipation.
3. Cloud seeding guarantees rainfall even under clear-sky conditions.

- (a) 1 and 2 only
(b) 1 and 3 only
(c) 2 and 3 only
(d) 1, 2 and 3

✓ **Answer:** (a) 1 and 2 only

PadhAI Explanation: Cloud seeding enhances rainfall *only* if moisture-laden clouds are present; it doesn't work under clear-sky conditions.

PadhAI insight

This topic bridges **Geography (Weather Systems)**, **Science & Tech (Aerosol Science)**, and **Environment (Pollution Mitigation)**.

UPSC may ask:

- "Evaluate the feasibility of cloud seeding as a climate adaptation strategy in India."
- "Discuss ethical and ecological challenges of artificial rainfall."

2. Great Nicobar Project – Balancing Ecology and Strategic Growth

Why in the news?

The **Great Nicobar Island Development Project**, initiated by **NITI Aayog** and the **Andaman and Nicobar Islands Administration**, aims to transform the island into a **strategic and economic hub** in the **Indian Ocean Region (IOR)**.

Geographical Significance

- **Location:** Southernmost part of the Andaman & Nicobar archipelago, near the **Indira Point** — India's southernmost tip.



- **Ecosystem:** Home to **Leatherback sea turtles**, **Nicobar macaques**, **saltwater crocodiles**, and over **650 species of flora and fauna**.

Project Components

1. **Transshipment Port (₹44,000 crore):** To compete with Singapore and Colombo for maritime logistics.
2. **International Airport:** Dual-use (civil and defense) infrastructure to enhance connectivity.
3. **Power Plant (450 MVA):** Using gas and solar hybrid systems.
4. **Eco-Tourism & Township Development:** Planned for 3–4 lakh population by 2050.

Environmental Concerns

- Loss of **forest cover (~130 sq. km)** and threat to **indigenous Shompen and Nicobarese tribes**.
- Disturbance to **Galathea National Park** and **Great Nicobar Biosphere Reserve**.
- Risks to **marine biodiversity** and **coastal erosion** due to dredging and port expansion.
- **EIA (Environmental Impact Assessment)** criticized for inadequate biodiversity mapping and limited local consultation.

Previous Year Question (UPSC GS Paper III – 2021)

Q. "How can India strike a balance between economic growth and environmental sustainability, especially in ecologically fragile zones?"

PadhAI Generated Practice MCQ

With reference to the Great Nicobar Project, consider the following statements:

1. It is being developed near Indira Point under NITI Aayog's island development plan.
2. It aims to build a transshipment port and an international airport.
3. The project area lies entirely outside any biosphere reserve.

- (a) 1 and 2 only
(b) 2 and 3 only
(c) 1 and 3 only
(d) 1, 2 and 3

✓ **Answer:** (a) 1 and 2 only

PadhAI Explanation: The project lies within the **Great Nicobar Biosphere Reserve**, not outside it. Statements (1) and (2) are correct.

PadhAI insight

This topic bridges **GS Paper I (Geography – Islands & Resources)**, **GS Paper II (Governance – Tribal Rights)**, and **GS Paper III (Environment – Sustainable Development)**.

Possible UPSC angles:

- *Strategic significance of Nicobar Islands for India's Indo-Pacific Policy.*
- *Environmental implications of infrastructure in coastal ecosystems.*
- *Balancing national security and ecological integrity.*

3. Typhoon Kalmaegi – A Study in Climate Dynamics and Regional Preparedness

Why in the news?

In October 2025, **Typhoon Kalmaegi** — a powerful tropical cyclone — formed over the **western Pacific Ocean**, intensifying as it approached the **Philippines, southern China, and Vietnam**.

Meteorological Characteristics

- **Origin:** Warm waters east of the Philippines (approx. 12°N, 135°E).
- **Type:** *Category 4* Typhoon (Saffir–Simpson Scale).
- **Wind Speed:** 180–200 km/h; gusts exceeding 220 km/h.
- **Rainfall:** Over 300 mm in parts of northern Philippines and coastal Vietnam.
- **Eye Diameter:** ~30 km; lifespan ~8 days.

Climatic & Geographical Insights

- Typhoons like Kalmaegi form due to **warm sea surface temperatures (SSTs above 26°C)**, **Coriolis force**, and **low vertical wind shear**.
- Increasing **ocean heat content (OHC)** due to global warming has enhanced the **frequency of high-intensity tropical storms** in recent years.
- The **Pacific basin** witnesses ~25–30 typhoons annually, accounting for **two-thirds of global tropical cyclones**.

Disaster Management Response

- **Philippines:** Implemented a preemptive evacuation policy and activated its *National Disaster Risk Reduction and Management Council (NDRRMC)*.
- **Vietnam:** Issued red alerts for coastal provinces and coordinated relief with ASEAN Disaster Response Coordination Centre (AHA Centre).
- **WMO and UNDRR:** Emphasized regional data-sharing and "early warning for all" as a global target for 2027.



Previous Year Question (UPSC GS Paper I – 2020)

Q. "Discuss the factors responsible for the formation of tropical cyclones and their impact on India's eastern coast."

PadhAI Generated Practice MCQ

With reference to tropical cyclones, consider the following statements:

1. Typhoons form over the North Atlantic Ocean.
2. Warm sea surface temperatures are essential for cyclone genesis.
3. The Coriolis effect is weakest at the Equator, hence cyclones do not form there.

- (a) 1 and 2 only
(b) 2 and 3 only
(c) 1 and 3 only
(d) 1, 2 and 3

✓ Answer: (b) 2 and 3 only

PadhAI Explanation: Typhoons occur in the **Northwest Pacific**, not the Atlantic (where they're called hurricanes). Cyclones need warm SST and Coriolis force – both absent near the equator.

PadhAI insight

This topic fits **GS Paper I (Climatology, Natural Hazards)** and **GS Paper III (Disaster Management, Climate Adaptation)**. UPSC may frame questions on:

- Cyclone naming conventions & regional differences.
- Impact of global warming on cyclone frequency and intensity.
- Role of international cooperation in disaster risk reduction (DRR).

4. WMO Releases 'State of the Global Climate 2025' Report

Why in the news?

The **World Meteorological Organization (WMO)** released its annual **State of the Global Climate Update 2025**, highlighting that **2025 is on track to become one of the hottest years ever recorded**, with global temperatures averaging **1.43°C above pre-industrial levels (1850–1900 baseline)**.

Key Findings of the 2025 Report

1. **Global Temperature:**

- 2025 recorded a **+1.43°C anomaly**, making it the **second warmest year** on record after 2023.

2. **Ocean Heat & Sea Level:**

- Ocean heat content reached **record highs for the 7th consecutive year**.
- Global mean sea level rose **4.9 mm annually**, primarily due to **Greenland and Antarctic ice melt**.

3. **Extreme Weather Events:**

- Over **80% of nations** reported at least one **extreme climate event** – floods, heatwaves, or droughts.
- **Asia** faced record heatwaves, while **South America** experienced persistent droughts.

4. **Cryosphere & Polar Regions:**

- Arctic sea ice extent fell below the **1981–2010 average** for the 20th straight year.
- Himalayan glaciers lost **65 gigatonnes of ice**, threatening South Asian river systems.

5. **Carbon Concentrations:**

- CO₂ levels reached **424 ppm**, CH₄ at **1920 ppb**, and N₂O at **336 ppb** – all record highs.

Previous Year Question (UPSC GS Paper I – 2021)

Q. "Discuss how the increasing frequency of extreme weather events is linked to climate change. How should India prepare for such challenges?"

PadhAI Generated Practice MCQ

With reference to the *WMO State of the Global Climate 2025* report, consider the following statements:

1. The report is published by the World Meteorological Organization, a specialized UN agency.
2. It assesses global climate data, extreme weather, and greenhouse gas concentrations.
3. It is released biennially along with the IPCC's Assessment Reports.

- (a) 1 and 2 only
(b) 2 and 3 only
(c) 1 only
(d) 1, 2 and 3

✓ Answer: (a) 1 and 2 only

PadhAI Explanation: The *State of the Global Climate* report is an **annual publication** (not biennial), separate from IPCC reports, though both contribute to global climate assessment.

PadhAI insight

This topic fits under **GS Paper I (Geography – Climate Systems)** and **GS Paper III (Environment – Climate Change &**



Adaptation).

UPSC may frame analytical or map-based questions on:

- *Patterns of climate anomalies and monsoon shifts.*
- *Sea-level rise impact on coastal India.*
- *India's climate data contributions to WMO & IPCC.*

5. Umngot River – India's Clearest River and a Model for Eco-Conservation

Why in the news?

- The **Umngot River**, flowing through the **West Jaintia Hills district of Meghalaya**, has been hailed as **India's cleanest and clearest river**, famous for its crystal-clear waters where boats appear to float on air.

Geographical and Ecological Significance

- **Location:** Dawki–Shnongpdeng region, Meghalaya (25.2°N, 92.0°E).
- **Tributary System:** Part of the **Surma–Meghna river basin**, draining into Bangladesh.
- **Unique Features:**
 - High **water transparency** due to low pollution, minimal sedimentation, and forested catchments.
 - Supports **rare aquatic biodiversity**, including local fish species and migratory birds.
 - Surrounded by **limestone karst topography** and thick subtropical forests.
- It has been proposed for inclusion under the **UNESCO "Clean Rivers Heritage List"** for sustainable conservation.

Socio-Economic Importance

- **Tourism:** Shnongpdeng and Dawki villages earn livelihoods through boating, camping, and adventure tourism.
- **Cross-Border Trade:** Dawki Land Port is a key India–Bangladesh trade route.
- **Community Role:** Local Khasi and Jaintia tribes regulate pollution through **customary village councils**, ensuring water purity.

Environmental Challenges

- Growing **tourism pressure** and **plastic waste** near Dawki bridge.
- **Sand mining** and unregulated boating threaten the fragile ecosystem.
- Rising **construction activities** risk sediment load increase in the river.

Previous Year Question (UPSC GS Paper I – 2022)

Q. "Discuss the interlinkages between tourism and environment in ecologically sensitive areas of India."

PadhAI Generated Practice MCQ

With reference to the Umngot River, consider the following statements:

1. It flows entirely within India and joins the Ganga River system.
2. It is known for its exceptional water clarity and lies in Meghalaya.
3. It originates in the Khasi Hills and flows toward Bangladesh.

Select the correct statements:

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

✓ **Answer:** (b) 2 and 3 only

PadhAI Explanation: The Umngot does not join the Ganga system; it's part of the **Surma–Meghna basin**, flowing from Meghalaya into Bangladesh.

PadhAI insight

This topic fits **GS Paper I (Physical Geography – River Systems, Drainage Patterns)** and **GS Paper III (Environment – Conservation & Sustainable Tourism)**.

UPSC may frame questions on:

- *Eco-tourism as a tool for conservation.*
- *Community-led river management in Northeast India.*
- *Cross-border river governance and hydropower ethics.*

6. Earthquake of 5.4 Magnitude Recorded in the Andaman Sea.

Why in the news?

- A **5.4-magnitude earthquake** struck the **Andaman Sea region**, bringing renewed focus to the high seismic vulnerability of the **Andaman & Nicobar archipelago**, one of India's most tectonically active zones.
- Although no major damage or tsunami threat was reported, the event highlights the need for constant monitoring in a region that lies at the **junction of**



multiple tectonic plates and has a history of megathrust earthquakes.

Where Did the Earthquake Occur?

- **Epicenter:** Central Andaman Sea
- **Magnitude:** 5.4 (Moderate)
- **Depth:** ~10–15 km (classified as shallow-focus)
- **Felt in:** Andaman Islands, parts of Nicobar, and surrounding maritime zones

The Andaman Sea lies above the **zone of subduction** where the **Indian Plate** is diving beneath the **Burma (Myanmar) Microplate**, generating intense tectonic stress.

Why Is the Andaman–Nicobar Region Highly Earthquake Prone?

Subduction Zone Activity (Indian Plate vs Burma Plate)

This zone is part of the **Alpine–Himalayan seismic belt**, the world's second most active earthquake belt after the Pacific Ring of Fire.

Presence of the 'Andaman–Sumatra Megathrust'

This is the same fault line that triggered the **2004 Indian Ocean Tsunami**.

Frequent Release of Tectonic Stress

The region experiences **dozens of low-to-moderate quakes every year** due to constant plate movement.

Active Volcanoes

- **Barren Island** (India's only active volcano)
- **Narcondam Volcano**
Volcanic activity indicates underlying tectonic instability.

Implications of the 5.4 Magnitude Quake

No Tsunami Warning Issued

A 5.4 magnitude quake is generally **not strong enough** to displace sufficient seawater for a tsunami.

Possible Aftershocks

Moderate quakes may lead to smaller or occasionally stronger aftershocks.

Impacts on Local Communities

- Minor tremors felt in Port Blair and nearby islands
- Temporary disruptions to communication networks
- Fishermen advised to exercise caution

Importance for Disaster Preparedness

The region remains home to:

- strategic defence installations
- tribal communities (Jarawa, Onge, Nicobarese)
- sensitive ecological zones

Preparedness is crucial.

Why the Andaman Sea Matters Geographically?

- Located along a **major maritime trade route**
- Gateway to the **Malacca Strait**, one of the busiest shipping lanes in the world
- Highly sensitive for **India's maritime security**

Earthquake activity here has both **strategic and humanitarian implications**.

India's Monitoring & Preparedness Mechanisms

✓ Indian Tsunami Early Warning Centre (ITEWC) – Hyderabad

Monitors seismic activity across the Indian Ocean.

✓ National Centre for Seismology (NCS)

Provides real-time earthquake alerts.

✓ Andaman & Nicobar Disaster Management Authority (DDMA)

Local-level preparedness & coordination.





✓ ISRO Satellites

Use remote sensing to assess post-disaster impacts.

Previous Year Style Question

"Explain how subduction zones contribute to the formation of earthquakes and tsunamis. Illustrate using the example of the Andaman–Sumatra region."

PadhAI–Generated Practice MCQ

With reference to the Andaman Sea earthquake zone, consider the following statements:

1. The region lies along the convergent boundary where the Indian Plate subducts beneath the Burma Plate.
2. Barren Island and Narcondam are active volcanic islands formed due to subduction-related processes.
3. All Andaman earthquakes generate tsunamis because they are shallow-focus events.

Which of the above statements are correct?

- (a) 1 and 2 only
- (b) 2 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

✓ **Correct Answer: (a) 1 and 2 only**

Statement 3 incorrect → Only *certain* megathrust earthquakes generate tsunamis.

7. ETHIOPIAN VOLCANO ERUPTS AFTER 12,000 YEARS

Why in the news?

- A volcano in **Ethiopia's Afar Region**—part of the **East African Rift System (EARS)**—erupted in 2025 **for the first time in nearly 12,000 years**, according to the Ethiopian Geological Institute.
- The eruption involved **lava fountains, ash columns, and ground fissuring**, affecting local communities and air traffic in the Horn of Africa. The event highlights the ongoing **continental rifting** that may eventually split Africa into two landmasses.

2. KEY FACTS

- Location: **Afar Depression / Danakil Depression**, Ethiopia
- Tectonic Setting: Junction of **African, Somali & Arabian Plates**

- Type of eruption: **Basaltic fissure eruption**
- Dormancy: Last recorded eruption **~10,000–12,000 years ago**
- Impact zone: Within 50–70 km radius
- Nearby features: **Erta Ale**, one of the world's most active lava lakes

3. WHY THIS ERUPTION IS SIGNIFICANT

- Shows **active continental break-up** in East Africa
- Indicates increased **tectono-magmatic activity** along the EARS
- Potential to reshape regional topography
- Risk to local pastoral communities
- Implications for **aviation safety**, similar to Iceland's 2010 eruption
- Highlights gaps in Africa's **volcano monitoring capacity**

4. EAST AFRICAN RIFT SYSTEM (EARS)

- A **divergent plate boundary** running from Ethiopia to Mozambique
- Known for:
 - ✓ volcanoes (Erta Ale, Nabro, Ol Doinyo Lengai)
 - ✓ rift valleys
 - ✓ seismic activity
- The African continent is gradually **splitting into Nubian Plate & Somali Plate**
- Red Sea & Gulf of Aden spreading centers influence the region

5. IMPACTS OF THE ERUPTION

A. Human & Societal

- Temporary displacement of ~8,000 residents
- Respiratory problems due to ash
- Livestock losses in pastoral communities

B. Environmental

- Ash deposition on grazing lands
- Potential contamination of water sources
- Increased SO₂ emissions

C. Economic

- Flight rerouting over Horn of Africa
- Disruption of Ethiopia–Djibouti trade corridor
- Impact on salt mining in Danakil Depression

6. GOVERNMENT & INTERNATIONAL RESPONSE



- Ethiopia deployed **National Disaster Risk Management Commission**
- African Union requested **real-time volcanic monitoring system**
- IGAD Climate Prediction & Applications Centre (ICPAC) issued advisories
- UN OCHA began assessing humanitarian needs

PYQ-LIKE MAINS QUESTION

"The East African Rift System represents an active zone of continental break-up. Discuss how the recent Ethiopian volcanic eruption illustrates the dynamic processes shaping the African continent."

PadhAI-GENERATED UPSC MCQ

Consider the following statements regarding the recent volcanic eruption in Ethiopia:

1. The eruption occurred in the Afar Depression, which is part of a triple junction involving three tectonic plates.
2. The volcano that erupted is classified as a basaltic shield volcano typical of divergent boundaries.
3. The region forms part of the East African Rift which is a convergent plate boundary.
4. The eruption had implications for international aviation routes over the Horn of Africa.

Which of the statements given above are correct?

- (a) 1, 2 and 4 only
- (b) 1 and 3 only
- (c) 2 and 4 only
- (d) 1, 2, 3 and 4

✓ Correct Answer: (a) 1, 2 and 4 only

Statement 3 is wrong → EARS is **divergent**, not convergent.



ENVIRONMENT & ECOLOGY



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1. Push for Ramsar Site Tag for Wetlands in Assam Wildlife Sanctuary

Why in the news?

Conservationists and environmental agencies have urged the Government of India to nominate selected **wetlands within Assam's Deepor Beel and Nameri-Sonitpur sanctuaries** for **Ramsar Site recognition** under the **Convention on Wetlands (1971)**.

Ecological Significance

- Assam's wetlands form part of the **Brahmaputra floodplain**, acting as **natural sponges** for monsoon floods.
- They host endangered species like the **greater adjutant stork (Hargila)**, **river dolphin**, and **black-necked stork**.
- Support **over 230 species of resident and migratory birds**, making them critical stopovers in the **Central Asian Flyway**.
- Serve as **carbon sinks** and biodiversity hotspots for aquatic flora and fauna.

Previous Year Question (UPSC Prelims 2022)

Which of the following best describes the term "Ramsar Site"?

- Wetlands of international importance under a UN framework
- Protected forest area under the Forest Conservation Act
- Heritage site recognized by UNESCO
- Coral reef area under the Convention on Biological Diversity

✓ **Answer:** (a)

PadhAI Generated Practice MCQ

Which of the following statements are correct regarding Ramsar Sites and Wetland Protection in India?

- The Ramsar Convention was signed in 1971 at Ramsar, Iran.
- Only the central government can designate a site as a Ramsar Site.
- Deepor Beel in Assam is already a Ramsar Site.
- Ramsar sites are included under the *Montreux Record* for stricter protection.

- 1 and 3 only
- 1, 2 and 4 only
- 1, 3 and 4 only
- 2 and 3 only

✓ **Answer:** (a) 1 and 3 only

PadhAI Explanation: Ramsar Convention (1971) allows **national governments** to nominate sites; **Deepor Beel** already holds Ramsar status, while others in Assam are under consideration. The *Montreux Record* includes only those sites facing ecological change.

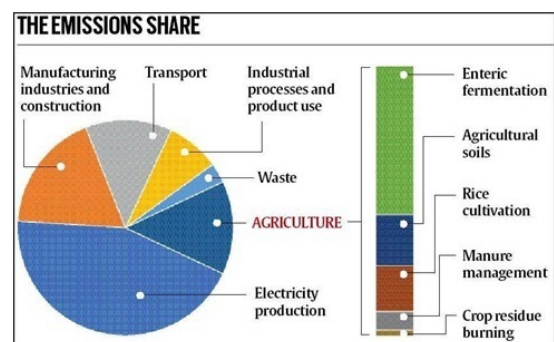
PadhAI insight

This topic directly fits **GS Paper III (Environment – Conservation of Biodiversity, Environmental Governance)** and **GS Paper I (Geography – Ecosystem & Wetland Mapping)**.

UPSC may frame analytical or map-based questions on:

- India's Ramsar Sites and Wetland Policy
- Community participation in eco-restoration
- Climate adaptation and flood regulation through wetlands

2. In Brazil, COP30 Summit: A Turning Point for Global Climate Action



Why in the news?

The **30th Conference of the Parties (COP30)** to the **UN Framework Convention on Climate Change (UNFCCC)** will be held in **Belém, Brazil, in November 2025**.

Key Objectives of COP30

- Assess global progress since the **Global Stocktake Report (COP28, Dubai)**, which showed a 20% shortfall in emission targets.
- Push for operationalizing the **Loss and Damage Fund**, agreed upon in **COP27 (Egypt)**.
- Discuss scaling up **climate finance to \$1.3 trillion per year by 2030** for developing nations.
- Strengthen **carbon markets and adaptation strategies** under Article 6 of the Paris Agreement.
- Address the link between **deforestation, indigenous rights, and carbon sequestration** — particularly in the **Amazon Rainforest**.
- India and Brazil, under **IBSA and BRICS**, are coordinating positions for a unified **Global South Climate Agenda**.



Expected Outcomes

- Revised NDCs by all nations to be submitted by mid-2026.
- Commitments to halt **net deforestation by 2035**.
- Expanded climate finance from **multilateral development banks**.
- Roadmap for **green hydrogen and renewable trade frameworks**.

Previous Year Question (UPSC GS Paper III – 2022)

Q. "Discuss India's position on climate change negotiations and its emphasis on climate justice and sustainable development."

PadhAI Generated Practice MCQ

Which of the following statements correctly describes COP30?

1. It is organized by the UNFCCC and hosted in Brazil.
2. It focuses primarily on revising NDCs and operationalizing the Loss and Damage Fund.
3. It replaces the Kyoto Protocol as the main climate framework.

(a) 1 and 2 only

(b) 2 and 3 only

(c) 1 and 3 only

(d) 1, 2 and 3

✓ **Answer:** (a) 1 and 2 only

PadhAI Explanation: COP30 will be held under the Paris Agreement framework, not as a replacement for the Kyoto Protocol (which ended in 2020). Its focus is on enhanced climate finance and renewed national commitments.

PadhAI insight

This topic spans **GS Paper II (International Agreements & India's Foreign Policy)** and **GS Paper III (Environment – Climate Change & Global Governance)**.

UPSC may ask:

- "What are India's priorities at COP30?"
- "Evaluate the role of Global South in post-Paris climate negotiations."
- "Discuss the challenges of implementing the Loss and Damage Fund."

3. Delhi's Air Quality Crisis Triggers Anti-Pollution Protests

Why in the news?

In November 2025, **Delhi once again recorded 'Severe+' air quality levels**, with the **Air Quality Index (AQI)** exceeding **480**, prompting widespread **public protests and civil demonstrations** demanding government accountability and stronger anti-pollution action.

Causes of Delhi's Air Quality Decline

- **Stubble burning** across Punjab and Haryana during the Rabi cropping transition.
- **Vehicular emissions**, which contribute nearly 40% of PM2.5 concentration.
- **Thermal power plants** and **construction dust** adding to persistent smog.
- **Meteorological inversion** trapping pollutants during winter months.

Previous Year Question (UPSC GS Paper III – 2020)

Q. "What are the main reasons for the recurring smog and poor air quality in Delhi-NCR? What measures are being taken and what more needs to be done?"

PadhAI Generated Practice MCQ

Which of the following statements are correct regarding Delhi's air pollution management?

1. The Commission for Air Quality Management (CAQM) was established under the Environment (Protection) Act, 1986.
2. GRAP (Graded Response Action Plan) is enforced automatically by the Central Pollution Control Board (CPCB).
3. Stubble burning is regulated under the Air (Prevention and Control of Pollution) Act, 1981.

(a) 1 and 3 only

(b) 2 only

(c) 1 and 2 only

(d) 1, 2 and 3

✓ **Answer:** (a) 1 and 3 only

PadhAI Explanation: CAQM was set up under the **EP Act, 1986**, while GRAP is implemented through CAQM, not CPCB alone. Stubble burning falls under the Air Act, 1981, making (1) and (3) correct.

Way Forward

- Shift from **seasonal bans** to **permanent air-shed management** across northern India.
- **Promote bio-decomposers and alternate crop residue uses** for farmers.





- Expand **electric public transport** and **low-emission industrial corridors**.
- Strengthen **citizen participation** and **climate communication** to enhance accountability.

PadhAI insight

This topic spans **GS Paper III (Pollution Control, Environmental Policies)** and **GS Paper IV (Ethics in Environmental Governance)**.

UPSC may frame analytical questions on:

- *Cooperative federalism in environmental management*
- *Public accountability and environmental rights*
- *Sustainable urban development under climate stress*

4. India Joins Global Tropical Forest Fund as Observer Ahead of COP30

Why in the news?

India has joined the **Global Tropical Forest Fund (GTFF)** as an **observer member**, marking a significant step in aligning its forest conservation policies with **global climate finance mechanisms** ahead of **COP30 (Brazil, 2025)**.

Key Objectives of the Global Tropical Forest Fund (GTFF)

- **Mobilize \$100 billion by 2030** to finance conservation and sustainable management of tropical forests.
- Promote **forest carbon credit trading** through transparent global frameworks.
- Support **indigenous community livelihoods** and **biodiversity protection** in tropical regions.
- Encourage **public-private partnerships** in forest restoration, reforestation, and sustainable timber management.

Significance for India

- Recognition of India's **33% forest and tree cover target** under the **National Forest Policy (1988)**.
- Enhances access to **climate-linked finance** for reforestation and tribal livelihood programs.
- Integrates India's **Green Credit Programme (2023)** with international carbon markets.
- Strengthens cooperation with tropical forest nations on **forest governance and REDD+ mechanisms**.

Previous Year Question (UPSC GS Paper III – 2020)

Q. "How can the strategy of integrating climate change adaptation into developmental planning help India in achieving sustainable development goals?"

PadhAI Generated Practice MCQ

With reference to the Global Tropical Forest Fund (GTFF), consider the following statements:

1. It is a multilateral initiative coordinated by UNEP and the World Bank.
2. It exclusively supports conservation projects in temperate forest zones.
3. India has joined the fund as a full member in 2025.

(a) 1 only

(b) 1 and 3 only

(c) 1 and 2 only

(d) 2 and 3 only

✓ **Answer:** (a) 1 only

PadhAI Explanation: The GTFF focuses on **tropical forests**, not temperate zones. India has joined as an **observer**, not a full member.

PadhAI insight

This topic integrates **GS Paper III (Environment – Forest Policy & Climate Finance)** and **GS Paper II (International Climate Diplomacy)**.

UPSC may ask analytical questions such as:

- "Discuss the role of multilateral forest funds in addressing global climate inequality."
- "How can India balance forest conservation with carbon market participation?"

5. President of India to Confer the First Jal Sanchay Jan Bhagidari (JSJB) Awards on 18 November 2025.

Why in the news?

- The Hon'ble President of India, **Smt. Droupadi Murmu**, will confer the **first-ever Jal Sanchay Jan Bhagidari (JSJB) Awards on 18 November 2025** to recognize outstanding contributions in **community-led water conservation**, sustainable water management, and grassroots hydrological stewardship.

What Are the JSJB Awards?

The **Jal Sanchay Jan Bhagidari Awards** are instituted by the **Ministry of Jal Shakti** to:



- Recognize community-driven water conservation models
- Promote traditional water harvesting practices
- Encourage panchayats, NGOs, youth groups, and citizens
- Foster innovation in water storage, recharge, and efficient use
- Strengthen local participation in water governance

These awards are aligned with **Atal Bhujal Yojana**, **Catch the Rain Campaign**, and the broader **Jal Jeevan Mission** framework.

Award Categories (2025)

The awards are expected across categories such as:

1. **Best Village Panchayat in Water Conservation**
2. **Best Urban Local Body in Water Recycling/Reuse**
3. **Best Community-Led Groundwater Recharge Initiative**
4. **Best NGO/CSO Water Initiative**
5. **Youth & Students' Water Innovation Award**
6. **Traditional Water Wisdom & Revival Award**

Why These Awards Matter

✓ Promoting Jan Bhagidari (People's Participation)

Focuses on community responsibility in water conservation.

✓ Encouraging Localised Water Security Models

Rainwater harvesting, check dams, farm ponds, contour trenches, canal lining etc.

✓ Reviving India's Traditional Water Heritage

Johads, Zings, Baolis, Ahar-Pynes, Khattris, and Tankas.

✓ Strengthening Climate Resilience

Community-driven water security helps mitigate:

- droughts
- heatwaves
- erratic monsoons
- groundwater stress

✓ Creating Scalable Replicable Models

Successful villages/cities will act as national templates.

Examples of Community-Led Achievements Likely Recognised

- Revival of dead wells and ponds in semi-arid villages
- Rooftop harvesting across schools and government buildings
- Citizen-driven river rejuvenation projects
- Community check dams and recharge wells
- Water budgeting practices in drought-prone blocks
- Wetland protection by local youth groups

Challenges in Water Conservation

- Overdependence on groundwater
- Low awareness & lack of community ownership in many regions
- Poor urban wastewater recycling
- Climate change-driven rainfall variability
- Inefficient irrigation practices

The JSJB Awards aim to address these through **positive reinforcement and recognition**.

Previous Year Question (GS Paper III – 2020)

"Community participation is essential for water conservation in India. Explain with examples."

Relevance: This award directly reinforces the theme of Jan Bhagidari in water governance.

PadhAI generated practice MCQ

With reference to the Jal Sanchay Jan Bhagidari (JSJB) Awards, consider the following statements:

1. The awards are conferred by the President of India.
2. They recognize contributions in community-led water conservation efforts.
3. The awards are implemented by the Ministry of Environment, Forest and Climate Change.

Choose the correct answer:

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

✓ **Correct Answer: (a) 1 and 2 only**

Explanation: The JSJB Awards are under the **Ministry of Jal Shakti**, not MoEFCC.

PadhAI insight

This topic fits perfectly into:





- **GS Paper III (Environment & Conservation)**
- **GS Paper II (Governance & Jan Bhagidari)**

Possible UPSC questions:

- “Discuss the role of community participation in India’s water governance model.”
- “Critically analyze how national awards can encourage behavioural change towards water conservation.”
- “Examine India’s shift from top-down water governance to participatory local models.”

6. Climate Change and Imbalanced Fertilizer Use Are Reducing India’s Soil Organic Carbon.

Why in the news?

- India’s agricultural soils are experiencing a worrying decline in **Soil Organic Carbon (SOC)**—a key indicator of soil fertility, moisture retention, and long-term productivity.

What Is Soil Organic Carbon (SOC)?

- SOC is the carbon stored in soil in the form of organic matter (plants, roots, microbes, decomposed residues).
- High SOC = fertile, healthy, climate-resilient soil.
- India’s SOC levels are already low: **0.3% – 0.6%**, compared to the global average of **1% – 3%**.

How Climate Change Is Reducing SOC

Climate change drives SOC loss through:

1. Rising Temperatures → Faster Carbon Breakdown

- Warmer soils accelerate microbial decomposition.
- Organic matter breaks down faster → carbon released → SOC declines.

2. Erratic Rainfall & Drought

- Droughts kill soil microbes and reduce biomass input.
- Heavy rainfall erodes topsoil—the layer richest in carbon.

3. Flooding & Waterlogging

- Repeated flash floods wash away humus-rich surface soil.
- Oxygen-poor soils slow down carbon formation.

4. Shifting Cropping Patterns

- Climate stress reduces biomass return to soil.
- Short-duration crops mean less residue left for carbon restoration.

How Imbalanced Fertilizer Use Worsens SOC Loss

India’s fertilizer use is **N-heavy and imbalanced**, especially excessive urea.

1. Overuse of Nitrogen (Urea)

- High nitrogen reduces soil microbial diversity.
- Microbes that build carbon decline → carbon cycle disrupted.
- Soil acidification reduces carbon stability.

2. Low Use of Organic Inputs

- Decline in:
 - ✓ farmyard manure
 - ✓ compost
 - ✓ green manure
 - ✓ crop residues
- Without organic matter, SOC cannot replenish.

3. Decline in Soil Biodiversity

- Earthworms & decomposers fall due to chemical-heavy practices.
- Leads to weaker soil carbon formation.

4. Monocropping in High-Input States

Punjab, Haryana, UP have witnessed SOC decline due to:

- continuous paddy–wheat cycles
- intensive fertilizer use
- residue burning
- excessive irrigation → soil carbon oxidation.

Why SOC Decline Matters

1. Lower Crop Productivity

Soils become nutrient-poor and require more inputs.

2. Reduced Water Holding Capacity

Low SOC = faster drought vulnerability.

3. Higher Fertilizer Dependence



Poor soils trap fewer nutrients → more fertilizer applied → vicious cycle.

4. Reduced Climate Resilience

SOC-rich soils withstand heatwaves, floods, and dry spells better.

5. India's Climate Commitments Impacted

SOC is a major carbon sink; its decline affects India's **NDC targets**.

Way Forward

1. Balanced Fertilization (N:P:K:S + Micronutrients)

INTF (Integrated Nutrient Management) to avoid nitrogen overuse.

2. Promote Organic Carbon Sources

Farmyard manure, compost, bio-slurry, green manuring.

3. Crop Diversification

Pulses, millets, legumes → naturally increase nitrogen & carbon.

4. Residue Management

Stop stubble burning; encourage mulching and incorporation.

5. Soil Carbon Credit Programs

To pay farmers for increasing SOC, as done in Australia and the EU.

6. Climate-Resilient Agriculture

Adopt:

- zero tillage
- cover cropping
- agroforestry
- micro-irrigation

Previous Year Question (GS Paper III – 2020)

"How do climate change and unsustainable agricultural practices affect soil fertility in India? Explain."

Relevance: Directly linked to SOC loss from climate stress and imbalanced fertilizers.

PadhAI generated practice MCQ

Consider the following statements:

1. Rising temperatures due to climate change accelerate the decomposition of soil organic matter.
2. Excessive use of nitrogen fertilizers helps increase Soil Organic Carbon (SOC).
3. Crop residue burning contributes to decline in SOC levels.

Choose the correct answer:

- (a) 1 and 2 only
- (b) 1 and 3 only
- (c) 2 and 3 only
- (d) 1, 2 and 3

✓ **Correct Answer: (b) 1 and 3 only**

Explanation: Excessive nitrogen **reduces**, not increases SOC → Statement 2 is incorrect.

PadhAI insight

Likely UPSC questions:

- "Discuss the role of human activities in soil carbon depletion."
- "How does climate change alter soil chemistry and fertility?"
- "Evaluate India's soil health initiatives in the context of declining SOC."

7. Supreme Court Bats for Protection of Pristine Sal Forest in Jharkhand's Saranda

Why in the news?

- The Supreme Court of India has strongly emphasized the need to **protect the pristine sal forests of Jharkhand's Saranda region**, directing authorities to prioritize **ecological preservation over mining expansion**.
- The Court's intervention comes amid rising concerns over **deforestation, biodiversity loss, tribal displacement, and ecological fragmentation** due to extensive mining activities in the Saranda forest—one of Asia's largest and most dense sal (*Shorea robusta*) forests.

What Is Saranda Forest?

- Located in **West Singhbhum district, Jharkhand**
- Spans nearly **820 sq. km**
- Known as the **"Land of Seven Hundred Hills"**
- Dominated by **pure sal forests**



- A critical habitat for:
 - ✓ elephants
 - ✓ leopards
 - ✓ hill mynas
 - ✓ endemic flora
- Home to **Ho and Munda tribal communities**, dependent on forest produce

Saranda is ecologically sensitive and one of India's most important **Iron Ore mining belts**—making the conservation–development balance extremely delicate.

Why the Supreme Court Intervened

Petitions highlighted:

- Loss of pristine sal forests
- Violation of environmental clearance norms
- Expansion of mining leases
- Elephant corridor disruption
- Rising pollution in Koina river
- Threats to tribal livelihoods

The Court sought strict scrutiny of mining approvals and demanded safeguarding the region's **ecological integrity**.

Key Directions of the Supreme Court

Prioritize Conservation Over Mining Expansion

Environmental protection must outweigh short-term economic gains.

Strict Compliance with Forest & Wildlife Laws

Especially:

- Forest Conservation Act, 2023
- Wildlife Protection Act, 1972
- Environment Protection Act, 1986

No Fragmentation of Elephant Corridors

Development must not obstruct traditional elephant migratory routes.

Review of Pending Mining Proposals

Scrutiny of:

- cumulative impact
- forest diversion
- biodiversity loss

Protection of Tribal Rights

Implementation of:

- Forest Rights Act (FRA), 2006
- PESA Act (1996)
- Gram Sabha consent for forest diversion

Rehabilitation of Degraded Forest Patches

Urgent restoration of areas impacted by mining.

Why Saranda Needs Protection

✓ One of Asia's largest sal forests

Sal is ecologically crucial—supports rich biodiversity and regulates microclimates.

✓ Elephant Habitat + Corridor Zone

Critical for eastern India's elephant movement.

✓ Tribal Livelihoods

Forest produce is vital for Ho, Munda and other indigenous groups.

✓ Climate Regulation

Dense forests act as major carbon sinks.

✓ Mining Pressure

Saranda sits on some of India's richest iron ore reserves—leading to decades of extraction pressure.

Environmental Concerns

- Massive land degradation due to open cast mining
- Forest fragmentation
- Pollution from ore transportation
- Elephant–human conflict
- Soil erosion and drying of seasonal streams
- Threats to endemic species

Government & Court-Recommended Measures

- Restrict new mining leases
- Strengthen EIAs (Environmental Impact Assessments)
- Wildlife Management Plans for elephant corridors



- Compensatory afforestation in ecologically matching areas
- Strict monitoring via remote sensing & GIS
- Community-based forest protection committees

Previous Year Question (GS Paper III – 2020)

“Discuss the importance of forest ecosystems in maintaining ecological balance. Examine how mining activities pose a threat to forest biodiversity in India.”

Relevance: Saranda is a classic case study for such questions.

PadhAI generated practice MCQ

With reference to the Saranda Forest in Jharkhand, consider the following statements:

1. It is one of the largest sal forests in Asia.
2. The Supreme Court has directed stricter scrutiny of mining projects in the region.
3. Saranda Forest lies primarily in the state of Odisha.

Choose the correct answer:

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

✓ Correct Answer: (a) 1 and 2 only

Explanation: Saranda is located in **Jharkhand**, not Odisha—Statement 3 is incorrect.

PadhAI insight

Likely UPSC questions:

- *“The Saranda forest case illustrates the conflict between economic growth and ecological conservation. Discuss.”*
- *“Critically evaluate the role of the Supreme Court in forest conservation in India.”*

8. India to Spruce Up Mechanisms for Accessing Climate Finance

Why in the news?

- India is strengthening its institutional and financial mechanisms to **access climate finance more effectively**, as global funding for developing nations remains slow, fragmented, and inadequate.
- With increasing climate vulnerabilities—heatwaves, floods, erratic monsoon, coastal erosion—India’s need for predictable, affordable, and scalable climate

finance has become critical for meeting its **Net-Zero 2070, NDC targets**, and **adaptation goals**.

Why India Needs Stronger Climate Finance Mechanisms

✓ Rising climate-related losses

India faces annual economic losses of **\$80–100 billion** due to climate extremes.

✓ High adaptation costs

Sectors like agriculture, water, health, and infrastructure require large investment.

✓ Meeting renewable energy targets

India aims for **500 GW of non-fossil fuel capacity by 2030**, needing trillions in financing.

✓ Strengthening urban climate resilience

Cities need funds for heat action plans, green mobility, drainage, and air quality measures.

India’s Gaps in Accessing Climate Finance

Despite being a major developing economy, India faces:

1. Low inflow from multilateral climate funds

Green Climate Fund (GCF), Global Environment Facility (GEF), Adaptation Fund have lengthy processes.

2. Fragmented institutional coordination

Multiple ministries → delays, overlap, unclear ownership.

3. Limited project-preparation capacity

Local bodies lack expertise to prepare high-quality bankable proposals.

4. High cost of green capital

Indian renewable projects face higher risk premiums and interest rates than developed countries.

5. Private sector participation still low

Green bonds, blended finance, carbon markets need scaling.



What India Is Doing to Improve Climate Finance Access (2025)

Creation of a National Climate Finance Architecture

A centralised framework under discussion to:

- coordinate ministries
- standardise funding proposals
- streamline global fund submissions
- fast-track approvals

State-Level Climate Finance Cells

States like Odisha, Tamil Nadu, Himachal Pradesh, Rajasthan are setting up:

- climate finance units
- project preparation cells
- budget tagging systems

Expanding India's Carbon Credit Trading Scheme (CCTS)

The domestic carbon market will:

- price emissions
- attract private finance
- encourage green industrialisation

Green Bonds & Sovereign Green Bonds

India issued sovereign green bonds in 2023–24; plans larger issuances to finance:

- grid expansion
- renewable corridors
- climate adaptation projects

Push for Reforming Global Climate Funds

India demands:

- **simpler approval processes**
- **fairer concessional lending**
- **grant-based support for adaptation**
- **loss & damage finance clarity**

Blended Finance & PPP for Climate Projects

Combining:

- public capital
- private investment
- multilateral guarantees

To de-risk green projects.

Why Climate Finance Is Critical for India

✓ Energy transition needs trillions

Estimated investment: **\$10 trillion by 2070**

✓ Adaptation requires large, stable funding

Especially for agriculture, coastal regions, and water-stressed states.

✓ Urban infrastructure must be climate-proof

Heat-resilient buildings, stormwater systems, public transport.

✓ Protecting vulnerable communities

Climate finance supports livelihood diversification, early-warning systems, and insurance.

Challenges Still Ahead

- Uncertain global commitments
- High cost of clean technology imports
- Lack of private investment in climate adaptation
- Limited access for local communities
- Need for climate literacy and capacity-building

Previous Year Question (GS Paper III – 2022)

“What is climate finance? Discuss why developing countries demand climate justice in international climate negotiations.”

Relevance: India's current push for improved climate finance directly ties to climate justice.

PadhAI generated practice MCQ



Consider the following statements regarding India's climate finance mechanisms:

1. India has launched the Carbon Credit Trading Scheme to attract climate-related private investment.
2. Climate finance architecture in India aims to streamline global fund submissions.
3. Climate finance in India is limited only to mitigation projects and excludes adaptation.

Choose the correct answer:

- (a) 1 and 2 only
(b) 2 and 3 only
(c) 1 and 3 only
(d) 1, 2 and 3

✓ **Correct Answer: (a) 1 and 2 only**

Explanation: Climate finance covers both mitigation and adaptation → Statement 3 is incorrect.

PadhAI insight

Likely UPSC questions:

- "Assess India's evolving climate finance strategy."
- "Why is access to climate finance crucial for developing countries like India?"
- "Discuss the limitations of global climate funds and their impact on India's climate goals."

9. NMCG Approves Major Research Push and Pollution Control Projects at 67th Executive Committee Meeting

Why in the news?

- The **National Mission for Clean Ganga (NMCG)**, in its **67th Executive Committee (EC) meeting**, cleared several key initiatives aimed at strengthening scientific research, accelerating pollution control, and improving river rejuvenation efforts across the Ganga basin.

The decisions mark a renewed push toward **evidence-based river management**, expanding the Mission beyond infrastructure to **innovation, monitoring and ecological restoration**.

Key Highlights of the Meeting (Concise)

Major Research Initiatives Approved

- New multidisciplinary research projects on **water quality, river ecology, biodiversity, microplastics, and sediment dynamics**.
- Emphasis on **real-time monitoring**, satellite-based assessment, and long-term ecological studies.

- Collaboration with premier institutions like IITs, NMCG-C-Ganga, and national research bodies.

New Pollution Control Projects

- Upgradation and expansion of **sewage treatment plants (STPs)** in key urban centres along the Ganga.
- Strengthening **faecal sludge and septage management (FSSM)** for smaller towns.
- Approval of **interception & diversion (I&D)** projects to stop direct discharge of drains into the river.

River Rejuvenation & Ecological Restoration

- Projects on **wetland conservation, riverfront development, afforestation**, and **biodiversity hotspots**.
- Strengthening the **Ganga Grams (village-led river protection)** model.

Focus on Capacity Building

- Support for improved **urban river management** through training, river health cards, and scientific mapping.
- Engagement with local bodies, NGOs, and academic institutions.

Why This Matters

The Ganga Basin supports **40% of India's population**. These new projects address persistent issues such as:

- untreated sewage
- industrial discharge
- loss of river biodiversity
- microplastic contamination
- climate impacts on river flows

NMCG's shift toward **science-backed conservation** strengthens the long-term vision of **Namami Gange 2.0**.

PadhAI-Generated Practice MCQ

With reference to the National Mission for Clean Ganga (NMCG), consider the following statements:

1. NMCG functions under the Ministry of Environment, Forest and Climate Change.
2. Namami Gange includes components on sewage treatment, riverfront development, and ecological restoration.
3. NMCG supports scientific research projects to monitor river health and biodiversity.



Which of the above statements are correct?

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

✓ **Correct Answer: (b) 2 and 3 only**

Statement 1 incorrect → NMCG is under **Ministry of Jal Shakti**.

10. Global Methane Status Report 2025: Key Findings, India Angle & UPSC Relevance.



Why in the news?

- The **Global Methane Status Report 2025**, released by leading climate research organizations, highlights alarming trends in methane emissions—one of the most potent greenhouse gases driving near-term global warming.
- Despite global climate commitments, methane levels have reached **record highs**, threatening the 1.5°C target under the Paris Agreement.

What Is Methane & Why It Matters?

- Methane (CH₄) is responsible for **30% of current global warming**.
- It has **80 times higher warming potential** than CO₂ over a 20-year period.
- Fast methane reduction is the **quickest way** to slow global warming in the short term.

Key Findings of the Global Methane Status Report 2025

Global Methane Emissions Hit an All-Time High

- 2024 saw the **highest methane concentration ever recorded**.
- Emissions increased across **energy, agriculture, and waste sectors**.

Fossil Fuel Sector Remains the Largest Contributor

Major sources:

- Oil & gas leaks
- Coal mining
- Flaring and venting operations
- Inadequate monitoring of pipelines & extraction sites

The report warns that **rapid cuts in fossil fuel methane** could avoid up to **0.3°C warming by 2045**.

Agriculture Is the Second Largest Contributor

Agriculture accounts for ~40% of global methane emissions, mainly due to:

- Livestock enteric fermentation
- Rice paddies
- Manure management

The report urges innovations such as feed additives, methane-reducing rice varieties, and improved manure systems.

Waste Sector Emissions Rising

Landfills and wastewater treatment systems contribute substantially, especially in developing countries.

Global Methane Pledge Progress Slow

- Over **155 countries** have joined the pledge to reduce methane by **30% by 2030**.
- However, less than **25%** have concrete action plans.
- Monitoring frameworks are weak; satellites reveal large, unreported methane leaks.

India-Specific Insights

India is one of the top methane emitters, mainly due to:

- Agriculture (especially cattle)
- Rice cultivation
- Landfills
- Coal mining

Current challenges:

- No formal methane reduction target
- High dependence on agriculture livelihoods
- Large informal waste sector
- Expanding city landfills



- Difficulty in monitoring leaks in energy systems

India's Potential Opportunities:

- Methane-reducing animal feed
- Alternate wetting & drying in rice fields
- Methane capture from landfills (waste-to-energy)
- Coal mine methane utilisation
- Satellite-based leak detection (ISRO collaboration)

Why the Report Matters for India

- India is vulnerable to climate impacts (heatwaves, crop loss).
- Methane cuts offer **fast benefits** compared to long-term CO₂ strategies.
- Aligns with India's **National Action Plan on Climate Change (NAPCC)** and **biogas expansion goals**.
- Supports India's position in global climate negotiations.

Previous Year Style Question

"Methane has emerged as the biggest driver of near-term global warming. Discuss the major sources of methane emissions and evaluate India's policy response in light of recent scientific reports."

PadhAI-Generated Practice MCQ

With reference to the Global Methane Status Report 2025, consider the following statements:

1. The fossil fuel sector is the single largest source of global methane emissions.
2. Methane has a higher warming potential than CO₂ over a 20-year period.
3. India has formally adopted a national methane reduction target under the Global Methane Pledge.

Which of the above statements is/are correct?

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

✓ **Correct Answer: (a) 1 and 2 only**

Statement 3 incorrect → India has **not** formally accepted the Global Methane Pledge.

11. Himalayan Black Bear: Ecology, Threats & Conservation Explained (Concise).

Why in the news?

- Rapid increase in **human–bear conflict** across Himalayan states
- Crop depredation & livestock attacks
- Habitat disruption from road expansion & construction
- Reports of climate-induced changes in food availability

The **Himalayan Black Bear (*Ursus thibetanus laniger*)**, a subspecies of the Asiatic Black Bear, is native to the **Western and Eastern Himalayas** and frequently appears in the news due to increasing human–bear conflict.

Distribution

The species is found across:

- **Jammu & Kashmir**
- **Himachal Pradesh**
- **Uttarakhand**
- **Sikkim**
- **Arunachal Pradesh**
- Also present in **Nepal & Bhutan**

Prefers **temperate broadleaf forests, mixed oak–conifer habitats**, and **subalpine zones (2,000–3,500 m)**.

Ecological Features

- Distinct black coat with a **white "crescent moon" chest mark**
- **Omnivorous**, feeding on fruits, insects, nuts, honey, small animals
- Exhibits **seasonal altitudinal migration**
- Plays a vital role in forest ecology through **seed dispersal**

Major Threats

- Habitat fragmentation due to infrastructure
- Poaching (for gall bladder bile & paws)
- Climate change affecting vegetation patterns
- Waste mismanagement drawing bears towards human settlements

Protection Status

Category	Status



IUCN Red List	Vulnerable
Wildlife Protection Act, 1972	Schedule I
CITES	Appendix I

Conservation Measures

- Bear-proof garbage systems & secure food storage in villages
- Rapid Response Teams for conflict mitigation
- Relocation of conflict-prone individuals
- Habitat improvement in degraded forest patches
- Community awareness & compensation programmes

Previous Year Style Mains Question

“Human–bear conflict has increased sharply across the Himalayan states. Discuss the ecological significance of the Himalayan Black Bear and evaluate the measures needed for sustainable conflict mitigation.”

PadhAI–Generated Practice MCQ

With reference to the Himalayan Black Bear, consider the following statements:

1. It is listed under Schedule I of the Wildlife Protection Act, 1972.
2. It is endemic exclusively to India and not found in any neighboring country.
3. Climate change is altering the species’ natural food cycles, increasing conflict incidents.

Which of the above statements are correct?

- (a) 1 and 2 only
- (b) 1 and 3 only
- (c) 2 and 3 only
- (d) 1, 2 and 3

✓ **Correct Answer: (b) 1 and 3 only**

Statement 2 is incorrect → the species is found in Nepal and Bhutan as well.

12. Climate Risk Index (CRI) 2026: Key Highlights, India’s Position & UPSC Analysis.

Why in the news?

- The **Climate Risk Index (CRI) 2026**, released by a global environmental think-tank, assesses countries most affected by extreme weather events in the last year.
- The index evaluates the **frequency, intensity, and socio-economic impact** of climate disasters such as heatwaves, floods, cyclones, and droughts.

The 2026 report again confirms that **developing countries remain disproportionately vulnerable**, despite contributing minimally to global emissions.

What is the Climate Risk Index (CRI)?

- Published annually by a global environmental organisation (commonly associated with Germanwatch in earlier years).
- Measures **short-term climate impacts** based on data from the previous year.
- Uses two major indicators:
 1. **Fatalities** (absolute & per 100,000 people)
 2. **Economic losses** (absolute & relative to GDP)

It does *not* measure long-term vulnerability; rather, it identifies **where climate impacts were strongest in the past year**.

Key Findings of the CRI 2026

Developing Countries Hit the Hardest

Small Island Developing States (SIDS) and South Asian nations remain among the most affected.

Major Climate Disasters of 2024–25 Accounted for Most Losses

- Record-breaking **heatwaves**
- Floods across Asia and Africa
- Category-4 cyclones in the Indian Ocean
- Glacier melt-linked flash floods in the Himalayas

Economic Costs Are Rising Rapidly

Global weather-related economic losses exceeded **\$300 billion**, indicating intensified climate volatility.

Heatwaves Emerged as Dominant Climate Hazard

Heat-related mortality increased due to prolonged heat spells in Asia, including India.



India's Position in CRI 2026 (Indicative Trends)

India continues to feature among **countries highly impacted by climate-linked extreme events** due to:

✓ Frequent Heatwaves

Record temperatures across North & Central India in 2024–25.

✓ Severe Floods in Himalayan States

Cloudbursts & glacial lake outbursts (GLOFs) caused high casualties.

✓ Cyclone Activity in Bay of Bengal & Arabian Sea

Warmer ocean temperatures intensified cyclonic systems.

✓ Urban Flooding

Incidents in Delhi, Mumbai, Chennai, Bengaluru contributed to economic losses.

India's large population & infrastructure vulnerability amplify the CRI score.

Why India is Highly Vulnerable

- Long coastline (~7,500 km)
- Himalayan fragility & melting glaciers
- Monsoon dependence
- Large informal population living in exposed areas
- Limited disaster insurance coverage
- Agriculture sensitive to climate shocks

These structural factors push India consistently into higher CRI rankings.

Government Measures to Reduce Climate Risk

- **National Action Plan on Climate Change (NAPCC)**
- **State Action Plans (SAPCC)**
- **Coalition for Disaster Resilient Infrastructure (CDRI)** – global initiative led by India
- **Early Warning Systems under IMD, ISRO collaboration**
- **Green Hydrogen Mission** to cut long-term dependence on fossil fuels
- **Climate Risk Atlas for India** launched by NITI Aayog

"India consistently ranks high in global climate vulnerability indices such as the Climate Risk Index (CRI). Discuss the reasons for India's high exposure to climate extremes and evaluate the adequacy of current adaptation measures."

PadhAI-Generated Practice MCQ

With reference to the Climate Risk Index (CRI), consider the following statements:

1. CRI measures the long-term climate vulnerability of countries based on 20–30 year projections.
2. The Index uses indicators such as fatalities and economic losses to assess climate impact.
3. India's position in CRI is influenced by heatwaves, cyclones, and Himalayan floods.

Which of the above statements are correct?

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

✓ **Correct Answer: (b) 2 and 3 only**

Statement 1 is incorrect → CRI measures **short-term impacts**, not long-term projections.

13. Indian Cheetah 'Mukhi' Gives Birth to Five Cubs: Major Boost to Project Cheetah & India's Grassland Revival Effort



Why in the news?

- India's ambitious **Project Cheetah** received a major boost after African cheetah *Mukhi*—translocated from Namibia—gave birth to **five healthy cubs** in Kuno National Park, Madhya Pradesh.
- This is one of the **largest litters recorded under a global cheetah reintroduction programme**, marking a significant milestone for India's attempt to restore a species that went extinct in 1952.

Why This Event Matters

Previous Year Style Mains Question



✓ Proves Adaptation Success

Cheetahs are extremely sensitive to habitat change. Successful breeding confirms:

- healthy stress levels
- good prey availability
- suitable habitat conditions

✓ Boosts Genetic Diversity

A larger cub count increases future genetic viability of the cheetah population in India.

✓ Strengthens India's Grassland Conservation Narrative

Grasslands—often neglected—get visibility and investment through Project Cheetah.

✓ Global Recognition

India becomes the **only country** attempting a *transcontinental cheetah reintroduction* at this scale.

About Cheetah Mukhi

Attribute	Details
Origin	Namibia
Arrival in India	First batch in September 2022
Habitat	Kuno National Park
Age	Young adult female
Significance	Among the first cheetahs to show successful adaptation & reproduction

Why Cheetahs Are Being Reintroduced? (Project Objectives)

Restore Grassland Ecosystems

Cheetahs are apex grassland predators—reviving ecological balance.

Increase Biodiversity

Their presence affects herbivore numbers, aiding regeneration of shrubs & grasses. **Promote Eco-Tourism & Local Livelihoods**

Long-term economic benefits for communities.

Correct Historical Extinction

The Asiatic cheetah went extinct in India in **1952** due to hunting & habitat loss.

Challenges Still Facing Project Cheetah

Limited Carrying Capacity of Kuno

More cheetah reserves needed (Gandhi Sagar, Nauradehi in pipeline).

Human-Animal Interaction Risks

Straying outside park boundaries remains a concern.

Climate Sensitivity

Cheetahs struggle with extreme heat patterns worsening due to climate change.

Mortality in Initial Phase

Some relocated cheetahs earlier died due to stress, disease & territorial fights.

Government Measures to Support the Programme

- Satellite GPS collars for 24×7 tracking
- Greater prey base augmentation (chital, blackbuck, sambar)
- Expansion of enclosures for soft-release protocols
- Training local forest guards with African wildlife experts
- Stress-reduction protocols for pregnant females





- Plans for **additional cheetah sanctuaries** to avoid overcrowding

Previous Year Style Mains Question

“Cheetah reintroduction in India is more than a species recovery programme; it is a grassland restoration mission. Examine the ecological, administrative, and scientific challenges associated with Project Cheetah in light of recent successful births.”

PadhAI-Generated UPSC Practice MCQ

With reference to Project Cheetah in India, consider the following statements:

- The cheetahs introduced under the project belong to the African subspecies.
- Kuno National Park was originally chosen due to its large grassland patches and low human density.
- Project Cheetah aims exclusively at species reintroduction and does not include broader ecosystem restoration.

Which of the above statements are correct?

- 1 and 2 only
- 2 and 3 only
- 1 and 3 only
- 1, 2 and 3

✓ **Correct Answer: (a) 1 and 2 only**

Statement 3 is incorrect → Grassland ecosystem revival is a core objective.

14.COP-30: Adaptation Key to a Fossil-Fuel-Free Future — Global Negotiations Shift Toward Climate Resilience

Why in the news?

- With countries preparing for **COP-30**, to be held in **Belém, Brazil**, global climate negotiations are witnessing a major shift: **climate adaptation**—not only mitigation—is now seen as the *central pillar* of a fossil-fuel-free future.
- As developing nations experience extreme weather, droughts, flooding, and crop failures, adaptation has become essential to ensure resilience during the global transition away from coal, oil, and gas.

Why This Topic Is Important (2024–25 Context)

- Heatwaves, glacial retreat, forest fires, and cyclones increasing worldwide
- Developing countries demand **climate finance & technology transfer**
- Fossil-fuel phaseout will take decades → adaptation cannot wait
- Rising food and water insecurity
- Push for global adaptation targets under the **Global Goal on Adaptation (GGA)**

COP-30 is expected to finalize the **post-2025 climate finance framework**, where adaptation may get priority.

Key Themes of COP-30 Related to Adaptation

Strengthening Climate Adaptation Finance

- Current adaptation finance **falls far below needs**
- Developing countries demand grants, not loans
- Calls to expand the **Loss & Damage Fund** operationalised at COP-28

Nature-Based Solutions (NBS) as Core Adaptation Tools

- Mangrove restoration
- Wetland revival
- Urban green corridors
- Climate-resilient agriculture in drought-prone regions

Climate-Resilient Infrastructure & Early Warning Systems

- Flood protection
- Heat-resilient urban planning
- Crop & cyclone forecasting tools
- Climate-smart water management

Transitioning to a Fossil-Fuel-Free World with Adaptation

Countries will require:

- Just transition plans for workers
- Diversification of rural economies
- Renewable energy-linked livelihood models
- Grid resilience for extreme climate events

Indigenous & Local Community Leadership

COP-30 emphasises Amazonian indigenous knowledge in:

- forest protection



- drought prediction
- sustainable land use

Why Adaptation Has Become Non-Negotiable

Climate Change Impacts Already Locked-In

Even if fossil fuels end soon, effects like:

- sea-level rise
- glacial melting
- temperature anomalies
- erratic rainfall
- will continue for decades.

Developing Countries Bear the Highest Cost

South Asia, Africa, Small Island States suffer:

- loss of crops
- water scarcity
- livelihood disruptions
- extreme weather death.

Adaptation Reduces Economic Loss

Every **\$1 invested in adaptation saves up to \$10** in avoided losses.

Fossil-fuel transition creates new vulnerabilities

E.g.,

- renewable energy supply chain disruptions
- grid instability
- land conflicts for solar/wind stations

India's Position at COP-30

India stresses:

- **Equity & Common But Differentiated Responsibilities (CBDR-RC)**
- More climate finance & accessible green technology
- Recognition of **lifestyle change (LiFE Mission)** as adaptation
- Climate-resilient agriculture + resilient infrastructure
- Emphasis on adaptation for climate-sensitive sectors like water, health, and food security
- Opposition to unilateral carbon taxes (e.g., EU CBAM).

Major Expected Outcomes at COP-30

Area	Expected outcome
Global Goal on Adaptation (GGA)	Measurable targets for resilience, water, agriculture, health
Climate Finance	Post-2025 goal → likely \$1 trillion annually demand
Loss & Damage Fund	Expansion + faster disbursement
Fossil Fuel Phase-Out Roadmap	Timelines but flexible for developing countries
Amazon Protection Plan	New commitments for rainforest conservation

Previous Year Style Mains Question

“Climate adaptation is not a secondary pillar but a prerequisite for a fossil-fuel-free future. Discuss with reference to evolving global climate negotiations ahead of COP-30.”

PadhAI-Generated UPSC Practice MCQ

With reference to COP-30 and global climate adaptation, consider the following statements:

1. The Global Goal on Adaptation (GGA) aims to define measurable global targets for climate resilience.
2. COP-30 is expected to be held under the UNFCCC framework in Brazil.
3. Adaptation has received more climate finance than mitigation since the Paris Agreement.

Which of the above statements are correct?

(a) 1 and 2 only



- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

✓ **Correct Answer: (a) 1 and 2 only**

Statement 3 is incorrect → **Mitigation gets most climate finance**, adaptation still faces major funding gaps.

15. No Records of African Grey Parrot Trade in India: CITES Data Highlights Zero Legal Imports & Rising Illegal Trafficking Concerns



Why in the news?

- Recent assessments from wildlife authorities and **CITES (Convention on International Trade in Endangered Species of Wild Fauna and Flora)** indicate that **India has no legal records of African Grey Parrot trade**, despite frequent seizures of this highly intelligent bird in illegal wildlife trafficking networks.
- The data highlights a **clear mismatch** between legal import records and ground realities, raising concerns about **growing smuggling routes**, online trade, and poor monitoring of exotic pet markets.
- The African Grey Parrot is among the **world's most trafficked birds**, listed under **CITES Appendix I**, meaning **commercial international trade is prohibited**.

About the African Grey Parrot

Feature	Details
Scientific Name	<i>Psittacus erithacus</i>
Found In	Central & West Africa

CITES Status	Appendix I (highest protection)
IUCN Status	Endangered
Known For	Exceptional intelligence; mimicry abilities
Threats	Habitat loss, hunting, illegal pet trade

Why This Issue is in News

- The Ministry and wildlife enforcement agencies confirmed **no official record of import** of African Grey Parrots into India.
- Yet, large numbers of parrots are frequently **seized at airports, land borders, and pet markets**, proving the existence of a **strong illegal exotic bird trade**.
- Experts warn that India is becoming a **transit hub** for exotic wildlife smuggling.
- Online marketplaces increasingly facilitate illegal exotic pet sales.

Why Illegal Trade is Rising Despite Zero Legal Imports

High Demand in India's Exotic Pet Market

People seek parrots due to their talking ability, status symbol value, and rarity.

Smuggling Routes Through Southeast Asia

Birds are trafficked from:

- Myanmar → Northeast India
- Thailand → Kolkata & Chennai
- Middle East → Mumbai & Delhi airports

Weak Regulation for Exotic Pets

- Indian Wildlife Protection Act focuses mainly on *native species*
- Exotic species fall into regulatory gaps
- Voluntary Exotic Pet Registration Scheme sees low compliance



Lack of CITES Permit Verification

Enforcement agencies lack real-time tools to verify fake CITES certificates.

Conservation Concerns

African Grey Parrot Population Declining Globally

Due to:

- poaching
- capture for pet trade
- habitat loss

High Mortality During Smuggling

Birds are transported in cramped boxes → injuries & deaths.

Disease Risk

Illegal imported exotic birds pose risk of zoonotic diseases.

Genetic Pollution

Escapees or released pets may affect local bird populations.

Indian Government Measures

- **Exotic Animals Registration Portal (MoEFCC, 2020)**
Encourages voluntary disclosure of exotic pets.
- **Strengthening CITES Enforcement**
Through Wildlife Crime Control Bureau (WCCB).
- **Airport Surveillance Upgrades**
Use of scanners, sniffer dogs, and profiling of suspect shipments.
- **Cross-border Cooperation**
With ASEAN and African enforcement agencies.
- **Awareness Drives**
Against exotic pet ownership and illegal wildlife trade.

International Framework

Framework	Importance
CITES Appendix I	Absolute ban on commercial international trade
IUCN Red List	Tracks population decline
Lusaka Agreement Task Force	Tackles African wildlife trafficking
Interpol Wildlife Crime Initiative	Helps trace global smuggling networks

Previous Year Style Mains Question

“Exotic wildlife trafficking has emerged as one of the fastest-growing illegal trades globally. Discuss the reasons behind the rise of exotic bird smuggling in India in the context of CITES restrictions and recent enforcement findings.”

PadhAI-Generated UPSC Practice MCQ

With reference to the African Grey Parrot, consider the following statements:

1. It is listed under Appendix I of CITES, prohibiting commercial international trade.
2. India maintains several legal breeding centres for African Grey Parrots registered under CITES.
3. The species is classified as ‘Endangered’ under the IUCN Red List.

Which of the statements given above are correct?

- (a) 1 and 2 only
(b) 1 and 3 only
(c) 2 and 3 only
(d) 1, 2 and 3

✓ **Correct Answer: (b) 1 and 3 only**

Statement 2 is incorrect → India has **no legally registered** CITES breeding centres for this species.



SCIENCE & TECHNOLOGY



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1. Plant-Based Foods Reduce the Burden of Cancer and Diabetes

Why in the news?

- Recent studies highlight that plant-based diets, rich in phytonutrients and antioxidants, can significantly reduce the incidence of chronic diseases like cancer and diabetes.
- Whole grains, legumes, fruits, and vegetables help control oxidative stress, improve gut microbiome diversity, and enhance insulin sensitivity.

Previous Year Question (UPSC GS Paper III – 2020)

Q. "How is science interwoven deeply with our lives? What are the striking changes in agriculture, health, and energy due to scientific progress?"

PadhAI generated practice MCQ

Which of the following best explains the health impact of adopting plant-based diets?

- (a) It leads to protein deficiency and metabolic disorder.
- (b) It lowers the risk of chronic inflammation through antioxidant mechanisms.
- (c) It increases glucose levels due to high carbohydrate intake.
- (d) It causes micronutrient imbalance.

✓ **Answer:** (b)

PadhAI Explanation: Plant-based foods are rich in flavonoids and fiber, which reduce oxidative damage, inflammation, and insulin resistance — key mechanisms behind chronic diseases.

Science in Action: An ICMR–NIN study (2024) found that Indian diets with ≥70% plant-based components were linked to 18% lower diabetes prevalence and reduced cancer risk markers in urban populations.

PadhAI insight

This topic aligns with GS Paper III themes on *science in everyday life, health technology, and food sustainability*. UPSC may link it with SDG-3 (Good Health and Well-Being) and SDG-12 (Responsible Consumption).

2. CMS-03: India's Heaviest Communication Satellite Launched Successfully

Why in the news?

- The Indian Space Research Organisation (ISRO) successfully launched **CMS-03**, India's heaviest communication satellite, enhancing high-throughput capacity for broadband, telemedicine, and disaster management services.
- The satellite, weighing over **4,100 kg**, was placed in a geosynchronous orbit, marking a major stride in India's digital connectivity and autonomous satellite capability.
- The mission strengthens India's ambition for secure space-based communication infrastructure and reduces dependency on foreign satellites.

Previous Year Question (UPSC Prelims 2021)

With reference to India's communication satellites, consider the following statements:

- They operate in geostationary orbit.
- They are used for broadcasting, telecommunication, and meteorology.

Which of the statements given above is/are correct?

✓ **Answer:** (c) Both 1 and 2.

PadhAI generated practice MCQ

The successful launch of CMS-03 primarily advances which of the following objectives?

- (a) Deep space exploration
- (b) Strengthening broadband and digital services
- (c) Military reconnaissance
- (d) Earth observation and mapping

✓ **Answer:** (b)

PadhAI Explanation: CMS-03 enhances India's capacity for telecommunication and digital infrastructure under the Digital India initiative, not for exploration or surveillance purposes.

Science in Action: ISRO's CMS-03, launched aboard the GSLV-Mk III, can transmit data at **over 100 Gbps**, enabling nationwide broadband coverage and supporting BharatNet's rural connectivity goals.

PadhAI insight

This topic aligns with GS Paper III themes on *space technology, digital infrastructure, and self-reliance in communication systems*. Likely connection with Digital India and Atmanirbhar Bharat in upcoming UPSC papers.

3. Digital Arrests: A New-Age Cybercrime Threat





Why in the news?

- The phenomenon of **"Digital Arrests"** involves cybercriminals impersonating law enforcement officers and coercing victims into paying money to avoid fake criminal proceedings.
- Victims are often made to appear "under arrest" in video calls, simulating interrogation and intimidation.
- This sophisticated scam leverages deepfakes, caller ID spoofing, and leaked databases to exploit fear and digital naivety.
- It exposes the urgent need for enhanced **cyber-literacy, digital verification protocols, and stronger law enforcement coordination** across borders.

Previous Year Question (UPSC GS Paper III – 2022)

Q. "Discuss the emerging challenges in cyber security in the context of the increasing digitalization of the economy."

PadhAI generated practice MCQ

Which of the following measures would most effectively counter the rise of "Digital Arrest" scams?

- Increasing physical police stations in rural areas.
- Promoting cyber awareness and real-time digital verification mechanisms.
- Banning online video communication platforms.
- Shifting law enforcement entirely to offline procedures.

✓ **Answer:** (b)

PadhAI Explanation:

Cybercrime today relies on psychological manipulation through digital impersonation. Awareness, authentication systems, and quick verification tools are the most effective countermeasures.

Science in Action: The Indian Cybercrime Coordination Centre (I4C) recently launched a **"Cyber Swachhta Helpline (1930)"** to help citizens report cyber frauds, including "digital arrest" cases – enabling real-time blocking of money transfers.

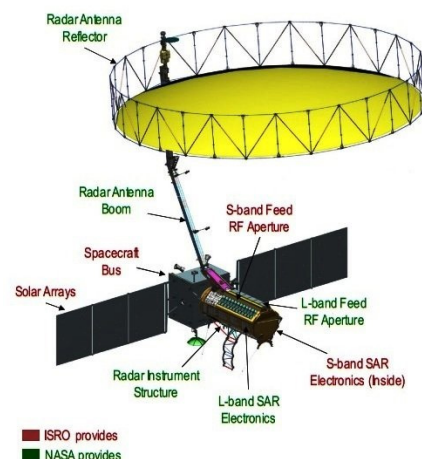
PadhAI insight

Fits under GS Paper III (Internal Security & Cybersecurity). Potential link with *Ethics (Paper IV)* on technology misuse and public trust. Future UPSC questions may examine *cyber forensics, AI misuse, and digital impersonation ethics*.

4. NISAR Satellite Becomes Operational on November-7.

Why in the news?

- The **NASA-ISRO Synthetic Aperture Radar (NISAR)** satellite officially became operational on **November 7**, marking a landmark in **Indo-US space collaboration**.
- NISAR, the world's first dual-frequency radar imaging satellite (L-band and S-band), will map Earth's surface every 12 days, providing data on **land deformation, glacier dynamics, forest biomass, and soil moisture**.
- Its real-time observations will aid in **climate monitoring, agricultural planning, and disaster resilience**, enhancing India's remote sensing capabilities under *Atmanirbhar Bharat* and *Mission Amrit Kaal 2047*.



Previous Year Question (UPSC Prelims 2020)

With reference to India's satellite programmes, which of the following is/are correct?

- INSAT is meant for communication services.
- IRS satellites are for resource monitoring.

✓ **Answer:** (c) Both 1 and 2.

PadhAI Generated Practice MCQ

Why is the NISAR mission considered significant for India?

- It is the first interplanetary mission jointly developed by India and the USA.



- (b) It enhances Earth observation capabilities using dual-frequency radar technology.
- (c) It focuses solely on weather forecasting.
- (d) It is designed for lunar surface mapping.

✓ **Answer:** (b)

PadhAI Explanation:

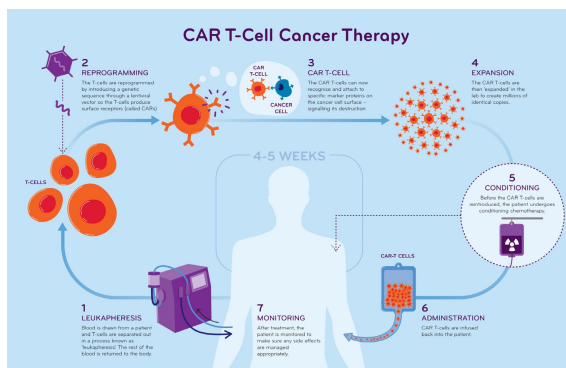
NISAR uses advanced radar imaging to provide precise surface deformation and biomass data, supporting climate and environmental research rather than planetary exploration.

Science in Action: Developed jointly by ISRO and NASA (Jet Propulsion Laboratory), NISAR will generate **42 terabytes of data daily**, supporting India's *National Geospatial Mission* and climate adaptation strategies.

PadhAI insight:

Relevant for **GS Paper III** under *Space Technology* and *Environmental Applications*. Future UPSC questions may link it to *climate change monitoring*, *Indo-US tech cooperation*, and *data sovereignty in space*.

5. NexCAR19: India's First Homegrown CAR T-Cell Therapy Launched by PM Modi



Why in the news?

- India entered a new era of advanced cancer treatment with the launch of **NexCAR19**, the country's first **indigenously developed CAR T-cell therapy**, by **Prime Minister Narendra Modi**.
- Developed collaboratively by **IIT Bombay** and **ImmunoACT**, this therapy reprograms a patient's own immune cells (T-cells) to target and destroy cancer cells – a revolutionary step toward *precision oncology*.
- NexCAR19 costs nearly **one-tenth** of imported CAR-T therapies, positioning India as a global leader in **affordable immunotherapy** and biotechnological innovation.

Previous Year Question (UPSC GS Paper III – 2021)

Q. "What are the research and developmental achievements in applied biotechnology? How will they help uplift the poorer sections of society?"

PadhAI Generated Practice MCQ

Which of the following best describes the significance of the NexCAR19 innovation?

- (a) It is a preventive cancer vaccine.
- (b) It uses genetically engineered immune cells to fight cancer.
- (c) It involves radiation-based therapy for blood cancers.
- (d) It is a form of traditional ayurvedic immunotherapy.

✓ **Answer:** (b)

PadhAI Explanation:

CAR T-cell therapy involves extracting, modifying, and reinfusing T-cells to identify and kill cancer cells – a gene-based targeted treatment approach.

Science in Action: NexCAR19, approved by the **Central Drugs Standard Control Organisation (CDSCO)**, was developed by **IIT Bombay's Biosciences Department** in partnership with **ImmunoACT Pvt. Ltd.** It is the **first CAR T-cell therapy outside the U.S. and China** to receive commercial approval.

PadhAI insight:

Directly relevant to **GS Paper III** under *Biotechnology, Health, and Inclusive Innovation*. UPSC may frame analytical questions linking **affordable biotherapeutics**, **Make in India in healthcare**, and **public-private biotech collaborations**.

6. Why Artificial Intelligence Models Struggle to Discover New Drugs.

Why in the news?

- Artificial Intelligence (AI) has transformed early-stage drug discovery by accelerating molecule screening, predicting protein structures, and identifying therapeutic targets.
- Despite rapid advances like AlphaFold and generative AI drug platforms, **AI-driven drug discovery still faces scientific, data-related, and regulatory challenges**.

Why AI Cannot Yet Fully Discover Drugs on Its Own



Biological Complexity Cannot Be Fully Captured by AI

Human biology involves:

- complex biochemical pathways
- unpredictable protein interactions
- multi-gene diseases
- cell-to-cell variability
- immune reactions

AI models cannot accurately simulate the **full biological environment**, especially in humans.

Incomplete, Biased & Noisy Biomedical Data

AI needs high-quality data, but drug discovery suffers from:

✓ Limited experimental datasets

Most biomedical data is proprietary, incomplete, or inconsistent.

✓ Publication bias

Positive results published → negative results unreported → skewed model training.

✓ Lack of diverse population data

Genetic, ethnic, and environmental diversity missing from datasets.

AI trained on biased data → produces unreliable or unsafe predictions.

Unable to Predict Toxicity & Side Effects Reliably

A molecule may appear safe in simulations but fail in:

- animal studies
- organ-on-chip tests
- human trials

Toxicity depends on:

- metabolism
- immune response
- long-term accumulation

AI cannot yet model these complex human physiological reactions.

AI Models Often Generate Chemically Impractical Molecules

Generative models create molecules that:

- are difficult to synthesize
- violate chemical stability rules
- degrade quickly
- fail real-world lab tests

These “fantasy molecules” look promising digitally but collapse in physical reality. **Poor Generalisation**

AI struggles when:

- moving from one class of molecules to another
- predicting behaviour of rare or novel targets
- dealing with diseases with unknown mechanisms (e.g., Alzheimer's)

Models work well in known areas, but fail in “uncharted biological space”.

AI Cannot Replace Laboratory Validation

Drug discovery requires:

- wet-lab screening
- in vitro & in vivo tests
- multi-phase human trials
- regulatory approvals

AI can accelerate steps, but cannot bypass **experimental validation**, which remains slow and expensive.

Ethical, Legal & Regulatory Barriers

✓ Safety risks

New AI molecules may pose unknown dangers.

✓ Lack of clear regulation

Agencies like CDSCO, US FDA require transparent validation, which AI cannot fully provide.

✓ Black-box problem

AI cannot always explain *why* it predicts a drug will work.

High Failure Rate in Clinical Trials

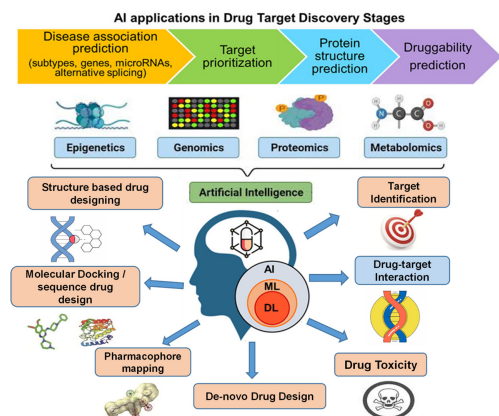
Even AI-designed molecules face >90% failure in trials due to:



- unforeseen side effects
- poor efficacy in humans
- poor pharmacokinetics
- immune reactions

This limits the real-world success of AI-designed drugs.

Where AI Does Help in Drug Discovery



AI is powerful in:

- ✓ Protein structure prediction (AlphaFold)
- ✓ Screening millions of molecules quickly
- ✓ Predicting drug-target interactions
- ✓ Repurposing existing drugs
- ✓ Optimizing chemical synthesis
- ✓ Designing hit/lead compounds

But the **final discovery still relies heavily on human scientists.**

Way Forward

- Better public biomedical datasets
- Transparent AI (explainable models)
- Human-AI collaborative platforms
- Molecular simulation powered by quantum computing
- Faster regulatory pathways for AI-assisted designs

Previous Year Question (GS Paper III – 2023)

“Discuss the role of Artificial Intelligence in healthcare. Highlight the challenges associated with its adoption.”

Relevance: Directly connected to limitations of AI in medical R&D.

PadhAI generated practice MCQ

Consider the following statements regarding AI in drug discovery:

1. AI can reliably predict long-term toxicity of new drug molecules.
2. AI models struggle due to lack of complete and unbiased biomedical data.
3. Generative AI sometimes creates molecules that are not feasible to synthesize in the lab.

Choose the correct answer:

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

✓ **Correct Answer: (b) 2 and 3 only**

Explanation: AI cannot reliably predict long-term toxicity → Statement 1 is incorrect.

PadhAI insight

Likely UPSC questions:

- “Why is drug discovery still difficult despite advances in AI?”
- “Critically examine the role of AI in new drug development.”

7. Aditya-L1 Gets a Close Look at Eruption From the Sun



Why in the news?

- India's first dedicated solar observatory mission, **Aditya-L1**, has captured its **closest and most detailed observations yet** of a powerful solar eruption. The event marks a major milestone for ISRO and places India among a select group of nations capable of *continuous real-time monitoring* of the Sun's dynamic and unpredictable behavior.



What Exactly Did Aditya-L1 Observe?

Aditya-L1 captured a **medium to strong intensity solar eruption** involving:

✓ A Solar Flare

A sudden, intense burst of radiation caused by magnetic energy release.

✓ Early Signatures of a Coronal Mass Ejection (CME)

A massive plasma cloud ejected outward from the Sun.

✓ Rapid magnetic reconnection

Triggered energetic particle acceleration.

✓ Hot plasma motion in the corona

Crucial to understanding the mechanics of solar storms.

The spacecraft's vantage point at **Lagrange Point L1** (1.5 million km from Earth) gives uninterrupted views of the Sun, without planetary shadows.

Which Instruments Captured the Event?

Aditya-L1 carries **seven advanced payloads**, but the eruption was monitored mainly by:

SUIT (Solar Ultraviolet Imaging Telescope)

Captured ultraviolet images of the lower solar atmosphere.

VELC (Visible Emission Line Coronagraph)

Imaged the corona and detected early CME signatures.

ASPEX & HELIOS

Measured particle flux variation and energetic ions.

Magnetometer

Recorded changes in solar magnetic fields.

These instruments allow scientists to track solar activity *much before* it affects Earth.

Why This Observation Matters

✓ Early Warning for Space Weather

CME detection helps protect:

- satellites
- communication networks
- GPS systems
- astronauts under deep space missions

✓ Understanding Solar Magnetic Dynamics

Improves models of:

- solar flares
- coronal heating
- particle acceleration

✓ Enhances India's Research Capabilities

India contributes high-quality data to global solar physics.

✓ Supports Aviation & Defence

Predicts HF radio blackouts, GPS jamming, and communication disruptions.

Impact on Earth (Space Weather Context)

Solar eruptions can trigger:

- geomagnetic storms
- satellite drag
- power grid fluctuations
- auroral activity
- communication outages

Aditya-L1 helps India forecast and prepare for such events with greater precision.

Key Features of Aditya-L1 Mission

- First Indian mission dedicated to the **Sun**
- Positioned at **Lagrange Point L1**
- 24×7 real-time solar monitoring
- Multi-layer imaging: photosphere, chromosphere, corona
- Mission life: 5+ years

India joins NASA's SOHO, ESA's Solar Orbiter, and Japan's Hinode in solar monitoring efforts.



Challenges in Solar Observation

- Huge data volume from 7 payloads
- Coronal imaging is complex due to high temperatures
- CME modelling still evolving
- Requires international data collaboration

Previous Year Question (GS Paper III – 2021)

“What is solar wind? Explain its impact on Earth.”

Relevance: Solar eruptions studied by Aditya–L1 directly affect

solar wind behavior. **PadhAI generated practice MCQ**

Consider the following statements about the Aditya–L1 mission:

1. Aditya–L1 is positioned at Lagrange Point L2 to observe the Sun continuously.
2. VELC onboard Aditya–L1 helps detect coronal mass ejections (CMEs).
3. The mission enables early warning of space weather events that affect satellites and power grids.

Choose the correct answer:

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

✓ **Correct Answer: (b) 2 and 3 only**

Explanation: Aditya–L1 is located at **L1**, not L2 → Statement 1 is incorrect.

PadhAI insight

Likely UPSC questions:

- “Discuss the significance of Aditya–L1 in India’s space weather forecasting capabilities.”
- “How does observing solar eruptions help protect Earth’s technological infrastructure?”
- “Explain the role of Lagrange Points in space missions.”

8. Why Hepatitis A Deserves a Place in India’s Universal Immunisation Programme (UIP)

Why in the news?

- Hepatitis A, a vaccine-preventable viral infection that spreads through contaminated food and water, is witnessing a **resurgence in India**. Shifting epidemiology, recurring outbreaks, and rising disease severity in adults now make a strong case for **including the Hepatitis A vaccine in India’s Universal Immunisation Programme (UIP)**.

What Is Hepatitis A?

- A viral liver infection caused by **Hepatitis A Virus (HAV)**
- Spread via **faecal-oral route**, contaminated food, water, and poor hygiene
- Symptoms: fever, jaundice, vomiting, fatigue, dark urine
- Usually mild in small children, but **severe in adolescents and adults**

Why Hepatitis A Should Be Included in the UIP

The Epidemiological Shift: Natural Immunity Declining

Earlier pattern:

- Most children got infection early → developed lifelong immunity
- Adult cases were rare

Now (2020s–2025):

- Improved sanitation → **delayed exposure**
- Fewer children develop natural immunity
- More infections occurring in **teenagers and adults**, where disease is more severe
- Increased hospitalisation & liver failure cases

India is entering the **intermediate endemicity** phase — the **highest risk category** for severe outbreaks.

Rising Outbreaks Across States

Recent outbreaks have occurred in:

- Kerala
- Maharashtra
- Karnataka
- Haryana
- Delhi NCR
- Himachal Pradesh
- Telangana & Andhra Pradesh

These outbreaks strain district hospitals and highlight gaps in routine protection.

High Economic & Social Costs



Hepatitis A in adults →

- long hospital stays
- lost wages
- school/college absenteeism
- high out-of-pocket treatment costs

One vaccine dose (~₹1,000–1,600) is far cheaper than hospitalisation (~₹12,000–40,000).

High-Risk Groups in Urban India Expanding

Due to:

- contaminated water supply
- crowded hostels
- street food consumption
- migrant populations
- inadequate sewerage in expanding cities

Risk is highest for:

- school children
- college students
- food handlers
- sanitation workers
- travellers
- slum communities
- immunocompromised individuals

Strong Safety & Efficacy Profile of the Vaccine

- Hepatitis A vaccines (inactivated) are **safe** with minimal adverse events
- Provide **>95% protective immunity**
- Long-term (possibly lifelong) protection after 1–2 doses
- Already part of routine immunisation in **>20 countries**, including the US, Israel, China, Brazil, Argentina

Supports India's Public Health Goals

Inclusion supports:

- **National Viral Hepatitis Control Programme**
- **SDG 3 (Good Health & Well-being)**
- Reduces burden on healthcare systems
- Complements other water-borne disease control efforts (typhoid, cholera).

Remaining Challenges

- Cost considerations for national rollout
- Cold chain expansion
- Vaccine supply chain readiness
- Prioritising high-burden districts in first phase
- Need for surveillance data strengthening

Suggested Approach for India

✓ Phase-wise introduction

Start with:

- high-burden states
- urban clusters
- outbreak-prone districts

✓ Strengthen surveillance

Improve reporting under IDSP for viral hepatitis outbreaks.

✓ Integrate with water & sanitation missions

Coordinate with:

- Jal Jeevan Mission
- Swachh Bharat Mission
- SBM 2.0 urban sanitation reforms

✓ Awareness campaigns

Promote hygiene, safe food, and vaccination messaging.

Previous Year Question (GS Paper II – 2018)

“Public health system in India suffers from many problems. Discuss the challenges and suggest improvements.”

Relevance: Hepatitis outbreaks show gaps in immunisation & sanitation governance.

PadhAI generated practice MCQ

Consider the following statements regarding Hepatitis A in India:

1. Hepatitis A infections are becoming more common in adolescents and adults in urban India.
2. The Hepatitis A vaccine is currently part of India's Universal Immunisation Programme.
3. Hepatitis A spreads primarily through contaminated food and water.

Choose the correct answer:

- (a) 1 and 2 only
- (b) 1 and 3 only
- (c) 2 and 3 only
- (d) 1, 2 and 3

✓ **Correct Answer: (b) 1 and 3 only**

Explanation: The Hepatitis A vaccine is **not** part of the UIP → Statement 2 is incorrect.



PadhAI insight

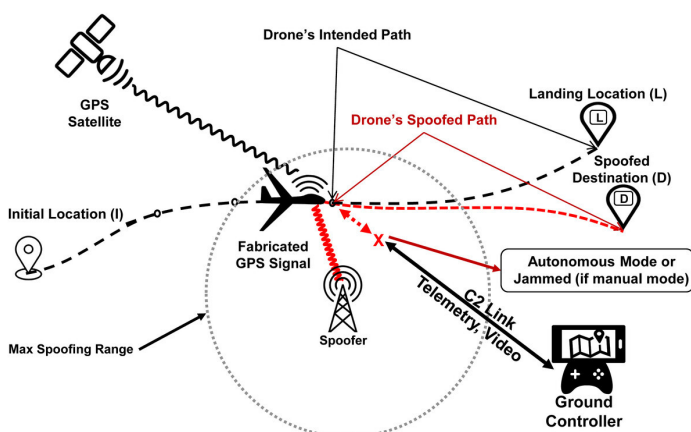
Likely areas UPSC may ask:

- “Discuss the need to include Hepatitis A in India’s UIP in light of changing disease patterns.”
- “Explain the shifting epidemiology of Hepatitis A in India.”
- “Why do viral hepatitis outbreaks persist despite improved sanitation efforts?”

9. What Are the Threats From GNSS Spoofing?

Why in the news?

- Global Navigation Satellite Systems (GNSS) — including **GPS (USA), GLONASS (Russia), Galileo (EU), BeiDou (China)**, and India’s **NavIC** — are critical to modern navigation, aviation, defence, finance, and communication.
- However, **GNSS spoofing**, a deliberate act of sending fake satellite signals to deceive receivers, has emerged as a major global security threat.



What Is GNSS Spoofing?

GNSS spoofing involves broadcasting **false satellite-like signals** that are stronger than genuine signals.

This causes receivers (planes, drones, ships, phones) to:

- miscalculate their location
- follow wrong coordinates
- malfunction or shut down
- lose navigation accuracy

It is **more dangerous than jamming**, because spoofing **manipulates**, not just blocks, the signal.

Major Threats From GNSS Spoofing

Threat to Aviation Safety

Spoofing can cause:

- aircraft to drift off intended flight paths
- autopilot malfunction
- navigation mismatch between cockpit systems
- increased pilot workload
- risk during landing or approach

Delhi airport, Lahore FIR, and Gulf airspace have recently reported spoofing alerts.

Even a few seconds of wrong coordinates can lead to **catastrophic aviation accidents**.

Maritime Security Risks

Ships rely on GNSS for:

- navigation
- route planning
- collision avoidance
- port entry

Spoofing can cause:

- ships drifting off-course
- grounding or collisions
- hijacking disguise (pirates can mask ship locations)
- illegal fishing or trafficking

Notable example: GNSS spoofing repeatedly observed in Russian and Iranian waters.

Threat to Drones & UAV Systems

Drones depend heavily on GNSS.

Spoofing can:

- redirect drones
- force them to crash
- hijack their route
- disable return-to-home (RTH)
- misguide military UAVs
- disrupt delivery drones or surveillance operations

Drone warfare zones (Ukraine, Syria) have seen widespread

spoofing attacks.



Military & Strategic Vulnerability

GNSS is essential for:

- missile guidance
- troop movement
- communication timing
- logistics
- battlefield situational awareness

Spoofing can:

- misguide missiles
- hide troop movements
- blind battlefield networks
- disrupt GPS-dependent artillery
- deceive enemy navigation

It is now a **major cyber-electronic warfare tool**.

Financial System Disruptions

Banks, stock markets, and ATMs rely on **GPS-based timestamps**.

Spoofing can disrupt:

- high-frequency trading
- interbank transfers
- ATM networks
- payment gateways

A few seconds of timestamp manipulation can induce major system failures.

Threat to Telecom Networks & Power Grids

Both depend on GNSS signals for **time synchronisation**.

Spoofing can cause:

- telecom tower desynchronisation
- internet outages
- load imbalance in power grids
- blackout risks

GNSS spoofing was linked to blackouts in parts of Europe in past incidents.

Civilian Navigation & Emergency Services Risks

Spoofing can misguide:

- Google Maps users
- ambulances

- fire services
- disaster response teams

This is serious during natural disasters when navigation is crucial.

National Security & Counterterrorism Challenges

Criminals and hostile entities use spoofing to:

- hide movement of illegal arms or drugs
- bypass surveillance
- mask locations of safe houses
- confuse intelligence agencies

Spoofing is a **dual-use technology** — cheap, portable, and widely available.

Why GNSS Spoofing Is Increasing

- Low-cost software-defined radios
- Open-source spoofing tools
- Electronic warfare in conflict zones
- Competition among major powers
- Rise of drone warfare
- Increased GPS dependency globally

India's rising digital and aviation footprint makes it particularly vulnerable.

How India Can Counter GNSS Spoofing

- ✓ Strengthen NavIC as primary navigation backbone
- ✓ Multi-constellation receivers (GPS + Galileo + NavIC)
- ✓ Anti-spoofing encrypted signals
- ✓ Signal authentication protocols
- ✓ Radar + GNSS hybrid navigation
- ✓ Spoofing detection sensors at airports & seaports
- ✓ Drone geofencing with multi-sensor fusion
- ✓ National "Space Weather & Interference Monitoring Network"



Previous Year Question (GS Paper III – 2018)

“Discuss the role of satellite-based navigation systems in India. What are the challenges in ensuring reliability?”

Relevance: GNSS spoofing is a direct challenge to navigation reliability.

PadhAI generated practice MCQ

With reference to GNSS spoofing, consider the following statements:

1. GNSS spoofing involves transmitting fake signals that mislead navigation receivers.
2. It poses significant risks to aviation, maritime transport, and financial systems.
3. GNSS spoofing only causes signal loss and cannot change the position displayed by a receiver.

Choose the correct answer:

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

✓ Correct Answer: (a) 1 and 2 only

Statement 3 is incorrect — spoofing can **change the displayed position**, making it more dangerous than jamming.

PadhAI insight

Likely UPSC questions:

- “Discuss the risks GNSS spoofing poses to national security and critical infrastructure.”
- “Differentiate between GNSS jamming and spoofing with examples.”
- “How can NavIC strengthen India’s resilience against navigation disruptions?”

10. GAVI & UNICEF Partner to Expand Global Access to Malaria Vaccines: A Breakthrough for Public Health in Africa & Asia

Why in the news?

- **GAVI (Global Alliance for Vaccines and Immunization)** and **UNICEF** have jointly announced a major partnership to **scale up global access to malaria vaccines**, especially the **RTS,S (Mosquirix)** and **R21/Matrix-M** vaccines.
- This collaboration aims to strengthen procurement, financing, cold-chain delivery, and last-mile

distribution, enabling millions of children in malaria-endemic regions to receive life-saving protection.

- The partnership marks one of the most significant milestones in global health, as malaria continues to kill **over 600,000 people annually**, mostly children under five in Sub-Saharan Africa.

Why This Collaboration is Needed

Malaria remains a major killer

- 95% of global malaria deaths occur in Africa
- Children under five are the most vulnerable
- Rising drug and insecticide resistance

Demand far exceeds supply

Current global demand for malaria vaccines is **2–3 times higher** than production capacity.

Strengthening vaccine equity

Poorer nations lack resources to procure and distribute vaccines without global support.

Supply chain & cold-chain challenges

Malaria vaccines require stable storage temperatures, which many African regions lack.

Which Vaccines Are Being Distributed?

Vaccine	Developer	Status	Key Features
RTS,S (Mosquirix)	GSK	WHO-approved (2021)	First malaria vaccine; reduces severe malaria cases
R21/Matrix-M	Oxford Univ. + Serum Institute of India	WHO-approved (2023)	Higher efficacy; produced in India

India’s Serum Institute plays a crucial role by manufacturing millions of affordable doses annually.



Key Components of GAVI–UNICEF Partnership

Bulk Procurement of Vaccines

GAVI will pool global demand → negotiate lower prices → increase vaccine availability.

Robust Cold-Chain and Logistics

UNICEF will expand:

- solar-powered refrigerators
- temperature-monitoring systems
- rural distribution networks

Financial Support for Low-Income Countries

GAVI will subsidize:

- vaccine cost
- storage infrastructure
- training of health workers

Integrated Child Health Campaigns

UNICEF will combine malaria vaccination with:

- routine immunisation
- nutritional programmes
- maternal & newborn care
- mosquito-net distribution

Monitoring & Evaluation

Advanced data systems to track:

- vaccine coverage
- adverse events
- regional malaria trends

Benefits of the Partnership

✓ Reduction in child mortality

Vaccines + nets + prophylaxis → significant drop in deaths.

✓ Strengthens global disease surveillance

Better tracking of outbreaks.

✓ Reduced burden on health systems

Fewer hospitalisations allow focus on other diseases.

✓ Boost to India's global health leadership

Serum Institute becomes key supplier for African nations.

✓ Equity in global vaccine access

Ensures low-income countries are not left behind.

Challenges Ahead

- Financing gap for universal rollout
- Vaccine hesitancy in some rural communities
- Cold-chain gaps in remote African villages
- Limited health-worker density
- Mutating malaria parasite strains
- Climate change expanding mosquito habitats
- Serum Institute of India

Previous Year Style Mains Question

"Global partnerships like those between GAVI and UNICEF are essential for health equity. Discuss the significance of the recent malaria vaccine initiative in reducing child mortality and strengthening health systems in developing countries."

PadhAI-Generated

With reference to the global malaria vaccine initiative, consider the following statements:

1. R21/Matrix-M malaria vaccine is manufactured in India.
2. RTS,S malaria vaccine was the first malaria vaccine to receive WHO approval.
3. GAVI provides financing support, while UNICEF primarily handles vaccine procurement and delivery.

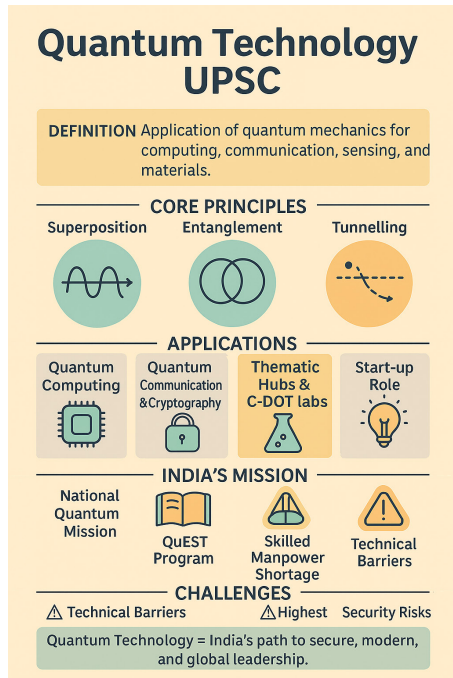
Which of the above statements are correct?

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

✓ **Correct Answer: (d) 1, 2 and 3)**

II. Breakthrough in Rare-Earth Magnetism Promises More Efficient Quantum Technologies





Why in the news?

- Scientists have announced a major breakthrough in understanding **rare-earth magnetism**, opening possibilities for the next generation of **quantum computers, ultra-stable sensors, high-density memory, and energy-efficient electronics**.
- The discovery involves the behaviour of **4f-electron orbitals** in rare-earth atoms, which generate exceptionally stable magnetic states – a property crucial for **quantum coherence**, low-power data storage, and magnetic field precision.

Why Rare-Earth Magnetism Matters

Rare-earth elements like **Neodymium, Samarium, Dysprosium, Terbium, Erbium** exhibit unique magnetic properties due to:

- partially filled **4f electron shells**
- strong spin-orbit coupling
- highly stable magnetic moments
- resistance to thermal fluctuations

These properties make them ideal for:

- quantum bits (qubits)
- spintronics
- cryogenic computing
- superconducting circuits
- high-precision atomic clocks

What the New Breakthrough Shows

Researchers identified **previously unknown magnetic interactions** in rare-earth crystals that:

Enhance Quantum Coherence Times

Stable magnetic alignment → longer qubit lifetimes → fewer computation errors.

Lower Power Requirements

Devices operate efficiently at lower energy.

Support Room-Temperature Quantum Devices (Future Aim)

A major goal of global quantum research.

Improve Magnetic Anisotropy

Better directional stability → key for quantum memory and sensors.

Enable Tunable Quantum States

Magnetic states can be externally controlled using:

- electric fields
- strain
- laser pulses

This controllability is crucial for quantum architectures.

Applications in Emerging Quantum Technologies

Technology	Impact of Rare-Earth Magnetism Breakthrough
Quantum Computing	More stable qubits with reduced decoherence
Spintronics	Low-energy magnetic logic devices
Quantum Sensors	Ultra-precise measurement of gravity, rotation, and magnetic fields



Magnetic Memory	High-density, ultra-stable memory chips
Quantum Communication	Better photon-spin interfaces in rare-earth doped crystals
Superconducting Electronics	Integration with cryogenic circuits

- rare-earth refining
- advanced magnet manufacturing
- defence electronics
- green energy tech (motors, EVs, wind turbines)

Previous Year Style Mains Question

“Discuss the significance of rare-earth magnetism in advancing quantum technologies. How can India leverage this scientific development to strengthen its National Quantum Mission?”

PadhAI-Generated

With reference to rare-earth magnetism and quantum technologies, consider the following statements:

1. Rare-earth magnetic states are more resistant to thermal fluctuations compared to transition-metal magnets.
2. Quantum decoherence in rare-earth based qubits is less due to the shielding of 4f electrons.
3. India currently holds large natural reserves of heavy rare-earth elements required for quantum computing.

Which of the above statements are correct?

- (a) 1 and 2 only
(b) 2 and 3 only
(c) 1 and 3 only
(d) 1, 2 and 3

 **Correct Answer: (a) 1 and 2 only**

Statement 3 incorrect → India has **light** rare-earths in abundance (Ce, La, Nd) but limited **heavy rare-earths** (Dy, Tb, Er).

Why This Research is a Big Deal

Tackles the Biggest Quantum Challenge — Decoherence

Quantum states collapse quickly; rare-earth magnetism offers stable alternatives.

Opens Pathway for Indigenous Chip Manufacturing

Rare-earth magnetic materials can be engineered for semiconductors.

Strengthens National Quantum Missions

Countries working on quantum supremacy need stable qubit materials.

Reduces Dependence on China

China dominates rare-earth supply → strategic vulnerability.

Relevance for India

India's National Quantum Mission (NQM)

Worth ₹6,000 crore, focusing on:

- superconducting qubits
- photonic qubits
- magnetically stable qubits

Rare-earth magnetism directly supports:

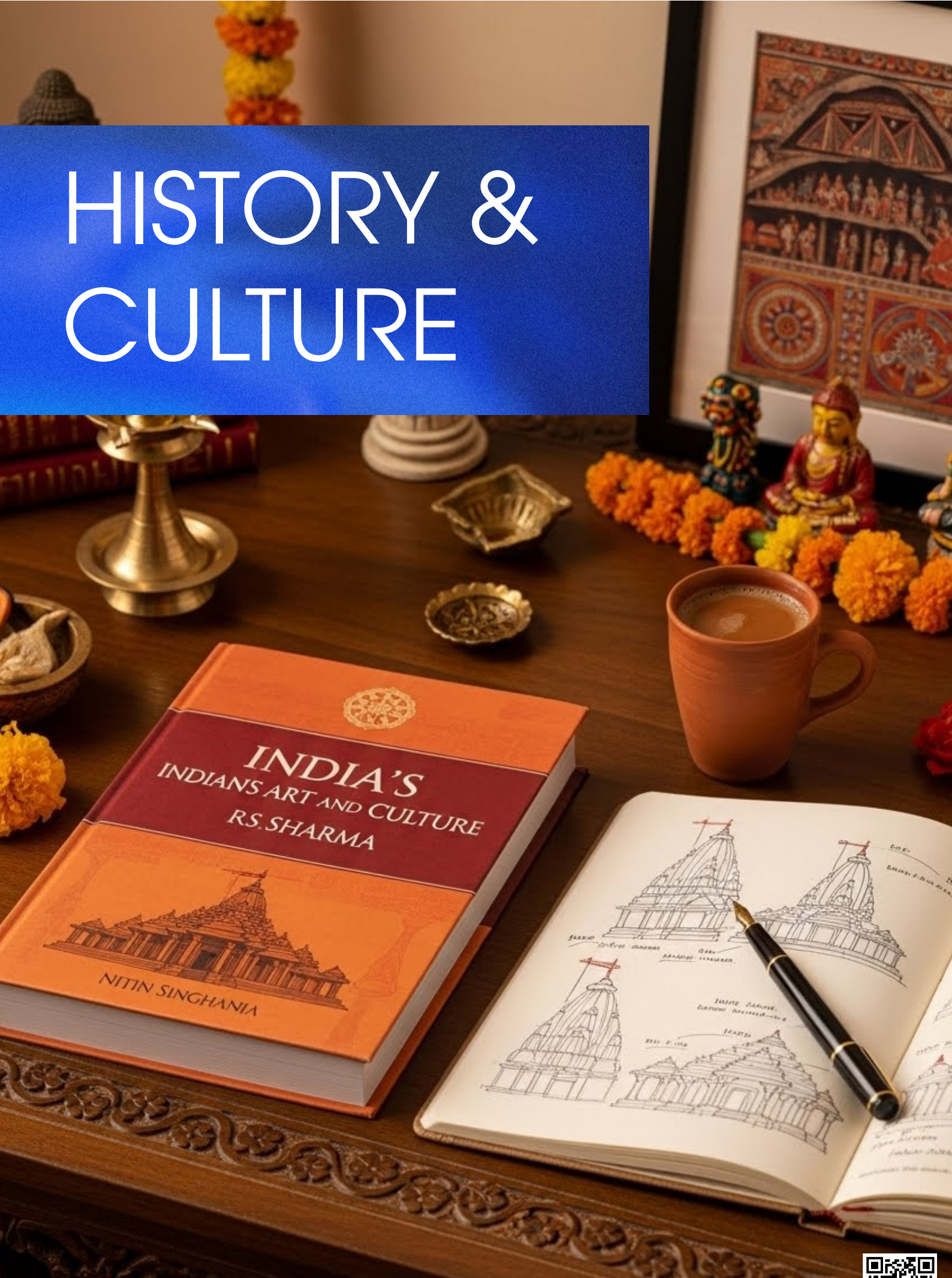
- quantum sensors for defence
- quantum communication satellites
- cryo-CMOS chips for accelerated computation

Make in India for High-Tech Materials

Boosts:



HISTORY & CULTURE



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1. 100 Years of Mumbai's Art Deco

Why in the news?

- Mumbai's **Art Deco movement**, now completing 100 years, stands as a symbol of India's early modernist aspirations and cosmopolitan identity.
- Emerging in the 1930s, this architectural style blended **European aesthetics with Indian motifs**, evident in iconic landmarks like **Eros Cinema, Regal Theatre, and Marine Drive's residential blocks**.
- Recognised by **UNESCO (2018)** as part of the "*Victorian Gothic and Art Deco Ensembles of Mumbai*", it reflects India's urban cultural renaissance between colonial modernity and post-independence national identity.

Previous Year Question

With reference to Indian art and culture, consider the following pairs:

- Pattachitra – Odisha
- Kalamkari – Andhra Pradesh
- Warli painting – Maharashtra

Which of the pairs given above are correctly matched?

✓ **Answer:** (d) 1, 2 and 3

PadhAI Generated Practice MCQ

What makes Mumbai's Art Deco architecture unique within India's cultural landscape?

- (a) It entirely rejects European influence.
- (b) It fuses Western geometric aesthetics with local motifs and tropical adaptations.
- (c) It is purely functional and industrial in nature.
- (d) It was developed as a post-independence design ideology.

✓ **Answer:** (b)

PadhAI Explanation:

Art Deco in Mumbai is distinct because it localised global design language—using Indian symbols, pastel colours, and open balconies suited for tropical weather—making it both artistic and adaptive.

PadhAI insight:

Fits within **GS Paper I** (Art & Culture) — connects to themes like *colonial urbanism, architectural heritage conservation*, and *UNESCO cultural diplomacy*. UPSC may ask analytical questions on **Indian adaptation of global art movements** or **heritage technology integration**.

2. 150th Anniversary of Vande Mataram

Why in the news?

- The year **2025 marks the 150th anniversary** of the composition of *Vande Mataram*, one of India's most powerful patriotic hymns.
- Written by **Bankim Chandra Chatterjee** in **1875** and later included in his novel *Anandamath* (1882), the song became the **anthem of India's freedom movement**, inspiring generations of revolutionaries.
- The phrase "Vande Mataram" — meaning "*I bow to thee, Mother*" — personified **Bharat Mata** as a symbol of unity, resilience, and spiritual nationalism.
- The song's first two stanzas were adopted as the **National Song of India** in **1950**.

Previous Year Question (UPSC Prelims 2013)

Consider the following pairs:

- Bankim Chandra Chatterjee — *Anandamath*
- Bal Gangadhar Tilak — *Gita Rahasya*
- Rabindranath Tagore — *Gitanjali*

Which of the pairs given above are correctly matched?

✓ **Answer:** (d) 1, 2 and 3

PadhAI Generated Practice MCQ

Why is *Vande Mataram* historically significant in India's freedom struggle?

- (a) It was the first song officially adopted by the British Government.
- (b) It symbolised cultural nationalism and inspired the Swadeshi movement.
- (c) It was written to celebrate India's Constitution.
- (d) It originated as a devotional hymn with no political context.

✓ **Answer:** (b)

PadhAI Explanation:

Vande Mataram became the rallying cry during the **1905 Bengal Partition movement**, representing spiritual resistance to colonial domination and promoting Swadeshi ideals.

PadhAI insight:

This topic fits **GS Paper I** under *Nationalism, Modern Indian History, and Cultural Revivalism*. UPSC may frame analytical questions linking *Vande Mataram* with **religio-cultural nationalism, freedom struggle symbolism**, and **the role of literature in political awakening**.



3. Lucknow Recognized as UNESCO 'Creative City of Gastronomy' – Showcasing India's Culinary Heritage

Why in the news?

- In **October 2025**, **Lucknow**, the capital of **Uttar Pradesh**, was officially designated a **UNESCO "Creative City of Gastronomy"**, joining the prestigious **UNESCO Creative Cities Network (UCCN)**.
- The recognition celebrates Lucknow's **rich culinary traditions, fusion of Nawabi and Awadhi cuisine**, and its **continuing legacy as a cultural capital** of northern India.
- This makes Lucknow **India's third city** to receive the "Gastronomy" tag after **Hyderabad** and **Varanasi**, highlighting India's growing soft power through culinary diplomacy.

About the UNESCO Creative Cities Network (UCCN)

- **Established:** 2004 by UNESCO.
- **Objective:** To promote creativity as a strategic factor for sustainable urban development.
- **Categories:** Gastronomy, Music, Film, Literature, Crafts & Folk Art, Design, and Media Arts.
- **India's Members (2025):** Jaipur (Crafts), Chennai (Music), Varanasi (Music & Gastronomy), Mumbai (Film), Hyderabad (Gastronomy), Srinagar (Crafts), and Lucknow (Gastronomy).

Why Lucknow Was Selected

1. **Culinary Heritage:**
 - Renowned for **Awadhi cuisine** – kebabs, biryanis, kormas, sheermal, and nihari.
 - Deep-rooted **Mughal–Nawabi food culture**, blending Persian and Indian influences.
2. **Living Culinary Tradition:**
 - Home to **centuries-old royal kitchens (Bawarchikhanas)** that have preserved slow-cooking (*dum pukht*) techniques.
 - Strong artisan ecosystem of **karigars, tandoor chefs, and spice traders**.
3. **Sustainable Food Ecosystem:**
 - Lucknow's local governance promotes **farm-to-table practices** and **culinary tourism**.
4. **Cultural Outreach:**
 - Annual "**Lucknow Food Mahotsav**" and "**Awadh Gastronomy Week**" promote global exchange of culinary knowledge.

Cultural and Economic Significance

- **Tourism Boost:** Expected to raise annual tourist footfall by **25–30%**.
- **Culinary Preservation:** Revival of **lost royal recipes and traditional cooking crafts**.
- **Employment Generation:** Expands hospitality and small enterprise sectors (street vendors, spice cultivators, local bakers).
- **Soft Power Diplomacy:** Projects Indian food heritage globally, strengthening "**Cultural Brand India**."

Previous Year Question (UPSC GS Paper I – 2021)

Q. "Discuss the significance of intangible cultural heritage in promoting India's soft power."

PadhAI Generated Practice MCQ

With reference to the UNESCO Creative Cities Network (UCCN), consider the following statements:

1. The network aims to promote culture and creativity as tools for sustainable urban development.
2. Lucknow has been designated as India's first "Creative City of Gastronomy."
3. Cities under the UCCN are required to report progress every four years to UNESCO.

- (a) 1 and 2 only
(b) 1 and 3 only
(c) 2 and 3 only
(d) 1, 2 and 3

✓ **Answer:** (b) 1 and 3 only

PadhAI Explanation: Hyderabad (2019) and Varanasi (2021) were earlier awarded the "Gastronomy" tag; hence Lucknow is India's **third**, not first.

PadhAI insight

This topic fits **GS Paper I (Art & Culture – Intangible Heritage)** and **GS Paper II (IR – UNESCO & Cultural Diplomacy)**.

Possible UPSC angles:

- "Discuss how UNESCO's Creative Cities Network enhances India's cultural soft power."
- "Assess the role of cities as cultural ambassadors in India's diplomacy."

4. Union Minister Jyotiraditya Scindia Interacts with First Batch of Ashtalakshmi Darshan Youth Exchange Programme Students

Why in the news?





- Union Minister Jyotiraditya Scindia recently interacted with the **first batch of students participating in the “Ashtalakshmi Darshan Youth Exchange Programme”**, a government initiative designed to strengthen **national integration**, promote awareness of the **North-East’s cultural heritage**, and build youth-to-youth connections across India.

What Is the Ashtalakshmi Darshan Youth Exchange Programme?

The programme aims to:

✓ Promote cultural exchange

Students from one region of India visit Northeastern states to learn about local culture, traditions, languages, and history.

✓ Strengthen national unity

Encourages youth to appreciate India’s civilizational diversity.

✓ Promote the “Ek Bharat Shreshtha Bharat” vision

Deepens emotional, cultural, and intellectual bonds across regions.

✓ Showcase development in the Northeast

Students witness transformation in infrastructure, connectivity, tourism, and governance.

✓ Encourage youth participation

Fosters leadership, curiosity, dialogue, and national identity-building.

Why the Northeast Is Called “Ashtalakshmi”

The term refers to the eight Northeastern states:

Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Tripura, and Sikkim.

They are known for:

- ancient tribal cultures
- rich dance, music, textile traditions
- biodiversity hotspots
- strategic borders with five countries
- historic trade routes
- freedom movement contributions (INA, tribal resistance)

Key Highlights of the Minister’s Interaction

Emphasis on Cultural Pride & National Integration

Minister Scindia encouraged students to carry forward their learnings and inspire others to explore India’s cultural richness.

Recognition of Youth as Nation-Builders

He stressed that young leaders play a vital role in shaping India’s social harmony, unity, and vision for 2047.

Encouragement to Experience the Northeast First-hand

He urged participants to observe the progress in connectivity, airports, highways, and border infrastructure.

Discussion of History, Heritage & Identity

Students were encouraged to study:

- tribal heritage
- oral history traditions
- missionary-linked education
- freedom fighters from Northeast
- ancient trade links with Southeast Asia

Promotion of the “Viksit Bharat” Vision

He linked cultural exchange with India’s broader developmental journey toward becoming a developed nation by 2047.

Why This Programme Matters (Historical & Cultural Significance)

1. Preserves and Promotes Intangible Cultural Heritage

Languages, rituals, textiles, dances, crafts, and folklore of Northeast gain national recognition.

2. Encourages Mainstream Awareness

Corrects misconceptions and fills historical knowledge gaps about the region.

3. Strengthens Integration and National Cohesion

India’s unity thrives on celebrating diversity rather than ignoring it.



4. Youth as Cultural Bridges

Participants become “cultural ambassadors” and storytellers.

Challenges That Continue in the Northeast

- geographical isolation
- ethnic tensions
- language diversity barriers
- slow integration in national narratives
- need for more tourism and youth-focused initiatives

The programme aims to address these through exposure and experience.

Previous Year Question (GS Paper I – 2015)

“How do cultural exchanges foster national integration? Illustrate with examples from India’s programmes and policies.”

Relevance: This topic fits perfectly as a case study.

PadhAI generated practice MCQ

With reference to the Ashtalakshmi Darshan Youth Exchange Programme, consider the following statements:

1. It aims to promote cultural exchange between the Northeastern states and the rest of India.
2. The programme is part of the government’s efforts under “Ek Bharat Shreshtha Bharat.”
3. The term “Ashtalakshmi” refers to the eight Northeastern states of India.

Choose the correct answer:

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

✓ **Correct Answer: (d) 1, 2 and 3)**

5. Sacred Buddha Relics from India to Grace Bhutan in a Grand Exposition for Global Peace



Why in the news?

- In a landmark cultural-diplomatic event, **India has sent sacred Buddha relics to Bhutan** for a grand international exposition aimed at promoting **global peace, spiritual harmony, and deepening India–Bhutan civilizational ties**.
- The exposition is being held at key monasteries and spiritual centres across Bhutan and has attracted thousands of monks, devotees, scholars, and global visitors.

What Are These Buddha Relics?

The relics include:

- **Asthi Dhatu (bone fragments)** of **Lord Buddha**
- Sacred artefacts preserved at the **National Museum, New Delhi** and other Indian repositories
- Associated relics of revered Buddhist monks and disciples

These relics are normally stored under **high security and controlled environments**, and are allowed to travel abroad only under exceptional circumstances.

Why Bhutan Was Chosen

Bhutan is:

- one of the world’s last surviving **Tibetan Buddhist kingdoms**
- deeply connected to the Mahayana tradition
- a nation where Buddhism guides state policy, ethics, and national identity

India and Bhutan share centuries-old religious ties through:

- Guru Padmasambhava’s legacy
- ancient monastic exchanges
- Himalayan cultural flows
- pilgrimages and rituals
- shared reverence for Buddhist relics

The exposition also aligns with Bhutan’s vision of **Gross National Happiness (GNH)**, where spiritual wellbeing is central.

Significance of the Exposition

Symbol of India–Bhutan Civilizational Friendship

The visit strengthens:

- cultural diplomacy



- spiritual exchanges
- people-to-people ties
- India's role as a cultural anchor of South Asia

Promotion of Global Peace and Compassion

Buddhist relics are traditionally displayed to:

- reduce social conflict
- encourage compassion among communities
- promote ethical living
- inspire interfaith harmony

Boost to Buddhist Tourism Circuit

Helps promote:

- Bodh Gaya
- Rajgir
- Sarnath
- Kushinagar
- Lumbini connectivity

Bhutan's spiritual tourism also benefits.

Strengthens "Buddhist Diplomacy"

India positions itself as the global centre of Buddhist thought, leveraging soft power in:

- ASEAN
- East Asia
- Himalayan region

Historical Background

Buddhist relics have travelled from India to:

- Sri Lanka
- Mongolia
- Thailand
- Japan
- South Korea
- Myanmar

These exchanges trace back to Ashoka's era, when relic diplomacy was central to spreading the Dhamma.

Bhutan, too, has received relics historically through monastic networks that linked Nalanda-Vikramashila with Himalayan monasteries.

India's Buddhist Diplomacy Strategy

The exposition supports India's efforts to promote:

- **International Buddhist Confederation (IBC)**
- **Buddhist circuit infrastructure**
- **Nalanda University revival**
- **Soft-power diplomacy in South Asia and East Asia**

It helps counterbalance China's attempts to position itself as a major Buddhist centre.

Security & Preservation Measures

Because the relics are fragile and priceless, India ensures:

- bullet-proof caskets
- climate-controlled chambers
- multi-layered security personnel
- insurance & digital monitoring
- coordination between Indian and Bhutanese authorities

Challenges

- Maintaining relic preservation during travel
- Managing large crowds
- Ensuring scientific storage conditions
- Diplomatic sensitivity in interstate relic exchanges

Previous Year Question (GS Paper I – 2020)

"Discuss the significance of cultural heritage and civilizational links in strengthening India's foreign relations."

This event is a perfect real-world case study.

PadhAI generated practice MCQ

Consider the following statements regarding India sending sacred Buddha relics to Bhutan:

1. The relics include sacred physical remains of Lord Buddha preserved in India's national museums.
2. The exposition strengthens India's Buddhist diplomacy and cultural ties with Bhutan.
3. Such relics are frequently transported abroad as part of India's external cultural exchanges.

Choose the correct answer:

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

✔ **Correct Answer: (a) 1 and 2 only**

Explanation: India rarely permits relics to travel abroad; such



events occur only on special occasions → Statement 3 is incorrect.

PadhAI insight

Likely UPSC questions:

- “Explain how Buddhist diplomacy strengthens India’s cultural influence in South Asia.”
- “Discuss the role of relics and sacred artefacts in India’s soft-power narrative.”

6. Sri Venkateswara Swamy Temple in Kasibugga, Andhra Pradesh



Why in the news?

- The **Sri Venkateswara Swamy Temple in Kasibugga** (Andhra Pradesh) has recently come into news due to its rising cultural prominence, improved infrastructure, and its growing importance as a regional spiritual centre in the Palnadu region.
- Dedicated to **Lord Venkateswara (Balaji)**—a form of Vishnu—this temple reflects the enduring Vaishnavite traditions of Andhra Pradesh and showcases the architectural and ritualistic heritage of South India.

Where Is Kasibugga Located?

- Situated in **Macharla Mandal, Palnadu district**, Andhra Pradesh
- Lies close to major pilgrimage routes toward:
 - ✓ Srisaillam
 - ✓ Mahanandi
 - ✓ Nagarjuna Sagar
- Surrounded by hill ranges and historic Buddhist monastic sites of the ancient **Nagarjunakonda region**

This gives the temple a unique blend of **Hindu and ancient Buddhist heritage proximity**.

About the Sri Venkateswara Swamy Temple

The temple is dedicated to **Lord Venkateswara**, also known as:

- Balaji
- Govinda
- Srinivasa
- Venkata Ramana

It follows the traditional **Pancharatra Agama** system used in most Vaishnava temples of South India.

Key Features:

- **Garbhagriha (sanctum)** houses the idol of Venkateswara in standing posture
- Daily rituals include **Suprabhata Seva, Archana, Harathi, and Theertha Prasadam**
- Recently expanded mandapams (pillared halls)
- Devotee facilities improved by local temple boards and state support

Why the Temple Is in News

✓ Growing footfall due to improved connectivity

New roads and increased bus connectivity from Palnadu, Guntur, and Nandyal.

✓ Part of the Andhra Pradesh’s temple revitalisation initiative

Government support for:

- restoration
- temple infrastructure
- cultural tourism promotion

✓ Increasing recognition in the Palnadu tourism circuit

Pilgrims combine visits to:

- Kotappakonda
- Srisaillam pilgrim route
- Sri Chennakesava Swamy temples
- Nagarjunakonda heritage area

✓ Community gatherings and religious events

Noteworthy celebrations:

- **Brahmotsavam**
- **Vaikuntha Ekadashi**



- **Annual Kalyanotsavam**
draw large regional crowds.
- **Historical & Cultural Significance**

Vaishnavite Legacy in Andhra Pradesh

The temple adds to Andhra's strong Vaishnavite landscape, interconnected with:

- Tirumala
- Ahobilam
- Simhachalam
- Sri Vaikuntapuram

Palnadu's spiritual history

Region known for:

- medieval Palnadu traditions
- Buddhist heritage from the Satavahana & Ikshvaku period
- ancient riverine settlements along Krishna basin

Community gatherings platform

The temple acts as a cultural centre for:

- music performances
- Harikathas
- Annadanam programmes
- Vedic learning
- local festivals

Practice MCQ (PadhAI-Generated)

With reference to the Sri Venkateswara Swamy Temple at Kasibugga, consider the following statements:

1. The temple is dedicated to Lord Venkateswara, a form of Vishnu.
2. Kasibugga lies in the Palnadu district of Andhra Pradesh.
3. The temple follows the Shaiva Agama rituals exclusively.

Choose the correct answer:

- (a) 1 and 2 only
- (b) 1 and 3 only
- (c) 2 and 3 only
- (d) 1, 2 and 3

✓ **Correct Answer: (a) 1 and 2 only**

Explanation: The temple follows Vaishnava (Pancharatra) Agama traditions, not Shaiva → Statement 3 is incorrect.

PadhAI insight

Possible UPSC questions:

- "Discuss the cultural significance of Andhra Pradesh's temple architecture with examples."
- "How do regional temples contribute to India's intangible cultural heritage?"
- "Explain the role of pilgrimage tourism in regional development."

7. Ministry of Culture Showcases India's Tribal Art, Literature and Creativity at Tribal Business Conclave 2025



Why in the news?

- The **Ministry of Culture**, in collaboration with the Ministry of Tribal Affairs and TRIFED, showcased India's rich **tribal art, literature, craft, design, and innovation** at the **Tribal Business Conclave 2025**.
- The event served as a national platform to highlight the **economic potential** of tribal creativity and to promote tribal communities as **entrepreneurs, cultural ambassadors, and creators of sustainable livelihoods**.

What the Tribal Business Conclave 2025 Featured

✓ Tribal Art & Craft Exhibition

Showcasing masterworks from:

- Gond (Madhya Pradesh)
- Warli (Maharashtra)
- Pattachitra (Odisha)
- Santhal art (Jharkhand/West Bengal)
- Bhil art (Rajasthan)
- Toda embroidery (Tamil Nadu)
- Bamboo & cane crafts (North-East)

✓ Tribal Literature Pavilion

Featuring:



- oral traditions
- folklore collections
- tribal poems & epics
- translations of tribal stories
- documentation of endangered tribal languages

✓ Live Demonstrations

Artisans demonstrated:

- natural dye use
- mural painting
- wood carving
- dokra metal craft
- weaving techniques
- traditional musical instruments

✓ Business-to-Business (B2B) Connect

The conclave helped link tribal creators with:

- e-commerce platforms
- exporters
- corporates
- museums
- global design houses

✓ Launch of Policy & Support Initiatives

- strengthening **TRIFOOD** under Van Dhan scheme
- new market linkages for tribal textiles
- digital cataloguing of tribal art
- GeM integration for tribal artisans
- skill upgradation sessions for tribal youth

Significance of the Conclave

Empowering Tribal Communities Economically

The event transformed tribal artisans from craft producers into **market-ready entrepreneurs**, supporting:

- income diversification
- reduced migration
- local value addition
- branding of tribal products

Preserving Tribal Culture & Identity

By promoting tribal art and literature, India strengthens its **intangible cultural heritage** and supports endangered languages and traditions.

Strengthening India's Creative Economy

Tribal crafts contribute to:

- design innovation
- sustainable fashion
- eco-friendly materials
- global lifestyle markets

Boost to Women-Led Enterprises

Many tribal crafts (weaving, basketry, pottery) are **women-dominated sectors**, helping strengthen:

- financial inclusion
- community leadership
- SHG-based entrepreneurship

Cultural Diplomacy

India positions tribal art as part of its **soft-power narrative**, useful in:

- exhibitions abroad
- cultural exchanges
- global fairs
- museum collaborations

Important Tribal Art Forms to Remember for Prelims

Region	Art Form	Key Features
MP	Gond	Dot patterns, nature motifs
Maharashtra	Warli	Stick figures, daily life scenes
Odisha	Pattachitra	Palm-leaf & cloth scroll paintings
Rajasthan	Bhil	Dotted animal motifs
TN	Toda Embroidery	Red-black-white geometric patterns
NE States	Bamboo craft	Baskets, mats, utility items



Previous Year Question (GS I – 2021)

“Discuss the significance of tribal art in preserving India’s cultural diversity.”

This event is an excellent contemporary example.

PadhAI generated practice MCQ

Consider the following statements regarding the Tribal Business Conclave 2025:

1. It is organised to promote tribal art, literature, and entrepreneurship.
2. The conclave is jointly supported by the Ministry of Culture and TRIFED.
3. The event focuses exclusively on traditional crafts and does not include modern tribal enterprises.

Choose the correct answer:

- (a) 1 and 2 only
- (b) 1 and 3 only
- (c) 2 and 3 only
- (d) 1, 2 and 3

✓ **Correct Answer: (a) 1 and 2 only**

Explanation: Statement 3 is incorrect because the conclave *does* promote modern tribal enterprises (design, digital markets, processed foods, etc.).

PadhAI insight

Likely UPSC questions:

- “Analyse the role of government schemes in promoting tribal entrepreneurship in India.”
- “How do cultural industries support inclusive development?”
- “Discuss the link between tribal art and India’s creative economy.”

8. PM Offers Prayers at Devmogra Mata Temple on Janjatiya Gaurav Diwas; Marks 150th Birth Anniversary of Bhagwan Birsa Munda



Why in the news?

- On **Janjatiya Gaurav Diwas (15 November 2025)**, the Prime Minister visited the **Devmogra Mata Temple** in Gujarat and offered prayers on the occasion of the **150th birth anniversary of Bhagwan Birsa Munda**, one of India’s most revered tribal freedom fighters.
- The visit symbolises the government’s focus on **tribal heritage, cultural preservation, and empowerment**, while honouring the legacy of India’s Adivasi heroes.

Why Janjatiya Gaurav Diwas Is Celebrated

- Declared by the Government of India in **2021**
- Aimed at recognising the **contribution of tribal communities** in India’s freedom struggle
- Celebrates the traditions, culture, and sacrifices of over **700 tribal communities**
- Honours icons like:
 - Birsa Munda
 - Tantya Bhil
 - Sidho-Kanho
 - Rani Gaidinliu
 - Alluri Sitarama Raju

About Devmogra Mata Temple

Feature	Details
Location	Gujarat (Narmada region)
Deity	Devmogra Mata – revered tribal Goddess
Significance	Deeply rooted in the faith of local Bhil, Vasava & other tribal communities
Cultural Value	Centre of tribal festivals, rituals, healing traditions

The PM’s visit highlights **tribal spiritual traditions**, a core part of Adivasi cultural identity.



Legacy of Bhagwan Birsa Munda (1875–1900)

- Born in **Ulihatu**, Jharkhand
- Led the **Ulgulan (Great Tumult)** – a tribal rebellion against British exploitation
- Opposed:
 - Forced labour
 - Land alienation
 - Forest laws
- Pushed for **Munda Raj**, rooted in tribal rights
- Died at age 25 but left a powerful socio-cultural movement
- Jharkhand State was formed on **Birsa Jayanti (15 Nov 2000)** in his honour

Why This Visit Matters: Key Themes

Strengthening Tribal Cultural Identity

Government emphasises:

- preservation of tribal temples
- protection of forest-based livelihoods
- tribal language & art revival

Connecting Tribal Faith With National Unity

The message focused on “**sarvajan hitaya**” – well-being of all citizens.

Recognising Tribal Freedom Struggles

PM underlined that mainstream history often overlooks tribal warriors.

Boosting Tribal Tourism & Regional Development

Temple and surrounding regions expected to see:

- infrastructure upgrade
- eco-tourism projects
- cultural circuits expansion

Government Initiatives for Tribal Communities

- **PM-PVTG Development Mission** (₹24,000 crore)
- **Eklavya Model Residential Schools (EMRS)**
- **Vandan Vikas Yojana** for tribal forest produce (MFP)
- **Jan Jatiya Gaurav Corridor Projects**
- **Digital literacy & skilling programmes**
- **Tribal Research Institutes** across states
- Tribal cultural sites & art forms
- Inclusive development

Previous Year Style Mains Question

“Tribal revolts form a crucial but often underrepresented part of India’s freedom struggle. Discuss the contributions of Birsa Munda and evaluate the contemporary relevance of Janjatiya Gaurav Diwas.”

PadhAI-Generated UPSC Practice MCQ

With reference to Birsa Munda and related historical events, consider the following statements:

1. Birsa Munda’s movement primarily targeted the British-imposed forest laws and exploitation of tribal land.
2. The Ulgulan movement led to the passing of the Chotanagpur Tenancy Act protecting tribal land rights.
3. Janjatiya Gaurav Diwas is observed annually on the birth anniversary of Birsa Munda.

Which of the statements given above are correct?

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

✓ **Correct Answer: (d) 1, 2 and 3**

9. 20th International Tipitaka Chanting Ceremony Begins in Bodhgaya: Global Buddhist Communities Unite for Peace & Heritage Preservation



Why in the news?

- The **20th International Tipitaka Chanting Ceremony** is set to begin at **Bodhgaya, Bihar**, the holiest site of Buddhism where Gautama Buddha attained enlightenment under the Bodhi Tree.
- The annual ceremony brings together **thousands of monks, nuns, and practitioners** from over **20 countries**, reciting the ancient **Pali Canon (Tipitaka)** to promote global peace, cultural unity, and preservation of Buddhist textual heritage.

What is the Tipitaka? (Pali Canon)

Division	Meaning	Contents
Vinaya Pitaka	Discipline	Rules for monastic order (Sangha)
Sutta Pitaka	Teachings	Discourses of Buddha
Abhidhamma Pitaka	Higher doctrine	Philosophical & psychological analysis

It is the **earliest surviving Buddhist scripture**, preserved in Pali.

Why the Ceremony Matters

✓ Cultural preservation

Reinforces oral tradition – the original method of transmitting Buddhist teachings.

✓ International Buddhist unity

Brings participants from:

- Sri Lanka
- Myanmar
- Thailand
- Cambodia
- Laos
- Japan
- South Korea
- Vietnam

- Nepal
- India

✓ Boosts India's soft power

Strengthens India's civilisational leadership in Buddhism.

✓ Promotes peace & meditation

Collective chanting is seen as a spiritual offering for global harmony.

✓ Strengthens tourism economy

Bodhgaya attracts lakhs of domestic & foreign pilgrims.

About Bodhgaya: UNESCO World Heritage Site

Feature	Details
Key Site	Mahabodhi Temple Complex
Significance	Buddha's Enlightenment
UNESCO Tag	2002
Key Sites Here	Bodhi Tree, Vajrasana, Animesh Lochana

It is considered the **most sacred pilgrimage site** for Buddhists across the world.

Key Highlights of the 20th Edition

- Week-long chanting of **selected Sutta passages**
- Full recitation of **Vinaya, Sutta & Abhidhamma sections**
- Cultural events:
 - Buddhist art exhibitions
 - Meditation camps
 - Dhamma discourses
 - Peace prayer marches
- Participation of eminent **Mahasangha** from Southeast Asia



- Global chanting coordinated under the **International Tipitaka Chanting Council**

India's Role in Global Buddhist Diplomacy

India is promoting:

- **Buddhist Circuit** (Bodhgaya, Sarnath, Kushinagar, Lumbini linkage)
- **Centre for Buddhist Studies & Pali Research**
- Revival of **Nalanda University**
- Global Buddhist summits hosted by India

This ceremony reinforces India's leadership in **Dhamma diplomacy**.

Challenges Ahead

- Infrastructure strain during peak pilgrimage
- Preservation of the Bodhi Tree & temple complex
- Balancing tourism with serenity
- Need for better crowd-management tech
- Documentation & digital preservation of chanting traditions.

Previous Year Style Mains Question

"Discuss the significance of Bodhgaya in Buddhist tradition. How do international cultural events like the Tipitaka Chanting Ceremony strengthen India's cultural diplomacy?"

PadhAI-Generated UPSC Practice MCQ

With reference to the Tipitaka and its recitation traditions, consider the following statements:

1. The Tipitaka is written in the Pali language and includes Vinaya, Sutta, and Abhidhamma Pitakas.
2. Bodhgaya is the site of the First Buddhist Council where the Tipitaka was first compiled.
3. The International Tipitaka Chanting Ceremony is organised annually with participation from multiple Buddhist-majority countries.

Which of the above statements are correct?

- (a) 1 and 2 only
(b) 1 and 3 only
(c) 2 and 3 only
(d) 1, 2 and 3

 **Correct Answer: (b) 1 and 3 only**

Statement 2 is incorrect → The First Buddhist Council was held at **Rajgir (Rajagaha)**, not Bodhgaya.

10. Gujarat's Ambaji Marble Receives GI Tag: Boost to Traditional Craft, Mining Heritage & Local Livelihoods.

Why in the news?

- Gujarat's famous **Ambaji Marble**, known for its pristine white texture and superior strength, has officially received a **Geographical Indication (GI) Tag**. This recognition protects the identity of the marble, boosts the local economy, preserves traditional mining practices, and prevents misuse of the "Ambaji" name by counterfeit producers.



What is Ambaji Marble?

Feature	Description
Location	Ambaji region, Banaskantha district, Gujarat
Key Traits	Pure white colour, fine grain, high durability, smooth polish
Use	Temples, monuments, flooring, sculptures
Historical Value	Used widely in traditional Gujarati architecture



The marble is extracted from the **Aravalli geological belt**, making it geologically unique.

Why GI Tag Was Granted

✓ Unique Geological Composition

Rich calcium carbonate layers with uniform crystalline structure.

✓ Long History of Use

Traditional temples, palaces, and monuments in Gujarat feature Ambaji marble.

✓ Risk of Fake Products

Markets were flooded with cheaper substitutes from Rajasthan and abroad falsely sold as “Ambaji marble”.

✓ Protection for Local Miners & Artisans

GI ensures better prices, brand identity, and export potential.

Benefits of the GI Tag

Protection Against Misuse

Only certified producers from Ambaji region can use the name legally.

Boost to Local Employment

Miners, artisans, polishers, transporters, and traders benefit.

Global Market Visibility

Premium marble buyers from Middle East, Europe, and Southeast Asia often prefer GI-tagged stones.

Preservation of Craft & Mining Traditions

Youth involvement in stone-craft increases as it becomes a recognised skill sector.

Improved Quality Standards

Producers must follow GI norms for extraction, cutting, and finishing.

Cultural & Architectural Significance

Ambaji marble is widely used in:

- Jain and Hindu temple construction
- Pillars, toranas, sculptures
- Modern architecture for aesthetic interiors

It is regarded as a **symbol of purity** in many Gujarati cultural traditions.

Challenges Ahead

- Sustainable mining concerns
- Need for scientific restoration of abandoned pits
- Competition from synthetic marble
- Market monopolies by large contractors
- Regulation of pricing after GI protection

About GI Tags

- Governed by **Geographical Indications of Goods (Registration and Protection) Act, 1999**
- Administered by **Geographical Indications Registry, Chennai**
- Protects products originating from a specific region due to unique qualities or reputation
- Examples: Pochampally Ikat, Kanchipuram Silk, Banarasi Saree, Makrana Marble

Ambaji Marble now joins the list of **GI-tagged stones** like Makrana Marble (used in Taj Mahal).

Previous Year Style Mains Question

“Geographical Indication (GI) tags help preserve cultural identity while promoting economic development. Discuss with reference to the recent GI tagging of Ambaji Marble.”

PadhAI-Generated UPSC Practice MCQ

With reference to Ambaji Marble and GI Tags in India, consider the following statements:

1. Only marble extracted and processed within the Ambaji region of Gujarat can legally use the GI label.
2. GI tags in India are granted under the Intellectual Property Rights framework administered by the Registrar of Trademarks, Chennai.
3. Ambaji Marble has geological origins in the Aravalli range.

Which of the above statements are correct?

(a) 1 and 2 only



- (b) 1 and 3 only
- (c) 2 and 3 only
- (d) 1, 2 and 3

✓ **Correct Answer: (d) 1, 2 and 3**



SOCIETY SOCIAL ISSUE



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1. Online Abuse of Women Journalists: A Serious Threat to Press Freedom and Democracy

Why in the news?

- The rise of **online abuse, harassment, stalking, coordinated trolling, and gendered disinformation** targeting women journalists has emerged as one of the most alarming threats to **press freedom, gender equality, mental health, and democratic discourse** in India and across the world.

What Forms Does Online Abuse Take?

✓ Gendered abuse & sexual threats

Insults, slurs, rape threats, “morphing”, and derogatory comments.

✓ Doctored images & deepfakes

AI-generated images/videos used to shame journalists or distort credibility.

✓ Coordinated trolling campaigns

Organised attacks by bots, troll farms, and political/ideological groups.

✓ Doxxing

Publishing private information like phone numbers, addresses, or family details.

✓ Threats to physical safety

Women receive threats of stalking, harm, or violence if they cover sensitive topics.

✓ Cyberstalking and repeated intimidation

Persistent tracking or messaging aimed at creating fear.

Why Are Women Journalists Targeted More?

Gender Bias + Public Presence

Women in public roles traditionally face:

- patriarchal backlash
- questioning of professionalism
- character attacks

Covering Politically Sensitive Topics

Reporting on:

- gender issues
 - minorities
 - human rights
 - corruption
 - political commentary
- often triggers targeted online hostility.

“Double Threat”: Gender + Profession

They face sexism as women and hostility as independent journalists.

High Visibility on Social Media

Active digital presence makes women journalists more

vulnerable to large-scale attacks.

Impact on Society, Media, and Democracy

Chilling Effect on Free Speech

Women journalists self-censor, avoid sensitive stories, or leave the profession.

Mental Health Consequences

Online violence leads to:

- anxiety
- depression
- burnout
- trauma
- fear of physical harm

Weakening of Investigative Journalism

Targeted harassment discourages deep reporting on crucial topics.

Threat to Democratic Debate



Silencing journalists reduces independent voices and erodes democratic accountability.

Marginalisation of Women's Perspectives

When women withdraw from public conversation, society loses diverse viewpoints.

Existing Laws & Gaps

✓ Laws available

- *IT Act 2000 (Sections 66A, 67, 67A)** (*66A struck down in 2015 but still misused)
- **IPC Sections 354D (stalking), 507 (anonymous threats), 499/500 (defamation)**
- **POSH Act – when harassment is workplace-linked**

✓ Gaps

- delayed cyber-police response
- limited gender-sensitive digital policing
- low conviction rates
- lack of platform accountability
- inadequate reporting mechanisms

What Needs to Be Done?

Stronger digital safety mechanisms

- fast-track cyber cells
- protection protocols for journalists
- gender-sensitive investigators

Accountability of social media platforms

Strict compliance with:

- takedown timelines
- anti-bot measures
- AI flagging of gendered abuse
- traceability of coordinated attacks

Legal reforms

Clear definitions of:

- cyber harassment
- digital sexual violence
- malicious deepfakes

Newsroom-level support

- mental health counselling
- legal aid
- digital security training
- safe reporting mechanisms

Public awareness campaigns

Reduce normalisation of online misogyny.

Previous Year Question (GS Paper II – 2020)

"Discuss the challenges faced by women in digital spaces and suggest measures to ensure their safety and participation."

PadhAI generated practice MCQ

Consider the following statements related to online abuse of women journalists:

1. Online harassment can lead to a chilling effect on press freedom.
2. Most attacks are gender-neutral and do not include sexualised abuse.
3. Coordinated trolling campaigns often involve bot accounts and anonymous networks.

Choose the correct answer:

- (a) 1 and 2 only
- (b) 1 and 3 only
- (c) 2 and 3 only
- (d) 1, 2 and 3

✓ **Correct Answer: (b) 1 and 3 only**

Explanation: Statement 2 is incorrect—attacks are *highly gendered and sexualised*.

PadhAI insight

Possible Mains questions:

- "Examine how online gender-based violence threatens press freedom in India."
- "Discuss the role of digital platforms in addressing harassment faced by women journalists."
- "How can governance frameworks ensure safer online spaces for women?"

2. Workplace Stress & the Diabetes Epidemic in India

Why in the news?



- India is witnessing a **rapid rise in diabetes**, now considered a **public health emergency**. While genetics, diet, and lifestyle are well-known risk factors, recent studies highlight a critical but under-recognised driver: **workplace stress**.
- Long working hours, high job insecurity, poor work-life balance, and a sedentary professional culture are contributing significantly to India's growing diabetes burden.
- India is now home to **over 11 crore diabetics**, with a steep rise among **young and working-age adults (25–45 years)**.

Why Workplace Stress Is a Major Factor

Prolonged Working Hours & Sedentary Lifestyle

- Employees sit for 8–12 hours/day.
- Minimal physical activity, long commutes.
- Late working hours → erratic meals & poor sleep.

Outcome: Insulin resistance increases → higher risk of Type-2 diabetes.

High Job Insecurity & Performance Pressure

The Indian workforce faces:

- contract-based jobs
- competitive targets
- fear of layoffs
- financial stress
- digital surveillance in workplaces

This triggers **chronic cortisol elevation**, which directly promotes:

- abdominal fat
- increased blood sugar
- poor metabolic health

“Always-On” Culture & Digital Burnout

Smartphones, emails, and remote work have created 24×7 accessibility pressure.

Result:

- disrupted circadian rhythm
- poor sleep quality
- hormonal imbalance
- increased appetite and cravings

All are strong predictors of diabetes.

Emotional Eating & Caffeine Dependence

Work stress leads to:

- overeating junk food
- reliance on sugary drinks
- excessive caffeine
- meal skipping followed by binge eating

This creates dangerous glucose spikes and long-term metabolic dysfunction.

Lack of Healthy Work Environments

Most workplaces still lack:

- nutrition policies
- healthy canteen options
- standing desks
- built-in physical activity breaks
- mental health services

The Larger Public Health Context

India's diabetes epidemic is driven by:

- urbanisation
- unhealthy diets
- low physical activity
- rising obesity
- pollution exposure
- genetic susceptibility

But **workplace stress** is accelerating the condition among young professionals far earlier than before.

Consequences for India

Declining Workforce Productivity

Diabetes leads to:

- fatigue
- absenteeism
- medical leave
- reduced cognitive performance

Higher Healthcare Costs

Chronic lifestyle diseases impose major financial burdens on families and the health system.

Rising Cardiovascular Risk



Diabetes + stress = increased chances of:

- heart attack
- stroke
- hypertension

Intergenerational Impact

Stress-driven diabetes in young adults increases risk among future generations due to epigenetic changes.

What India Needs to Do

✓ 1. Adopt Workplace Wellness Policies

- Mandatory 10-minute movement breaks every 2 hours
- Flexible scheduling
- Stress management programmes

✓ 2. Promote Healthy Food Environments

- regulate workplace cafeterias
- eliminate trans-fats
- promote healthy snacks
- water-first policies

✓ 3. Mental Health Support

- counselling services
- burnout screening
- workload management

✓ 4. Digital Detox Guidelines

- "Right to Disconnect" norms
- limits on late-night messaging
- balanced remote work policies

✓ 5. National-Level Interventions

- integration of stress screening under NDHM
- insurance incentives for health programmes
- mass campaigns for lifestyle disease prevention

Previous Year Question (GS III – 2018)

"Lifestyle diseases are on the rise in India. Examine the causes

and suggest solutions."

PadhAI generated practice MCQ

Consider the following statements regarding workplace stress and diabetes in India:

1. Chronic workplace stress increases cortisol, which contributes to insulin resistance.
2. Young professionals are increasingly affected due to sedentary work culture.
3. Workplace regulations in India mandate stress screening in all private companies.

Choose the correct answer:

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

✓ **Correct Answer: (a) 1 and 2 only**

Explanation:

India does NOT have mandatory workplace stress-screening laws → Statement 3 is incorrect.

PadhAI insight

Likely UPSC Mains questions:

- "Discuss the link between workplace stress and the rise of diabetes in India."
- "How can India address lifestyle disorders among its working population?"
- "Evaluate the impact of modern work culture on public health."

3. Why Does India's Road Safety System Keep Failing?

Why in the news?

- Despite repeated interventions, stricter laws, awareness campaigns, and improved infrastructure spending, **India continues to record the world's highest number of road accident deaths—over 1.8 lakh fatalities annually.**
- This persistent crisis raises a critical question: **Why does India's road safety system keep failing?**

1. Poor Road Engineering & Design

✓ **Dangerous road curves, blind spots, and unscientific speed breakers**



Many roads are built without safety audits or engineering standards.

✓ Lack of pedestrian infrastructure

Absence of:

- footpaths
- zebra crossings
- pedestrian signals
- overbridges

✓ Bad signage & lighting

Poor visibility causes night-time accidents (over 40% of deaths).

✓ Highway design prioritises speed, not safety

Wide, high-speed highways without adequate crash barriers or rumble strips.

2. Weak Enforcement of Traffic Laws

✓ Low enforcement capacity

Limited manpower, outdated equipment, and lack of training.

✓ Culture of non-compliance

Frequent violations:

- speeding
- drunk driving
- red-light jumping
- wrong-side driving
- triple-riding

✓ Penalty evasion

Bribery, weak policing, and corruption undermine deterrence.

✓ Poor regulation of commercial transport

Overloaded trucks, poorly maintained buses, and illegal passenger vehicles.

3. Vehicle Safety Standards Remain Weak

✓ Slow adoption of global safety norms

India lags in:

- mandatory six airbags
- crash-test compliance
- advanced driver-assistance systems (ADAS)

✓ Cheaper models lack basic safety

Many mass-selling cars score **0–1 stars** in crash tests.

✓ Heavy vehicles lack monitoring

No universal monitoring for speed governance or fatigue management.

4. Behavioural Factors & Risky Driving Culture

✓ High tolerance for violations

Traffic rules seen as “optional”.

✓ Low helmet & seatbelt usage

Rear seat passengers often neglect belts; two-wheeler riders avoid helmets.

✓ Fatigue driving

Especially common among truck drivers and long-distance transport workers.

✓ Rising smartphone distraction

Messaging, recording reels, and using navigation apps while driving.

5. Broken Emergency Response System

✓ Slow ambulance arrival times

Lack of integrated emergency networks.

✓ Bystander hesitation

Fear of police harassment despite Good Samaritan guidelines.

✓ Poor trauma care readiness

Only a small portion of hospitals have well-equipped trauma centres.

This leads to **high preventable mortality**.



6. Fragmented Governance & Lack of Coordination

✓ Road safety spread across many departments:

- Transport
- Police
- NHAI
- Urban development
- Health
- State authorities

No single accountable authority.

✓ Poor implementation of Motor Vehicles (Amendment) Act, 2019

Many states diluted penalties or refused to adopt the reforms.

✓ Lack of data accuracy

Underreporting of accidents hides the true scale of the problem.

7. Urban Planning Gaps

✓ Roads designed for vehicles, not people

Pedestrians, cyclists, and disabled persons remain unsafe.

✓ Congestion encourages risky behaviour

Wrong-side driving, over-speeding, honking competition.

✓ Poor last-mile connectivity

Encourages illegal auto routes and unsafe shared vehicles.

8. Policy Without Execution

India has several road safety policies, but:

- little enforcement
- weak monitoring
- inadequate funding at local levels
- poor accountability

Campaigns raise awareness, but **structural reforms remain incomplete**.

Comparison With Global Best Practices

Countries with low road deaths (Sweden, Japan, UK) focus on:

- Vision Zero approach (zero-death target)
- strict law enforcement
- road design for pedestrians & cyclists
- universal safety standards
- trauma care networks
- behaviour change campaigns

India's system lacks this integrated, scientific approach.

Previous Year Question (GS III – 2022)

“Discuss the causes of rising road accidents in India and suggest measures to reduce them.”

PadhAI generated practice MCQ

Which of the following are key reasons for India's recurring road safety failures?

1. Poor road engineering and weak safety audits
2. Low vehicle safety standards and inadequate enforcement
3. Strong emergency trauma care network nationwide

Choose the correct answer:

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

✓ **Correct Answer: (a) 1 and 2 only**

Explanation: India does **not** yet have a strong trauma care network → Statement 3 is incorrect.

PadhAI insight

Likely UPSC questions:

- “Why does India continue to record such high road fatalities? Analyse.”
- “Discuss how road design and enforcement contribute to road safety challenges.”
- “Explain the Safe System Approach and its relevance for India.”

4. Unions Slam Labour Policy for Ignoring ‘Ground Realities’

Why in the news?

- Trade unions across India have sharply criticised the government's ongoing labour reform measures—particularly the consolidation of labour



laws into four labour codes—arguing that the new policies **ignore ground realities**, weaken worker protections, and shift the balance of power heavily towards employers.

What Are the Labour Codes?

The government merged 29 labour laws into **4 labour codes**:

- **Code on Wages (2019)**
- **Industrial Relations Code (2020)**
- **Social Security Code (2020)**
- **Occupational Safety, Health & Working Conditions (OSH) Code (2020)**

These seek to simplify compliance, boost investment, and improve ease of doing business.

But trade unions argue that the codes prioritize employers' flexibility over workers' rights.

Why Are Unions Criticising Labour Policy?

Rising Informalisation Not Addressed

Over **90% of India's workforce** is informal.

Unions say the labour policy:

- does not cover gig/platform workers adequately
- excludes many contract and unorganised workers
- fails to ensure universal minimum wages
- increases vulnerability to exploitation

Dilution of Worker Protections

Key concerns include:

- Higher thresholds for layoffs/closures without government approval
- Easier hire-and-fire policies under the Industrial Relations Code
- Weakening of trade union bargaining power
- Reduced inspections, moving to **self-certification**, which unions say promotes violations

Gig & Platform Workers Still on the Fringe

Despite recognition in the Social Security Code, unions argue:

- there is no fixed employer liability
- social security is vague and unfunded
- no guaranteed health or accident benefits

- platforms evade accountability

Wages & Social Security Concerns

Unions highlight:

- slow minimum wage revision
- lack of universal pension/security
- inadequate coverage of migrant workers
- no guaranteed pay standards for the informal sector

Ground-Level Implementation Gaps

Unions note:

- poor staffing in labour departments
- weak digital infrastructure for compliance
- lack of grievance redressal mechanisms
- employers bypassing laws through contract agencies

Context: Why Labour Issues Are Rising Now

India's labour market is dealing with:

- high youth unemployment
- stagnant manufacturing job creation
- post-pandemic income shocks
- the rise of gig economy and platform-based work
- automation and AI-driven job disruptions

Unions argue the labour codes don't reflect these "ground realities".

Implications for India

✓ Impact on Worker Welfare

Diluted protections may worsen exploitation and stress.

✓ Impact on Industrial Peace

Weaker collective bargaining can lead to protests, strikes, disruptions.

✓ Impact on Economic Productivity

Precarious work reduces morale, productivity, and long-term workforce stability.

✓ Social Inequality Risks

Lack of universal minimum wages may widen inequality.





Previous Year Question (GS III – 2021)

“Discuss the challenges of labour reforms in India. Do recent labour codes address or aggravate these issues?”

This topic fits perfectly as a case study.

PadhAI generated practice MCQ

With reference to recent labour reforms in India, consider the following statements:

1. The Industrial Relations Code raises the threshold for layoffs without government approval.
2. The Social Security Code guarantees universal health insurance for all gig workers.
3. The labour codes reduce the scope of mandatory labour inspections.

Choose the correct answer:

- (a) 1 and 2 only
- (b) 1 and 3 only
- (c) 2 and 3 only
- (d) 1, 2 and 3

✔ **Correct Answer: (b) 1 and 3 only**

Explanation:

Statement 2 is incorrect — gig worker protections are recognised but *not guaranteed* universally.

PadhAI insight

Potential UPSC Mains questions:

- “Why do labour reforms in India face resistance from workers’ unions? Discuss.”
- “Examine the labour codes in the context of ease of doing business vs worker rights.”
- “Does India’s labour policy reflect modern employment realities?”

5. Obscenity Guidelines for Online Content Proposed: Centre Moves to Strengthen Digital Safety & Accountability

Why in the news?

- The Government of India has proposed **new obscenity guidelines for online content**, aimed at regulating sexually explicit, vulgar, harmful, or degrading material across **OTT platforms**,

social media, short-video apps, and digital news portals.

- The move comes amid rising concerns about **youth exposure, deepfake pornography, misuse of generative AI**, and lack of clarity in what qualifies as “obscene” under the IT Rules and IPC provisions.

context:

- Complaints of **sexualised content**, “borderline pornography,” and vulgarity increasing on OTT & social platforms.
- Rise of **AI-generated obscene deepfakes** involving celebrities, journalists & minors.
- Supreme Court flagged the need for **clear standards** for evaluating obscenity online.
- Government planning amendments to **IT Rules 2021** + new **content classification norms**.
- Parliamentary committee urged stronger action against platforms failing to remove obscene content.

What the New Proposed Guidelines Aim to Do

Define Obscenity Clearly

To remove ambiguity in what counts as:

- sexually explicit
- vulgar
- degrading
- harmful to minors
- non-consensual sexual imagery

Mandatory Classification System (Like Films)

Platforms must label content by:

- Age suitability
- Explicit content warnings
- Language, nudity, sexual depiction

Stricter Rules for AI-Generated Content

Platforms must prevent:

- AI deepfake pornography
- Morphing of images



- Non-consensual sexual content of women

Stronger Grievance Redressal

- 24-hour takedown for obscene or non-consensual sexual content
- Faster action for content involving minors

Responsibility of Creators & Platforms

Creators may be held liable for obscene online content under:

- **IT Act Section 67/67A**
- **IPC Section 292**
- **POCSO (if minors involved)**

Preventing Obscenity Under “Safe Harbor”

Platforms **lose safe harbor protection** if they:

- knowingly host obscene content
- fail to remove flagged content in time
- algorithmically promote harmful material

Legal Basis for Regulating Obscenity

✓ Information Technology Act, 2000

- **Section 67** – Publishing obscene content
- **Section 67A** – Sexually explicit acts
- **Section 67B** – Child sexual depiction

✓ Indian Penal Code (IPC 292–294)

Defines & penalizes obscenity.

✓ IT Rules, 2021

Require platforms to:

- classify content
- remove harmful material
- appoint grievance officers

✓ POCSO Act

Zero tolerance for content depicting minors.

Why India Needs Obscenity Guidelines Now

- High consumption of sexually explicit content by teens
- Algorithmic recommendation boosting harmful content
- Viral deepfake scandals
- Sexualised portrayals of women on OTT & short-video apps
- Lack of parental controls
- Growing mental health impact on children

Previous Year Style Mains Question

“The challenge of obscenity in online content raises critical questions about freedom of expression, public morality, and digital safety. Discuss the constitutional and governance dimensions of regulating obscenity on digital platforms in India.”

PadhAI-Generated UPSC Practice MCQ

With reference to online obscenity regulation in India, consider the following statements:

1. Under the IT Act, “safe harbor” protection is lost if a platform fails to remove flagged obscene content within the prescribed time.
2. IPC Section 292 provides legal definition of obscenity.
3. The new proposed guidelines mandate age classification of all online content, similar to film certification.

Which of the statements given above are correct?

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

✓ Correct Answer: (d) 1, 2 and 3)

6.PAC Questions FSSAI on Adulterated Food Sale: Parliamentary Panel Flags Weak Enforcement & Rising Public Health Risks



Why in the news?

- The **Public Accounts Committee (PAC)** has raised serious concerns about the functioning of the **Food Safety and Standards Authority of India (FSSAI)** after multiple reports revealed widespread **food adulteration**, poor enforcement of safety standards, and weak testing infrastructure across states.
- The panel questioned FSSAI over **lax inspections**, **outdated labs**, **low conviction rates**, and the rise of **unsafe packaged and street foods**, putting millions at health risk.

Context

- PAC reviewed CAG audit findings on FSSAI's performance.
- Found **40%+ food samples adulterated** in some states.
- Testing infrastructure insufficient for growing food market.
- Low penalties encourage repeat violators.
- Online platforms & unregulated cloud kitchens pose new risks.
- Public health experts warn of rising lifestyle diseases linked to unsafe foods.

Key Concerns Raised by PAC

Weak Surveillance & Testing

- Only **1 food testing lab per 2–3 crore population**.
- Many labs operate without full accreditation.
- Lack of modern equipment for pesticide & toxin detection.

Poor Enforcement & Conviction Rates

- Less than **10% cases result in conviction**.
- Improper follow-up on repeat offenders.
- States fail to implement FSSA Act uniformly.

Understaffing Across States

- Food Safety Officers (FSOs) far below required ratio.
- Inspections declining despite growing food markets.

Gaps in Online Food Regulation

- Cloud kitchens and aggregator platforms not fully monitored.
- No mandatory hygiene ratings for online sellers.

High Levels of Adulteration

Common adulterated items:

- Milk (detergent, urea, starch)
- Edible oils (mineral oil, palmolein)
- Spices (synthetic dyes, Sudan dye)
- Sweets (chemical colours)
- Packaged foods (misbranding, excess salt & sugar)

What FSSAI Told PAC

- Heavy dependence on **state enforcement**, not central authority.
- Efforts underway to upgrade labs & hire more FSOs.
- Draft rules for **front-of-pack labeling (FOPL)** being finalised.
- Plan to strengthen testing of imported food items.
- New digital platforms to track violations nationwide.

Legal Framework

Food Safety and Standards Act, 2006 (FSSA)

- Creates FSSAI as apex body.
- Ensures safe, wholesome food.
- Lays down standards, licensing & penalties.

Penalties Include:

- Adulteration → fines + imprisonment
- Misbranding → product recall
- Unsafe food → cancellation of license

Why Food Adulteration is a Serious Public Health Threat



- Causes **cancer, kidney damage, heart disease, infertility**.
- Synthetic dyes can cause neurological issues in children.
- Contaminated edible oils linked to hypertension & diabetes.
- Highly unsafe during festive seasons due to mass production.

Statement 3 is incorrect → Food safety enforcement is primarily **state-driven**, not centralised.

Challenges Ahead

- Weak coordination between Centre & states.
- Resistance from business lobbies to stricter penalties.
- Lack of awareness among street vendors & small businesses.
- Rapid expansion of digital food economy.
- Need for scientific manpower & modern testing systems.

Previous Year Style Mains Question

“Food adulteration is both a governance and public health crisis. Critically evaluate the role of FSSAI in ensuring food safety in India in the light of recent concerns raised by the Public Accounts Committee.”

PadhAI-Generated UPSC Practice MCQ

With reference to food safety regulation in India, consider the following statements:

1. FSSAI is a statutory body established under the Food Safety and Standards Act, 2006.
2. The Public Accounts Committee (PAC) examines audit reports submitted by the CAG.
3. State governments play no role in food testing since FSSAI centrally manages all labs.

Which of the above statements are correct?

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

 **Correct Answer: (a) 1 and 2 only**



PLACES IN NEWS



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1. TANZANIA – East Africa’s Emerging Maritime Partner

Why in the news?

- India and Tanzania deepened strategic ties under the **Maritime Partnership Agreement (2025)**, enhancing cooperation in **defense, trade, and digital technology**.
- India extended satellite-based communication training and fintech solutions via the **Pan-Africa e-Network Project**.
- Tanzania’s geographic location makes it central to **Blue Economy initiatives** and the **Western Indian Ocean maritime strategy**.

Location Overview:

Tanzania is located in **East Africa**, bordered by:

- North:** Kenya and Uganda
- West:** Rwanda, Burundi, and the Democratic Republic of Congo (across Lake Tanganyika)
- South:** Zambia, Malawi, and Mozambique
- East:** Indian Ocean

Map-Based UPSC Practice Question

Q. Which of the following features are correctly matched with their geographical location in Tanzania?

- Mount Kilimanjaro – Northern Tanzania
- Lake Tanganyika – Western border
- Dar es Salaam – Inland city near Zambia border
- Zanzibar – Island off the east coast

Select the correct answer using the code below:

- (a) 1, 2 and 4 only
(b) 1, 3 and 4 only
(c) 2, 3 and 4 only
(d) 1, 2, 3 and 4

✓ **Answer:** (a) 1, 2 and 4 only

PadhAI Explanation:

Dar es Salaam lies on the *coastline*, not inland; Mount Kilimanjaro is in the north near Kenya; Lake Tanganyika defines the western border; Zanzibar lies off Tanzania’s east coast.

PadhAI insight

This topic intersects **GS Paper I (Geography)** and **GS Paper II (India–Africa Relations)**.

UPSC may ask location-based or map-identification questions linking Tanzania with **IORA**, **EAC**, or **India’s maritime diplomacy**.

2. SUDAN – Conflict at the Crossroads of Africa and the Middle East

Why in the news?

- Ongoing fighting, humanitarian atrocities, and failed ceasefire attempts mark the latest developments in Sudan’s civil war.
- The conflict, which began in April 2023, pits the Sudanese Armed Forces (SAF) against the Rapid Support Forces (RSF), leading to a massive displacement crisis and escalating famine.

Location Overview:

Sudan lies in **North-East Africa**, bordered by:

- North:** Egypt
- East:** Red Sea and Eritrea
- South:** South Sudan
- West:** Chad and Central African Republic
- Northwest:** Libya

It sits strategically between **Sub-Saharan Africa and the Middle East**, serving as a vital corridor for **Red Sea maritime trade routes** and regional connectivity.

Map-Based UPSC Practice Question

Q. Consider the following pairs:

- Khartoum – Confluence of Blue Nile and White Nile
- Port Sudan – Located on the Red Sea coast
- Darfur – Eastern Sudan region

Which of the pairs given above is/are correctly matched?

- (a) 1 and 2 only
(b) 2 and 3 only
(c) 1 and 3 only
(d) 1, 2 and 3

✓ **Answer:** (a) 1 and 2 only

PadhAI Explanation:

Darfur lies in **Western Sudan**, not the east. Khartoum’s river confluence and Port Sudan’s coastal position make them highly identifiable map questions.



3. ETHIOPIA – The Powerhouse of the Horn of Africa

Why in the news?

November 4, 2025, marked five years since the outbreak of the Tigray War. Despite the 2022 peace agreement, reports indicate that grave human rights violations, including conflict-related sexual violence, continue to affect victims in the region.

Location Overview:

Ethiopia is a **landlocked country** in the **Horn of Africa**, bordered by:

- **North:** Eritrea
- **East:** Djibouti and Somalia
- **South:** Kenya
- **West:** South Sudan and Sudan

It lies on the **Ethiopian Highlands**, the source of the **Blue Nile River**, which merges with the White Nile in Sudan to form the Nile, making Ethiopia central to **East Africa's hydropolitics**.

Map-Based UPSC Practice Question

Q. Consider the following statements:

1. Ethiopia is a landlocked country.
2. The Blue Nile originates from Lake Tana in Ethiopia.
3. Addis Ababa hosts the headquarters of the African Union.

Which of the statements given above is/are correct?

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

✓ **Answer:** (d) 1, 2 and 3

PadhAI Explanation:

All three statements are correct — Ethiopia is landlocked, Lake Tana is the Blue Nile's source, and Addis Ababa is Africa's diplomatic capital hosting AU and UNECA.

Previous Year Question (UPSC Prelims 2021)

With reference to the "Horn of Africa", consider the following countries:

1. Eritrea
2. Ethiopia
3. Somalia
4. Sudan

Which of the above are part of the Horn of Africa?

- (a) 1, 2 and 3 only
- (b) 1, 3 and 4 only
- (c) 2, 3 and 4 only
- (d) 1, 2, 3 and 4

✓ **Answer:** (a) 1, 2 and 3 only

PadhAI insight

This topic connects **GS Paper I (World Geography)** with **GS Paper II (International Relations)**. UPSC may frame questions on **hydropolitics (GERD)**, **Horn of Africa security**, or **India–Africa cooperation**. Ethiopia's geography also links with **Red Sea trade dynamics** and **African Union diplomacy**.

4. KUNAR RIVER – The Lifeline of Eastern Afghanistan

Why in the news?

• Location Overview:

The **Kunar River** flows through the rugged terrains of **eastern Afghanistan** and **north-western Pakistan**, serving as one of the key tributaries of the **Kabul River**, which eventually joins the **Indus River** in Pakistan.

- Originating in the **Hindu Kush mountains near Chitral**, it traverses southward through **Kunar and Nangarhar provinces**, forming a natural and strategic corridor between **Afghanistan and Pakistan**.

Map-Based UPSC Practice Question

Q. With reference to the Kunar River, consider the following statements:

1. It originates in the Hindu Kush mountains and flows southward into Afghanistan.
2. It is a major tributary of the Kabul River.
3. It ultimately drains into the Indus River system.

Which of the statements given above is/are correct?

- (a) 1 only
- (b) 1 and 2 only
- (c) 2 and 3 only
- (d) 1, 2 and 3

✓ **Answer:** (d) 1, 2 and 3

PadhAI Explanation:

The Kunar originates in the Hindu Kush near Chitral (Pakistan), flows through Afghanistan, merges with the Kabul River near Jalalabad, and forms part of the **Indus River basin**, making all statements correct.



Previous Year Question (UPSC Prelims 2015)

Consider the following rivers:

1. Mekong
2. Thames
3. Volga
4. Zambezi

Which of the above flows into the Indian Ocean?

- (a) 1 and 4 only
(b) 2 and 3 only
(c) 1, 2 and 4 only
(d) 2, 3 and 4 only

✓ **Answer:** (a) 1 and 4 only

PadhAI insight

The **Kunar River** integrates **GS Paper I (World Physical Geography)** and **GS Paper II (India–Neighbourhood Relations)**. UPSC may frame map-based or analytical questions on **transboundary rivers, Indus Basin geopolitics, or hydrological cooperation with Afghanistan**.

5. NICOBAR ISLANDS – India’s Strategic Frontier in the Bay of Bengal

Why in the news?

- The **Great Nicobar Project** aims to create a **transshipment port, dual-use airfield, and green township**, improving India’s logistical presence near the **Malacca Strait**.
- The project has raised **ecological concerns** regarding **tropical rainforests, mangroves, and tribal habitats (Shompens & Nicobarese)**.
- India is balancing **strategic infrastructure** with **sustainability goals** under the *Blue Economy* framework and *Environmental Impact Assessment (EIA)* guidelines.

Location Overview:

The **Nicobar Islands** form the southern part of the **Andaman and Nicobar archipelago**, located in the **southeastern Bay of Bengal**.

- **To the north:** Andaman Islands
- **To the south:** Indonesia’s Sumatra Island (separated by the **Great Channel**)
- **To the west:** Indian Ocean
- **To the east:** Andaman Sea

The archipelago serves as India’s **maritime gateway to Southeast Asia** and a linchpin of India’s **Indo-Pacific strategy**.

Map-Based UPSC Practice Question

Q. With reference to the Nicobar Islands, consider the following statements:

1. Indira Point is located on Great Nicobar Island.
2. The Great Channel separates the Nicobar Islands from Myanmar.
3. The Nicobar Islands are closer to Indonesia than to mainland India.

Which of the statements given above is/are correct?

- (a) 1 and 3 only
(b) 2 and 3 only
(c) 1 and 2 only
(d) 1, 2 and 3

✓ **Answer:** (a) 1 and 3 only

PadhAI Explanation:

Indira Point lies at the southern tip of Great Nicobar; the **Great Channel** separates it from Indonesia’s Sumatra, not Myanmar. Nicobar Islands lie just ~150 km from Sumatra but ~1,200 km from mainland India.

Previous Year Question (UPSC Prelims 2014)

In which of the following regions of India are you most likely to come across the “Shompens” tribe?

- (a) Nilgiri Hills
(b) Nicobar Islands
(c) Lakshadweep Islands
(d) Thar Desert

✓ **Answer:** (b) Nicobar Islands

PadhAI insight

Nicobar’s strategic location makes it a **maritime keystone** for India’s **Act East Policy, SAGAR Vision, and Indo-Pacific naval presence**.

UPSC may link questions to **tribal conservation, blue economy, and strategic infrastructure development** – blending GS Paper I (Geography), GS Paper II (International Relations), and GS Paper III (Environment).

6. PHILIPPINES – The Frontline State in the South China Sea Dispute

Why in the news?

- On October 30 and 31, the Philippines conducted a joint patrol in the South China Sea alongside Australia, New Zealand, and the United States.
- China’s military tracked the patrol and accused the Philippines of “seriously undermining regional peace and stability” by cooperating with other nations.



Location Overview:

- The **Republic of the Philippines** is an **archipelagic nation** in **Southeast Asia**,
- located between the **Philippine Sea (east)** and the **South China Sea (west)**.
It comprises over **7,600 islands**, divided into three main regions:
- **Luzon (North)** – includes capital *Manila*
- **Visayas (Central group)**
- **Mindanao (South)**

It shares maritime boundaries with **Taiwan (north)**, **Vietnam (west)**, **Malaysia (southwest)**, and **Indonesia (south)**.

Map-Based UPSC Practice Question

Q. With reference to the Philippines, consider the following statements:

1. It shares a land border with Malaysia and Vietnam.
2. The South China Sea lies to its west.
3. The Benham Rise lies to the east of Luzon Island.

Which of the statements given above is/are correct?

- (a) 1 and 2 only
 - (b) 2 and 3 only
 - (c) 1 and 3 only
 - (d) 1, 2 and 3
- ✓ **Answer:** (b) 2 and 3 only

PadhAI Explanation:

The Philippines has **no land borders**, being an archipelago; the **South China Sea** lies to its west, and **Benham Rise** (Philippine Rise) is to the east — both major strategic regions in maritime geopolitics.

Previous Year Question (UPSC Prelims 2016)

Which of the following are littoral states of the South China Sea?

1. Brunei
2. China
3. Indonesia
4. Malaysia
5. Philippines
6. Vietnam

- (a) 1, 2, 4, 5 and 6 only
- (b) 2, 3, 5 and 6 only
- (c) 1, 2, 3, 4, 5 and 6

(d) 1, 2, 4 and 5 only

✓ **Answer:** (a) 1, 2, 4, 5 and 6 only

PadhAI insight

The **Philippines** is critical for **GS Paper I (World Geography)** and **GS Paper II (International Relations)** – especially under *Indo-Pacific*, *UNCLOS*, and *India-ASEAN maritime cooperation*. UPSC may frame map-based or analytical questions on **South China Sea disputes**, **Blue Economy**, or **India's defense outreach in Southeast Asia**.

7. KUKI REGION – Ethnic Highlands of Manipur

Why in the news?

Location Overview:

- The **Kuki Region** refers to the **hill districts of southern and western Manipur**, inhabited predominantly by the **Kuki-Zo (Chin-Kuki-Mizo)** ethnic groups.
- Geographically, it lies along the **Indo-Myanmar border**, encompassing areas like **Churachandpur, Chandel, Tengnoupal, and Kangpokpi districts**.
These regions are part of the **Patkai and Lushai hill ranges**, forming a transition between India's **Northeast Hills** and **Myanmar's Chin Hills**.

Map-Based UPSC Practice Question

Q. With reference to the Kuki region, consider the following statements:

1. It lies in the hill districts of Manipur adjoining Myanmar.
2. The Kuki people belong to the larger Tibeto-Burman linguistic family.
3. The region forms part of the Patkai-Lushai hill system.

Which of the statements given above is/are correct?

- (a) 1 and 2 only
 - (b) 2 and 3 only
 - (c) 1 and 3 only
 - (d) 1, 2 and 3
- ✓ **Answer:** (d) 1, 2 and 3

PadhAI Explanation:

The Kukis are part of the **Chin-Kuki-Mizo ethnolinguistic group** under the Tibeto-Burman family; their homeland lies in the **Patkai-Lushai Hills**, bordering Myanmar, making all statements correct.



Previous Year Question (UPSC Prelims 2017)

Consider the following pairs:

1. Garos – Meghalaya
2. Khasis – Nagaland
3. Kukis – Manipur

Which of the pairs given above are correctly matched?

- (a) 1 and 3 only
- (b) 2 and 3 only
- (c) 1 and 2 only
- (d) 1, 2 and 3

✓ **Answer:** (a) 1 and 3 only

PadhAI insight

The **Kuki Region** links **GS Paper I (Geography – Tribal Distribution)**, **GS Paper II (Governance – Federal Issues)**, and **GS Paper III (Internal Security)**.

UPSC may ask map-based or analytical questions on:

- *Ethnic geography of Northeast India*
- *Indo-Myanmar border issues and migration*
- *Autonomous district demands and security implications*

8.CHABAHAR PORT (IRAN): India's Gateway to Central Asia, Bypassing Pakistan.

Why in the news?

- The **Chabahar Port**, located on the **Gulf of Oman** in southeastern Iran, has come back into news due to India-Iran renewed cooperation agreements and its rising strategic relevance amid global supply chain disruptions.
- It remains India's **only overseas port project** and a critical anchor for the **International North-South Transport Corridor (INSTC)** and access to **Afghanistan & Central Asia** without relying on Pakistan.

Map-Based Pointers

- **Iran** – Country where Chabahar Port is located
- **Gulf of Oman / Arabian Sea** – Water body on which the port sits
- **Chabahar City** – Port city in Sistan-Baluchestan Province
- **Shahid Beheshti Terminal** – India-developed terminal
- **Zaranj (Afghanistan)** – Linked via India-built **Zaranj-Delaram Highway**
- **INSTC Route** – Chabahar → Iran → Caspian Sea → Russia → Europe
- **Gwadar Port (Pakistan)** – China-built port located ~170 km east of Chabahar

- **Sistan-Baluchestan Province** – Border region containing the port
- **Bandar Abbas** – Iran's main port, located to the west

Why Chabahar Is in News Again

- India and Iran renewed a **long-term 10-year agreement** to operate the Chabahar port.
- Part of India's strategy to create **alternative trade routes** amidst Red Sea disruptions.
- Increasing importance for **Central Asian access**, especially to Turkmenistan, Uzbekistan & Kazakhstan.
- US signalled a **softer stance** on India's involvement despite Iran-related sanctions.
- India expanding its role in the **Shahid Beheshti Terminal** with new cranes & cargo systems.

India's Strategic Interests

Access to Afghanistan Without Pakistan

Chabahar → Zaranj → Delaram Highway → Kabul & beyond.

Gateway to Central Asia

Key link to:

- Turkmenistan
- Uzbekistan
- Kazakhstan
- Russia (via INSTC)

Balancing China's Influence

Located ~170 km from China-developed **Gwadar Port** in Pakistan.

Boost to Indian Trade

Reduces shipping time & costs to Europe and Russia.

Strengthening India-Iran Ties

Energy security, regional stability, and cultural links.

Economic Significance

- Cuts transportation cost to Central Asia by **up to 40%**.
- Facilitates export of:
 - pharmaceuticals
 - rice & wheat
 - machinery & automobiles
- Iran uses the port for economic revival amid sanctions.
- Expected to integrate with India's **Sagarmala** and **Maritime Vision 2047**.



Security & Geopolitical Dimensions

- Enhances India's presence in the **Indian Ocean Region (IOR)**.
- Counters China–Pakistan's **CPEC** corridor.
- Supports humanitarian supplies to Afghanistan.
- Provides India with a stable foothold in the Middle East.

Challenges

- US sanctions on Iran
- Slow pace of infrastructure development
- Regional instability in Sistan–Baluchestan
- High competition from Chinese-backed ports
- Iran's fluctuating domestic politics

Previous Year Style Mains Question

"Chabahar Port is not just a commercial project but a strategic asset for India's regional connectivity. Discuss its significance for India's economic and geopolitical interests."

PadhAI-Generated UPSC Practice MCQ

With reference to Chabahar Port, consider the following statements:

1. It provides India access to Afghanistan by bypassing Pakistan.
2. Chabahar Port is located on the Gulf of Oman in Iran's Sistan–Baluchestan province.
3. It is a part of the International North–South Transport Corridor (INSTC).
4. India jointly operates it with China as part of a trilateral agreement.

Which of the statements given above are correct?

- (a) 1, 2 and 3 only
(b) 1 and 4 only
(c) 2 and 3 only
(d) 1, 2, 3 and 4

✓ **Correct Answer: (a) 1, 2 and 3 only**

Statement 4 is incorrect → China has no involvement in Chabahar; its project is **Gwadar** in Pakistan.

9.MEKEDATU DAM: A Renewed Flashpoint in the Cauvery Water Dispute Between Karnataka & Tamil Nadu.

Why in the news?

- The proposed **Mekedatu Dam** across the **Cauvery River** in Karnataka has re-emerged in the news due to renewed political demand from Karnataka for project clearance and strong opposition from Tamil Nadu.
- The project is pitched as a **drinking water and balancing reservoir**, but critics argue it could affect downstream flows to Tamil Nadu, making it a **sensitive inter-state water dispute issue**.

MAP-BASED POINTERS

Mark the following for map-based questions:

- **Cauvery River** – Origin: Brahmagiri Hills (Kodagu, Karnataka)
- **Mekedatu** – A gorge in Ramanagara district, Karnataka
- **Kanakapura** – Nearest major town
- **Shivanasamudra** – Downstream from project site
- **Mettur Dam (Tamil Nadu)** – Major downstream reservoir dependent on Cauvery
- **Cauvery Basin States** – Karnataka, Tamil Nadu, Kerala, Puducherry
- **Biligiriranga Hills** – Western catchment area
- **Krishna Raja Sagara (KRS)** – Major upstream reservoir

Why Mekedatu Dam Is in the News

- Karnataka is pushing for **Central environmental & forest clearances**.
- Tamil Nadu argues the dam will **reduce mandated downstream flows**.
- Cauvery Water Management Authority (CWMA) reviewing submissions from both states.
- Political pressure ahead of elections in Karnataka and Tamil Nadu.
- Environmentalists warn that the reservoir will submerge parts of **Cauvery Wildlife Sanctuary**.

What is the Mekedatu Project?

Feature	Details
Type	Multi-purpose balancing reservoir



River	Cauvery
Location	Mekedatu gorge, Karnataka
Estimated Cost	₹9,000+ crore
Capacity	~67 TMC (approx.)
Purpose	Drinking water supply to Bengaluru + hydropower (400 MW proposed)
Status	Awaiting environmental & inter-state approval

Why Karnataka Wants the Dam

✓ To supply drinking water to Bengaluru

Rapid urbanisation → demand for stable water sources.

✓ Acts as a balancing reservoir

Helps regulate upstream releases to ensure compliance with Cauvery Tribunal orders.

✓ Hydropower potential

~400 MW clean energy generation.

✓ Reduce dependence on existing reservoirs

Like KRS and Kabini.

Why Tamil Nadu Opposes the Dam

Fear of Reduced Water Flow

TN claims Karnataka may **store water and delay releases**, harming agriculture in:

- Erode
- Salem
- Thanjavur (Delta region)

Violation of Tribunal & SC Orders

Cauvery Tribunal (2007) and SC (2018) mandate **uninterrupted flow** to TN.

Environmental Concerns

Submergence of parts of **Cauvery Wildlife Sanctuary**.

No Consent from Lower Riparian State

Inter-state river projects require concurrence from affected states.

Legal & Institutional Angle

Cauvery Water Disputes Tribunal (CWDT)

Final award in 2007 → allocated water among states.

Supreme Court (2018 Judgment)

Revised allocations; mandated Karnataka to release **177.25 TMC annually** to TN.

Cauvery Water Management Authority (CWMA)

Regulates reservoir releases & storage.

Environmental Clearances Required

- Forest clearance
- Wildlife clearance (since sanctuary area involved)
- MoEF&CC Stage-I approval

Environmental Concerns

- Submergence of forest areas in **Cauvery Wildlife Sanctuary**
- Habitat disruption for elephants, leopards, otters
- Loss of riverine ecology
- Risks to fish breeding patterns
- Possible displacement of forest-dependent communities

Previous Year Style Mains Question

“Inter-state river water disputes in India often arise from competing developmental needs and ecological constraints. Examine the Mekedatu Dam issue in the context of federalism and environmental governance.”

PadhAI-Generated UPSC Practice MCQ

With reference to the Mekedatu Dam, consider the following statements:





1. The dam is proposed on the Cauvery River in Karnataka's Ramanagara district.
2. The project requires the consent of Tamil Nadu before obtaining environmental clearance.
3. Mekedatu lies upstream of the Mettur Dam in Tamil Nadu.
4. The Cauvery Wildlife Sanctuary may be affected by the reservoir.

Which of the statements given above are correct?

- (a) 1, 3 and 4 only
 (b) 1, 2 and 3 only
 (c) 2, 3 and 4 only
 (d) 1, 2, 3 and 4

✓ **Correct Answer: (d) 1, 2, 3 and 4**

10. UKRAINE: Ongoing Conflict, Strategic Importance & India's Diplomatic Balancing



Why in the news?

- Ukraine remains prominently in global news due to the **continuing Russia-Ukraine conflict**, its humanitarian crisis, shifting European security structure, and the war's global impacts on **energy prices, food security, and geopolitics**.

MAP-BASED POINTERS

Mark these on a map for Prelims:

- Ukraine** – Country in Eastern Europe
- Capital** – Kyiv
- Important Rivers** – Dnieper, Dniester, Bug
- Black Sea** – Southern coastline
- Sea of Azov** – Connected via Kerch Strait
- Crimea Peninsula** – Annexed by Russia in 2014
- Donbas Region** – Donetsk + Luhansk (conflict zone)
- Neighbors** – Russia, Belarus, Poland, Slovakia, Hungary, Romania, Moldova
- Odessa Port** – Key grain export hub

- Zaporizhzhia** – Largest nuclear power plant in Europe

Why Ukraine Is in News (2024–25)

- Prolonged conflict between **Russia and Ukraine** continues with no major ceasefire.
- Significant global impact on **grain supply**, especially for Africa & Asia.
- Nuclear safety fears around **Zaporizhzhia Nuclear Plant**.
- Shifts in NATO and European defence spending.
- India's diplomatic balancing, humanitarian support & evacuation efforts.
- Gas pipeline disruptions affecting European energy security.

Strategic Importance of Ukraine

Food Security (Global)

Ukraine is large producer of:

- wheat
- corn
- sunflower oil
- barley

Disruptions affect global food prices.

Border with Russia & Europe

A geopolitical buffer between NATO and Russia.

Energy Transit Hub

Gas pipelines carrying Russian gas to Europe run through Ukraine.

Ports on the Black Sea

Odessa, Mariupol, Mykolaiv crucial for global trade.

Critical Minerals

Ukraine has reserves of:

- lithium
- rare earths
- titanium
- iron ore



Key Issues in the Ukraine Conflict

- Territorial disputes over **Crimea, Donbas, Kherson, Zaporizhzhia**
- NATO expansion concerns
- EU's strategic autonomy debates
- Humanitarian crisis (millions displaced)
- Drone-led warfare innovations
- Nuclear safety concerns

India's Position

✓ Neutral, balanced diplomacy

Calls for **dialogue & diplomacy**, avoids taking sides.

✓ Humanitarian aid

Medicines, relief supplies via Operation Ganga.

✓ Evacuation of Indian Students

Thousands evacuated from Kyiv, Kharkiv, and Sumy during early conflict.

✓ Trade Impact

- Fertilizer availability
- Edible oil imports
- Rising global inflation
- Defence and strategic calculations

✓ Support for global food security

India stressed the need to keep the **Black Sea Grain Corridor** functional.

Previous Year Style Mains Question

"The Russia-Ukraine conflict has reshaped global geopolitics, energy flows, and food security. Examine its implications for India's strategic and economic interests."

PadhAI-Generated UPSC Practice MCQ

With reference to Ukraine, consider the following statements:

1. Ukraine borders both the Black Sea and the Sea of Azov.
2. The Donbas region comprises the provinces of Donetsk and Luhansk.
3. Ukraine shares its longest land border with Poland.
4. Ukraine is a major global exporter of sunflower oil.

Which of the statements given above are correct?

- (a) 1, 2 and 4 only
- (b) 1 and 3 only
- (c) 2 and 3 only
- (d) 1, 2, 3 and 4

✓ **Correct Answer: (a) 1, 2 and 4 only)**

Statement 3 is incorrect → Ukraine's longest border is with **Russia**, not Poland.

11.KERCH STRAIT: Strategic Choke Point Between Russia & Ukraine at the Heart of Black Sea Tensions



Why in the news?

- The **Kerch Strait**—a narrow waterway connecting the **Black Sea** to the **Sea of Azov**—continues to dominate global news due to the ongoing Russia-Ukraine conflict.
- It is a critical maritime chokepoint for **grain shipments, naval movement, military supply lines, and control over Crimea**.
Attacks on the **Kerch Bridge (Crimean Bridge)**, which spans the strait.

MAP-BASED POINTERS

Mark the following for Prelims:

- **Kerch Strait** – Connects *Black Sea* ↔ *Sea of Azov*
- **Crimea Peninsula** – To the west of the strait
- **Taman Peninsula (Russia)** – To the east
- **Sea of Azov** – Shallowest sea in the world
- **Black Sea** – Strategic warm-water sea
- **Kerch Bridge (Crimean Bridge)** – Russia's 18-km long bridge over the strait
- **Ports nearby:**
 - **Kerch** (Crimea)
 - **Novorossiysk** (Russia)
 - **Mariupol** (Ukraine)
- **NATO's Black Sea members:** Turkey, Bulgaria, Romania



Why the Kerch Strait Is in the News

- Repeated **Ukrainian drone and missile attacks** on the Kerch Bridge.
- Russia uses the strait to **supply troops** in occupied Crimea & southern Ukraine.
- Key route for exporting **grain, steel, coal, fertilizer** from Azov ports.
- Russia's naval blockades impact global food supply.
- Vital in talks over reopening/closing the **Black Sea Grain Corridor**.
- Increasing militarisation of the Black Sea region.

Why the Kerch Strait Is Strategically Crucial

Access to the Sea of Azov

Countries controlling the strait determine access to ports like:

- **Mariupol**
- **Berdyansk**
- **Taganrog**

Supplies for Russian Troops

The **Kerch Bridge** is Russia's lifeline to transport:

- armour
- fuel
- logistics
- reinforcements

Control Over Crimea

Kerch Strait effectively determines who dominates Crimea geopolitically.

Global Grain Export Route

Ukraine is a major exporter of:

- wheat
- corn
- sunflower oil
- barley

Strait disruptions increase global food prices.

Energy & Naval Strategy

Russia ensures dominance over Black Sea naval routes using the strait.

Kerch Bridge: Why It Is a Flashpoint?

- Completed in **2018**, connecting Russia to Crimea.
- Longest bridge in Europe (18 km).
- Ukraine calls it *illegal construction*.
- Multiple attacks have damaged the bridge.
- Critical for Russia's war logistics.

Challenges & Risks in the Region

- Maritime mines
- Drone attacks on naval ships
- Global grain supply disruptions
- NATO–Russia maritime proximity.
- Environmental damage to shallow Sea of Azov
- Humanitarian disruption in coastal towns

Why Is Kerch Strait Relevant for India?

- Impacts **global food prices**, affecting India's grain imports/exports.
- Influences global **oil & gas markets**.
- Important for understanding major **geopolitical hotspots**.
- Helps in UPSC IR: Russia–Ukraine war, European security, Black Sea geopolitics.

Previous Year Style Mains Question

"Explain the geopolitical significance of the Kerch Strait in the context of the Russia–Ukraine conflict. How do events around this strait impact global food and energy security?"

PadhAI–Generated UPSC Practice MCQ

With reference to the Kerch Strait, consider the following statements:

1. It connects the Black Sea with the Sea of Azov.
2. The strait forms the boundary between Russia's Taman Peninsula and Ukraine's Crimea Peninsula.
3. The Kerch Bridge is the only existing land link between mainland Russia and Crimea.
4. The Sea of Azov is deeper than the Black Sea.

Which of the statements given above are correct?

- (a) 1, 2 and 3 only
- (b) 1 and 4 only
- (c) 2, 3 and 4 only
- (d) 1, 2, 3 and 4



✓ **Correct Answer: (a) 1, 2 and 3 only**

Statement 4 is incorrect → the **Sea of Azov is one of the shallowest seas**, much shallower than the Black Sea.

12.SILIGURI CORRIDOR: India's 'Chicken's Neck' and the Most Critical Land Link to the Northeast



Why in the news?

- The **Siliguri Corridor**, often called India's "**Chicken's Neck**", is a narrow 20–22 km wide land strip in **West Bengal** that connects mainland India to the **eight Northeastern states**.

MAP-BASED POINTERS

Be sure to locate the following:

- **Siliguri Corridor / Chicken's Neck** – West Bengal
- **Siliguri City** – Northern Bengal
- **Nepal** – West of corridor
- **Bangladesh** – South of corridor
- **Bhutan** – North
- **China (Tibet)** – Northeast of corridor
- **Chumbi Valley (China)** – Tri-junction hotspot near Doklam
- **Doklam Plateau (Bhutan–India–China tri-junction)** – extremely relevant
- **Teesta River** – flows near the corridor
- **National Highway-27** – key route through corridor

This entire region forms a **strategic choke point** for India.

Why Siliguri Corridor Is in News

- Rising Chinese activities in the **Doklam region**, close to the corridor.

- India upgrading **rail, road, and military infrastructure** in North Bengal.
- Increased defence deployments after India–China tensions in Ladakh.
- Importance of alternate routes via **Bangladesh transit** (BBIN framework).
- Center working to decongest corridor to ensure supplies to Northeast.
- Discussion around **railway freight diversification** to avoid bottlenecks.

Why Is It Strategically Important?

Lifeline to Northeast India

All major highways, rail lines, fuel pipelines, and fiber cables to:

- Assam
 - Arunachal Pradesh
 - Manipur
 - Nagaland
 - Mizoram
 - Meghalaya
 - Tripura
 - Sikkim
- pass through this corridor.

Vulnerability due to Geography

- Only **one narrow route** connects a vast region.
- Surrounded by multiple countries → higher risk in wartime.
- Close to the **Doklam tri-junction**, where China attempted encroachments in 2017.

Defence Significance

- Movement of troops to Sikkim & Arunachal front-lines.
- Air bases in Bagdogra and Hasimara support operations.
- Corridor protects India's eastern border with China.

Trade & Economic Link

- Gateway to Bhutan's trade routes.
- Access to Bangladesh through recent agreements.
- Key to India's **Act East Policy**.

Major Security Concerns

Doklam Plateau Threat

China's presence in the Chumbi Valley could potentially cut off the corridor in conflict scenarios.



Congestion & Infrastructure Stress

Heavy traffic → delays in movement of essentials & defence logistics.

Dependence on Single Stretch

Natural disasters (floods/landslides) can isolate the Northeast.

Illegal movement

Human trafficking, smuggling across borders with Bangladesh & Nepal.

Government Measures to Strengthen the Corridor

- **Four-laning of NH-27** and highway expansion.
- **Inland Waterway routes via Bangladesh** (Protocol Route).
- **India-Bangladesh transit agreement** reduces dependence on Siliguri.
- **New Jalpaiguri-Sevoke-Rangpo rail line** (ongoing).
- **Advanced surveillance** on international borders.
- **Siliguri Economic Corridor Development Plan** under Act East Policy.

Previous Year Style Mains Question

“The Siliguri Corridor represents both a geographical vulnerability and a strategic asset for India. Analyse its significance in the context of India’s security and foreign policy.”

PadhAI-Generated UPSC Practice MCQ

With reference to the Siliguri Corridor, consider the following statements:

1. It connects mainland India to the Northeastern states through a narrow land strip in West Bengal.
2. The corridor lies between Nepal and Bangladesh.
3. The Doklam plateau, located near the India-Bhutan-China tri-junction, poses a strategic threat to the corridor.
4. The corridor is traversed by National Highway-27.

Which of the statements given above are correct?

- (a) 1 and 2 only
- (b) 1, 2 and 4 only
- (c) 1, 2, 3 and 4
- (d) 1, 3 and 4 only

✓ **Correct Answer: (c) 1, 2, 3 and 4)**

13.MOUNT SEMERU: Indonesia’s Most Active Volcano Erupts Again, Triggering Global Concern.

Indonesia : eruption of Mount Semeru



Why in the news?

- Mount Semeru, the **highest and most active volcano on Java Island (Indonesia)**, has once again erupted, sending ash plumes thousands of meters into the sky and triggering evacuations.

MAP-BASED POINTERS

Mark the following for Prelims map questions:

- **Mount Semeru** – East Java, Indonesia
- **Java Island** – One of Indonesia’s major islands
- **Pacific Ring of Fire** – Zone of high tectonic and volcanic activity
- **Indian Ocean Plate** – Subducting under the Eurasian Plate
- **Nearby volcanic mountains:**
 - Mount Bromo
 - Mount Merapi
 - Mount Sinabung
- **Major cities nearby:** Malang, Lumajang
- **Tengger Caldera** – Geological structure near Semeru
- **Sunda Trench** – Tectonic boundary south of Java

Why Mount Semeru Is in News

- Recent eruption expelled **over 5,000–6,000 meters** of ash.
- Indonesian authorities raised alert to **Level III or IV**.
- Air travel disruptions across Southeast Asia.
- Risk of **volcanic mudflows (lahars)** due to monsoon rains.
- Renewed global attention on Ring of Fire volcanic hazards.



Hazards Associated with Semeru

Pyroclastic Flows

Superheated avalanches of gas, ash, and rock.

Most destructive hazard → major casualties in 2021 & 2022 eruptions.

Ashfall

Causes:

- health issues
- flight cancellations
- crop damage
- power outages

Lahars

Volcanic mudflows formed when ash mixes with rainwater.

Lava Domes

Growth and collapse can trigger sudden explosions.

Flash floods & river blockages

Sediment-heavy flows block water channels.

Why Indonesia Experiences Frequent Volcanic Eruptions

- Located on the **Pacific Ring of Fire**
- More than **130 active volcanoes**
- Convergence of major tectonic plates:
 - Indo-Australian Plate
 - Eurasian Plate
 - Pacific Plate
- High rate of subduction → magma generation

Relevance for India

- Important for **GS-I (Geophysical Phenomena)**.
- Prelims focus on **Ring of Fire, subduction zones, volcanic types**.
- Aviation sector in India may face rerouting due to ash clouds.
- Helps understand global early warning systems & disaster management models.

Previous Year Style Mains Question

“The 2021–2025 eruptions of Mount Semeru highlight the vulnerability of tectonically active island nations. Examine the causes, hazards, and global implications of volcanic activity along the Pacific Ring of Fire.”

PadhAI-Generated UPSC Practice MCQ

Mount Semeru, often in the news, is associated with which of the following geographical features?

1. It lies on a convergent plate boundary.
2. It is a stratovolcano located on Java Island.
3. It is part of the Sunda volcanic arc.
4. It is formed due to the rifting of the Indo-Australian and Pacific plates.

Which of the statements given above are correct?

- (a) 1, 2 and 3 only
(b) 1 and 4 only
(c) 2 and 3 only
(d) 1, 2, 3 and 4

 **Correct Answer: (a) 1, 2 and 3 only**

Statement 4 is incorrect → Semeru forms due to **subduction**, not rifting.

