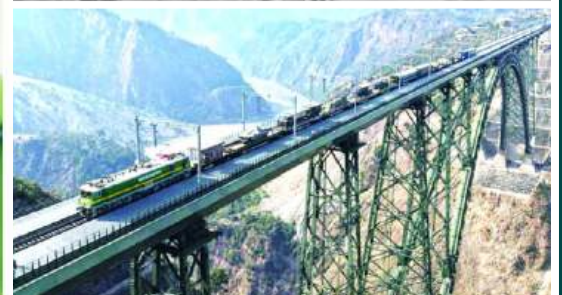
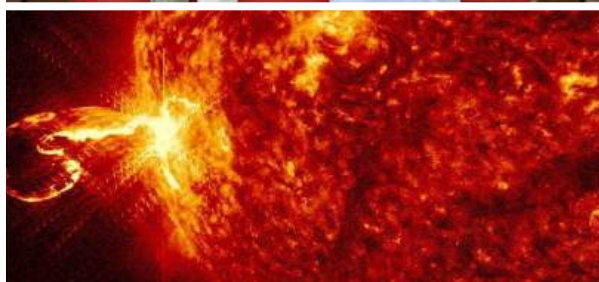


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THE RIGHT TO SPEEDY TRIAL UNDER ARTICLE 21

Why in News: The Supreme Court in **Arvind Dham v. Directorate of Enforcement (2026)** reaffirmed that the **Right to Speedy Trial under Article 21** applies irrespective of the nature or gravity of the offence.

Key Details

- The right to speedy trial is an **essential component of Article 21** (Right to Life and Personal Liberty).
- Prolonged pre-trial detention of undertrials is **unconstitutional** and amounts to punishment.
- The Supreme Court clarified that **economic offences are not a homogeneous class** warranting blanket denial of bail.
- Delay attributable to prosecuting agencies strengthens the case for bail on constitutional grounds.

Constitutional Basis of the Right to Speedy Trial

- **Article 21 Interpretation:** Although not expressly mentioned, the Supreme Court has read the right to speedy trial into Article 21, holding that liberty loses meaning if justice is delayed indefinitely.
- **Justice Delayed is Justice Denied:** In **Hussainara Khatoon v. State of Bihar (1979)**, the Court highlighted that undertrials detained longer than the maximum possible sentence violate constitutional fairness.
- **Scope of the Right:** The right extends across **all stages of criminal proceedings**—investigation, inquiry, trial, appeal, and retrial—as clarified in **A.R. Antulay v. R.S. Nayak (1992)**.
- **No Fixed Timeline, but Reasonableness:** While rigid timelines are impractical, courts intervene when delays become **oppressive, unreasonable, and unjustified**.

Speedy Trial as a Pillar of Criminal Justice System

- **Protection of Personal Liberty:** Prolonged incarceration causes psychological distress, social stigma, and economic hardship, directly infringing personal liberty under Article 21.
- **Presumption of Innocence:** Pre-trial detention cannot become punitive, as an accused is presumed innocent until proven guilty.
- **Balance between Speed and Fairness:** The principle “justice hurried is justice buried” mandates that

procedural safeguards must not be sacrificed for mere speed.

- **Public Confidence in Judiciary:** Timely justice enhances trust in the rule of law and prevents erosion of democratic legitimacy.

Arvind Dham Case: Facts and Judicial Reasoning

- **Nature of Allegations:** Arvind Dham was accused under IPC provisions and PMLA in alleged bank frauds exceeding **₹650 crore**, based on FIRs filed in 2022.
- **Extent of Delay:** Despite arrest in **July 2024**, cognizance was not taken, with over **200 prosecution witnesses** cited and no realistic trial commencement in sight.
- **Prosecution-Induced Delay:** The Enforcement Directorate’s appeal against procedural notices caused an **eight-month delay**, stalling trial progress.
- **Supreme Court’s Ruling:** The Court held that prolonged detention without trial progress **converts pre-trial custody into punishment**, violating Article 21.

Economic Offences and Bail Jurisprudence

- **Rejection of Blanket Severity Argument:** The Court clarified that economic offences differ in degree and facts and **cannot justify automatic denial of bail**.
- **PMLA and Article 21:** Statutory rigours under **Section 45 of PMLA** cannot override the constitutional mandate of personal liberty and speedy trial.
- **Judicial Precedents:** Cases such as **Manish Sisodia, V. Senthil Balaji**, and **Padam Chand Jain** emphasise that prolonged incarceration tilts the balance in favour of bail.
- **Document-Heavy Investigations:** Where evidence is largely documentary and already in custody of agencies, continued detention loses justification.

Delay Attributable to the Prosecution

- **Agency Accountability:** The Court underscored that prosecuting agencies cannot benefit from delays caused by their own procedural choices.
- **No Evidence of Misuse of Liberty:** Allegations of witness tampering or laundering post-arrest were unsupported by evidence.
- **Burden on the State:** If the State cannot ensure a timely trial, it **cannot oppose bail solely on gravity of offence**.
- **Constitution over Procedure:** Procedural law cannot be used as a tool of oppression against individual liberty.

Contemporary Relevance of Speedy Trial in India

- **Rising Undertrial Population:** As per NCRB data, over 75% of prisoners in India are undertrials, many detained for years.
- **Impact of Special Laws:** Stringent statutes like PMLA, UAPA, and NDPS Act have increased pre-trial incarceration.
- **Judicial Course Correction:** Recent Supreme Court jurisprudence reflects a renewed emphasis on **liberty-centric interpretation** of criminal law.
- **Human Rights Perspective:** Liberty cannot be sacrificed at the altar of administrative inefficiency or investigative delay.

Comparative International Perspective

- **ICCPR Standards:** Article 14(3)(c) of the **International Covenant on Civil and Political Rights** guarantees trial without undue delay.
- **European Convention:** Article 6 of the **European Convention on Human Rights** treats prolonged pre-trial detention as a violation of fair trial rights.
- **United States:** The **Sixth Amendment** expressly guarantees the right to a speedy trial, assessed through a balancing test.
- **India's Alignment:** Indian constitutional jurisprudence increasingly aligns with these global human rights norms.

Conclusion

The Supreme Court's decision in **Arvind Dham v. ED** reinforces that **constitutional liberty cannot be eclipsed by statutory severity**. To uphold Article 21 meaningfully, India must ensure faster investigations, dedicated fast-track courts for economic offences, and greater prosecutorial accountability. Speedy trial must remain the rule, and pre-trial detention the exception, preserving the Constitution's promise of justice, liberty, and human dignity.

EXPECTED QUESTION FOR UPSC CSE

Descriptive Question

- Q. "The right to speedy trial is not eclipsed by the nature of the offence." Discuss in light of recent Supreme Court judgments. (GS 2; 150 Words, 10 Marks)

SECTION 17A VERDICT: CORRUPTION CONTROL VS OFFICER PROTECTION

Why in News: The Supreme Court delivered a **split verdict on the constitutionality of Section 17A of the Prevention of Corruption Act, 1988**, reopening the debate on balancing corruption control and protection of honest civil servants.

Key Details

- Section 17A, inserted in 2018, mandates **prior government approval** before initiating investigation against public servants for official decisions.
- A two-judge bench of the Supreme Court gave **divergent opinions**, referring the matter to a larger bench.
- One view upheld the provision with **independent oversight by Lokpal/Lokayukta**, while the other held it **unconstitutional**.
- The verdict highlights tension between **administrative efficiency and accountability** in governance.

Section 17A: Legal Background and Objective

- **Statutory Origin:** Section 17A was introduced through the **2018 amendment** to the Prevention of Corruption Act to regulate investigations related to decisions taken in official capacity.
- **Core Requirement:** It bars police or investigative agencies from conducting enquiry or investigation **without prior approval** of the appropriate government.
- **Policy Rationale:** The provision aimed to address concerns of **policy paralysis**, where fear of post-facto investigation discourages bold administrative decisions.
- **Target Group:** It applies uniformly to **all public servants**, unlike earlier provisions that differentiated based on rank.

Arguments Supporting Section 17A

- **Protection of Honest Officers:** The provision seeks to shield officers from **frivolous, malicious, or politically motivated complaints** related to bona fide decisions.
- **Preventing Policy Paralysis:** Fear of investigation in sectors like infrastructure, defence, or economic policy can delay decisions; Section 17A encourages **timely governance**.
- **Administrative Efficiency:** Officers can focus on service delivery instead of defending routine decisions before investigative agencies.
- **Judicial Support:** Justice K.V. Viswanathan invoked Sardar Patel's idea of civil services as the **"Steel Frame of India"**, stressing institutional confidence.

Constitutional Concerns with Section 17A

- **Conflict of Interest:** Vesting approval power with the government—often the employer of the accused—raises concerns of **executive bias**.
- **Dilution of Investigative Independence:** Prior approval can restrict the autonomy of police and anti-corruption agencies at the **threshold stage**.
- **Delay and Evidence Loss:** Corruption cases, especially economic offences, require prompt action; delays may result in **destruction of evidence**.
- **Article 14 Violation:** Justice B.V. Nagarathna held that differential protection for certain officials violates **equality before law**.

Split Verdict: Divergent Judicial Reasoning

- **Justice Nagarathna's View:** She held Section 17A **unconstitutional**, calling it "old wine in a new bottle," reviving barriers earlier struck down by the Court.
- **Reliance on Precedents:** Judgments in **Vineet Narain v. Union of India** and **Subramanian Swamy v. CBI** invalidated prior approval requirements that fettered investigations.
- **Justice Viswanathan's View:** He distinguished Section 17A from earlier provisions, noting that it applies **uniformly** and does not discriminate by rank.
- **Institutional Redesign:** He upheld Section 17A by routing approval through **independent bodies like the Lokpal and Lokayuktas**.

Lokpal-Based Screening Mechanism

- **Independent Oversight:** Complaints seeking approval must be forwarded to the **Lokpal (Centre)** or **Lokayukta (States)** for preliminary assessment.
- **Prima Facie Test:** If the inquiry wing finds sufficient material, the government becomes **duty-bound to grant approval**.
- **Balance of Interests:** This model attempts to protect honest officers while preventing executive control over investigations.
- **Constitutional Harmony:** It aligns with the principle of **checks and balances** in governance.

Broader Administrative and Constitutional Implications

- **Governance vs Accountability:** Excessive protection may embolden corruption, while excessive scrutiny may cause bureaucratic inertia.
- **Civil Service Safeguards:** India already provides protections under **Article 311**, **Section 197 CrPC**, and **Section 19 of the PC Act**.
- **Rule of Law Perspective:** Accountability of public office holders is central to democratic governance and public trust.
- **Need for Institutional Trust:** Anti-corruption frameworks must be **credible, impartial, and time-bound**.

Conclusion

A balanced framework is essential to reconcile **honest decision-making with zero tolerance for corruption**. Prior approval should not become an executive veto over investigations. Independent screening by constitutional or statutory bodies, fixed timelines for approvals, and judicial oversight can preserve both **administrative efficiency and accountability**. The final word of the larger bench will be crucial in shaping India's future anti-corruption architecture.

EXPECTED QUESTION FOR UPSC CSE

Prelims MCQ

- Q. Section 17A of the Prevention of Corruption Act requires:
- (a) Prior judicial approval before prosecution
 - (b) Prior government approval before investigation
 - (c) Mandatory Lokpal sanction for all cases
 - (d) Parliamentary approval for prosecution

Answer: (b)

CONSTITUTIONAL LIMITS AND FEDERAL BALANCE

Why in News: Recent walkouts and selective omissions by Governors during Assembly addresses in Tamil Nadu and Kerala have revived the constitutional debate on the scope of gubernatorial discretion under Article 176.

Key Details

- Article 176 mandates the Governor to address the State Legislature at the beginning of the first session each year.
- The address reflects the **policy agenda of the elected State government**, not the Governor's personal views.
- Recent controversies have raised concerns over **federalism, constitutional conventions, and democratic accountability**.
- Supreme Court judgments consistently restrict the Governor's discretion in such addresses.

Constitutional Basis of the Governor's Address

- **Article 176 (Mandatory Duty):** It mandates that the Governor *shall* address the Legislative Assembly (or both Houses), indicating a compulsory constitutional function, not a discretionary power.
- **Article 175 (Address and Messages):** While it allows the Governor to address or send messages to the House, this power operates within the executive framework and remains subject to ministerial advice.
- **Article 163 (Aid and Advice):** The Governor must act on the aid and advice of the Council of Ministers except in explicitly defined discretionary matters, which do not include the Assembly address.
- **Nature of the Address:** The speech is a **statement of government policy**, placing responsibility and accountability squarely on the elected executive.

Constituent Assembly's Vision of the Governor

- **Constitutional Head, Not Executive Ruler:** The Constituent Assembly envisaged the Governor as a **nominal head**, similar to the British monarch, with no independent policy authority.

- **Ambedkar's Position:** B.R. Ambedkar clarified that the Governor has **no real powers**, and discretion is an exception, not the norm.
- **Neutrality and Non-Partisanship:** The Governor represents the State as a whole and must remain above party politics to preserve democratic legitimacy.
- **Federal Link, Not Central Agent:** The Governor was intended as a constitutional bridge, not an instrument of central dominance.

Judicial Interpretation and Supreme Court Jurisprudence

- **Shamsher Singh v. State of Punjab (1974):** A seven-judge bench held that the Governor is a constitutional head and cannot exercise personal discretion in executive matters.
- **Nabam Rebia v. Deputy Speaker (2016):** The Court ruled that gubernatorial discretion is strictly limited and addressing the legislature is an executive function, not a discretionary one.
- **State of Tamil Nadu v. Governor of Tamil Nadu (2024):** The Supreme Court held that the Governor cannot use discretion to obstruct or negate the functioning of an elected government.
- **Judicial Trend:** Courts have consistently favoured **Cabinet supremacy, responsible government, and federal balance.**

Arguments Supporting Limited Governor's Discretion

- **Constitutional Oath (Article 159):** Governors swear to protect the Constitution and may object to content perceived as unconstitutional or factually incorrect.
- **Institutional Integrity:** Reading material that contradicts earlier constitutional actions (such as Bill reservation) may raise concerns of institutional inconsistency.
- **Union-State Linkage:** As a constitutional link with the Union, the Governor is argued to have a duty to safeguard national unity.
- **Constitutional Silence:** Articles 175 and 176 do not explicitly mandate verbatim reading, which some interpret as leaving limited room for discretion.

Arguments Against Governor's Discretion

- **Aid and Advice Doctrine:** Under the parliamentary system, real executive power lies with the Council of Ministers, making unilateral gubernatorial action unconstitutional.
- **Erosion of Federalism:** Centrally appointed Governors altering State policy statements undermine State autonomy and cooperative federalism.
- **Threat to Parliamentary Democracy:** Discretion in routine functions risks creating a **parallel power centre**, weakening Cabinet responsibility.
- **Legislative Privilege:** The Legislature has the right to debate and reject government policy internally; pre-emptive gubernatorial interference infringes this autonomy.

- **Judicial Remedy Available:** Constitutional disputes must be resolved through courts, not unilateral executive actions by the Governor.

Committee Recommendations on the Governor's Role

- **Sarkaria Commission (1988):** Emphasised that the Governor must act as a **lynchpin of federalism**, not an agent of the Centre.
- **Punchhi Commission (2007):** Recommended limiting extra-constitutional roles (e.g., Chancellor of Universities) to reduce political friction.
- **Focus on Conventions:** Both commissions stressed adherence to parliamentary conventions to ensure institutional harmony.

Way Forward

- **Codification of Constitutional Conventions:** Parliamentary conventions, including verbatim delivery of the address, should be formally codified or judicially clarified.
- **Supreme Court Guidelines:** Declaratory guidelines on Article 176 can prevent recurring disputes and ensure uniform constitutional practice.
- **Orientation and Capacity-Building:** Mandatory constitutional training for Governors on federalism, conventions, and judicial precedents is essential.
- **Structured Communication Mechanism:** Governors should convey objections in writing within a fixed timeframe; silence should imply concurrence.
- **Strengthening Cooperative Federalism:** Regular dialogue between Chief Ministers and Governors can reduce trust deficits and public confrontations.

Conclusion

The Governor's address under Article 176 is a **constitutional obligation, not a discretionary privilege**. Constitutional text, conventions, committee recommendations, and Supreme Court judgments collectively affirm the primacy of the elected executive. Upholding constitutional morality and cooperative federalism is essential to prevent the Governor's office from becoming a parallel authority and to preserve the parliamentary spirit of Indian democracy.

PRACTICE QUESTIONS FOR UPSC CSE

Prelims MCQ

Q. Article 176 of the Constitution relates to:

- Appointment of the Governor
- Governor's address to the State Legislature
- Discretionary powers of the Governor
- Dissolution of the Assembly

(b) Answer

Descriptive Question

Q. "The Governor's address under Article 176 is a constitutional duty, not a discretionary power." Examine in the light of recent controversies and Supreme Court judgments. (GS 2; 250 Words, 15 Marks)

NATIONAL VOTERS' DAY 2026

Why in News: The President of India presided over the **National Voters' Day (NVD) 2026** celebrations on 25 January, highlighting citizen-centric electoral reforms and India's leadership in democratic governance.

Key Details

- National Voters' Day marks the **foundation of the Election Commission of India (ECI) on 25 January 1950** under Article 324.
- The **theme for NVD 2026** is "My India, My Vote" with the tagline "Citizen at the Heart of Indian Democracy".
- The event focused on **voter participation, electoral reforms, and use of technology** to enhance trust and transparency.
- NVD 2026 also coincided with **India's expanding international role** in electoral cooperation through the Delhi Declaration 2026.

Constitutional and Democratic Significance

- **Constitutional Mandate of ECI:** The Election Commission of India is a constitutional body established under **Article 324**, entrusted with conducting free, fair, and impartial elections, which form the backbone of Indian democracy.
- **Purpose of National Voters' Day:** Observed annually since **2011**, NVD aims to promote voter awareness, ethical participation, and enrolment, especially among **first-time and young voters**.
- **Citizen-Centric Democracy:** The 2026 theme reinforces the idea that **citizens are the ultimate stakeholders**, and electoral processes must prioritise voter convenience, accessibility, and trust.
- **Democratic Continuity:** NVD symbolises the continuity of democratic values beyond elections, fostering informed and responsible citizenship.

Electoral Reforms for Transparency and Integrity

- **EPIC and e-EPIC Initiative:** Introduced in **1993**, the Electors Photo Identity Card reduced impersonation. The **e-EPIC (2021)** further enhanced accessibility through secure digital voter IDs.
- **Electronic Voting Machines (EVMs):** Widely deployed since **1998**, EVMs eliminated invalid votes, reduced counting time, and improved administrative efficiency, strengthening electoral credibility.
- **VVPAT System:** Introduced following the **Supreme Court judgment (2013)**, VVPAT ensures voter verification and enhances confidence in electronic voting.

- **Electoral Roll Reforms:** Programs like **NERPAP (2015)** and **Special Intensive Revision (2025)** targeted duplicate entries and inclusion errors, covering over **51 crore electors**.

Voter Awareness and Inclusive Participation

- **SVEEP Programme:** Launched in **2009**, the Systematic Voters' Education and Electoral Participation programme addresses voter apathy through campaigns, campus outreach, and digital platforms.
- **Accessible Elections:** Declared **2018 as the Year of Accessible Elections**, ECI introduced Braille EPICs, transport facilities, and auxiliary polling stations for Persons with Disabilities.
- **Youth and New Voters:** Special enrolment drives and awareness initiatives aim to integrate young citizens into the democratic process at an early stage.
- **Ethical Voting Culture:** NVD promotes informed voting, respect for the Model Code of Conduct, and rejection of inducements.

Technology-Driven Electoral Governance

- **cVIGIL App:** Enables citizens to report MCC violations using geo-tagged photos or videos, with a **mandatory response time of 100 minutes**, strengthening accountability.
- **ERO-NET Platform:** A multilingual digital system allowing real-time processing of electoral forms, reducing delays and preventing dual registrations.
- **ECINET (2026):** A unified digital interface integrating over **40 ECI applications**, serving voters, officials, political parties, and civil society as a one-stop platform.
- **Technology with Trust:** The ECI emphasises responsible use of technology to counter misinformation while protecting electoral integrity.

ECINET (Election Commission Integrated Network)

- **Launched by:** Election Commission of India at **IICDEM 2026**, New Delhi
- **What it is:** A **unified digital platform** integrating **40+ election-related apps and web services**
- **Objective:** To enhance **citizen engagement, transparency, and participation** in the electoral process
- **Coverage:** Connects **voters, candidates, political parties, and election officials** on a single platform
- **Key Feature:** Provides **all major election services at one place**
- **Language Support:** Available in **22 Indian languages + English**

India's Global Leadership

- **International Conference on Democracy and Election Management (IICDEM) 2026:** Hosted by India in New Delhi, with participation from **over 40 Election Management Bodies (EMBs)** worldwide.

- **Delhi Declaration 2026:** A consensus-based global framework aimed at strengthening democratic institutions through cooperation, innovation, and accountability.
- **Five Pillars of the Declaration:**
 - **Purity of Electoral Rolls** – universal photo identity and accurate voter lists
 - **Conduct of Elections** – free, fair, inclusive, and transparent processes
 - **Research and Publications** – global encyclopaedia of democracies
 - **Use of Technology** – sharing India’s ECINET experience
 - **Training and Capacity Building** – institutional strengthening through IIIDEM
- **Normative Significance:** The declaration enhances India’s soft power and positions the ECI as a global leader in electoral management.

Conclusion

National Voters’ Day 2026 highlights that **electoral democracy is an evolving process**, requiring continuous reforms, ethical governance, and active citizen participation. Strengthening voter education, safeguarding technology from misuse, and deepening international cooperation will be crucial for sustaining trust in democratic institutions. The Election Commission of India must continue balancing innovation with integrity to keep citizens at the heart of Indian democracy.

EXPECTED QUESTION FOR UPSC CSE

Prelims MCQ

Q. National Voters’ Day is observed to commemorate the establishment of:

- (a) Parliament of India
- (b) Election Commission of India
- (c) Supreme Court of India
- (d) Constituent Assembly

Answer: (b)

DELIMITATION AND ITS SIGNIFICANCE

Why in News: The debate on **post-2026 delimitation of Lok Sabha constituencies** has intensified amid concerns raised by southern states regarding political representation and federal balance.

Key Details

- Delimitation refers to the **redrawing of electoral boundaries and allocation of seats** based on population changes.

- The current Lok Sabha seat distribution is based on the **1971 Census**, despite India’s population rising to about **1.47 billion**.
- The **84th Constitutional Amendment (2001)** froze delimitation until the first Census after 2026.
- The upcoming delimitation, expected after the **2027 Census**, may significantly alter political representation among states.

Delimitation: Concept and Constitutional Basis

- **Meaning and Objective:** Delimitation is the process of fixing the **number and boundaries of constituencies** to ensure the principle of “*one person, one vote, one value*” and equal representation.
- **Constitutional Provisions:**
 - **Article 82:** Mandates readjustment of Lok Sabha seats after every Census through a Delimitation Act.
 - **Article 170:** Provides for delimitation of State Legislative Assemblies.
 - **Article 329:** Bars judicial interference in delimitation orders, ensuring finality.
- **Delimitation Commission:** A high-powered statutory body chaired by a **retired Supreme Court judge**, whose orders have the **force of law** and cannot be challenged in courts.
- **Democratic Rationale:** Delimitation seeks to align political representation with demographic realities, thereby strengthening electoral fairness.

Historical Evolution of Delimitation in India

- **Early Delimitations:** Delimitation exercises were conducted after the **1951, 1961, and 1971 Censuses**, adjusting seats in line with population growth.
- **42nd Constitutional Amendment (1976):** During the Emergency, Lok Sabha seats were frozen at **543** based on the 1971 Census to encourage population control.
- **84th and 87th Amendments:**
 - The **84th Amendment (2001)** extended the freeze until after 2026.
 - The **87th Amendment (2003)** allowed redrawing of constituency boundaries using the 2001 Census, without increasing seats.
- **Present Situation:** Current representation reflects a population of **548 million (1971)**, far removed from today’s demographic reality.

Demographic Imbalance and Federal Concerns

- **Uneven Population Growth:** Northern states like **Uttar Pradesh, Bihar, Rajasthan, and Madhya Pradesh** have seen higher population growth, while southern states achieved early demographic transition.
- **Potential Representation Shift:** If seats are allocated purely on population, southern states’ share in Lok Sabha may decline from **24% to about 19%**, reducing their political influence.

- **Federal Implications:** States that successfully implemented **family planning, health, and education policies** fear being penalised for good governance.
- **Link with Fiscal Federalism:** Similar concerns arise in **Finance Commission devolution**, where population weightage affects tax transfers, compounding southern states' grievances.

Political and Administrative Challenges

- **Time-Intensive Process:** Past Delimitation Commissions took **3–5 years**, making completion before **2031–32** unlikely.
- **Coalition Politics Impact:** A shift in seat distribution may alter coalition dynamics, benefiting parties with strong bases in high-population states.
- **Internal Delimitation Issues:** Redrawing internal constituency boundaries must consider **geography, administrative units, and social cohesion** to avoid gerrymandering.
- **Public Trust Deficit:** Lack of transparency or consensus could lead to regional alienation and political unrest.

Possible Solutions and Alternatives

- **Extending the Freeze:** Continuing the freeze could protect federal balance temporarily, but may invite constitutional challenges due to outdated representation.
- **Expanding Lok Sabha Seats:** Increasing seats (e.g., to **848 or ~866**) can ensure no state loses representation, though proportional imbalance may persist.
- **Digressive Proportionality (Weighted Formula):** Allocating seats based on **population (e.g., 60%) and demographic performance (40%)** rewards responsible governance, similar to the EU Parliament model.
- **Strengthening Rajya Sabha:** Enhancing the federal role of the Upper House, possibly through equal representation or restored domicile norms, can offset Lok Sabha dominance.
- **Phased Redistribution:** Implementing changes gradually can reduce political shock and allow institutional adaptation.

Conclusion

The upcoming delimitation is a **critical democratic exercise** that will reshape India's representative structure. A balanced approach must reconcile **electoral equality with federal equity**, ensuring states are not penalised for successful population control. Transparency, expert consultation, public hearings, and political consensus are essential to uphold trust in India's democratic framework and strengthen cooperative federalism.

EXPECTED QUESTIONS FOR UPSC CSE

Prelims MCQ

- Q. Delimitation Commission orders in India:
- Are advisory in nature
 - Can be challenged in courts
 - Have the force of law
 - Require President's approval

Answer: (c)

Descriptive Question

- Q. Post-2026 delimitation risks undermining cooperative federalism. Examine the issue in the context of demographic transition among Indian states. (150 Word, 10 Marks)

RAJASTHAN DISTURBED AREAS ACT

Why in News: Rajasthan is preparing to introduce a Bill on "Disturbed Areas" for regulating property transactions, drawing heavily from the Gujarat Disturbed Areas Act, which is under constitutional scrutiny.

Key Details

- Rajasthan proposes to notify certain localities as "disturbed areas" to address demographic imbalance and improper clustering.
- The draft closely mirrors Gujarat's 1991 Disturbed Areas Act and its later amendments.
- The Gujarat law has faced sustained judicial scrutiny over executive overreach and constitutional rights.
- High Court rulings have repeatedly narrowed the scope of administrative discretion under the Act.

Disturbed Areas Act: Concept and Rationale

- **Origin of the Law:** The Gujarat Disturbed Areas Act was enacted in **1991**, following repeated communal riots, to prevent distress sales of property during periods of violence.
- **Core Objective:** The Act aims to protect vulnerable property owners from selling assets under **fear, coercion, or intimidation**, especially during communal unrest.
- **State's Justification:** The law is presented as a **protective measure**, not a restriction, focusing on voluntary consent and fair valuation.
- **Extraordinary Regulation:** Unlike ordinary property law, it introduces **prior state approval**, reflecting exceptional intervention justified on public order grounds.

Working of the Disturbed Areas Framework

- **Notification of Disturbed Areas:** The state government can notify areas based on a **history of communal violence or mob unrest**, bringing them under special regulatory control.
- **Mandatory Collector Approval:** Any transfer of immovable property—house, land, or shop—requires **prior approval of the district collector**.
- **Void Transactions:** Property transfers executed without such approval are **legally void**, irrespective of mutual consent between buyer and seller.
- **Administrative Inquiry:** The collector must conduct a formal inquiry before granting permission, making executive discretion central to the Act's operation.

Constitutional and Legal Concerns

- **Right to Residence and Settlement (Article 19):** Critics argue that restricting property transfers indirectly limits the **right to reside and settle freely** across India.
- **Equality and Non-Discrimination (Article 15):** Allegations suggest the law may enable **discriminatory outcomes**, particularly along religious or community lines.
- **Right to Property (Article 300A):** Though no longer a fundamental right, property remains a **constitutional right**, and excessive state control raises proportionality concerns.
- **Demographic Engineering Fears:** By influencing who can buy property and where, the Act risks becoming a tool for **managing demographic composition**, rather than preventing distress sales.

Judicial Scrutiny of the Gujarat Disturbed Areas Act

- **Pending Constitutional Challenge:** The constitutional validity of the Gujarat Act is currently under examination by the **Gujarat High Court**, with petitions filed in 2021 and 2022.
- **Interim Relief Denied:** In 2024, a petition alleging misuse of the Act was denied interim stay, with the Supreme Court directing **expedited High Court hearings** instead.
- **2020 Amendment Under Stay:** The High Court stayed the 2020 amendment that introduced vague terms such as **"proper clustering"** and **"demographic equilibrium"**.
- **Judicial Check on Executive Power:** Courts have consistently intervened to prevent **administrative arbitrariness** and rights violations.

Limits on Collector's Authority: Judicial Interpretation

- **Scope of Inquiry Defined:** Courts have clarified that the collector's role is limited to verifying **free consent** and **fair market value** of the transaction.
- **Law and Order Grounds Rejected:** In a 2020 Vadodara case, the High Court ruled that **police reports and law-and-order concerns** are irrelevant under the Act.
- **Neighbours' Objections Invalid:** Judicial rulings have

held that neighbours have **no legal standing** in private property transactions.

- **Police Inputs as Extraneous:** In 2023, reliance on police inputs was struck down as **jurisdictional overreach**.
- **Core Purpose Reaffirmed (2025):** The High Court reiterated that the Act's sole aim is to prevent **distress sales due to coercion**, not regulate social composition.

Relevance to Rajasthan's Proposal

- **Mirroring a Stayed Framework:** Rajasthan's stated objective of preventing "improper clustering" closely resembles the **stayed provisions of Gujarat's 2020 amendment**.
- **Risk of Constitutional Replication:** Adopting language already questioned by courts may expose Rajasthan's law to **immediate legal challenges**.
- **Federal and Rights Implications:** The move raises concerns about **state power versus individual liberty** within India's federal structure.

Conclusion

- While preventing distress sales during communal unrest is a legitimate state objective, any such law must remain **narrowly tailored, transparent, and constitutionally compliant**. Rajasthan should:
 - Clearly define statutory terms to avoid ambiguity,
 - Limit executive discretion through objective criteria,
 - Ensure judicial oversight and safeguards against discrimination, and
 - Focus on law-and-order enforcement rather than indirect demographic regulation.
- A rights-respecting framework is essential to balance **public order with constitutional freedoms**.

EXPECTED QUESTION FOR UPSC CSE

Prelims MCQ

- Q. The primary objective of the Disturbed Areas Act is to:
- Regulate demographic composition
 - Prevent distress sale of property due to coercion
 - Restrict inter-community property transfers
 - Maintain law and order through zoning

(b) Answer

BUDGET CUT IN JAL JEEVAN MISSION

Why in News: The Central government has significantly reduced the outlay for the flagship Jal Jeevan Mission (JJM)

from the original Budget Estimates for 2025-26 to the Revised Estimates (RE) stage nearly a 60% cut. This has generated debate on scheme implementation, fiscal federalism, and governance accountability.

Background and key Details

- Launched in 2019, JJM aims to provide Functional Household Tap Connections (FHTC) to every rural household with potable water supply at 55 liters per capita per day.
- The mission is central to SDG 6 (clean water & sanitation) and is a flagship centrally sponsored scheme under the Ministry of Jal Shakti.
- It saw an allocation of ₹67,000 crore in the Union Budget 2025-26, and was extended to 2028 with the same outlay.
- However, at the Revised Estimates stage in January 2026, the actual provision for JJM was cut steeply down to around ₹17,000 crore.

Key Issues & Analysis

- **Governance & Implementation Challenges**
 - Concerns about irregularities, inflated contracts and paper taps (fake reporting) have plagued JJM projects in several states, affecting credibility and fund utilisation.
 - MPs have earlier flagged issues in JJM implementation and demanded probes into irregularities.
- **Fiscal Federalism & Budgetary Principles**
 - The drastic reduction signals a shift towards result-oriented funding, prioritising outcomes over allocations.
 - States may face gaps in planned water services without adequate Centre support.
- **Policy Priorities**
 - With the mission nearing targets in many regions, the Centre may be reallocating resources to other sectors. Yet, poor and laggard states might suffer funding shortages.

Conclusion

To ensure governance effectiveness, the Centre must strengthen monitoring, ensure transparent data reporting, and work with states on capacity building. A stable financial roadmap and performance-linked incentives can enhance service delivery in laggard regions while maintaining fiscal discipline.

EXPECTED QUESTIONS FOR UPSC CSE

Prelims MCQ

- Q. With reference to the Jal Jeevan Mission (JJM), consider the following statements:
1. It is a Centrally Sponsored Scheme aimed at universal household tap connections.
 2. It guarantees 100% functional water supply to all rural households by law.
 3. It aligns with the United Nations' Sustainable Development Goals (SDGs).

Which of the statements given above is/are correct?

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

Answer: (b)

Descriptive Question

- Q. Critically analyse the implications of steep budgetary cuts to centrally sponsored welfare schemes like the Jal Jeevan Mission on Centre-State relations and governance accountability. (150 Words 10 Marks)

REPUBLIC DAY 2026

Why in News: The Republic Day Parade 2026 will highlight India's constitutional values, democratic resilience and national integration, with special features marking 150 years of Vande Mataram.

Background

Republic Day (26 January) commemorates the adoption of the Constitution of India (1950), which transformed India into a sovereign democratic republic. The celebrations include the ceremonial parade at Kartavya Path, cultural tableaux, and honours reflecting India's ethos of Unity in Diversity.

Theme 2026

For 2026, the theme draws on 150 years of Vande Mataram, underscoring constitutional patriotism and cultural heritage.

Key Themes:

- **Constitutional Values**
 - Republic Day embodies constitutional ideals democracy, justice, equality, and fraternity and reaffirms India's commitment to democratic governance and secular polity.
- **National Integration & Cultural Harmony**
 - Display of cultural diversity through tableaux fosters pride in pluralism and democratic unity.

• **Global Diplomacy & Soft Power**

- Invited dignitaries underline India’s diplomatic outreach and the Republic’s principles of peaceful coexistence.

Republic Day 2026

Dimension	Key Highlights & Strategic Importance
Historical Milestone	150 Years of Vande Mataram (1875–2025/26): Marks the sesquicentennial of Bankim Chandra Chattopadhyay’s composition. For UPSC, link this to the Swadeshi Movement (1905) , where it became the “Spiritual Anthem” of Indian Nationalism.
Diplomatic Signal	Chief Guests: Top EU Leadership (Ursula von der Leyen and António Costa). This signals India’s deepening Strategic Partnership with the European Union, focusing on the <i>India-EU Free Trade Agreement (FTA)</i> and the <i>India-Middle East-Europe Economic Corridor (IMEC)</i> .
Constitutional Value	Constitutional Patriotism: A shift from ethnic/religious nationalism to a loyalty based on the democratic values of the Preamble . <i>Key Keyword: “Bharat – Loktantra ki Matraka” (Mother of Democracy).</i>
Federal Display	Tableaux Significance: Displays like Gujarat’s tribute to Madam Bhikaji Cama (Stuttgart 1907) and Maharashtra’s focus on Lokmanya Tilak’s Ganeshotsav bridge History (GS I) with Art & Culture.
Defense & Security	Bhairav Battalion Debut: Showcases modern infantry specialization. Mentions of S-400, Rafale, and BrahMos reflect the transition from “Buyer” to “Developer” under Atmanirbhar Bharat .

Conclusion

Republic Day serves as an annual reaffirmation of constitutional democracy. Educating citizens especially youth about its significance strengthens participatory governance, civic responsibility, and the rule of law.

About Rajya Sabha

- The Rajya Sabha (Council of States) is the permanent house of Parliament and cannot be dissolved.
- Members retire in rotation, with about one-third retiring every two years.
- It comprises 245 members — 233 elected by State Legislatures and 12 nominated by the President.
- Elections are held through proportional representation by means of Single Transferable Vote (STV), which allows representation of political parties roughly in proportion to their strength in the legislative assemblies.

EXPECTED QUESTIONS FOR UPSC CSE

Prelims MCQ

Q. When is Republic Day celebrated in India, and what does it signify?

(a) 15 August; India’s independence
 (b) 26 January; Constitution came into force
 (c) 2 October; Gandhi’s birth anniversary
 (d) 26 November; Constitution adopted

(b) **Answer:**

Descriptive Question

Q. Discuss the constitutional significance of Republic Day in reinforcing democratic values and India’s governance ethos. (150 Words 10 Marks)

Key Analysis

- **Federal Representation:** Rajya Sabha acts as a body representing states’ interests at the Union level. The indirect electoral mechanism ensures that states’ political equations and assembly compositions influence the national legislative process.
- **Indirect Election & STV System:** The Single Transferable Vote system ensures minority representation and requires strategic ranking of candidates by MLAs.
- **Political Balance:** The outcome affects legislative approval, scrutiny of bills, and mandate balance in Parliament. A majority in Rajya Sabha enhances the ruling alliance’s legislative agenda; a fragmented house can empower opposition checks.

2026 RAJYA SABHA ELECTIONS

Why in News: The 2026 Rajya Sabha elections are scheduled to elect 72 members to the Upper House through indirect elections by State Legislators — a key process shaping the federal balance in Parliament.

Conclusion

Strengthening transparency in indirect elections including monitoring of voting behaviour and adherence to constitutional conventions will enhance democratic

legitimacy. Emphasis on state-based representation ensures that regional voices contribute meaningfully to national legislation.

EXPECTED QUESTIONS FOR UPSC CSE

Prelims MCQ

Q. With reference to Rajya Sabha elections, consider the following statements:

1. Members are directly elected by people on the basis of adult franchise.
2. Voting in Rajya Sabha elections is by proportional representation by STV.

3. Political parties can issue a whip to their MLAs for Rajya Sabha polls under the Tenth Schedule.

Which of the statements given above is/are correct?

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

(b) Answer

Descriptive Question

Q. "Examine the importance of Rajya Sabha elections in strengthening federalism and checks on legislative powers in India's parliamentary democracy." (150 words 10 Marks)

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INDIA–EU DEFENCE & SECURITY PARTNERSHIP

Why in News: Europe and India are set to finalise a Security and Defence Partnership, deepening military industrial cooperation and signalling stronger geopolitical alignment in defence production and interoperability.

Key Details

- This pact accompanies a long-awaited Free Trade Agreement (FTA) that has been under negotiation for roughly two decades, signalling a broad upgrade in the overall bilateral relationship.
- EU foreign policy chief announced that both sides have agreed to move forward with the partnership framework, which will emphasise cooperation in maritime security, cybersecurity, counterterrorism, and defence industrial collaboration.
- European interest in sourcing specific arms and defence equipment from India reflects a strategic shift in traditional defence supply dynamics.

From transactional to structured defence ties

Historically, India–EU defence cooperation was limited, ad hoc, and largely transactional usually bilateral deals between Indian services and individual EU governments (e.g., France, Germany). The new partnership offers structured, institutionalised collaboration rather than catch-as-catch-can procurement and exercises.

Shared security concerns

- Both sides have agreed on the need to address common threats:
 - Maritime security and freedom of navigation
 - Cyber threats and cybersecurity cooperation
 - Cross-border terrorism and information sharing
 - Protection of critical infrastructure

About partnership

- **Defence industrial cooperation**
 - Setting up an EU-India Defence Industry Forum to

Strategic Implications

For India	For the EU
Enhances defence industrial exports and global market reach.	Diversifies defence suppliers beyond the US and NATO frameworks.

facilitate joint ventures, investment, and technology sharing.

- Greater EU access to Indian defence manufacturers and Indian access to European technologies and markets.
- **Joint operations & information sharing**
 - Expanded cooperation between navies and defence structures in areas like maritime domain awareness and counter-terrorism.
 - Negotiations on a Security of Information Agreement to ease secure exchange of sensitive defence technology and data.
- **Technology and R&D**
 - Collaboration on advanced technologies especially cybersecurity, space defence, and dual-use capabilities aligned with India's rising industrial base and the EU's technological depth.
- **Enabling market access**
 - Potential access for Indian firms to EU defence procurement programmes (e.g., the EU's SAFE funds and other initiatives).

Geopolitical context

- **Strategic convergence vs. China's rise:** Both India and the EU perceive an increasingly assertive China and shrinking US strategic certainty. As a result, both powers are diversifying partnerships — moving beyond traditional alignments and seeking like-minded democratic partners.
- **Complementarity with other alliances:** India already deepens defence ties with the US, Japan, Australia, and ASEAN partners. The EU's engagement adds a European strategic layer that is not overtly anti-China but oriented to a rules-based order.
- **Economic and defence industrial synergies:** With India's defence manufacturing growing rapidly (e.g., production and export expansion), the pact can help Europe de-risk supply chains amid geopolitical shocks while supporting India's Make in India goals.

For India	For the EU
Integrates Indian defence technologies with European standards.	Accesses India's scale, cost efficiencies, and growing technology base.
Bolsters India's position as a security provider in the Indo-Pacific and beyond.	Strengthens European influence in the Indo-Pacific strategic landscape.

Way Forward

- The partnership is a framework, not a binding treaty — its actual impact will depend on follow-up mechanisms and projects.
- Successful implementation could lead to joint production lines, co-development programmes, and deeper interoperability standards.
- Over time, this could resemble other advanced EU defence partnerships (e.g., with Japan and South Korea), possibly evolving into multilateral projects in the Indo-Pacific.

Conclusion

The India–EU Security & Defence Partnership marks a new chapter in strategic cooperation. Far from a symbolic statement, it seeks to combine industrial capability with geopolitical purpose — elevating relations from trade and dialogues to tangible defence collaboration. For India, it means deeper integration into global defence supply chains; for the EU, it means new strategic depth in a shifting security environment.

Together with the anticipated Free Trade Agreement, this defence partnership signals a qualitative upgrade in India–EU relations — one with tangible implications for global balance, industrial competition, and geopolitical alignments in the 21st century.

INDIA–EU FTA AND STRATEGIC REALIGNMENT

Why in News: Recently, India and the European Union signed the **India–EU Free Trade Agreement (FTA)** and adopted the **“Towards 2030: Joint Comprehensive Strategic Agenda”**, marking a shift from stagnation to strategic realignment.

Key Details

- Bilateral trade stands at **\$136 billion**, with the EU contributing nearly **16% of India's total FDI**.
- The FTA is expected to unlock **\$75 billion in additional exports** over the coming years.
- Preferential access has been granted to **99% of Indian exports (by value)**.
- The partnership now spans trade, technology, security, climate governance, and global order-building.

Evolution of India–EU Relations

- **Phase I: Normative Engagement (1990s–2004):** Post-Cold War engagement focused on democracy, development cooperation, and trade. The relationship was

institutionalised through the **2004 Strategic Partnership**, reflecting shared values but limited geopolitical depth.

- **Phase II: Institutional Optimism, Limited Convergence (2005–2013):** The **Joint Action Plan (2005)** and **BTIA negotiations (2007)** expanded dialogue architecture. However, the Eurozone crisis and regulatory divergence stalled the FTA, revealing a gap between ambition and delivery.
- **Phase III: Strategic Drift (2014–2019):** Despite rising trade volumes, ties remained transactional. India diversified toward the US and Indo-Pacific partners, while the EU remained inward-looking.
- **Phase IV: Strategic Recalibration (2020–2024):** COVID-19, supply chain disruptions, and China's assertiveness triggered convergence on resilience and technology. The **India–EU Trade and Technology Council (2022)** revived momentum for structured cooperation.
- **Phase V: Strategic Consolidation (2025–Present):** The FTA, Security & Defence Partnership, and mobility frameworks reflect comprehensive alignment. The relationship now supports a **multipolar, rules-based global order** beyond pure commerce.

Key Provisions of the India–EU FTA

- **Tariff Liberalisation in Goods:** India secures preferential access for **99% of exports (by value)** to the EU market. Zero-duty access for labour-intensive sectors like textiles and leather enhances competitiveness. India will reduce tariffs on **92.1% of tariff lines (97.5% of EU exports)**. Car tariffs will reduce from **110% to 10% under a quota of 250,000 vehicles annually**, excluding EVs.
- **Safeguards & TRQs:** Sensitive sectors like dairy, cereals, poultry, and soymeal are protected. Tariff Rate Quotas (TRQs) balance market access and domestic industry concerns.
- **Services Liberalisation:** EU opens **144 services sub-sectors**, including IT, business, and education services. India opens **102 sub-sectors**, promoting technology inflows and regulatory best practices.
- **Mobility & Social Security:** Framework covers ICTs, business visitors, CSS (37 sectors), and Independent Professionals (17 sectors). Dialogue on Social Security Agreements aims to reduce double contributions for professionals.
- **CBAM & Climate Interface:** EU provides MFN assurance on **Carbon Border Adjustment Mechanism (CBAM)** flexibilities. India seeks alignment through its **Carbon Credit Trading Scheme (CCTS)** to prevent disguised protectionism.













Areas of Strategic Convergence

- **Strategic Autonomy & Multipolarity:** Both reject bloc politics amid US–China rivalry. India and EU prefer issue-based coalitions, sovereignty, and flexible alignment.
- **Supply Chain Resilience:** EU seeks diversification from China; India offers scale and manufacturing potential. Over **6,000 EU firms operate in India**, signalling deep integration.
- **Technology Governance:** Cooperation under TTC covers AI, semiconductors, quantum, and digital public infrastructure. Both advocate **human-centric, rules-based digital ecosystems**, unlike US market-led or China state-led models.
- **Security & Indo-Pacific:** The Security and Defence Partnership expands maritime, cyber, and hybrid threat cooperation. EU participation in **IPOI and IORA** strengthens Indo-Pacific engagement.
- **Multilateral Governance:** Coordination in **G20, WTO reform, climate negotiations**, and AI governance reflects shared commitment to rules-based order.

Key Areas of Divergence

- **CBAM & Green Protectionism:** India views CBAM as a unilateral green tax violating **CBDR principles**. Indian exporters fear additional 20–35% cost burden on steel, cement, and aluminium.
- **Russia–Ukraine Conflict:** EU demands sanctions alignment; India maintains strategic autonomy. India imported €2.3 billion in Russian hydrocarbons (Dec 2025), creating friction.
- **Data Governance (GDPR vs DPDP Act):** EU hesitates to grant India “Data Adequacy” due to surveillance exemptions under DPDP Act, 2023. Indian IT firms rely on costly Standard Contractual Clauses (SCCs), reducing competitiveness.
- **Mobility Asymmetry:** EU prefers temporary circular migration; India seeks broader Mode 4 access. Guaranteed 35,000 graduate permits remain below India’s workforce supply.
- **WTO Agricultural Subsidy Disputes** EU challenges India’s MSP as trade-distorting while defending its Green Box subsidies. Differences persist over dispute settlement reform and S&DT provisions.

KEY FTA GAINS BY SECTOR

SECTOR	KEY FTA GAIN
 Agriculture & Processed Foods	Preferential access for tea, coffee, spices, fruits, vegetables, meat, safeguards for sensitive items like dairy.
 Engineering Goods	Tariff cuts (up to 22%) on engineering exports
 Labour-Intensive Industries	Tariff elimination
 Leather & Footwear	Zero-duty access (from up to 17%) across all tariff lines
 Marine Products	Tariff reduction up to 26% covering 100% trade value
 Medical Devices & Instruments	Duty-free access on 99% of tariff lines
 Gems & Jewellery	Full preferential access (earlier tariffs up to 4%)
 Textiles & Apparel	Zero-duty access (tariffs up to 12% removed)
 Plastics & Rubber	Preferential access to EU's large import market
 Chemicals	Zero duty on 97.5% of export value
 Mines & Minerals	Zero duty on 100% tariff lines
 Furniture & Home Décor	Reduced duties (up to 10.5%)

Strategic Significance of the FTA

- Secures India access to the **world’s largest single market** (~450 million consumers).
- Helps EU diversify supply chains away from China.
- Strengthens India’s export competitiveness and manufacturing ambitions under “Make in India”.
- Positions both as stabilising actors in a fragmented global economy.
- The FTA acts not merely as a trade pact but as a **geopolitical instrument of strategic autonomy**.

Way Forward

- **Harmonising Carbon Markets:** Align India’s CCTS with EU ETS to avoid CBAM friction. Mutual recognition can ensure climate goals without trade distortion.
- **Data Protection Convergence:** Create GDPR-compliant regulatory sandboxes or data enclaves. Structured dialogue can bridge adequacy gaps and boost IT exports.
- **Balanced Mobility Framework:** Expand skilled migration channels with mutual recognition of qualifications. Digital visa processes and Social Security Agreements must be operationalised.
- **Deepening Technology Co-Creation:** Operationalise

India–EU Innovation Hubs for 6G, AI, semiconductors, and green hydrogen. Shift from technology transfer to joint R&D and manufacturing ecosystems.

- **Coordinated Global Governance:** Jointly push for WTO reform, UN reforms, and AI governance norms. Expand trilateral cooperation in Africa and Indo-Pacific under Global Gateway and IMEC.

Conclusion

The India–EU relationship has transitioned from episodic engagement to structured strategic convergence. The FTA catalyses economic integration, but the broader partnership now spans security, technology, climate governance, and global rule-making. Managing divergences through dialogue and institutional mechanisms will determine whether India and the EU emerge as pillars of stability in an increasingly fragmented multipolar world.

EXPECTED QUESTION FOR UPSC CSE

Descriptive Question

- Q. “The India–EU FTA is not merely a trade agreement but a geopolitical instrument of strategic autonomy.” Discuss. (GS 2&3; 150 Words, 10 Marks)

INDIA–BRAZIL STRATEGIC PARTNERSHIP

Why in News: The Prime Minister of India held a strategic discussion with Brazil’s President to strengthen the India–Brazil Strategic Partnership and deepen cooperation ahead of India’s BRICS Chairship in 2026.

Key Details

- Reaffirmation of the **India–Brazil Strategic Partnership (2006)** and commitment to regular high-level engagement.
- Focus on expanding **bilateral trade and sectoral cooperation** in agriculture, energy, defence, pharmaceuticals, and Digital Public Infrastructure (DPI).
- Convergence in multilateral forums such as **UN, G20, WTO, and BRICS**, including support for global governance reforms.
- Brazil expressed support for India’s priorities during its **BRICS Chairship in 2026**.

Historical Foundations of India–Brazil Relations

- **Strategic Partnership (2006):** India and Brazil elevated ties to a Strategic Partnership in 2006, institutionalising cooperation across political, economic, and defence sectors.
- **IBSA Dialogue Forum (2003):** Along with South Africa, both countries are members of IBSA, promoting South–South cooperation among major democracies of the Global South.

- **Shared Democratic Values:** Both are large, multicultural democracies committed to rule of law, multilateralism, and inclusive development.
- **Complementary Economies:** Brazil is resource-rich and strong in agriculture, while India has strengths in services, pharmaceuticals, and digital technology.

Trade and Economic Cooperation

- **Largest Trading Partner in Latin America:** Brazil is India’s biggest trade partner in the region, with bilateral trade crossing **USD 15–16 billion** in recent years.
- **Agriculture & Agri-Technology:** Cooperation includes oilseeds, pulses, ethanol blending, and farm mechanisation. Brazil’s expertise in tropical agriculture complements India’s needs.
- **Energy & Biofuels:** Both support clean energy transitions, especially **ethanol and renewable energy**, aligning with India’s energy security goals.
- **Pharmaceuticals & Digital Public Infrastructure:** India exports affordable medicines, while collaboration in DPI such as UPI-like systems can strengthen digital governance models.



Defence and Strategic Cooperation

- **Defence Manufacturing:** Scope exists in aerospace, naval systems, and joint production under India’s *Make in India* initiative.
- **Maritime Cooperation:** Both nations share interests in securing sea lanes in the Atlantic and Indian Oceans.
- **Space Collaboration:** Cooperation between ISRO and Brazilian space agencies highlights scientific engagement.
- **Strategic Autonomy:** Both countries pursue independent foreign policies, favouring multipolarity over bloc politics.

Multilateral Convergence

- **United Nations & UNSC Reform:** Both are part of the **G4 grouping (India, Brazil, Germany, Japan)** advocating permanent UNSC membership reforms.
- **G20 Coordination:** As major emerging economies,

both promote issues of climate finance, debt relief, and inclusive growth.

- **WTO and Trade Equity:** Shared concerns regarding agricultural subsidies and fair trade practices strengthen coordination.
- **Global South Advocacy:** Both countries emphasize development cooperation and equitable representation in international institutions.

BRICS and India's 2026 Chairship

- **Development Finance:** Strengthening the **New Development Bank (NDB)** to finance infrastructure and sustainable projects.
- **Climate and Sustainability:** Promoting climate justice, green energy transitions, and biodiversity protection.
- **Technology & Innovation:** Expanding collaboration in digital governance, AI, and emerging technologies.
- **Brazil's Support:** Brazil's backing enhances India's leadership role in shaping BRICS priorities in 2026.

People-to-People and Cultural Ties

- **Educational Exchanges:** Academic partnerships and scholarships strengthen long-term engagement.
- **Cultural Diplomacy:** Shared interest in sports, arts, and diaspora connections promote mutual understanding.
- **Science & Skill Development:** Joint research in agriculture, biotechnology, and renewable energy expands cooperation.
- **Soft Power Synergy:** Bollywood, yoga, and Brazilian cultural exports create cultural familiarity.

Challenges

- **Geographical Distance:** Long shipping routes increase logistics costs and reduce trade efficiency.
- **Low Business Awareness:** Limited knowledge among MSMEs about market opportunities restricts potential.
- **Trade Protectionism:** Regulatory barriers and tariff concerns affect agricultural and industrial exports.
- **Implementation Gaps:** Agreements often face delays due to bureaucratic and regulatory hurdles.

Way Forward

- **Operationalise Sector-Specific Working Groups:** Strengthen institutional mechanisms in agriculture, defence, energy, and DPI for measurable outcomes.
- **Improve Connectivity:** Expand direct shipping routes and air cargo networks to reduce logistics costs.
- **Promote MSME & Private Sector Linkages:** Organise business summits and trade fairs to increase awareness and partnerships.
- **Leverage BRICS & IBSA Platforms:** Convert political convergence into concrete initiatives in development finance, climate, and technology.
- **Enhance Digital & Green Cooperation:** Joint projects

in biofuels, green hydrogen, and digital payments can deepen strategic alignment.

Conclusion

India–Brazil relations are anchored in shared democratic values, converging strategic interests, and a common commitment to South–South cooperation. As influential voices of the Global South, both nations have the capacity to expand collaboration in trade, climate action, digital governance, and institutional reform. Strengthening the Strategic Partnership—especially through BRICS and IBSA—will reinforce India's global leadership and contribute to building a more inclusive, multipolar, and equitable world order.

EXPECTED QUESTION FOR UPSC CSE

Descriptive Question

- Q. India and Brazil, as leading democracies of the Global South, share a Strategic Partnership based on converging political, economic, and multilateral interests. Discuss the key dimensions of India–Brazil relations and examine their significance in the context of India's BRICS Chairship in 2026. (GS 2; 250 words, 15 marks)

DEEPENING INDIA–ARAB STRATEGIC CONVERGENCE

Why in News: India hosted the **Second India–Arab Foreign Ministers' Meeting on 31 January 2026 in New Delhi**, culminating in the adoption of the *Delhi Declaration* to strengthen strategic, economic and multilateral cooperation.

Key Details

- The meeting witnessed participation of India and all **22 member states of the League of Arab States (LAS)**.
- Trade between India and Arab countries stands at **over US\$240 billion**, with strong energy and diaspora linkages.
- The Declaration emphasised **sovereignty, counter-terrorism, UNSC reforms, Palestine issue, and maritime security**.
- A new **Executive Programme (2026–28)** was adopted to institutionalise cooperation across sectors.

Institutional Framework of India–Arab Engagement

- **Arab League Background (Static):** Established in 1945 with headquarters in Cairo, the Arab League has 22 member states across West Asia and North Africa. India holds **observer status** and institutionalised dialogue since 2002.
- **Arab–India Cooperation Forum (AICF):** Created through the 2008 Memorandum of Cooperation and revised in

2013 to streamline engagement. It serves as the primary structured mechanism for sectoral collaboration.

- **Ministerial Mechanism:** The India–Arab Foreign Ministers’ Meeting is the **highest institutional platform** guiding bilateral and multilateral coordination.
- **Executive Programme 2026–28:** Includes energy forums, startup conclave, space working group, health partnership conference, agriculture dialogue, tourism group, and counter-terrorism working group.

Economic and Energy Interdependence

- **Trade Volume:** India–Arab trade exceeds **US\$240 billion**, making the region India’s largest trading partner collectively.
- **Energy Security:** India imports nearly **47% of its crude oil** and about **50% of fertilisers** from Arab League countries, highlighting strategic vulnerability and dependence.
- **Investment & Emerging Technologies:** Growing Arab investments in **infrastructure, renewable energy, AI, startups, and digital technologies**, particularly from UAE and Saudi Arabia.
- **Renewable & Green Cooperation:** Cooperation in green hydrogen, solar energy, and India’s initiatives like **International Solar Alliance (ISA)** and **Global Biofuel Alliance**.

Maritime Security & Strategic Geography

- **Critical Sea Lanes:** Most of India’s external trade passes through the **Suez Canal, Red Sea, Bab al-Mandab Strait, Gulf of Aden and Arabian Sea**.
- **Houthi Attacks Condemnation:** The Declaration explicitly condemned attacks on maritime navigation in the Red Sea, signalling India’s concern for trade security.
- **STREAM Initiative:** Arab side briefed India on the **Suez Canal–Red Sea Economic and Maritime Development Initiative**, aimed at economic integration and blue economy development.
- **Indian Ocean Linkages:** Stability in Gulf and Red Sea aligns with India’s **SAGAR (Security and Growth for All in the Region)** vision.

Sovereignty & Territorial Integrity – Core Diplomatic Principle

- **Support for Sovereignty:** The Declaration reaffirmed respect for sovereignty, unity and territorial integrity of **Sudan, Libya, Somalia, and Yemen**.
- **Alignment with India’s Core Interests:** India consistently opposes secessionism and externally backed militias, reflecting its own concerns regarding territorial integrity.
- **Lebanon & Arms Monopoly:** Support for restricting arms to legitimate state agencies reinforces state-centric international order.
- **Three Islands Issue (UAE–Iran):** Backing peaceful resolution under international law without taking sides reflects balanced diplomacy.

Palestine Question & West Asia Peace

- **Two-State Solution:** Reaffirmed commitment to a sovereign and viable State of Palestine based on **1967 borders**.
- **Support for Gaza Ceasefire:** Welcomed 2025 Sharm El-Sheikh Peace Summit and called for sustained humanitarian access.
- **UNRWA & Humanitarian Law:** Emphasis on continued operations of relief agencies in accordance with UN mandates.
- **Balanced Approach:** India maintains ties with Israel, Palestine, Arab states, and the US, reflecting strategic autonomy.

Counter-Terrorism & Emerging Threats

- **Zero Tolerance Policy:** Reaffirmed commitment against terrorism in all forms, including cross-border terrorism.
- **Emerging Technologies Threat:** Concern over misuse of AI, drones, and digital platforms for recruitment and terror financing.
- **UNSC 1267 Mechanism:** Commitment to act against globally proscribed terrorists and financing networks.
- **Condemnation of Pahalgam Attack:** Arab states expressed solidarity with India against terrorism.

Multilateralism & Global South Leadership

- **UN Security Council Reform:** Called for expansion of permanent and non-permanent membership to reflect contemporary realities.
- **Voice of Global South:** Arab Ministers appreciated India’s leadership in Global South Summits.
- **South–South Cooperation:** Emphasis on equality, sovereignty, and partnership in reforming global governance.
- **Peacekeeping Contributions:** Both India and Arab states are significant troop contributors to UN missions.

Diaspora & People-to-People Connect

- **Indian Diaspora:** Over **9 million Indians reside in Arab countries**, forming a living bridge of economic and cultural ties.
- **Cultural Diplomacy:** Cooperation in education, media, youth exchanges and cultural festivals.
- **Women-led Development:** Commitment to exchange best practices in women empowerment.
- **Space & Technology Cooperation:** Proposed India–Arab Space Working Group to expand cooperation in satellite and space applications.

Way Forward

- **Diversify Beyond Energy:** Expand collaboration in AI,

digital governance, food security, healthcare, and green hydrogen.

- **Institutionalise Maritime Security Dialogue:** Joint naval exercises and intelligence sharing for Red Sea stability.
- **Strengthen Multilateral Coordination:** Coordinate on UNSC reforms and Global South platforms.
- **Balance Regional Rivalries:** Maintain strategic autonomy between Saudi Arabia, UAE, Iran, Israel, and US interests.
- **Promote Supply Chain & Food Security Cooperation:** Particularly in fertilisers, agriculture technology, and logistics corridors.

Conclusion

The Delhi Declaration reflects India's emergence as a **status-quo stabilising power in West Asia**, prioritising sovereignty, maritime security, economic interdependence and multilateral reform. By balancing competing regional camps while expanding institutional cooperation, India seeks to strengthen its strategic footprint in the Arab world without compromising strategic autonomy.

EXPECTED QUESTIONS FOR UPSC CSE

Prelims MCQ

Q. Consider the following regarding the Arab League:

1. Established in 1945.
2. Headquarters in Riyadh.
3. India holds observer status.

Which of the above is/are correct?

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

Answer: (c)

Descriptive Question

Q. Discuss the strategic significance of the Delhi Declaration (2026) for India's engagement with West Asia. (GS 2; 150 Words, 10 Marks)

INDIA'S ROLE IN A MULTIPOLAR WORLD

Why in News: Singaporean statesman George Yong-Boon Yeo underscored India's unique position in a multipolar global order, advocating a balanced foreign policy that allows India to engage with all global powers without rigid alignments.

Shift from unipolarity to multipolarity

Since the end of the Cold War, global power has been

increasingly moving away from U.S. unipolar dominance towards a multipolar world, with multiple influential centres: the U.S., China, EU, India, Russia, Japan, etc.

This transition has been catalysed by:

- The relative retrenchment of U.S. global commitments.
- The rise of China and other emerging powers.
- New transnational challenges (e.g., technology competition, supply chains, climate change).

India's strategic position

• Strategic autonomy & multi-alignment

- India's foreign policy is rooted in strategic autonomy engaging with all major powers without joining exclusive blocs. This has evolved into a multi-alignment strategy: deepening ties with the West while maintaining relations with Russia and engaging China pragmatically.
- India promotes engagement based on interests, not ideology or bloc loyalty.
- It seeks to avoid entanglement in great-power rivalries while maximizing cooperation.

• Economic & Geopolitical Weight

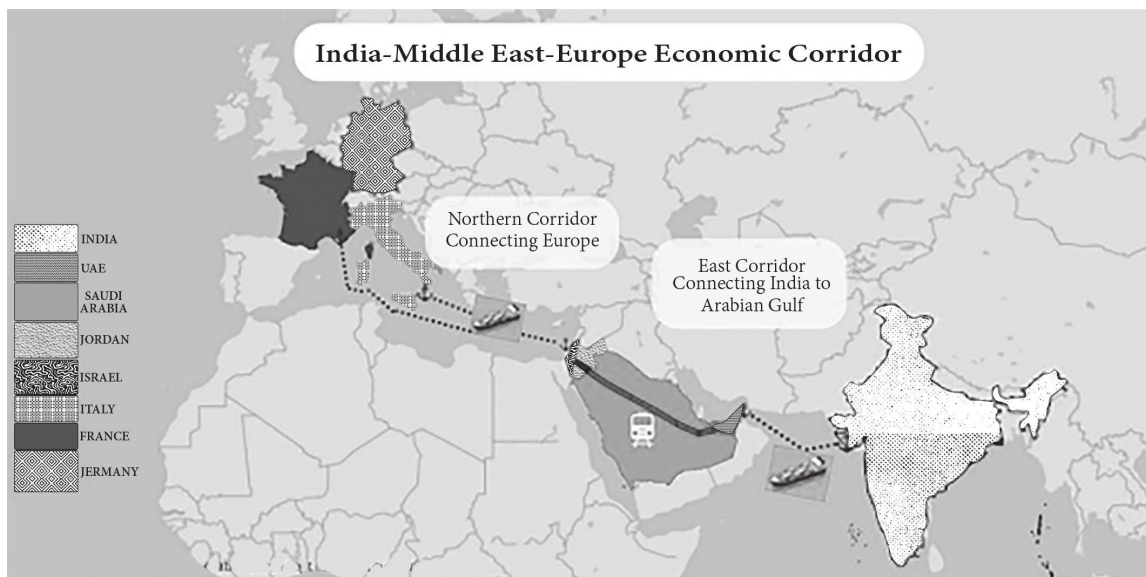
- India is one of the fastest-growing major economies and is projected to be among the top three global economies by mid-century.
- Its economic growth enhances global leverage and soft power, allowing New Delhi to shape economic governance discussions.

• Institutional & Issue Leadership

- India actively engages in global governance through: G20, BRICS/BRICS Plus, Quad, SCO, and other forums.
- Advocacy for UN reforms, including broader representation and Security Council expansion.
- Initiatives like the International Solar Alliance (ISA), CDRI, and Digital Public Infrastructure that resonate with Global South priorities.

• Balancing Major Powers

- India deepens security cooperation with Western democracies (e.g., Quad partners) without formal military pacts.
- It sustains historic ties with Russia and maintains avenues of dialogue with China, even amid tensions.



Significance

For India

- Ability to shape global debates on trade, technology, climate, security, and governance.
- Strategic autonomy strengthens diplomatic flexibility, enabling issue-based cooperation.
- Enhances India's global brand as a reliable partner, not a client state.

For the region & World

- A more balanced power structure reduces risks of hegemonic dominance.
- India's engagement with multiple partners can contribute to regional stability and collective problem-solving.

Challenges ahead

- Sustaining autonomy amid great power competition — especially given China's growing global clout.
- Strengthening economic and defense capacities to match diplomatic ambitions.
- Managing complex regional dynamics, including South Asia's internal disputes and external pressures.

Conclusion

India's role in a multipolar world is increasingly pivotal. Its multi-alignment strategy, economic ascent, and diplomatic activism position it not just as a participant but as a potential shaper of the emerging world order. Analysts like George Yeo stress India's unique opportunity to engage globally without rigid alignments, reinforcing its strategic autonomy while contributing to a balanced and cooperative international system.

EXPECTED QUESTION FOR UPSC CSE

Descriptive Question

Q. "India, in a multipolar world, can be its own pole through strategic autonomy and multi-alignment." Examine the statement in the context of India's foreign policy. (15 Marks, 250 Words)

INDIA-UAE LNG DEAL

Why in News: India and the United Arab Emirates signed a major \$3 billion LNG supply pact and agreed to bolster defence and economic ties. Both nations set a forward target to double bilateral trade to \$200 billion by 2032, expanding energy cooperation alongside defence collaboration.

Key Highlights

- **LNG Agreement:**
 - UAE will supply LNG to India, helping meet the country's growing energy needs.
 - Strengthens India's energy security and supports transition to cleaner energy.
- **Bilateral Trade Target:**
 - Both nations aim to double trade to \$200 billion by 2032.
 - Focus areas include energy, infrastructure, technology, and defence.
- **Defence Cooperation:**
 - Defence collaboration to be expanded alongside economic and energy ties.

LNG deal

- In 2025, Indian Oil Corporation (IOC) signed a separate long-term LNG supply agreement (14-year contract

worth \$7–9 billion) with ADNOC Gas to receive up to 1.2 million tonnes per year, starting 2026.

- These combined agreements reflect a growing energy partnership with the UAE as a core supplier for India's long-term gas needs.

Why It matters

- **Energy diversification:** Reduces reliance on a small set of suppliers and enhances India's bargaining position.
- **Geopolitical weight:** Deepens ties with a key Gulf partner amid shifting regional alliances and global energy realignments.
- **Economic growth:** Supports India's industrial and household energy demand while reinforcing bilateral economic ambitions.

Strategic Significance

- **Energy security**
 - The deal strengthens India's long-term energy security by diversifying sources of LNG imports amid rising global gas demand and market volatility.
 - India has ambitious plans to raise the share of natural gas in its primary energy mix to 15 % by 2030, making reliable long-term contracts like this highly strategic.
- **Growing India's role as a key UAE LNG partner**
 - With this agreement, India has become the UAE's largest LNG customer, and Indian energy deals now account for over \$20 billion of ADNOC Gas contracts in the past two years.

Way Forward

- LNG deliveries (0.5 million tonnes/year) are expected to start by 2028, requiring infrastructure and logistics planning.
- Supports India's goal of 15% natural gas in its energy mix by 2030 and complements domestic and renewable energy sources.
- Opens opportunities for joint ventures in LNG infrastructure, clean energy, and downstream projects.
- Strengthens India–UAE trade and strategic ties, including defence, technology, and investment partnerships.

Conclusion

The India–UAE LNG deal is a strategic win, enhancing India's energy security, boosting bilateral trade, and deepening geopolitical ties. It lays the foundation for long-term energy cooperation, sustainable development, and economic growth, making it a cornerstone of the India–UAE strategic partnership.

EXPECTED QUESTION FOR UPSC CSE

Descriptive Question

Q. "The recent India–UAE LNG deal is being seen as a milestone in India's energy security and strategic partnerships. Examine the significance of this

agreement in the context of India's energy needs, bilateral relations with the UAE, and its broader geopolitical implications." (250 words, 15marks)

EU-US AND GREENLAND SECURITY

Why in News: Relations between the EU and the U.S. experienced strain after sudden U.S. proposals regarding Greenland's status and trade threats toward European nations. EU leaders publicly acknowledged a deterioration in transatlantic cooperation, highlighting emerging geopolitical friction between NATO partners.

Why Greenland matters for EU-US security

- **Strategic location:** Greenland is geographically crucial in the Arctic, sitting between North America and Europe and overlooking emerging shipping routes as ice melts. Its location shapes missile detection, satellite coverage, and early warning systems notably through the U.S.-operated Pituffik Space Base under the 1951 Denmark–U.S. defence agreement.
- **Great-power competition:** Russia and China are expanding Arctic engagement through military activities or commercial investments intensifying strategic rivalries that both the EU and U.S. are watching closely.
- **EU economic interests:** The EU has longstanding ties with Greenland focused on raw materials (critical minerals), renewable energy, research, and economic development under cooperation frameworks that predate the latest geopolitical tensions.

Transatlantic tensions and security cooperation

- **U.S. Actions and European response**
 - In early 2026, U.S. President Donald Trump asserted that the U.S. had secured "total and permanent access" to Greenland, a move that alarmed European governments and NATO allies.
 - European leaders fear such moves could strain NATO unity and undermine the alliance's principles.
- **EU and NATO strategy**
 - The EU is crafting an Arctic security package, including defense and infrastructure investments, to bolster regional stability and cooperation.
 - Denmark and NATO have agreed to strengthen security engagement in the Arctic, underscoring collective defense while trying to reduce escalation.

Military and Defence dimensions

- **NATO's balance:** NATO allies are conducting joint exercises like Operation Arctic Endurance as a deterrent to coercion and to strengthen Arctic defense readiness.
- **Capability gaps:** Despite strategic intentions, there are challenges in Arctic military readiness, with the U.S. acknowledging gaps in equipment suited to the region

(e.g., ice-capable vessels and specific surveillance systems).

Broader geopolitical implications

- **Transatlantic relations:** The Greenland issue reflects broader transatlantic strains over foreign policy priorities, norms, and approaches to multilateralism. Some analysts argue current U.S. tactics risk weakening NATO cohesion and could push the EU toward greater defence independence.
- **Arctic security architecture:** Both the EU and U.S. recognize the Arctic as a critical security frontier not just militarily, but economically and climatically requiring cooperation among NATO allies, indigenous communities, and regional states.

Greenland

WHY IN NEWS:

The 47th President of the USA, Donald Trump, has expressed interest in purchasing Greenland.



Features:

- ➔ It is the world's largest island, located between North America and Europe in the North Atlantic Ocean.
- ➔ It is bordered by the Arctic Ocean to the north, Greenland Sea to the east, North Atlantic Ocean to the southeast, Davis Strait to the southwest, and Baffin Bay to the west.
- ➔ Once a Danish colony, Greenland is now an autonomous province of Denmark.

Way Forward

- Strengthen NATO and EU coordination on Arctic security.
- Invest in Arctic-specific defense capabilities and joint exercises.
- Respect Greenland's sovereignty in all strategic and economic decisions.
- Promote multilateral governance through the Arctic Council and EU partnerships.
- Build European strategic autonomy while supporting transatlantic alliances.

Conclusion

Greenland's strategic Arctic location makes it vital for EU-US security, but recent tensions highlight the need for careful diplomacy. Ensuring regional stability requires balancing transatlantic cooperation, respect for Greenland's sovereignty, and readiness against growing Arctic competition.

EXPECTED QUESTION FOR UPSC CSE

Descriptive Question

Q. Analyze the strategic importance of Greenland in the context of emerging Arctic geopolitics. How do EU-US relations influence security and economic interests in the region? (150 words, 10marks)

INDIA'S 2026 BRICS CHAIRSHIP

Why in News: India officially commenced its BRICS presidency for 2026, launching the logo and branding for the 18th BRICS Summit with the theme "Building for Resilience, Innovation, Cooperation and Sustainability." This theme encapsulates India's strategic priorities for its tenure as chair, emphasizing economic resilience, technological innovation, collaborative partnerships, and sustainable development.

BRICS Overview

BRICS is an association of five major emerging economies: Brazil, Russia, India, China, and South Africa. Formed in 2009 (originally BRIC before South Africa joined in 2010), the bloc accounts for:

- About 40% of the world population
- Around 25% of global GDP
- Roughly 18% of global trade

Why India's chairship is significant

India's leadership of BRICS in 2026 carries both symbolic and strategic importance:

- **Global leadership role:** India will have the opportunity to shape discussions on economic recovery, technological innovation, climate change, and sustainable development, projecting itself as a key global player.
- **Economic diplomacy:** India can push for reforms in global financial institutions, encourage trade and investment flows among BRICS members, and highlight the interests of emerging economies.
- **Technological and innovation focus:** By including innovation and resilience in the summit theme, India is signaling its intent to prioritize digital transformation, fintech, AI, and green technology collaboration among BRICS nations.
- **South-south cooperation:** India can strengthen partnerships with other Global South countries, including through development finance mechanisms like the New Development Bank (NDB), which funds infrastructure and sustainable development projects in member states.
- **Strategic positioning in a multipolar world:** The chairship allows India to assert itself as a bridge between developed and developing countries and to advocate for a more equitable international order.

It serves as a platform for member nations to coordinate on economic policy, development financing, political cooperation, and global governance reform. The chairship of BRICS rotates annually among member countries.

Key focus areas for India’s 2026 BRICS agenda

Focus Area	Potential Initiatives
Resilience	Economic recovery post-pandemic, supply chain security, food and energy resilience
Innovation	Digital infrastructure, AI, fintech collaboration, tech-driven development
Cooperation	Strengthening trade ties, people-to-people exchanges, coordinated policy on global issues
Sustainability	Climate finance, renewable energy projects, green technology partnerships

Symbolism of the logo and branding

While details of the logo have been released, it is designed to reflect India’s cultural identity while signaling unity, progress, and sustainability. Such branding is important for soft diplomacy, giving India an image of leadership and vision in the global arena.

Implications for the Global Politics

- **Strengthening India’s Geopolitical Voice:** Chairing BRICS allows India to push for reforms in global governance structures like the UN, IMF, and World Bank.
- **Balancing Global Powers:** With tensions between major powers rising, BRICS under India’s leadership may serve as a platform for dialogue and negotiation.
- **Enhanced South-South Collaboration:** India can leverage BRICS to foster partnerships with developing nations in Africa, Asia, and Latin America.

Challenges ahead

- **Diverse Membership:** Balancing differing priorities of members, e.g., China, Russia, and South Africa, could be diplomatically tricky.
- **Geopolitical Tensions:** Conflicts like Russia-Ukraine and U.S.-China competition may influence BRICS dynamics.
- **Delivering Tangible Outcomes:** India will need to translate ambitious summit themes into actionable projects, especially in areas like sustainability and innovation.

Conclusion

India’s 2026 BRICS chairship is a strategically important milestone, reflecting its growing stature in global affairs. With a theme emphasizing resilience, innovation, cooperation, and sustainability, India aims to position itself as a thought leader in shaping a multipolar, equitable world order. Successful leadership could bolster India’s economic diplomacy, geopolitical influence, and global soft power.

EXPECTED QUESTION FOR UPSC CSE

Prelims MCQ

- Q. India’s emphasis on “Innovation” during its BRICS chairship is most closely associated with which of the following areas?
- (a) Nuclear energy cooperation
 - (b) Digital infrastructure, fintech and emerging technologies
 - (c) Maritime security
 - (d) Space weaponization

Answer: (b)

INDIA AND PAX SILICA

Why in News: The United States has reportedly invited India to join “Pax Silica”, a proposed strategic technology and supply-chain initiative focused on artificial intelligence (AI), semiconductors, and other advanced technologies. This move signals a nuanced shift in U.S. technology diplomacy and highlights the deepening U.S.-India technological partnership amid intensifying global tech competition.

What is Pax Silica?

Pax Silica (literally “Peace through Silicon”) is a conceptual framework being advanced by the U.S. to:

- Secure trusted supply chains for critical technologies
- Reduce dependence on China-centric semiconductor and tech ecosystems
- Build a coalition of like-minded democracies in advanced technology domains

It draws inspiration from:

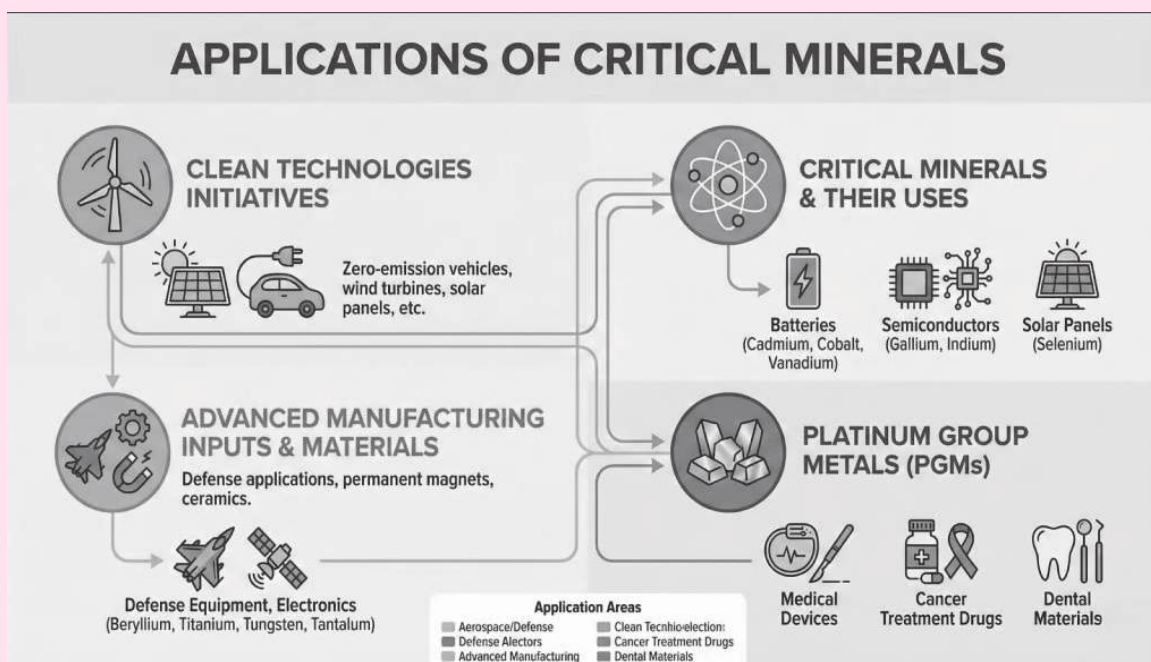
- Pax Americana (U.S.-led global order)
- Chip 4 Alliance (U.S., Japan, South Korea, Taiwan)
- Technology-focused multilateral arrangements

Core objectives of Pax Silica

- **Resilient semiconductor supply chains:** Diversification of chip manufacturing, design, and packaging
- **AI and emerging technology governance:** Shared norms on AI safety, ethics, and standards
- **Strategic decoupling:** Gradual reduction of reliance on adversarial tech ecosystems
- **Techno-strategic alignment:** Aligning export controls, investment screening, and R&D collaboration

What are Critical Minerals?

- Critical minerals are elements that are the **building blocks of essential modern-day technologies**, and are at risk of supply chain disruptions.
 - The lack of availability of these minerals or the concentration of extraction or processing in a few geographical locations could potentially lead to **“supply chain vulnerabilities and even disruption of supplies”**.



List of Critical Minerals

- **Different countries have their own unique lists** of critical minerals based on their specific circumstances and priorities.
- **A total of 30 minerals were found to be most critical for India:** Antimony, Beryllium, Bismuth, Cobalt, Copper, Gallium, Germanium, Graphite, Hafnium, Indium, Lithium, Molybdenum, Niobium, Nickel, PGE, Phosphorous, Potash, REE, Rhenium, Silicon, Strontium, Tantalum, Tellurium, Tin, Titanium, Tungsten, Vanadium, Zirconium, Selenium and Cadmium.

Why India matters to Pax Silica

India’s inclusion reflects its growing role as a technology and manufacturing hub:

India’s Strategic Advantages

- Large talent pool in AI, software, and chip design
- Expanding semiconductor ecosystem under the India Semiconductor Mission
- Strong digital public infrastructure (Aadhaar, UPI, ONDC)
- Geopolitical credibility as a trusted, non-treaty democratic partner

From market to strategic partner

The invitation marks a shift in U.S. perception of India:

- From a technology consumer → technology co-developer
- From a non-aligned actor → strategic tech balancer

How Pax Silica Fits into U.S.–India tech engagement

Existing Framework	Relevance
iCET (Initiative on critical and emerging technologies)	Foundation for AI, semiconductors, defense, tech cooperation
QUAD	Trusted technology and supply-chain resilience
US Export control relaxations	Greater tech access for India
Semiconductor MoUs	Joint fabs, packaging, and design

Strategic significance for India

Opportunities

- **Tech sovereignty:** Reduced dependence on single-country supply chains
- **Manufacturing upscaling:** Entry into global semiconductor value chains

- **AI Leadership:** Influence over global AI norms and standards
- **Geopolitical leverage:** Enhanced role in shaping the global tech order

Challenges

- **Strategic autonomy concerns:** Risk of being seen as part of a containment architecture
- **Domestic capacity gaps:** Capital-intensive semiconductor manufacturing
- **Balancing China relations:** Economic ties vs strategic competition

Way Forward

- Engage selectively and strategically, without formal alliance commitments
- Focus on co-development and co-manufacturing, not just market access
- Invest in human capital, R&D, and fabs
- Preserve strategic autonomy while shaping global tech norms

Conclusion

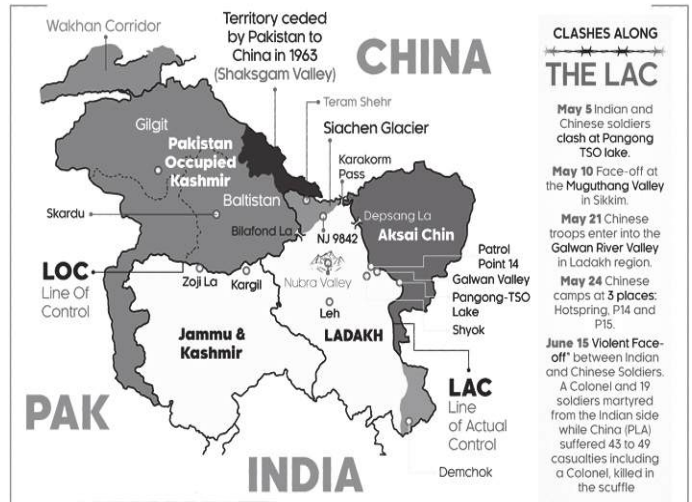
The U.S. invitation to India to join Pax Silica underscores India’s emergence as a critical pillar in the evolving global technology order. It reflects a transition from transactional tech ties to strategic technological alignment. For India, Pax Silica presents both an opportunity to enhance technological sovereignty and a challenge to carefully navigate the geopolitics of a fragmenting digital world.

SHAKSGAM VALLEY DISPUTE

Why in News: India rejected China’s infrastructure activities in the **Shaksgam Valley under CPEC**, terming them illegal and reaffirming that the region is an integral part of India.

Key Details

- The Shaksgam Valley (Trans-Karakoram Tract) was ceded by Pakistan to China under the **1963 Sino-Pakistan Boundary Agreement**, which India rejects as illegal.
- India has protested against infrastructure development linked to the **China–Pakistan Economic Corridor (CPEC)** in the region.
- China currently administers the valley as part of **Xinjiang Uyghur Autonomous Region**.
- The region holds major **strategic importance due to its proximity to Siachen Glacier, Aksai Chin, and the Karakoram Pass**.



Geographical and Strategic Location

- **High-Altitude Trans-Karakoram Region:** The Shaksgam Valley lies north of the **Karakoram Range**, between the Karakoram and Kunlun mountains. It is a sparsely populated, glaciated terrain covering approximately **5,180 sq km**.
- **Bordering Critical Zones:** It borders **Xinjiang (China)** in the north, **Pakistan-occupied Kashmir (Hunza-Gilgit)** to the south and west, and the **Siachen Glacier region** to the east, making it geopolitically sensitive.
- **River System:** The region is drained by the **Shaksgam River**, a tributary of the Yarkand River, which ultimately flows into the Tarim Basin of Xinjiang.
- **Proximity to Strategic Passes:** Its closeness to the **Karakoram Pass** enhances its military and surveillance significance in the broader Ladakh–Aksai Chin region.

Historical Background and Legal Dimensions

- **Part of Princely State of Jammu & Kashmir:** Before 1947, the valley was legally part of the princely state of Jammu & Kashmir, which acceded to India under the **Instrument of Accession (1947)**.
- **Pakistan’s Occupation (1947–48):** During the first Indo-Pak war, Pakistan occupied parts of J&K, including areas linked to the Shaksgam region.
- **1963 Sino-Pak Boundary Agreement:** On **2 March 1963**, Pakistan ceded the Shaksgam Valley to China to settle border disputes. However, Article 6 of the agreement stated that the boundary would be renegotiated after the Kashmir dispute’s final settlement.
- **India’s Legal Objection:** India rejects the agreement as **illegal and invalid**, arguing that Pakistan had no sovereign authority to transfer territory belonging to India.

China–Pakistan Strategic Convergence

- **Foundation of Karakoram Highway:** The 1963 agreement facilitated construction of the **Karakoram Highway (1970s)**, strengthening China–Pakistan connectivity.

- **China-Pakistan Economic Corridor (CPEC):** CPEC, a flagship project of the **Belt and Road Initiative (BRI)**, connects **Gwadar Port (Pakistan)** to **Kashgar (Xinjiang)**, offering China an alternative energy and trade route bypassing the **Malacca Strait**.
- **Infrastructure Militarisation Concerns:** Road-building, dual-use infrastructure, and logistics networks in Shaksgam enhance China's capacity for rapid troop mobilisation near India's northern borders.
- **Strategic Depth for Pakistan:** The arrangement strengthens Pakistan's northern defense architecture while consolidating the China-Pakistan strategic axis.

Security Implications for India

- **Impact on Siachen Glacier:** The valley's proximity to Siachen, the world's highest battlefield, provides vantage points affecting India's military posture.
- **Two-Front Challenge:** Growing China-Pakistan coordination increases the risk of a **two-front security scenario** for India in the western and northern sectors.
- **Linkage with Aksai Chin:** Shaksgam's location complements China's control over **Aksai Chin**, enhancing strategic continuity across contested areas.
- **Violation of Sovereignty:** India views infrastructure development in the region as an attempt to alter the status quo and undermine its territorial integrity.

Diplomatic and International Law Perspective

- **Non-Recognition Policy:** India does not recognize the 1963 agreement and consistently raises diplomatic protests against projects in the region.
- **Principle of Territorial Integrity:** Under international law, transfer of disputed territory by a non-sovereign authority is questionable, supporting India's legal stance.
- **Geopolitical Significance in Indo-Pacific Context:** The dispute fits within broader India-China tensions, especially after **Galwan (2020)** and ongoing LAC standoffs.
- **Strategic Signalling:** India's strong diplomatic response signals its unwillingness to accept unilateral alterations of ground realities.

Conclusion

The Shaksgam Valley dispute underscores the intersection of **territorial sovereignty, strategic rivalry, and regional geopolitics**. India must adopt a calibrated approach combining:

- Sustained diplomatic engagement with China and Pakistan
- Strengthening border infrastructure and military preparedness
- Leveraging international forums to assert territorial claims
- Enhancing regional partnerships under the Indo-Pacific framework

A balanced strategy of **deterrence, diplomacy, and development** is essential to safeguard India's sovereignty and maintain regional stability.

EXPECTED QUESTIONS FOR UPSC CSE

Prelims MCQ

Q. The Shaksgam Valley was ceded to China by Pakistan under which agreement?

- (a) Shimla Agreement
- (b) Sino-Pakistan Boundary Agreement, 1963
- (c) Tashkent Agreement
- (d) Panchsheel Agreement

(b) Answer

Descriptive Question

Q. Examine how infrastructure development under CPEC in disputed territories impacts India's national security. (150 Words, 10 Marks)

ECONOMY & AGRICULTURE

FROM GDP TO NDP

Why in News: The Ministry of Statistics and Programme Implementation (MoSPI) has projected **7.4% real GDP growth for FY 2025–26**, while India plans to shift towards **Net Domestic Product (NDP)** under the UN's **System of National Accounts (SNA) 2025** framework from 2029–30.

Key Details

- **Real GDP growth (FY 2025–26): 7.4%**, up from 6.5% in FY 2024–25.
- India became the **world's 4th largest economy (USD 4.18 trillion nominal GDP in 2025)**, surpassing Japan.
- India's GDP per capita remains **USD 2,694 (2024)**, far below advanced economies.
- Shift to **NDP under SNA 2025** aims to deduct depreciation and natural resource depletion for sustainability-oriented measurement.

Historical Evolution of National Income Measurement in India

- **Colonial Period: Early Estimates**
 - The first scientific estimate of India's national income was made by **Dadabhai Naoroji (1867)** in his "Drain Theory" analysis.

➤ Later estimates by V.K.R.V. Rao and others during the 1930s–40s laid groundwork for post-independence planning.

• Post-Independence Planning Era

- After 1950, GDP estimates became central to **Five-Year Plans**, guided by the Harrod-Domar growth model.
- GDP growth averaged around **3.5% (Hindu rate of growth) from 1950–1980**, reflecting structural bottlenecks.

• Post-1991 Reforms

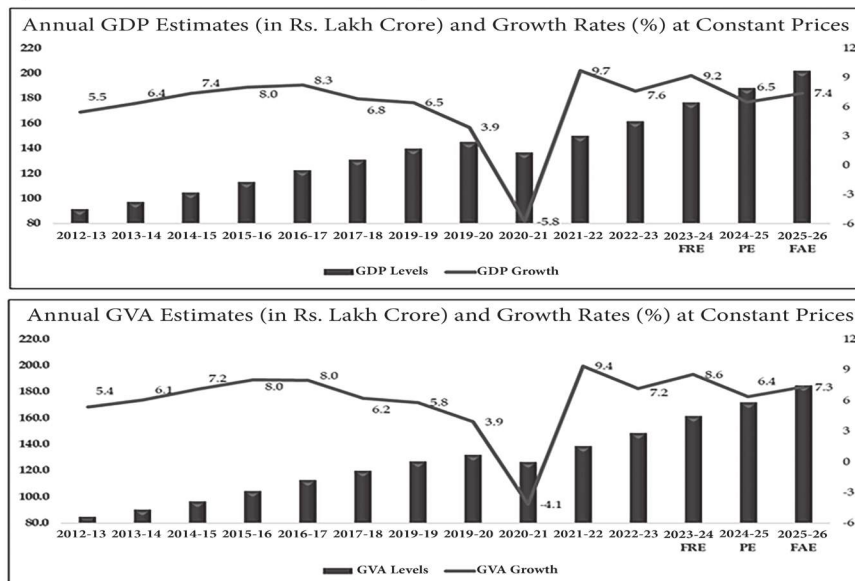
- Liberalisation shifted focus from state-led to market-led growth.
- GDP growth accelerated to **6–8% annually** during the 2003–08 period.
- Services sector contribution increased to over **50% of GDP**.

• Methodological Reforms (2015 Onwards)

- Base year revised from 2004–05 to 2011–12.
- Shift from GDP at factor cost to **GDP at market prices**.
- Expanded coverage in manufacturing, agriculture, and financial services.

Annual GDP and GVA Estimates along with Y-o-Y Growth Rates at Constant Prices

Fig. Annual GDP and GVA Estimates along with Y-o-Y Growth Rates at Constant Prices



Understanding Gross Domestic Product (GDP)

- **Definition:** GDP is the total monetary value of all final goods and services produced within domestic territory during a specified period.
- **Types**
 - **Nominal GDP:** Measured at current prices; influenced by inflation.
 - **Real GDP:** Adjusted using GDP deflator; reflects actual production growth.
- **Significance**
 - Indicator of economic size and growth.
 - Basis for fiscal deficit, tax-GDP ratio, and debt-GDP ratio calculations.
 - Used for international comparisons (IMF, World Bank rankings).
- **India's Current Position (2025)**
 - Nominal GDP: **USD 4.18 trillion.**
 - Real GDP growth (FY 2025–26): **7.4%.**
 - Services sector contributes nearly **55% of GDP**, agriculture ~15%, industry ~30%.

Sectoral & Demand-Side Analysis: FY 2025–26

- **Sectoral Growth**
 - **Services:** 9.9% growth in financial & real estate services.
 - **Trade & Transport:** 7.5% growth.
 - **Manufacturing & Construction:** 7.0%.
 - **Agriculture:** 3.1%.
 - **Utilities:** 2.1%.

This indicates services-led recovery with moderate agricultural expansion.

- **Demand-Side Drivers**
 - **Private Final Consumption Expenditure (PFCE):** **7.0% growth**, showing domestic demand strength.
 - **Gross Fixed Capital Formation (GFCF):** **7.8% growth**, indicating rising investment.
- **Macroeconomic Context**
 - Global growth projected at **2.7% in 2026 (UN WESP 2026).**
 - India expected to moderate to **6.6% in 2026** due to global trade pressures.

Limitations of GDP as a Welfare Measure

- **Depreciation Ignored**
 - GDP does not deduct capital consumption (machinery wear, infrastructure deterioration). This overstates net income available for reinvestment.
- **Environmental Degradation**
 - Extraction of coal, oil, and minerals increases GDP but depletes natural capital. India faces severe air pollution (14 of world's 20 most polluted cities), yet mitigation costs add to GDP.

- **Inequality Blindness**
 - India's top 10% hold over **70% of wealth (various inequality estimates)**. GDP growth does not reflect distributional justice.
- **Informal Sector Underestimation**
 - Nearly **80–85% of India's workforce** is informal.
 - GDP struggles to accurately capture informal output.
- **Defensive Expenditure Inclusion**
 - Spending on disaster relief, pollution control, and accidents increases GDP despite being remedial costs.

Net Domestic Product (NDP): Concept and Relevance

- **Definition**
 - $NDP = GDP - \text{Depreciation of Capital Assets}$
 - Under **SNA 2025**,
 - ◆ $NDP = GDP - (\text{Depreciation} + \text{Natural Resource Depletion})$
- **Why the Shift?**
 - Reflects **true net income generation**.
 - Indicates whether growth is asset-building or asset-consuming.
 - Aligns with SDGs and climate commitments.
- **Policy Benefits**
 - Promotes sustainable fiscal planning.
 - Integrates environmental accounting.
 - Enhances intergenerational equity.

SNA 2025: Global Reform in Economic Measurement

- **Key Innovations**
 - Introduction of **natural capital accounting**.
 - Distributional accounts (income & wealth inequality tracking).
 - Recognition of unpaid care work in extended accounts.
- **Institutional Impact**
 - RBI output classified as non-market activity.
 - Regulatory payments treated as transfers.
 - Emphasis on sustainability-adjusted growth.
- **Global Significance**
 - Moves beyond GDP dominance.
 - Supports green growth and climate-resilient development.

Comparative Perspective: GDP vs NDP

Aspect	GDP	NDP
Capital Depreciation	Not deducted	Deducted
Natural Resource Depletion	Ignored	Deducted (SNA 2025)
Sustainability	Limited	Higher relevance
Welfare Reflection	Incomplete	More realistic

Housing Inflation: Emerging Driver

- **Rise in Rent Share:** HCES data shows rent expenditure rising:
 - Rural: 0.45% → 0.56%
 - Urban: 6.24% → 6.58%
- **Methodological Improvements:** Exclusion of employer-

provided accommodation and improved rent sampling may increase measured housing inflation.

- **Structural Urbanisation Trend:** Rapid urban migration and rising real estate demand make housing a major inflation component.
- **Implication for Headline CPI:** While food volatility reduces, higher housing weight may structurally increase CPI during rent spikes.



Implications for RBI & Monetary Policy

- **Operational Comfort for RBI:** Lower food weight reduces noise from weather-related shocks, enabling better demand-side policy decisions.
- **Interest Rate Flexibility:** Previously, high food inflation prevented rate cuts even when demand was weak. Revised weights may ease such constraints.
- **Inflation Targeting Framework (FIT):** RBI continues targeting 4% inflation within a 2–6% band. The framework is under review for the next five-year period.
- **Estimated Impact:** Experts suggest headline CPI could vary by 20–30 basis points compared to the old series, depending on food price trends.

Data Reforms & Statistical Modernisation

- **Evidence-Based Policy Making:** CPI revision aligns with global statistical standards and improves credibility of macroeconomic data.
- **Linking Factor Publication:** To maintain continuity, an expert group recommended publishing linking factors between CPI 2012 and CPI 2024.
- **Reflects Structural Transformation:** Shift from food-dominated to services- and housing-driven consumption signals India's evolving economy.
- **Strengthening Data Ecosystem:** Integration of digital market prices enhances transparency and modernisation of inflation measurement.

Conclusion

The new CPI series represents a significant step in strengthening India's inflation measurement framework. To maximise its benefits:

- Ensure transparent communication of weight changes and linking factors.
- Regularly update base years to prevent statistical obsolescence.
- Complement headline CPI with core inflation and high-frequency indicators.
- Closely monitor housing inflation and align urban housing policies with macroeconomic stability.

Overall, the revised CPI makes inflation measurement more representative of India's evolving consumption patterns, while providing the RBI with greater policy clarity in managing price stability.

EXPECTED QUESTIONS FOR UPSC CSE

Prelims MCQ

- Q. Consider the following statements regarding the new CPI series:
1. The base year has been revised to 2023–24.
 2. Food weight has increased under the new series.
 3. Housing weight has increased significantly.

Which of the above is/are correct?

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

(a) :।ᄁᄁᄁ

Descriptive Question

Q. Discuss the rationale behind revising the Consumer Price Index (CPI) base year. How will the new CPI series impact inflation measurement and monetary policy in India? (250 Words, 15 Marks)

- **MSP Expansion:** MSP procurement payouts have **tripled over the last decade**, reaching approximately ₹3.33 lakh crore by June 2025.
- **Import Dependency:** India imports nearly **90% of potash and 60% of phosphates**, increasing fertilizer subsidy burden due to global price volatility.
- **Budgetary Imbalance:** Fertilizer subsidy allocation (~₹1.67 lakh crore) exceeds the entire Agriculture Ministry budget (~₹1.37 lakh crore), reflecting skewed spending priorities.

Importance of Subsidies in Indian Agriculture

- **Ensuring Food Security:** PM Garib Kalyan Yojana provides **5 kg free grains to 813 million people**, shielding vulnerable populations from food inflation.
- **Shield Against Global Shocks:** In 2025, a special package of **₹3,500 per tonne for DAP** stabilized fertilizer prices amid rising global phosphoric acid costs.
- **Crop Diversification Efforts:** Under the **Mission on Pulses**, 100% procurement of tur, urad, and masur aims at self-sufficiency by 2027.
- **Technology Adoption:** Sub-Mission on Agricultural Mechanization provides **40–50% subsidy on drones and farm machinery**, reducing labour intensity.
- **Climate Adaptation:** PM-KUSUM has solarized **49 lakh pumps by 2026**, lowering diesel usage and enhancing sustainability.

AGRICULTURAL SUBSIDIES IN INDIA

Why in News: Recent debates during the **Union Budget 2026 cycle**, along with observations by agricultural economist Ashok Gulati, have highlighted that India’s subsidy model is fiscally heavy and environmentally unsustainable, prompting calls for rationalisation.

Key Details

- Combined **food and fertilizer subsidies for FY 2025–26 are estimated at ₹3.71 lakh crore**, around 8.5% of total expenditure.
- Food subsidy alone stands at **₹2.03 lakh crore**, covering about 813 million beneficiaries under NFSA.
- Fertilizer subsidy allocation is **₹1.67 lakh crore**, making it the second-largest subsidy head.
- Discussions are underway to **merge food and fertilizer subsidies into an expanded PM-Kisan DBT framework**.

Agricultural Subsidies: Concept and Constitutional Basis

- **Definition and Purpose:** Agricultural subsidies are financial transfers provided by the government to reduce input costs (fertilizer, electricity, irrigation) or ensure remunerative prices through MSP. They aim to stabilize farm incomes and ensure food security.
- **Food Security Mandate:** Under **Article 47 (DPSP)** and the **National Food Security Act (2013)**, the state is obligated to improve nutrition levels. Subsidized foodgrain distribution is central to this objective.
- **Income Support Mechanism:** Schemes like **PM-Kisan**, transferring ₹6,000 annually to over 11 crore farmers, represent a shift from price support to direct income transfers.
- **Price Stabilization Role:** MSP-backed procurement of rice and wheat ensures buffer stocks and protects farmers against price volatility.

Trends and Fiscal Dimensions of Agri Subsidies

- **Rising Fiscal Burden:** The total outlay of ₹3.71 lakh crore in FY 2025–26 constitutes nearly **10% of the Union Budget**, limiting fiscal space for capital expenditure.

Environmental and Structural Concerns

- **Skewed Nutrient Ratio:** Excessive urea subsidy distorts the ideal **N:P:K ratio of 4:2:1**, leading to soil degradation and declining productivity.
- **Groundwater Contamination:** In Punjab and Haryana, overuse of nitrogen fertilizers has contributed to soil toxicity and groundwater pollution.
- **Crop Pattern Distortion:** MSP focus on rice and wheat encourages monoculture, discouraging oilseeds and pulses cultivation.
- **Leakages and Diversion:** Despite neem-coating, estimates suggest **20–25% of subsidized urea is diverted to industrial use**.

WTO and Global Trade Implications

- **Amber Box Limits:** Under WTO norms, trade-distorting subsidies must remain within **10% de minimis limits**, creating policy pressure.
- **Frequent Disputes:** Excessive rice and wheat procurement often attracts scrutiny from developed countries during WTO negotiations.
- **Comparative Global Models:** Countries like China invest heavily in “Green Box” measures such as R&D and infrastructure, which are WTO-compliant.
- **Export Competitiveness Impact:** Subsidy-driven price distortions reduce India’s global competitiveness in diversified agri-exports.

Reform Initiatives Undertaken

- **PM-PRANAM Scheme:** Incentivizes states to reduce chemical fertilizer usage by sharing **50% of subsidy savings**.
- **Digitalization of PACS:** ₹2,925 crore allocated to computerize **80,000 PACS**, ensuring transparency and better credit delivery.
- **Nutrient-Based Subsidy (NBS):** Encourages balanced fertilization by subsidizing nutrients instead of specific fertilizers.
- **DBT Integration:** Over ₹3.7 lakh crore transferred directly to farmers under PM-Kisan, reducing leakages.

Conclusion

India's agricultural subsidy regime must transition from **price-distorting input subsidies to targeted income support and productivity-enhancing investments**. Merging food and fertilizer subsidies into a strengthened DBT framework, rationalizing urea pricing under NBS, and focusing on "Green Box" investments such as R&D, irrigation, storage, and value chains can improve fiscal sustainability.

Reforms should aim at **environmental sustainability, WTO compliance, equitable distribution, and long-term farm competitiveness**. A rational, technology-driven subsidy architecture can transform agriculture into a resilient growth engine aligned with the vision of **Viksit Bharat 2047**.

EXPECTED QUESTIONS FOR UPSC CSE

Prelims MCQ

Q. Which of the following fall under trade-distorting "Amber Box" subsidies in WTO terminology?

1. MSP-based price support
2. Fertilizer subsidies
3. Investment in irrigation infrastructure
4. Agricultural research funding

Which of the above are included?

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

(a) :Answer

Descriptive Question

Q. Discuss the challenges posed by India's agri-subsidy structure in the context of WTO obligations and sustainable agriculture. (150 Words 10 Marks)

INDIA'S CORE SECTOR GROWTH STATUS

Why in News: India's eight core infrastructure industries recorded a **3.7% year-on-year growth in December 2025**, marking a four-month high and indicating improving industrial momentum.

Key Details

- The **Index of Eight Core Industries (ICI)** grew by **3.7% in December 2025**, up from 2.1% in November.
- Cement (13.5%) and steel (6.9%) were the main drivers of growth.
- Five sectors—coal, fertilisers, steel, cement and electricity—registered positive expansion.
- Crude oil (-5.6%) and natural gas (-4.4%) continued to show contraction.

Index of Eight Core Industries (ICI): Structural Significance

- **Composition and Coverage:** The ICI comprises coal, crude oil, natural gas, refinery products, fertilisers, steel, cement, and electricity. These sectors form the backbone of infrastructure and industrial activity.
- **Weight in IIP:** Core industries account for **40.27% of the weight in the Index of Industrial Production (IIP)**, making them a leading indicator of overall industrial growth.
- **Forward Linkages:** These sectors supply essential inputs to manufacturing, construction, power generation, and transport, thereby influencing GDP growth and employment.
- **Policy Sensitivity:** Government infrastructure spending, capital expenditure, and energy policies significantly affect performance in core sectors.

December 2025 Performance

- **Cement Growth (13.5%):** The sharp rise in cement output reflects strong construction activity, driven by infrastructure projects, urban housing, and public capital expenditure.
- **Steel Production (6.9%):** Steel output growth indicates resilience in industrial demand, especially in construction, automobiles, and capital goods sectors.
- **Electricity Generation (5.3%):** Rising electricity production signals improved industrial consumption and economic activity compared to November contraction.
- **Coal and Fertilisers:** Coal grew by 3.6% and fertilisers by 4.1%, supporting power generation and agricultural productivity respectively.

Persistent Weakness in Hydrocarbon Sector

- **Crude Oil Decline (-5.6%):** Domestic crude production continues to fall due to aging oil fields, limited new discoveries, and technological constraints.
- **Natural Gas Contraction (-4.4%):** Reduced output reflects

structural bottlenecks and dependency on imported LNG to meet rising energy demand.

- **Refinery Products (-1%):** Marginal decline indicates fluctuations in global demand and crude supply dynamics.
- **Energy Security Concern:** Continued hydrocarbon weakness increases import dependence, widening the current account deficit risk.

Cumulative Growth Trends (April–December 2025-26)

- **Moderate Overall Growth (2.6%):** Core sector growth for April–December stood at 2.6%, lower than the previous year, indicating uneven recovery.
- **Steel (9.5%) and Cement (8.8%) Lead:** Strong cumulative growth reflects sustained public infrastructure investment and housing demand.
- **Electricity (0.3%) Marginal Rise:** Electricity growth remained subdued cumulatively, reflecting earlier seasonal slowdown.
- **Coal Output Slightly Negative (-0.7%):** Despite December improvement, cumulative coal production lagged, impacting energy planning.

Linkage with Macroeconomic Indicators

- **Indicator of Industrial Momentum:** Since core industries have high weight in IIP, improvement suggests likely strengthening of industrial production data.
- **Impact on GDP Growth:** Infrastructure expansion contributes directly to Gross Value Added (GVA) in industry and construction sectors.
- **Capital Expenditure Push:** Union Budget emphasis on public capex in roads, railways, defence and urban infrastructure supports core sector revival.
- **Inflationary Implications:** Growth in steel, cement and electricity stabilises supply-side pressures and moderates cost-push inflation.

Structural Challenges and Reforms Needed

- **Energy Diversification:** Declining oil and gas production requires accelerated investment in renewable energy and strategic petroleum reserves.
- **Private Sector Participation:** Greater private investment in mining and hydrocarbons can improve productivity and technological adoption.
- **Logistics and Infrastructure Efficiency:** Improving rail, port and storage facilities will reduce supply bottlenecks.
- **Green Transition:** Sustainable steel production, renewable power generation, and cleaner fuels are essential for long-term resilience.

Conclusion

The acceleration in core sector growth to a four-month high indicates a gradual recovery in infrastructure and industrial momentum. However, structural weaknesses in hydrocarbons highlight the need for energy reforms and

diversification. Sustained public capital expenditure, private investment participation, and green transition policies will be critical to ensuring stable industrial growth. The core sector's performance remains a crucial barometer for India's broader economic trajectory.

EXPECTED QUESTIONS FOR UPSC CSE

Prelims MCQ

Q. Consider the following sectors included in the Index of Eight Core Industries:

- | | |
|-----------------------|-----------|
| 1. Coal | 2. Steel |
| 3. Telecommunications | 4. Cement |

Which of the above are included?

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

(b) Answer

Descriptive Question

Q. Discuss the role of core industries as a leading indicator of industrial and economic growth in India. Examine recent trends and associated challenges. (250 Words, 15 Marks)

EXPORT PREPAREDNESS INDEX (EPI) 2024

Why in News: NITI Aayog released the **Export Preparedness Index (EPI) 2024**, assessing the export readiness of States and UTs to support India's export-led growth.

Key Details

- EPI 2024 is the **4th edition** of the index first launched in **2020** by NITI Aayog.
- It evaluates export readiness using **4 pillars, 13 sub-pillars, and 70 indicators**.
- The index aligns with India's goal of **USD 1 trillion merchandise exports by 2030**.
- Coastal and industrialised states continue to dominate the rankings.

Export Preparedness Index: Concept and Objectives

- **Composite Measure of Export Readiness:** EPI is a data-driven composite index that evaluates the **competitiveness, policy environment, and institutional capacity** of States and UTs in promoting exports.
- **Sub-national Focus:** Unlike national export data, EPI assesses performance at the **state and district level**, recognising that exports are driven by regional capabilities.
- **Evidence-based Policymaking:** The index helps governments identify **structural gaps, sectoral strengths, and logistics bottlenecks**, enabling targeted reforms.

- **Alignment with National Goals:** EPI supports flagship visions such as **Viksit Bharat @2047, Make in India,** and the **USD 1 trillion export target.**

Framework and Methodology of EPI 2024

- **Four-Pillar Structure:** The index is built on four pillars—Export Infrastructure, Business Ecosystem, Policy & Governance, and Export Performance—ensuring holistic assessment.
- **Granular Indicator System:** With **13 sub-pillars and 70 indicators,** the framework captures dimensions like logistics, MSME ecosystem, finance access, and human capital.
- **Weightage Pattern:** Business Ecosystem carries the highest weight (**40%**), while the other three pillars have **20% each,** highlighting the importance of cost competitiveness and innovation.
- **Robust Data Sources:** EPI uses official datasets from **Central Ministries, State Governments, and public institutions,** improving reliability and comparability.

Key Pillars of Export Preparedness

- **Export Infrastructure (20%):** Measures logistics, connectivity, utilities, and industrial infrastructure. Coastal states like Maharashtra and Gujarat score high due to **port-led development.**
- **Business Ecosystem (40%):** Evaluates macroeconomic stability, human capital, MSME strength, and access to finance. This pillar reflects the shift toward **competitiveness-driven exports.**
- **Policy & Governance (20%):** Assesses state export policies, institutional support, and regulatory environment, emphasising **ease of doing export business.**
- **Export Performance (20%):** Tracks export diversification, global integration, and export outcomes, linking policy readiness with **actual trade performance.**

Major Features of EPI 2024

- **New Analytical Dimensions:** The 2024 edition introduces factors such as **cost competitiveness, MSME ecosystem, financial access, and macroeconomic stability.**
- **District-centric Approach:** Greater emphasis is placed on **districts as engines of export growth,** aligning with the Districts as Export Hubs initiative.
- **Cluster and Value-chain Focus:** The index promotes **place-based industrial clusters** and integration into global value chains (GVCs).
- **Cooperative Federalism Tool:** By ranking states as **Leaders, Challengers, and Aspirers,** EPI encourages peer learning and competitive federalism.

Performance of States and UTs in EPI 2024

- **Top Large States:** Maharashtra, Tamil Nadu, and Gujarat lead due to strong **manufacturing bases, port infrastructure, and industrial ecosystems.**
- **Emerging Performers:** Uttar Pradesh and Andhra Pradesh show improvement through **export promotion policies and logistics expansion.**
- **Small States and UT Leaders:** Uttarakhand, Jammu & Kashmir, Nagaland, Dadra & Nagar Haveli & Daman & Diu, and Goa perform well relative to their size.
- **Coastal Advantage:** The index highlights the continued dominance of **coastal states** in export infrastructure and global connectivity.

Significance for India's Export Strategy

- **Boost to Export-led Growth:** EPI provides a roadmap for achieving **USD 1 trillion merchandise exports by 2030,** a key national economic objective.
- **Employment Generation:** Export expansion, especially via MSMEs and clusters, can create **labour-intensive jobs** in manufacturing and services.
- **Reduction in Regional Disparities:** By identifying Aspirer states, EPI supports **balanced regional development.**
- **Global Value Chain Integration:** Strengthening logistics, standards, and competitiveness helps India integrate deeper into **global supply chains.**

Challenges Highlighted by EPI

- **Infrastructure Gaps in Hinterland States:** Landlocked and North-Eastern states still face **high logistics costs and connectivity bottlenecks.**
- **MSME Export Constraints:** Limited access to finance, technology, and global markets restricts MSME export potential.
- **Policy Coordination Issues:** Variation in state export policies and institutional capacity creates **uneven export ecosystems.**
- **Global Trade Uncertainties:** Protectionism, supply-chain disruptions, and geopolitical tensions pose risks to export growth.

Conclusion

To realise the full potential of export-led growth, India must strengthen **state-level export infrastructure, MSME competitiveness, and logistics efficiency,** while deepening district-led strategies. The Export Preparedness Index should be used as a dynamic reform tool to promote cooperative federalism, reduce regional disparities, and integrate India more effectively into global value chains in line with the vision of **Viksit Bharat @2047.**

EXPECTED QUESTIONS FOR UPSC CSE

Prelims (MCQ)

Q. The Export Preparedness Index (EPI) is released by:

- (a) Ministry of Commerce (b) NITI Aayog
(c) RBI (d) World Bank
- (b) :: ANSWER

Descriptive Question

Q. Evaluate the challenges faced by Indian States in improving export competitiveness and suggest measures to address them. (150 Words, 10 Marks)

AIRPORT PRIVATISATION IN INDIA

Why in News: The Union government has initiated the **third round of airport privatisation**, proposing to lease **11 Airports Authority of India (AAI) airports** to private operators under the **PPP model**.

Key Details

- The third round covers **11 non-metro airports**, bundled into five packages for privatisation.
- The move aligns with the **National Monetisation Pipeline (NMP)** to unlock value from brownfield infrastructure.
- Airport privatisation aims to enhance **efficiency, capacity, and service quality** amid rising air traffic.
- Concerns have emerged regarding **market concentration, passenger charges, and regulatory oversight**.

Airport Privatisation in India: Background and Evolution

- **AAI's Dominant Role:** Airports in India are primarily owned and operated by the **Airports Authority of India**, which manages aeronautical (runways, terminals) and non-aeronautical assets (retail, parking, real estate).
- **Early Privatisation Phase:** The process began in the early 2000s with the privatisation of **Delhi and Mumbai airports**, followed by greenfield PPP airports such as **Bengaluru and Hyderabad**.
- **Second Phase (2019):** Six airports were privatised using a **per-passenger fee model**, replacing the earlier revenue-sharing approach, marking a structural policy shift.
- **Current Phase:** The third round introduces **bundling of metro and non-metro airports**, aimed at making smaller airports commercially viable.

Rationale Behind Airport Privatisation

- **Infrastructure Modernisation:** Private participation is expected to bring **capital investment, advanced technology, and global best practices** in airport operations.

- **Operational Efficiency:** Privatisation seeks to improve turnaround time, passenger handling, and asset utilisation, areas where public management often faces constraints.
- **Fiscal Considerations:** Leasing airports reduces pressure on the public exchequer and allows the government to **reinvest proceeds into new infrastructure**.
- **Aviation Growth Potential:** With only **about 6% of Indians using air travel**, expanding airport capacity is critical for economic growth, tourism, and regional integration.

Third Round of Airport Privatisation

- **Coverage and Bundling:** The third round includes **11 AAI airports**, handling 0.1–1 million passengers annually, grouped based on traffic potential and geography.
- **Approval and Timeline:** The proposal requires clearance from the **PPPAC and Union Cabinet**, with bidding expected to begin in **2026**.
- **Alignment with NMP:** Under the National Monetisation Pipeline, airport privatisation of **25 airports** was projected to generate over **₹20,000 crore**.
- **Policy Push:** Slower monetisation in aviation compared to roads and railways has prompted renewed focus on airport assets.

Revenue Models and Regulatory Framework

- **Per-Passenger Fee Model:** Private operators pay AAI a fixed amount per passenger, indexed annually, ensuring revenue certainty for AAI.
- **Regulatory Oversight by AERA:** The **Airport Economic Regulatory Authority (AERA)** regulates tariffs such as User Development Fees (UDF), landing charges, and parking fees.
- **Role of Non-Aeronautical Revenue:** Retail, food courts, advertising, and real estate are expected to cross-subsidise passenger costs, though disputes over revenue reporting persist.
- **Emerging Regulatory Shift:** AERA is moving towards **service-linked tariff regulation**, linking charges to performance benchmarks.

Emerging Concerns and Criticisms

- **Market Concentration Risks:** A single corporate group controlling multiple major airports raises concerns of **monopoly or duopoly**, weakening competition.
- **Rising Passenger Costs:** In several privatised airports, **UDFs and ancillary charges** have increased after tariff revisions.
- **Service Quality Issues:** Passengers have reported congestion, high taxi fares, accessibility gaps, and inconsistent service standards.
- **Regulatory Capacity Constraints:** Effective monitoring of service quality, pricing transparency, and contractual compliance remains a challenge.

Conclusion

India's airport capacity is projected to rise from **about 550 million to nearly 850 million passengers per annum** in the next five years. Meeting this demand requires not just private investment but **robust regulation and competition safeguards**. Transparent bidding, limits on market concentration, stronger AERA oversight, and enforceable service-quality benchmarks are essential. Airport privatisation must balance **efficiency and profitability with affordability and public interest** to ensure inclusive aviation growth.

EXPECTED QUESTION FOR UPSC CSE

Prelims MCQ

Q. Which of the following bodies regulates airport tariffs in India?

- (a) DGCA
- (b) NITI Aayog
- (c) AERA
- (d) AAI

Answer: (c)

INDIA'S TOBACCO TAXATION REFORMS


Why in News: India has notified a **new tobacco taxation regime effective from 1 February**, following the passage of the **Central Excise (Amendment) Act, 2025**, marking a major overhaul of sin goods taxation.

Key Details

- The **GST Compensation Cess on tobacco will end** from February 1.
- A **new excise and purpose-specific cess framework** has been introduced.
- **GST slabs for tobacco products have been rationalised**, with higher effective taxation.
- A **retail sale price (RSP)-based valuation** system is introduced for smokeless tobacco.

Tax reset

The Central Excise (Amendment) Act, 2025 specifies new rates of excise duty on tobacco products

<ul style="list-style-type: none"> ■ The Finance Ministry has notified that provisions of the Health Security and National Security Act, 2025, which intends to levy a cess on pan masala units, will come into force from February 1 	<ul style="list-style-type: none"> ■ Beedis have been moved to the 18% GST category from the now defunct 28% slab ■ All other tobacco products have been moved to the 40% slab 	
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Tobacco as a 'Sin Good': Policy Rationale

- **Public Health Externalities:** Tobacco consumption is a leading cause of preventable deaths in India, contributing to cancers, cardiovascular diseases, and respiratory disorders, increasing public health expenditure.
- **Economic Burden:** According to national estimates, tobacco-related diseases cost India over **1% of GDP annually**, justifying higher taxation to internalise social costs.
- **Dual Policy Objective:** Tobacco taxation aims to **discourage consumption through higher prices** while generating **stable revenue** for health and welfare spending.
- **Global Norms:** WHO recommends that taxes constitute at least **75% of retail tobacco prices** to significantly reduce consumption.

Structure of Tobacco Taxation in India

- **Multi-Layered Taxation:** Tobacco products in India are taxed through **GST, Central Excise Duty, and Cess**, reflecting their demerit good status.
- **GST Classification:** Under GST, tobacco has consistently been placed in the **highest tax slabs**, unlike essential commodities.
- **Central Excise Continuity:** Despite GST subsuming many indirect taxes, excise duties on tobacco were retained due to revenue and health considerations.
- **Cess Mechanism:** Tobacco remained one of the few goods subjected to the **GST Compensation Cess**, even after most goods were exempted.

Limitations of the Earlier Regime

- **Affordability Paradox:** Despite high nominal tax rates, **real cigarette prices stagnated**, as taxes did not rise in line with income growth.
- **Weak Excise Indexation:** Lack of periodic upward revision reduced the effectiveness of tobacco control policies.
- **Tax Evasion Issues:** Under-reporting of production and valuation loopholes, especially in smokeless tobacco, reduced revenue potential.
- **Health Policy Gap:** India's effective tobacco tax incidence remained **below WHO-recommended levels**, weakening demand-reduction efforts.

Recent Tobacco Taxation Reforms (2025–26)

- **End of GST Compensation Cess:** The compensation cess will cease as its original purpose—offsetting GST-related State revenue losses—has largely been fulfilled.
- **New Excise Duty Structure:** Revised central excise duties ensure continuity of revenue while strengthening price deterrence.
- **Introduction of Purpose-Specific Cess:** A new cess under the **Health Security-cum-National Security Act, 2025** applies to pan masala and related units.

- **Non-Lapsable Revenue Stream:** Unlike general cesses, the new levy creates **predictable, ring-fenced funding** without burdening the wider population.

● How cigarettes will be taxed		
Component	Existing structure	From February 1
Excise duty	₹5-10 per 1,000 sticks	₹2,050-8,500 per 1,000 sticks
NCCD*	₹230-850 per 1,000 sticks	₹230-850 per 1,000 sticks
GST	28%	40%
Compensation cess	5-36% plus ₹2,076-4,170 per 1,000 sticks	Nil

*NATIONAL CALAMITY CONTINGENT DUTY:SOURCE:CBIC

Rationalisation of GST Slabs

- **Beedis Reclassified:** Beedis have been shifted from **28% to 18% GST**, recognising livelihood sensitivities and informal sector dependence.
- **Higher GST for Other Tobacco Products:** Cigarettes and chewing tobacco are now placed under a **40% GST slab**, increasing effective taxation.
- **Simplification Objective:** The reform reduces slab complexity while aligning tax rates with health risk intensity.
- **Equity Consideration:** Differential taxation reflects varying harm profiles of tobacco products.

New Valuation Mechanism for Smokeless Tobacco

- **RSP-Based Valuation:** GST will now be levied on the **retail sale price printed on packaging**, reducing scope for undervaluation.
- **Curbing Tax Evasion:** This addresses chronic issues of under-reporting in gutkha, khaini, jarda, and chewing tobacco segments.
- **Improved Compliance:** Clear valuation rules enhance transparency and administrative efficiency.
- **Revenue Assurance:** Better valuation is expected to increase both GST and excise collections.

Significance of the Reform

- **Public Health Alignment:** Higher real prices reduce affordability, especially among youth and low-income groups.
- **Fiscal Sustainability:** Replacing a temporary cess with a **purpose-specific levy** ensures long-term revenue stability.
- **Policy Coherence:** The reform balances health priorities with fiscal prudence and administrative simplicity.
- **Global Convergence:** India's tobacco taxation framework moves closer to international best practices.

Conclusion

India's tobacco taxation reforms mark a decisive shift towards **health-aligned fiscal policy**. Going forward, regular indexation of tobacco taxes to inflation and income growth,

stronger enforcement against illicit trade, and earmarking revenues for healthcare and cessation programmes will be critical. A sustained, evidence-based approach can ensure that taxation remains an effective tool for reducing tobacco consumption while safeguarding fiscal stability.

EXPECTED QUESTION FOR UPSC CSE

Prelims MCQ

Q. Consider the following statements regarding India's tobacco taxation reforms:

1. GST Compensation Cess on tobacco ends from February 1.
2. A new non-lapsable cess has been introduced for health and national security.
3. GST valuation for smokeless tobacco will be based on retail sale price.

Which of the above are correct?

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

(d) Answer

INDIAN ECONOMY'S GROWTH OUTLOOK AND CHALLENGES JANUARY 2026

Why in News: India's economic performance continues to be in global focus as key indicators, such as GDP growth projections, currency movements and policy preparations ahead of the Union Budget 2026-27, influence both domestic and international economic outlooks. Recent reports by national agencies, global institutions and financial markets highlight trends and challenges facing the economy in early 2026.

Key Details

- The International Monetary Fund (IMF) projects that India will remain the fastest-growing major economy, although growth is expected to moderate.
- The World Bank & NSO forecast India's GDP growth at 7.2-7.4% in FY 2025-26, with a possible moderation in FY 2026-27.
- Union Budget 2026-27 dates and Economic Survey schedule have been announced, signalling policy focus on boosting growth and addressing structural concerns.
- The Indian rupee hit record lows against the US dollar amid global risk aversion and foreign investment outflows.
- Industry stakeholders are urging trade facilitation reforms, especially a customs duty system similar to GST for ease of doing business.
- India's economic performance and progress took centre

stage at Davos 2026 with emphasis on technology leadership and investment.

Highlights

- **Growth Projections:** India's GDP is expected to grow between 7.2%-7.4% in FY 2025-26 higher than last fiscal despite global headwinds.
- **Global Ranking:** IMF confirms India's position as the fastest-growing major economy.
- **Currency Pressure:** INR breached ₹91 per USD, reflecting capital outflows and global trade uncertainties.
- **Budget Preparations:** Economic Survey and Budget announcements set the stage for policy measures to sustain growth.
- **Industry Reforms:** Calls for simplification of customs duties ahead of Budget reflect business demand for trade competitiveness.
- **Global Engagement:** India's economic progress was showcased at WEF Davos 2026, highlighting investment opportunities.

Background

- India's economy enters 2026 amid an environment of resilient growth and structural challenges. GDP forecasts by NSO and global agencies show that India continues to outperform major economies despite global trade tensions, high tariffs abroad, and currency volatility. The first advance GDP estimates position India above global growth averages, supported by strong domestic demand and ongoing reforms introduced in previous budgets.
- Simultaneously, macroeconomic management — especially monetary policy and exchange rate stability — remains a key tool in navigating external pressures. The Reserve Bank of India (RBI) has maintained accommodative policy settings to balance inflation, growth and financial market stability.

**KEY TAKEAWAYS FROM
ECONOMIC SURVEY 2025-26**

Indian economy expected to grow between **6.8%-7.2 % in FY27**

Globalisation has changed — geopolitics now drives trade, capital and technology

Volatility is the new normal in the world economy

Manufacturing is macroeconomic insurance, not nostalgia

Cheap capital follows **productivity and exports**, not policy shortcuts

In a fragmented world, **resilience matters** as much as growth



BS

Issues & Challenges

- **External Sector Vulnerabilities**
 - Persistent rupee depreciation raises import costs and inflationary pressures.
 - High foreign portfolio investor (FPI) outflows also reflect risk aversion.
- **Global Trade Uncertainties**
 - Trade tensions, especially higher tariffs from major trading partners, pose risks to export growth and balance of payments resilience.
- **Need for Structural Reforms in Trade Policy**
 - Industry demand for simplification of customs duty frameworks highlights friction in trade processes, affecting competitiveness.

Importance

- **Policy Formulation:** These developments inform the Union Budget 2026-27 and Economic Survey strategies for fiscal and monetary policy objectives.
- **Global Context:** India's growth positioning relative to other economies influences foreign policy and trade negotiations.

Solutions / Government Initiatives

- **Strong Macroeconomic Management**
 - RBI's accommodative stance and policy tools to balance growth with inflation.
 - Prudent fiscal strategies ahead of the Budget to sustain public investment and private sector confidence.
- **Trade Policy Reforms**
 - Potential simplification of customs duties to reduce compliance costs and boost exports.
 - Encouraging diversification of export markets to offset tariff impacts.
- **Investment Promotion**
 - Highlighting India's growth narrative at global forums (e.g., Davos) to attract foreign investments.

Conclusion

India's economic outlook for 2026 remains optimistic, driven by strong growth fundamentals and sustained domestic demand. However, external vulnerabilities such as currency volatility and trade tensions must be mitigated through cohesive policy action. Simplified trade frameworks, targeted reforms, and continued fiscal prudence will be central to ensuring stable growth momentum. The Union Budget 2026-27 is expected to address these areas by balancing reform with growth-oriented interventions.

EXPECTED QUESTIONS FOR UPSC CSE

Prelims MCQ

- Q. Which of the following is true about India's economic outlook in early 2026?
- (a) IMF projects India to slow below 5% GDP growth.
 - (b) World Bank and NSO estimates suggest growth above 7% for FY 2025-26.
 - (c) The Indian rupee strengthened significantly against the US dollar in Jan 2026.
 - (d) Industry stakeholders are satisfied with the current customs duty regime.

(b) :r.wmsvA

Descriptive Question

- Q. Discuss the key factors driving India's economic growth in 2026 and evaluate the challenges posed by external sector vulnerabilities such as currency volatility and global trade tensions. Suggest reforms to enhance economic resilience. (250 words, 15 marks)

INDIA'S GROWTH FORECASTS & ECONOMIC STABILITY

Why in News: In January 2026, key global and domestic economic institutions revised India's growth outlook, while pressing issues such as currency depreciation and banking sector liquidity emerged as crucial concerns.

Key Details

- The International Monetary Fund (IMF) upgraded India's GDP forecast for 2025-26, urging medium-term stability, even as financial markets and bank funding patterns signal structural adaptation.
- This has important implications for policymakers, investors, and long-term growth strategies.
- The IMF raised India's FY26 growth forecast to 7.3%, reflecting stronger-than-expected economic momentum. However, it cautioned that growth is likely to slow in the next two fiscal years as cyclical drivers ease.
- Industry bodies like the Confederation of Indian Industry (CII) called on the government to use the upcoming Union Budget 2026-27 to strengthen infrastructure, R&D, financial systems, and innovation to sustain high growth.
- The Indian rupee breached historic lows against the US dollar due to global risk aversion and capital outflows.
- Indian banks are seeking RBI approval to issue longer-term bulk deposits to reduce funding costs and address sluggish deposit growth.

Highlights

- **Growth Revision:** IMF's upward revision from earlier forecasts underscores resilience in domestic demand and improved economic performance.
- **Policy Focus:** CII's recommendations emphasis long-term structural reforms beyond short-term growth targets.
- **Currency Pressure:** Persistent depreciation reflects external vulnerabilities that can affect import costs and investor confidence.
- **Banking Sector Adjustment:** Banks' push for longer-term deposits indicates funding stress due to a slower growth in retail deposits relative to credit demand.

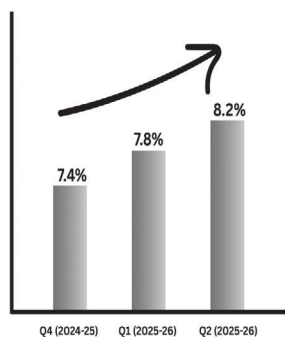
Background

- India's economic trajectory has been characterised by robust GDP growth performance driven by strong domestic consumption, elevated public capital expenditure, and resilient services activity. Despite global headwinds including higher tariffs, geopolitical tensions, and moderating global demand India continues to attract attention as a key engine of growth among major economies.
- The IMF periodically revises growth forecasts based on incoming data and economic conditions. The latest update reflects better-than-expected performance in the later quarters of FY25-26. However, as cyclical growth boosts fade, maintaining momentum will depend on structural reforms and investment support.
- The Rupee's depreciation highlights external sector stresses, particularly capital outflows amid global risk aversion and weaker risk appetite for emerging markets, which could have inflationary implications and impact cross-border trade competitiveness.
- Simultaneously, India's banking sector faces funding pressures as credit demand outpaces deposit inflows, prompting lenders to seek regulatory changes for longer-term instruments to smooth funding costs.

Issues

- **Slowing Medium-Term Growth Potential:** While the immediate growth outlook is strong, projections show a moderation trend. Managing this deceleration while ensuring inclusive growth remains a policy challenge.
- **External Sector Vulnerability:** Continued rupee weakness, if unchecked, can raise import costs (especially energy) and contribute to inflation, affecting both businesses and consumers.
- **Banking Sector Liquidity:** Banks facing a higher credit-to-deposit ratio struggle with funding mismatches. Unless retail deposits strengthen, reliance on costly bulk deposits may increase, pressuring margins and credit pricing.
- **Structural Reforms Lag:** Industry calls for budgetary focus on infrastructure and R&D reflect a broader need for sustained long-term reforms beyond short-term stimulus.

India's GDP Growth



India's real GDP increased by **8.2%** in the second quarter of FY 2025-2026, compared to **7.8%** in the preceding quarter and **7.4%** in the fourth quarter of 2024-2025, because of the strong local demand in the face of uncertain global trade and policy. The booming **manufacturing and services sectors** drove an **8.1%** increase in real gross value added (GVA).

Government Initiatives

- **Policy Response for Growth Sustainability**
 - Prioritize budgetary allocations for infrastructure, innovation, digital systems, and research & development to drive productivity.
 - Strengthen public investment while maintaining fiscal discipline to support growth stability.
- **External Sector Strategy**
 - Enhance foreign exchange market depth through improved capital inflows and export competitiveness.
 - Use trade diplomacy to mitigate tariff impacts and diversify export markets.
- **Banking Sector Strengthening**
 - Approve longer-term pools of funds for banks to balance asset-liability mismatches.
 - Promote deposit mobilization campaigns, especially among retail customers, to reduce expensive wholesale funding reliance.
- **Structural Reforms**
 - Implement regulatory and tax reforms that improve ease of doing business, encourage investment, and foster innovation.

Conclusion

India's economic outlook in early 2026 shows a blend of positive momentum and structural challenges. Upward revisions in growth forecasts highlight resilience, but moderating trends and external pressures require calibrated policy responses. A balanced focus on infrastructure, banking stability, external sector resilience, and long-term reforms will be crucial to sustain high growth and ensure inclusive development. Collaborative efforts between government, regulators, and industry will shape India's economic trajectory going into FY27 and beyond.

EXPECTED QUESTIONS FOR UPSC CSE

Prelims MCQ

- Q. Which of the following reflects a reason for the Rupee's depreciation in January 2026?
- (a) Exclusive strong foreign investment inflows
 - (b) Global risk aversion and capital outflows
 - (c) High retail deposit growth in India
 - (d) Sharp rise in domestic savings

(b) Answer

Descriptive Question

- Q. Analyse the implications of the IMF's revised growth forecasts for India in 2026 and discuss the key policy measures required to sustain economic growth amidst external sector pressures and banking sector liquidity challenges. (150 Words, 10 Marks)

INFLATION TRENDS, FOOD PRICES AND MONETARY POLICY STANCE

Why in News: In January 2026, retail inflation data and RBI commentary highlighted easing headline inflation but persistent food-price volatility. Editorials and reports in The Hindu and Indian Express discussed implications for monetary policy and growth.

Key Details

- CPI inflation moderated due to base effect and easing fuel prices.
- Food inflation, especially cereals and vegetables, remained volatile.
- RBI maintained a cautious stance, prioritising price stability.
- Rural demand showed signs of gradual recovery.

Background

- Inflation management is a key mandate of the RBI under the flexible inflation targeting framework. India follows a 4% CPI target with $\pm 2\%$ tolerance band. Over the past two years, global supply shocks, climate variability, and food price spikes have driven inflation volatility.
- As global commodity prices softened in late 2025, inflationary pressure eased. However, domestic food prices continued to fluctuate due to uneven monsoon impact, supply chain inefficiencies, and storage constraints.

Highlights

- Headline inflation moved closer to RBI's tolerance band.
- Food inflation emerged as the main upside risk.
- Core inflation remained relatively stable.
- Monetary policy focused on "withdrawal of accommodation".

Issues

- High dependence on food inflation to determine headline CPI.
- Limited transmission of monetary policy to food prices.
- Climate-induced supply disruptions.
- Rural consumption remains uneven.

Challenges

- Balancing inflation control with growth revival.
- Managing food inflation through non-monetary tools.
- Ensuring effective coordination between Centre and States.
- Maintaining credibility of inflation targeting.

Importance

- Inflation impacts purchasing power, poverty, and inequality.
- Monetary policy decisions influence investment and growth.
- Direct relevance to GS-III (Indian Economy).
- Frequently asked in Prelims (CPI, WPI, RBI tools).

Policy Measures

- Strengthening buffer stocks and food management.
- Improving agricultural supply chains and cold storage.
- Using targeted fiscal interventions instead of broad subsidies.
- Better climate-resilient agriculture planning.

Government Initiatives

- Price Stabilisation Fund (PSF).
- PM-Garib Kalyan Anna Yojana.
- Digital monitoring of essential commodities.
- RBI's flexible inflation targeting framework.

Conclusion

India's inflation trajectory in 2026 suggests improved macro-stability, but food inflation remains a structural challenge. A mix of monetary prudence and supply-side reforms is essential for durable price stability.

EXPECTED QUESTIONS FOR UPSC CSE

Prelims MCQ

Q. Which body sets India's inflation target?

- Ministry of Finance
- RBI-Government Agreement
- NITI Aayog
- SEBI

Answer: (b)

Descriptive Question

Q. Discuss the challenges in managing food inflation in India. Why is monetary policy alone insufficient to control inflation? (150 words, 10 marks)

INDIA'S EXTERNAL TRADE, EXPORT SLOWDOWN AND GLOBAL UNCERTAINTY

Why in News: January 2026 trade data and editorials highlighted slowing merchandise exports due to weak global demand and protectionist tendencies, as reported in Indian Express and The Hindu.

Key Details

- Merchandise exports showed subdued growth.
- Services exports remained resilient.
- Trade deficit widened due to higher imports.
- Global slowdown and tariffs impacted Indian exports.

Highlights

- IT and services exports acted as stabilisers.
- Manufacturing exports faced demand contraction.
- China+1 strategy provided mixed results.
- Rupee depreciation partly offset export slowdown.

Background

- India's trade structure is vulnerable to global demand cycles. While services exports have performed well, merchandise exports face challenges such as logistics costs, compliance burden, and protectionist measures abroad.
- The global economy in 2026 faces uncertainty due to geopolitical tensions, slowing growth in advanced economies, and fragmented trade regimes.

Challenges

- Sustaining export competitiveness.
- Managing trade deficit without harming growth.
- Ensuring MSME participation in exports.
- Adapting to green trade barriers (CBAM).

Importance

- Exports are crucial for growth and forex stability.
- Trade performance impacts current account deficit.

Initiatives

- Production Linked Incentive (PLI) schemes.
- Foreign Trade Policy 2023.
- PM Gati Shakti.
- FTAs with UAE, Australia.

Conclusion

India must shift from volume-based to value-based exports while insulating itself from global shocks through diversification and competitiveness reforms.

EXPECTED QUESTION FOR UPSC CSE

Prelims MCQ

Q. Which sector cushions India’s trade deficit most effectively?

- (a) Agriculture
- (b) Manufacturing
- (c) Services
- (d) Mining

Answer: (c)

Descriptive Question

Q. Analyse the structural challenges facing India’s export sector. Suggest measures to improve export competitiveness. (150 Words, 10 Marks)

FISCAL CONSOLIDATION, SUBSIDIES AND UNION BUDGET 2026-27

Why in News: Ahead of the Union Budget 2026–27, pre-Budget consultations held in January 2026 highlighted the government’s focus on fiscal consolidation, rationalisation of subsidies, and sustaining capital expenditure (capex) to support long-term economic growth.

Key Highlights from pre-budget discussions

- The government reiterated its commitment to reducing the fiscal deficit in line with the medium-term consolidation roadmap.
- Food and fertiliser subsidies continued to form a substantial share of expenditure due to welfare commitments and global price volatility.
- Capital expenditure remained a key growth driver, with emphasis on infrastructure-led development.
- Improved revenue buoyancy, particularly from GST collections, supported fiscal management.

What is Fiscal Consolidation?

- Fiscal consolidation refers to a strategy to reduce fiscal deficit and public debt accumulation through a mix of expenditure rationalisation, revenue enhancement, and improved fiscal discipline.
- It aims to ensure macroeconomic stability, debt sustainability, and investor confidence.

Background

- India adopted a gradual fiscal consolidation path following the COVID-19 pandemic due to the need for counter-cyclical spending.

- Elevated public investment helped revive growth, but rising subsidy bills and committed expenditures have constrained fiscal space.
- The challenge lies in balancing growth imperatives with fiscal prudence in a post-pandemic and geopolitically uncertain global environment.

Key trends in budgetary strategy

- **Shift from Revenue Expenditure to Capital Expenditure**
 - Increasing allocation towards infrastructure, logistics, energy transition, and urban development.
 - Capex has a higher multiplier effect compared to revenue expenditure.
- **Targeted Subsidies over Universal Support**
 - Preference for Direct Benefit Transfer (DBT) to reduce leakages.
 - Focus on need-based targeting instead of blanket subsidies.
- **Fiscal Credibility and Investor Confidence**
 - Maintaining fiscal discipline is essential to attract foreign investment and ensure sovereign creditworthiness.



Key Issues

- High committed expenditure (interest payments, salaries, pensions).

- Limited fiscal space for expanding welfare schemes.
- State-level fiscal stress, especially due to power sector losses and social sector spending.
- Concerns over off-budget borrowings impacting transparency and debt sustainability.

Challenges

- Balancing welfare needs with fiscal prudence.
- Ensuring quality and efficiency of public expenditure.
- Reducing the debt-to-GDP ratio over the medium term.
- Strengthening cooperative fiscal federalism amid Centre–State financial tensions.

Government Initiatives Supporting Fiscal Consolidation

- **Fiscal Responsibility and Budget Management (FRBM) Framework:** Anchors deficit and debt targets.
- **National Monetisation Pipeline (NMP):** Unlocks value from brownfield public assets.
- **Direct Benefit Transfer (DBT):** Improves subsidy targeting and reduces leakages.
- **GST Reforms:** Enhances revenue buoyancy and tax compliance.

Way Forward

- Continue growth-friendly fiscal consolidation with realistic deficit targets.
- Further rationalise subsidies using technology and data-driven targeting.
- Improve public expenditure efficiency through outcome-based budgeting.
- Strengthen Centre–State coordination to address sub-national fiscal stress.
- Enhance fiscal transparency, especially regarding off-budget liabilities.

Conclusion

India’s fiscal strategy for Union Budget 2026–27 underscores the need to sustain economic growth while ensuring fiscal discipline. A calibrated approach—combining capital expenditure, targeted welfare, and credible consolidation—will be crucial to maintaining macroeconomic stability and protecting vulnerable sections of society.

EXPECTED QUESTIONS FOR UPSC CSE

Prelims MCQ

Q. Which Act governs fiscal deficit targets in India?

(a) GST Act (b) FRBM Act

(c) Finance Act (d) RBI Act

(b) Answer

Descriptive Question

Q. Critically examine the challenges of fiscal consolidation in India while maintaining inclusive growth. (150 words, 10 marks)

MSMES, CREDIT FLOW AND EMPLOYMENT GENERATION

Why in News: January 2026 reports highlighted MSME credit constraints, employment concerns, and the role of government support mechanisms.

Background

- MSMEs act as a critical shock absorber during economic downturns by sustaining livelihoods. While formalisation has expanded the tax base and digital footprint, it has also increased compliance costs for micro enterprises. Limited access to long-term and patient capital restricts capacity expansion and technology upgradation, keeping MSMEs trapped in low-productivity cycles.

Key Details

- Credit access remains skewed in favour of medium enterprises; micro units face higher rejection rates.
- Employment generation is uneven, with rising self-employment but weak wage employment.
- Formalisation improved through GST, Udyam Registration, Account Aggregators, and digital payments.
- Banks remain cautious due to legacy NPAs, risk-based pricing, and lack of reliable credit histories.
- NBFCs and fintechs have emerged as alternative credit channels, but at higher interest rates.

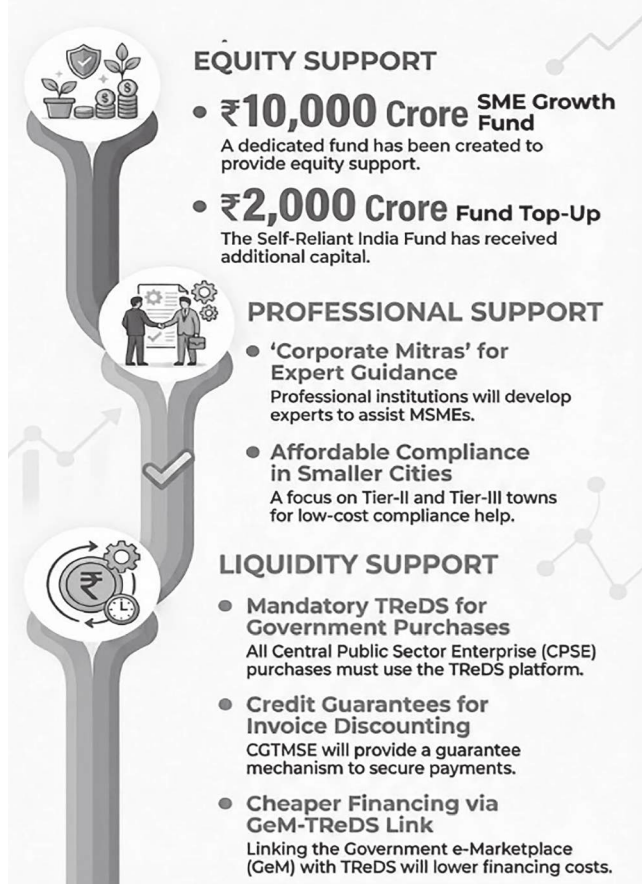
Highlights

- MSMEs contribute ~30% to GDP, 45% of manufacturing output, and 40% of exports.
- Employ over 110 million people, mainly in labour-intensive sectors.
- Credit Guarantee Schemes have reduced lender risk but raised concerns of moral hazard.
- Skill mismatch, low capital intensity, and informality limit productivity-led job creation.
- Cluster-based MSMEs perform better in employment and export competitiveness.

Issues

- High cost of credit due to risk premiums and limited collateral.
- Delayed payments from large firms and government entities.
- Low productivity caused by outdated technology and poor scale economies.
- Informality in labour relations, restricting social security coverage.
- Gender and regional disparities, with women-led and rural MSMEs facing deeper constraints.

A Three-Pronged Strategy for MSME Growth



EQUITY SUPPORT

- **₹10,000 Crore SME Growth Fund**
A dedicated fund has been created to provide equity support.
- **₹2,000 Crore Fund Top-Up**
The Self-Reliant India Fund has received additional capital.

PROFESSIONAL SUPPORT

- **'Corporate Mitras' for Expert Guidance**
Professional institutions will develop experts to assist MSMEs.
- **Affordable Compliance in Smaller Cities**
A focus on Tier-II and Tier-III towns for low-cost compliance help.

LIQUIDITY SUPPORT

- **Mandatory TReDS for Government Purchases**
All Central Public Sector Enterprise (CPSE) purchases must use the TReDS platform.
- **Credit Guarantees for Invoice Discounting**
CGTMSE will provide a guarantee mechanism to secure payments.
- **Cheaper Financing via GeM-TReDS Link**
Linking the Government e-Marketplace (GeM) with TReDS will lower financing costs.

Challenges

- Integrating MSMEs into global value chains amid rising quality and sustainability standards.
- Generating quality employment with job security and decent wages.
- Adapting to Industry 4.0, digitalisation, and green transition.
- Balancing labour flexibility with worker protection under new labour codes.

- Bridging the rural-urban and digital divide in MSME growth.

Initiatives

- Emergency Credit Line Guarantee Scheme (ECLGS) – counter-cyclical credit support.
- Udyam Registration – improved data visibility and formal credit access.
- TReDS Platform – addressing delayed payments via invoice discounting.
- Skill India Mission – focus on MSME-relevant skills.
- PM Vishwakarma Yojana – supporting traditional artisans and informal workers.
- Account Aggregator Framework – enabling cash-flow based lending.
- Cluster Development Programme – improving productivity and infrastructure.

Conclusion

A future-ready MSME ecosystem is vital for sustainable growth, export competitiveness, and employment generation. Policy focus must move from short-term survival to long-term scalability, prioritising affordable credit, technology adoption, skill alignment, and market integration. A productivity-led MSME strategy is essential for quality job creation.

EXPECTED QUESTIONS FOR UPSC CSE

Prelims MCQ

Q. Which portal is used for MSME registration?

- (a) GeM
- (b) Udyam
- (c) GSTN
- (d) Skill India

(b) Answer

Descriptive Question

Q. Discuss the role of MSMEs in employment generation in India. What reforms are needed to unlock their full potential? (10marks/ 150words)

ENVIRONMENTAL AND PUBLIC HEALTH CRISIS

Why in News: A massive water contamination incident in Bhagirathpura, Indore (Madhya Pradesh) caused a public health emergency in late December 2025–January 2026, leading to multiple deaths, hundreds hospitalised and judicial questioning of urban water infrastructure.

Key Details

- The crisis was triggered by sewage entering the municipal water supply through a leakage in an old pipeline, resulting in widespread bacterial contamination.
- At least 21 deaths and several hundred hospitalisations were linked to the outbreak.
- The Madhya Pradesh High Court questioned authorities on how contamination became severe enough to be fatal.

Other Details

- Despite Indore's "cleanest city" tag, the contamination revealed grave urban water safety failures.
- Ongoing hospital cases and infrastructure overhaul are underway, including replacement of ageing pipelines and ₹800 crore project to secure Narmada water supply.
- Hydrological experts highlighted deeper groundwater management issues brought to light by the crisis.

Background

- Urban water safety in India hinges significantly on groundwater and piped supply systems, which serve large populations. Contaminated drinking water often leads to outbreaks of waterborne diseases and reveals systemic infrastructural neglect.

Issues & challenges

- Aging infrastructure and neglected maintenance.
- Lack of real-time water quality monitoring and preventive governance.
- Overlapping or combined sewage and drinking water pipelines in older municipal areas.

Solutions / Initiatives

- Pipeline replacement and overhaul of water distribution networks.
- Implementation of modern water quality monitoring systems.

- Policies to separate sewage and drinking water infrastructure.

Conclusion

The Indore water crisis is a stark reminder that urban environmental resilience must integrate infrastructure, governance, and community monitoring. Sustainable solutions require institutional reforms in water management, stringent quality controls, and alignment with national water safety programs.

EXPECTED QUESTIONS FOR UPSC CSE**Prelims MCQ**

- Q. The Indore water contamination incident primarily highlighted failures in:
- Industrial effluent management
 - Urban drinking water infrastructure
 - Agricultural runoff control
 - Coastal pollution monitoring

Answer: (b)

Mains Question

- Q. Discuss the Indore water contamination crisis of 2026 in the context of urban water governance in India. What systemic weaknesses did it reveal, and what policy measures should be prioritized to prevent similar incidents? (250 Words, 15 Marks)

ARAVALLI GREEN WALL PROJECT AND MAITRI VAN INITIATIVE

Why in News: The Aravalli Green Wall Project and Haryana's Maitri Van initiative are being scaled up as a model for ecological restoration of the degraded Aravalli landscape, with a 2030 implementation roadmap and multi-stakeholder support.

Key Details

- Haryana government established a time-bound plan to restore the Aravalli range by 2030 to combat desertification and land degradation.
- The Maitri Van project, started in Gurugram, now serves

as a template for multi-site ecological restoration via MoUs with companies under the Aravalli Green Wall Project.

- Central and state agencies focus on afforestation, moisture conservation, groundwater recharge, and biodiversity enhancement.
- The project aims for a landscape-scale ecological corridor to improve soil, water, and air quality across states.

About Aravalli ranges

- The Aravalli range, crucial for regional climate and hydrology.
- The Aravalli Range is one of the oldest fold mountain ranges in the world, formed during the Proterozoic era.
- It runs in a south-west to north-east direction across western India.
- The range extends for about 800 km, from Gujarat through Rajasthan to Haryana and Delhi.
- Guru Shikhar (Mount Abu, Rajasthan) is the highest peak, with a height of 1,722 metres.
- The Aravallis act as a natural barrier to the Thar Desert, helping to check desertification in eastern Rajasthan.
- They influence the climate by blocking cold winds from Central Asia and slightly affecting the monsoon pattern.
- The range is rich in mineral resources, including copper, zinc, lead, marble, and limestone.
- Major rivers like the Banas, Luni, and Sabarmati originate from or are influenced by the Aravalli Range.
- The soil in the region is generally rocky and less fertile, especially on the western side.
- Important hill stations and regions include Mount Abu, the only hill station of Rajasthan.
- The vegetation is mainly tropical dry deciduous and thorn forests.
- The Aravallis are highly eroded, with rounded hills due to their great age.

Background

- The Aravalli ecosystem has been under stress due to urban expansion, mining, and deforestation. Its degradation has significant implications for air quality, groundwater recharge, soil conservation, and climate mitigation.

Issues & Challenges

- Ensuring consistent cross-state coordination among Haryana, Rajasthan, Gujarat and Delhi.
- Balancing development pressures with conservation priorities.
- Sustained funding and community participation for restoration and protection.

Initiatives

- Protected Forest declarations and legal safeguards for degraded land parcels.

- Engagement of private partners through green credits and community stakeholders.
- Integrated eco-restoration framework focusing on native species, groundwater recharge, and biodiversity.

Conclusion

The Aravalli Green Wall initiative represents a long-term landscape restoration strategy crucial for ecological stability in North India. Its success depends on collaborative governance, financing mechanisms, and public engagement.

EXPECTED QUESTIONS FOR UPSC CSE

Prelims MCQ

Q. The Aravalli Green Wall Project primarily aims to:

- (a) Create a coastal mangrove belt
- (b) Restore degraded mountain landscape
- (c) Build hydroelectric dams
- (d) Expand urban residential zones

Answer: (b)

Descriptive Question

Q. Evaluate the ecological significance of the Aravalli Green Wall Project. What are the principal challenges in its implementation, and how can these be addressed? (150 Words 10 Marks)

UNUSUAL WINTER WEATHER AND SNOWFALL DEFICIT IN WESTERN HIMALAYAS

Why in News: This January, large parts of the Western Himalayas experienced a significant snowfall deficit, raising concerns about climatic variability, water security and ecological stability.

Key Details

- Weak and moisture-deficient Western Disturbances (WDs), coupled with changed jet stream patterns, led to unusually dry winter conditions in Uttarakhand, Himachal Pradesh and Jammu & Kashmir.
- Snowfall acts as a natural reservoir, feeding rivers and supporting agriculture — its deficit poses risks to water availability and ecosystem functions.

Background

Western Disturbances are extratropical weather systems originating over the Mediterranean Sea, essential for winter precipitation in northwest India. Their alteration signals greater climate variability.

Highlights

- Reduced snow cover affects glacial mass balance, accelerating melt and long-term water scarcity.
- Early-snow failure impacts rabi agriculture by disrupting soil moisture patterns.
- Dry winters increase forest fire vulnerability and biodiversity stress.

Challenges

- Impact on water resource planning and agricultural cycles.
- Threats to mountain biodiversity and livelihoods.
- Unpredictable weather patterns complicating disaster management.

Solutions

- Enhance winter precipitation monitoring systems.
- Promote snowwater harvesting and watershed management.
- Integrate climate models into regional water resource policy.

Conclusion

Addressing snowfall variability requires scientific, policy, and community action to safeguard Himalayan water security and climate resilience.

- Dense fog over plains, especially in the Indo-Gangetic Region, led to reduced visibility and transport disruptions.

Highlights

- Snow in the Western Himalayas improves soil moisture but also increases avalanche risk in high altitudes.
- Fog exacerbates air pollution conditions and hazard for road and air transport.

Background

Western Disturbances are mid-latitude weather systems that bring precipitation to northwest India in winter. Dense fog is common in winter due to temperature inversion and moisture.

Issues

- Major transport and logistics disruptions due to poor visibility.
- Agriculture and crop damage from unexpected precipitation and cold snaps.
- Triggering of health issues (respiratory) due to cold and fog-related pollution trapping.

Solutions

- Enhance early weather warning systems.
- Improve fog dispersion techniques at airports and road corridors.
- Public advisories on health precautions during cold and fog spells.

Conclusion

Efficient meteorological forecasting and robust disaster preparedness are essential for mitigating risks associated with winter weather extremes.

EXPECTED QUESTIONS FOR UPSC CSE

Prelims MCQ

Q: Western Disturbances are most associated with winter precipitation in:

(a) Southern India (b) North-west India

(c) Eastern India (d) Central India

Answer: (b) North-west India

Mains Question

Q. Analyse how changes in Western Disturbances and Himalayan snowfall patterns impact India’s water security and agriculture. (10 marks/ 150 words)

IMD FORECAST: WESTERN DISTURBANCE, COLD WAVE & FOG IN NORTH INDIA

Why in News? The India Meteorological Department (IMD) forecasted wet weather, snowfall and cold wave conditions across northern India this January due to a Western Disturbance, along with extremely dense fog in the plains.

Key Details

- Western Disturbances affected North India’s weather — bringing rain, snowfall, and cold wave conditions.

EXPECTED QUESTIONS FOR UPSC CSE

Prelims MCQ

Q: Dense winter fog in Indo-Gangetic plains is primarily due to:

(a) Western Disturbances

(b) El Niño

(c) Temperature inversion

(d) Monsoon winds

Answer: (c) Temperature inversion

Mains Question

Q. Examine the socio-economic impacts of winter weather extremes (cold waves, dense fog, Western Disturbances) in northern India. (10 marks/ 150 words)

BIODIVERSITY BEYOND NATIONAL JURISDICTION (BBNJ) AGREEMENT

Why in News: India's Ministry of Earth Sciences has constituted a 12-member panel to align domestic law with the Biodiversity Beyond National Jurisdiction (BBNJ) Agreement for protecting interests in international waters.

Key Details

- The BBNJ Agreement (High Seas Treaty) is a legally binding framework under the United Nations Convention on the Law of the Sea (UNCLOS) adopted in 2023.
- It aims to conserve marine biodiversity in areas beyond national jurisdiction through MPAs, EIAs, and benefit sharing.
- India signed the agreement in 2024 but has not yet ratified it.
- The treaty entered into force after crossing the required 60 ratifications, marking a major step in global ocean governance.

High Seas & Global Commons

- **Definition of High Seas:** High seas refer to ocean areas beyond any country's Exclusive Economic Zone (EEZ), generally beyond **200 nautical miles** from the coast. These regions are governed by the principle of freedom of the seas.
- **Scale and Ecological Importance:** High seas cover about **64% of the world's oceans and nearly half of Earth's surface**, playing a key role in climate regulation, oxygen production, and global fisheries.
- **Governance Gap:** Prior to the BBNJ Agreement, regulation was fragmented under UNCLOS and sectoral bodies like Regional Fisheries Management Organisations, leaving biodiversity protection weak.
- **Global Commons Character:** Since no country has sovereignty over high seas resources, they require **collective international management**, making them a classic example of global commons.

BBNJ Agreement: Core Features

- **Legal Status:** The BBNJ Agreement is the **third implementing agreement under UNCLOS (1982)**, designed to fill governance gaps relating to marine biodiversity beyond national jurisdiction.
- **Adoption and Entry into Force:** Finalised in **March 2023** after nearly 15 years of negotiations, the treaty entered into force after achieving **60 ratifications** (crossed in 2025).
- **Objective:** It seeks the **conservation and sustainable use of marine biological diversity** in international waters while balancing development and equity.
- **Institutional Framework:** The treaty establishes a **Conference of the Parties (COP), Secretariat, and Clearing-House Mechanism** to coordinate global ocean governance.

Four Pillars of the BBNJ Treaty

- **Marine Protected Areas (MPAs)**
 - The treaty enables creation of MPAs in international waters for the **first time under a global legal mechanism**.
 - It supports the global **"30×30" biodiversity target** (protect 30% of land and sea by 2030).
 - MPAs can regulate fishing, shipping, and mining to allow ecosystem recovery.
 - Currently, only about **1% of high seas** are protected, highlighting the treaty's importance.
- **Marine Genetic Resources (MGRs) & Benefit Sharing**
 - Marine organisms in deep seas contain valuable **genetic material** used in pharmaceuticals, biotechnology, and cosmetics.
 - The treaty ensures **fair and equitable sharing of benefits**, preventing monopolisation by developed countries.
 - It includes both **monetary and non-monetary benefits** such as data sharing and research access.
 - This is crucial for equity between Global North and Global South.
- **Environmental Impact Assessments (EIAs)**
 - The treaty mandates EIAs for activities such as **deep-sea mining, carbon sequestration, and large-scale fishing**.
 - It introduces **standardised global procedures**, improving transparency and accountability.
 - EIAs must consider cumulative and transboundary impacts on marine ecosystems.
 - This shifts ocean governance toward a **precautionary and ecosystem-based approach**.
- **Capacity Building & Technology Transfer**
 - Developing countries often lack marine research infrastructure and surveillance capacity.
 - The treaty provides for **technology transfer, funding, training, and data access**.
 - It aims to enable equitable participation in ocean science and governance.
 - This pillar strengthens the **blue economy potential** of developing nations like India.

Significance of the BBNJ Agreement

- **Environmental Significance**
 - **Biodiversity Conservation:** MPAs can create safe habitats for migratory species like tuna and whales, improving ecosystem resilience.
 - **Climate Regulation:** Oceans absorb nearly **30% of global CO₂ emissions** and produce about **50% of oxygen**, making protection critical.
 - **Ecosystem-Based Management:** The treaty moves

beyond sectoral regulation to **holistic ocean governance**.

- **Pollution Control:** Standardised EIAs help reduce ecological damage from emerging ocean industries.
- **Socio-Economic Significance**
 - **Boost to Blue Economy:** Sustainable management supports fisheries, marine biotechnology, and eco-tourism sectors.
 - **Food Security:** Healthier fish stocks through the “spillover effect” from MPAs benefit coastal communities.
 - **Equity for Global South:** Benefit sharing from MGRs addresses historical technological asymmetry.
 - **Innovation Potential:** Deep-sea genetic discoveries could revolutionise pharmaceuticals and industrial enzymes.

India’s Position and Strategic Concerns

- **India’s Status:** India signed the agreement in 2024 but has not yet ratified it, indicating cautious engagement.
- **Domestic Preparedness:** The Ministry of Earth Sciences’ panel aims to align national laws with treaty obligations.
- **Opportunities:** India can leverage the treaty for **marine research, blue economy expansion, and global leadership**.
- **Concerns:** Issues include technology access, benefit-sharing fairness, and regulatory burden on Indian shipping and fisheries.

Implementation Challenges

- **Universal Ratification:** Major maritime powers’ delayed ratification may weaken effectiveness.
- **Monitoring and Enforcement:** Policing vast high seas areas requires advanced satellite and surveillance capacity.
- **Institutional Coordination:** Overlap with bodies like the International Seabed Authority may create regulatory conflicts.
- **Scientific Knowledge Gaps:** Much of the deep ocean remains unexplored, complicating conservation planning.

Conclusion

The BBNJ Agreement represents a historic step toward **rules-based global ocean governance**, but its success depends on universal ratification, adequate funding, and strong institutional coordination. India should expedite ratification while safeguarding its developmental and strategic interests, invest in marine research capacity, and actively shape global ocean norms. Protecting the high seas is essential for sustaining biodiversity, climate stability, and the future blue economy.

EXPECTED QUESTIONS FOR UPSC CSE

Prelims MCQ

Q. Which of the following are pillars of the BBNJ Agreement?

1. Marine Protected Areas
2. Environmental Impact Assessments
3. Marine Genetic Resources
4. Carbon Trading Mechanism

Select the correct answer:

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

(a) Answer

Descriptive Question

Q. Discuss the significance of the Biodiversity Beyond National Jurisdiction (BBNJ) Agreement in strengthening global ocean governance. Examine the challenges in its implementation. (150 Words, 10 Marks)

UNIFORM CONSENT GUIDELINES UNDER AIR AND WATER ACTS

Why in News: The Union Government amended the Uniform Consent Guidelines under the Air and Water Acts in January 2026 to streamline industrial approvals while maintaining environmental safeguards.

Key Details

- The amendments create a **uniform national consent framework** for industries across States and Union Territories.
- Provision for **single integrated approval** reduces multiple applications under different environmental laws.
- **Consent to Operate (CTO)** will now remain valid until cancelled, reducing renewal burden.
- **Registered Environmental Auditors** have been authorised to assist in compliance verification.

Regulatory Framework under Air and Water Acts

- **Air and Water Pollution Control Regime:** India regulates industrial pollution primarily through the Air (Prevention and Control of Pollution) Act, 1981 and the Water (Prevention and Control of Pollution) Act, 1974, administered by the Central Pollution Control Board and State boards.
- **Consent Mechanism (CTE & CTO):** Industries must obtain Consent to Establish (CTE) before setting up and Consent to Operate (CTO) before commencing operations to ensure compliance with emission and effluent norms.

- **Role of State Pollution Control Boards:** The State Pollution Control Boards (SPCBs) are the primary implementing agencies responsible for granting, monitoring, and cancelling consents.
- **Categorisation of Industries:** Industries are classified into Red, Orange, Green, and White categories based on pollution potential, with Red category requiring the strictest scrutiny.

Need for Uniform Consent Guidelines

- **Multiplicity of Approvals:** Earlier, industries had to file separate applications under different environmental laws, leading to duplication, delays, and compliance burden.
- **Inter-State Variations:** Different States followed varying consent procedures, creating regulatory uncertainty and affecting ease of doing business.
- **Administrative Overload:** SPCBs faced manpower shortages while monitoring over 2.5 lakh industrial units, necessitating process simplification.
- **Balancing Growth and Environment:** India's push for manufacturing and infrastructure required faster approvals without diluting environmental protection.

Key Amendments in Uniform Consent Guidelines

- **Integrated Consent and Authorisation:**
 - **Single Window Clearance:** Industries can now submit one consolidated application covering Air Act, Water Act, and Waste Management Rules, reducing paperwork.
 - **Time and Cost Efficiency:** Integration is expected to shorten approval timelines and reduce compliance costs, especially for medium and large industries.
 - **Improved Regulatory Coordination:** SPCBs can process applications holistically, enabling better environmental oversight.
 - **Retention of Safeguards:** Despite simplification, provisions for refusal or cancellation remain intact in case of violations.
- **Validity of Consent to Operate (CTO):**
 - **Earlier System:** CTO validity was periodic, requiring repeated renewals that caused operational uncertainty.
 - **New Provision:** CTO will now remain valid until cancelled, ensuring continuity of industrial operations.
 - **Compliance through Inspections:** Environmental monitoring will continue through periodic inspections and surprise checks.
 - **Ease of Doing Business:** The reform reduces administrative burden and improves India's business environment rankings.
- **Reduced Approval Timelines:**
 - **Red Category Industries:** Processing time reduced

from 120 days to 90 days, accelerating project implementation.

- **Predictability in Clearances:** Defined timelines enhance investor confidence and reduce procedural delays.
- **Focus on High-Risk Units:** Faster routine approvals allow regulators to concentrate on high-pollution industries.
- **Digital Processing Push:** The reform complements ongoing digitisation of environmental clearances.
- **Role of Registered Environmental Auditors:**
 - **New Institutional Mechanism:** Certified auditors under Environment Audit Rules, 2025 will assist inspections alongside SPCBs.
 - **Addressing Capacity Constraints:** This helps overcome manpower shortages in pollution control boards.
 - **Random Assignment System:** Auditors are assigned randomly to reduce conflict of interest and enhance credibility.
 - **Data-Driven Compliance:** Audits will generate digitised environmental data for better regulatory decisions.
- **Special Provisions for MSMEs:**
 - **Deemed Consent to Establish:** MSMEs in notified industrial estates get automatic CTE upon self-certification.
 - **Support to Small Industry:** This is significant as MSMEs contribute about 30% to India's GDP and 45% to exports.
 - **Cluster-Based Environmental Assessment:** Industrial estates are pre-assessed environmentally, reducing duplication.
 - **Trust-Based Governance:** Reflects a shift toward compliance facilitation rather than pure control.
- **Shift to Site-Specific Siting Criteria:**
 - **Earlier Rigid Norms:** Fixed minimum-distance rules often ignored local ecological realities.
 - **Context-Based Assessment:** Authorities can now prescribe safeguards based on proximity to water bodies, habitations, or eco-sensitive zones.
 - **Greater Environmental Precision:** Enables scientifically informed decision-making.
 - **Flexibility with Accountability:** Balances industrial flexibility with environmental risk management.
- **Flexible CTO Fee Structure:**
 - **One-Time Fee Option:** States may levy CTO fees for 5–25 years, reducing repetitive payments.
 - **Administrative Efficiency:** Cuts recurring paperwork for both industries and regulators.

- **Uniform Capital Investment Definition:** Removes ambiguity in fee calculation across States.
- **Revenue Predictability:** Helps States plan environmental regulatory finances better.

Significance of the Reform

- **Ease of Doing Business:** Streamlined approvals support India's manufacturing push under initiatives like Make in India.
- **Strengthened Environmental Governance:** Continuous monitoring and cancellation provisions ensure safeguards remain effective.
- **Trust-Based Regulation:** Greater reliance on self-certification and third-party audits reflects modern regulatory philosophy.
- **Improved Compliance Ecosystem:** Integration and digitisation promote transparency and accountability.

Challenges and Concerns

- **Risk of Regulatory Dilution:** Since CTO is now valid until cancellation, industries may operate longer without formal renewal scrutiny. For example, if inspections by State Pollution Control Boards are delayed, a Red category chemical unit could continue emissions beyond permissible limits unnoticed.
- **Auditor Integrity and Conflict of Interest:** Third-party auditors may face pressure from industries that pay for compliance services. For instance, past concerns in environmental impact assessments showed some consultants underreporting violations to favour project proponents.
- **Capacity Constraints of Pollution Control Boards:** Many SPCBs already face staff shortages and technical gaps. For example, several State boards have vacancy rates above 30%, which may hinder effective follow-up inspections even after streamlined approvals.
- **MSME Self-Certification Risks:** Deemed Consent to Establish for MSMEs could lead to under-reporting of pollution loads. For example, small dyeing or electroplating units in industrial clusters have historically discharged untreated effluents despite being in approved estates.
- **Inter-State Implementation Variations:** Despite uniform guidelines, enforcement quality may differ across States. For instance, industrially advanced States with better digital systems may implement real-time monitoring effectively, while others may lag due to weak IT infrastructure.
- **Data Management and Monitoring Challenges:** Integrating audit data from lakhs of units requires strong digital systems. Without robust platforms, regulators may struggle to analyse emissions trends or flag violations in time.
- **Possible Environmental Externalities:** Faster approvals could unintentionally encourage location of industries in

ecologically sensitive zones if site-specific assessments are weak. For example, units near river floodplains or peri-urban wetlands may increase cumulative pollution pressure.

Conclusion

The amended Uniform Consent Guidelines represent a significant step toward **balancing ease of doing business with environmental protection**. However, their success will depend on robust digital monitoring, strong oversight of environmental auditors, and capacity strengthening of pollution control institutions. A calibrated approach combining facilitation with strict enforcement is essential for achieving India's sustainable development and Net Zero commitments.

EXPECTED QUESTIONS FOR UPSC CSE

Prelims MCQ

Q. Consider the following statements regarding the Uniform Consent Guidelines (2026):

1. The Consent to Operate (CTO) now follows a "Validity until Cancelled" model for all industrial categories.
2. MSMEs in notified industrial estates are granted "Deemed Consent to Establish" based on self-certification.
3. Registered Environmental Auditors are assigned to specific industries by the State Boards for a fixed tenure of 5 years.

Which of the statements 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: (a)

Descriptive Question

Q. "The transition from a 'Command and Control' regime to a 'Trust-based' environmental governance model is a double-edged sword for India's sustainable development." Critically analyze in light of the amended Uniform Consent Guidelines. (15 Marks, 250 Words)

TOWARDS A RESILIENT INDIAN HIMALAYAN REGION

Why in News: Recent disasters and scientific reports highlight that unsafe development and climate stress are making the Indian Himalayan Region increasingly disaster-prone.

Key Details

- The Himalayas are warming nearly **50% faster than the global average**, increasing disaster frequency.

- Over **4,000 lives were lost in 2025** due to climate-linked extremes in India, with Himalayan states heavily affected.
- Experts warn that infrastructure overreach and ecological neglect are amplifying natural risks.
- The editorial stresses the need for **science-based, resilience-led planning** in the fragile mountain ecosystem.

Significance of the Himalayan Ecosystem

- **Hydrological Security – “Water Tower of Asia”**
 - The Himalayas store vast freshwater reserves feeding the **Indus, Ganga and Brahmaputra systems**, supporting India’s agrarian economy. Meltwater released during lean months acts as a natural drought buffer for the northern plains.
 - The Hindu Kush Himalayan region supports **~240 million mountain residents and nearly 1.9 billion downstream people**, making it globally critical. Any disruption in glacial systems directly threatens India’s food and water security.
- **Climatic Regulator & Monsoon Engine**
 - The mountain barrier blocks cold Central Asian winds, preventing North India from becoming a cold desert. Simultaneously, it forces moisture-laden monsoon winds to rise, causing rainfall through orographic lift.
 - The Himalayan system helps the Gangetic plains receive **over 1000 mm annual rainfall**, crucial for Kharif agriculture. Thus, Himalayan health directly affects India’s monsoon reliability.
- **Strategic and Geopolitical Importance**
 - The Himalayas form India’s natural defence along the LAC and remain central to border security strategy. Infrastructure projects by the Border Roads Organisation aim to balance connectivity with security needs.
 - Programmes like Vibrant Villages seek to prevent depopulation of border areas, turning settlements into a “living security wall.” This has gained importance amid expanding Chinese border infrastructure.
- **Green Energy Powerhouse**
 - The region holds an estimated **115,550 MW hydropower potential**, making it vital for India’s energy transition. Run-of-the-river projects help stabilise renewable energy intermittency.
 - About **40% of this potential is already installed**, showing the Himalayas’ central role in India’s clean energy mix. However, poorly planned dams can also heighten ecological risks.
- **Biodiversity Hotspot**
 - The Himalayas are one of India’s four global biodiversity hotspots with **over 3,000 endemic plant species**. These ecosystems provide pollination, soil stability, and medicinal resources.

- Species like the snow leopard and red panda depend on intact habitats, making conservation globally significant. Biodiversity loss here has irreversible ecological consequences.

Major Challenges in the Indian Himalayan Region

- **Cryosphere Collapse**
 - Himalayan glaciers are retreating rapidly; studies show **65% faster ice mass loss** in parts of the Hindu Kush Himalaya. This threatens long-term river flows and hydrological stability.
 - Events like the **South Lhonak GLOF (2023)** demonstrate how glacial instability can destroy downstream infrastructure. The region faces a dangerous flood–drought paradox.
- **Infrastructure-Induced Instability**
 - Aggressive road widening, tunnelling and blasting ignore the Himalayas’ fragile geology. This has triggered land subsidence in towns such as Joshimath.
 - Parts of Joshimath reportedly sank **over 30 cm between 2022–24**, showing cumulative development stress. Heavy engineering without proper drainage and muck disposal worsens slope failure.
- **Overtourism and Carrying Capacity Breach**
 - Pilgrimage and adventure tourism often exceed ecological limits, creating waste and water stress. For example, Kedarnath’s real carrying capacity (~9,800/day) is far below peak footfall.
 - The IHR generates **5–8 million tonnes of waste annually**, much of it non-recyclable. This pollutes fragile headwater ecosystems.
- **Black Carbon Deposition**
 - Soot from vehicles, biomass burning and diesel settles on glaciers, reducing reflectivity (albedo). Darkened ice absorbs more heat, accelerating melting even in cold conditions.
 - Studies suggest black carbon has significantly intensified regional warming in the Himalayas. This creates a dangerous positive feedback loop.
- **Biodiversity Fragmentation**
 - Linear infrastructure such as highways and transmission lines disrupt wildlife corridors. This leads to genetic isolation of species like the snow leopard.
 - Rapid urbanisation has caused an **11% decline in natural forest cover (1991–2023)** in parts of the Western Himalaya. Habitat fragmentation increases human–wildlife conflict.
- **Institutional and Policy Gaps**
 - Himalayan governance remains fragmented across ministries without a unified mountain policy. This leads to piecemeal and often contradictory decisions.
 - Relaxation of environmental norms under strategic

exemptions has weakened safeguards under the **EIA framework**. Sensitive projects sometimes bypass rigorous scrutiny.

Key Government Initiatives

- **National Mission on Sustaining Himalayan Ecosystem**
 - The National Mission on Sustaining Himalayan Ecosystem promotes research, vulnerability mapping and climate adaptation.
 - Phase II emphasises evidence-based policymaking and alignment of State Action Plans on Climate Change.
- **Parvat Mala (National Ropeways Programme)**
 - Aims to build ~1,200 km ropeways to reduce road pressure in fragile zones.
 - Ropeways like Sonprayag–Kedarnath significantly cut travel time and ecological disturbance.
- **Springshed Management (Dhara Vikas)**
 - Focuses on reviving drying mountain springs through aquifer recharge.
 - Important because nearly **50% of Himalayan springs are drying**, threatening rural water security.
- **Glacial Lake Early Warning Systems**
 - NDMA is deploying sensor-based monitoring at high-risk lakes.
 - Systems at South Lhonak and Shako Cho provide critical evacuation lead time.
- **SECURE Himalaya & Community Conservation**
 - Integrates wildlife conservation with local livelihoods such as eco-tourism.
 - Trained **1,000+ local youth**, making communities partners in conservation.

Way Forward

- **Adopt a Himalayan-Specific Development Code**
 - India needs legally enforceable mountain-specific building and land-use norms.
 - Micro-zonation and cumulative impact assessment must become mandatory.
- **Shift to Resilience-Led Planning**
 - Infrastructure should prioritise long-term stability over short-term connectivity gains.
 - Geologists and ecologists must be involved at the project design stage.
- **Promote Nature-Based Solutions**
 - Forest restoration, wetland protection and slope vegetation can reduce disaster risk cost-effectively.
 - Ecosystems should be treated as critical infrastructure.
- **Regulate Tourism Scientifically**
 - Enforce carrying capacity limits, permit systems and spatial zoning.

- Promote dispersed and sustainable tourism models.
- **Strengthen Community-Led Governance**
 - Empower panchayats and local institutions in monitoring and disaster preparedness.
 - Integrate indigenous knowledge into formal planning.

Conclusion

The Himalayan crisis is no longer merely an environmental concern but a test of India's development wisdom. When fragile mountains bear plains-style ambitions, disasters become policy-induced. A resilience-first, ecology-centred governance model is essential to secure water, energy, biodiversity and national security. In the Himalayas, sustainability is not optional—it is the last line of defence.

EXPECTED QUESTIONS FOR UPSC CSE

Prelims MCQ

Q. Consider the following statements regarding the Indian Himalayan Region:

1. Black carbon deposition accelerates glacial melting.
2. The Himalayas are warming slower than the global average.
3. Springshed management focuses on aquifer recharge.

Which of the statements given above is/are correct?

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

(a) Answer

Descriptive Question

Q. "The Himalayan crisis is as much a failure of governance as of climate change." Critically examine in the context of infrastructure development and disaster resilience in the Indian Himalayan Region. (250 words, 15 Marks)

GALAXY FROGS

Why in News: A recent study has reported that **seven rare Galaxy Frogs are presumed dead**, highlighting the ecological threat posed by unethical wildlife photography and rising photo tourism in the Western Ghats.

Key Details

- The **Galaxy Frog (*Melanobatrachus indicus*)** is a rare amphibian endemic to the southern Western Ghats.
- A scientific study links the disappearance of several individuals to **disturbance caused by wildlife photographers**.

- The species is highly **habitat-specific and sensitive to microclimatic changes**.
- It is currently listed as **Vulnerable on the IUCN Red List**.

Species Profile: Galaxy Frog

- **Endemic Amphibian:** The Galaxy Frog is found only in the wet evergreen forests of the southern Western Ghats, particularly in Kerala and parts of Tamil Nadu, making it highly vulnerable to local disturbances.
- **Unique Appearance:** It has shiny black skin with blue speckles and orange markings resembling a starry galaxy, which has increased its popularity among wildlife photographers.
- **Microhabitat Specialist:** The species lives under rotten logs in cool, moist forest patches, indicating a very narrow ecological niche and low adaptive flexibility.
- **Flagship Status:** It has been declared the flagship species of Mathikettan Shola National Park, bringing both conservation attention and tourism pressure.
- **Small Body Size:** Measuring only about 2–3.5 cm, the frog's tiny size makes it extremely susceptible to handling stress and habitat disturbance.

Physical and Behavioural Vulnerability

- **Cutaneous Respiration:** Being amphibians, galaxy frogs partly breathe through moist skin, making them highly sensitive to drying, heat, and human touch.
- **Non-Vocal Nature:** The species is largely non-vocal, which makes its mating communication fragile and easily disrupted by human movement and noise.
- **Cold-Blooded Physiology:** As ectotherms, they depend on external temperature and humidity; even minor microclimatic changes can affect survival.
- **Low Population Density:** Naturally sparse populations reduce genetic resilience and increase extinction risk when individuals are lost.
- **Habitat Fidelity:** The frogs show strong site fidelity to specific logs and forest patches, so displacement often leads to mortality.

Emerging Threat: Photo Tourism

- **Habitat Disturbance:** Photographers often overturn logs and manipulate microhabitats to capture images, destroying the frog's shelter and moisture balance.
- **Handling Stress:** Direct handling with bare hands transfers heat, oils, and pathogens, which can damage the frog's permeable skin.
- **Flash Photography Impact:** High-intensity camera flashes may disorient these nocturnal amphibians and disrupt natural behaviour.
- **Repeated Human Intrusion:** Increased footfall in fragile forest patches leads to trampling, microhabitat alteration, and long-term ecological stress.
- **Flagship Species Effect:** After gaining publicity,

the species attracted niche wildlife photographers, unintentionally increasing anthropogenic pressure.

Other Conservation Challenges

- **Habitat Loss:** Conversion of forest land for agriculture and plantations continues to fragment wet evergreen forests in the Western Ghats.
- **Firewood Collection:** Removal of fallen logs for fuel directly destroys the frog's primary microhabitat.
- **Climate Sensitivity:** Amphibians are globally recognised bio-indicators; rising temperatures and erratic rainfall threaten moisture-dependent species.
- **Landslides in Western Ghats:** Increasing extreme rainfall events in Kerala's high ranges periodically damage fragile forest floors.
- **Pathogen Transmission Risk:** Human contact may introduce fungal infections (e.g., chytrid fungus), a major global amphibian killer.

Conservation Status and Ecological Importance

- **IUCN Status:** The Galaxy Frog is listed as **Vulnerable**, indicating high risk of extinction in the wild.
- **Indicator Species Role:** Amphibians reflect ecosystem health; their decline signals deeper ecological imbalance in Western Ghats forests.
- **Endemism Hotspot:** The Western Ghats is a global biodiversity hotspot with high amphibian endemism, making such losses globally significant.
- **Limited Distribution:** Restricted geographic range means local extinction could translate into global extinction.
- **Need for Microhabitat Protection:** Conservation must move beyond large-scale forest protection to **fine-scale habitat management**.

Recommended Conservation Measures

- **Ethical Wildlife Photography Guidelines:** Strict protocols should prohibit handling, chasing, or disturbing microhabitats during photography.
- **Regulated Eco-tourism:** Sensitive zones in the Western Ghats require visitor caps, guided access, and seasonal restrictions.
- **Capacity Building of Guides:** Training forest guides and photographers can promote responsible nature tourism.
- **Strengthening Amphibian Monitoring:** Long-term population monitoring and microhabitat mapping are essential for early warning.
- **Inter-Departmental Coordination:** Collaboration between forest, tourism, and research institutions can ensure balanced conservation.

Conclusion

The disappearance of galaxy frogs underscores the paradox of conservation publicity greater visibility can sometimes increase vulnerability. Protecting micro-endemic species requires a shift from broad forest conservation to **ethics-**

based, science-driven eco-tourism management. Sustainable coexistence demands that biodiversity appreciation must not translate into biodiversity disturbance.

EXPECTED QUESTIONS FOR UPSC CSE

Prelims MCQ

Q. With reference to the Galaxy Frog (*Melanobatrachus indicus*), consider the following statements:

1. It is endemic to the Western Ghats.
2. It is listed as Endangered by IUCN.
3. It relies partly on skin for respiration.

Which of the statements given above is/are correct?

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

Answer: (a)

Descriptive Question

Q. Discuss how unregulated eco-tourism and wildlife photography can threaten micro-endemic species in biodiversity hotspots like the Western Ghats. (150 Words, 10 Marks)

ANCIENT MARATHI LITERATURE REVEALS SAVANNAS ARE NOT DEGRADED FORESTS

Why in News: A recent study in *People and Nature* shows that the savannas of western Maharashtra are ancient natural ecosystems rather than degraded forests.

Key Details

- The study uses **medieval Marathi literature, oral traditions, archival data, and ecological evidence** to trace savannas back at least **750 years**.
- It challenges the long-held view that Indian savannas are products of **deforestation or human degradation**.
- Evidence indicates persistent **open tree-grass landscapes** supporting pastoral livelihoods.
- Researchers call for **separate conservation and policy recognition** for savanna ecosystems.

Savannas: Concept and Ecological Foundations

- **Mixed Tree-Grass Ecosystem:** Savannas are characterised by scattered trees with a continuous grass layer, maintained by **seasonal drought, fire, and grazing interactions**. They differ fundamentally from closed-canopy forests.
- **Climatic Conditions:** Typically found in regions with

moderate rainfall and pronounced dry seasons, where rainfall is insufficient for dense forests but adequate to prevent desertification.

- **Vegetation Traits:** Dominant species show **drought tolerance, thorny morphology, and deep root systems**, enabling survival in fire-prone and grazing-intensive landscapes.
- **Global and Indian Presence:** Globally seen in East Africa and northern Australia; in India, prominent in the **Deccan Plateau rain-shadow regions**, parts of Rajasthan-Gujarat, and the Terai grasslands.

Savannas vs Forests: Key Ecological Differences

- **Canopy Structure:** Savannas maintain **open canopies and grass dominance**, while forests have **dense, closed canopies** that suppress ground grasses.
- **Role of Fire and Grazing:** Fire and herbivory are **ecological drivers** in savannas but typically **disturbances** in forest ecosystems, making management approaches distinct.
- **Species Adaptation:** Savanna species exhibit **thick bark, spines, and resprouting ability**, whereas forest species are generally **shade-tolerant and fire-sensitive**.
- **Policy Misclassification:** Treating savannas as degraded forests has led to **misguided afforestation drives**, often harming native grassland biodiversity.

Historical Indian Ecological Terminology

- **Traditional Terms:** Ancient ecological vocabulary distinguished landscapes such as **“vana/jāgala” (open dry wild lands)** and **“anūpa” (wet marshy forests)**.
- **Colonial-Era Misinterpretation:** Modern forestry equated **vana** exclusively with dense forests, ignoring India’s long-recognised open ecosystems.
- **Impact on Policy:** This semantic shift contributed to **grasslands and savannas being labelled as wastelands**, shaping flawed land-use policies.
- **Need for Knowledge Recovery:** Integrating traditional ecological knowledge can improve **biome classification and conservation planning**.

Evidence from Medieval Marathi Literature and Oral Traditions

- **Textual Sources (13th–20th century):** Researchers analysed **ovis, narrative poems, hagiographies, and myths** from regions like Pune, Satara, and Solapur.
- **Landscape Descriptions:** Repeated references to **thorny trees, open grasslands, seasonal drought, and grazing grounds** indicate long-standing savanna conditions.
- **Pastoral Cultural Memory:** Literary and oral traditions highlight **cattle grazing, pastoral conflicts, and commons management**, showing human adaptation to open ecosystems.
- **Sacred Geography:** Sites such as **Shinganapur and**

Kothalāgirī embed native tree species in ritual traditions, linking biodiversity with cultural identity.

Ecological and Botanical Evidence

- **Floral Composition (62 species):** The study identified 27 savanna indicator species versus only 14 forest species, strongly supporting open-canopy ecology.
- **Key Indicator Species:** Species like *Vachellia leucophloea*, *Senegalia catechu*, and *Butea monosperma* are well-known savanna-adapted taxa.
- **Functional Traits:** Presence of **thick bark, spines, and clonal resprouting** indicates long-term adaptation to fire and grazing regimes.
- **Rainfall Zonation:** Two savanna types—**fine-leaf (≤1000 mm rainfall)** and **broadleaf (≥700 mm)**—coexist in western Maharashtra’s transitional belt.

Multi-Source Triangulation of Evidence

- **Archival Visual Records:** Old photographs and paintings depict **sparsely wooded uplands**, contradicting the dense-forest narrative.
- **Colonial Revenue Documents:** Records mention **pasture commons and hay meadows**, indicating institutional recognition of grassland economies.
- **Faunal and Hunting Records:** Bird lists and hunting logs document **savanna-specialist fauna**, including blackbuck and open-country birds.
- **Archaeological Indicators:** Hero stones depicting cattle raids and **Chalcolithic grazer remains** suggest long-term pastoral landscapes.

Why the Findings Matter

- **Ecological Misclassification:** Labeling savannas as wastelands has promoted **blanket tree plantations**, disrupting native grassland biodiversity and ecological processes.
- **Threat to Grassland Species:** Species such as the **Great Indian Bustard and blackbuck** depend on open habitats and decline when grasslands are afforested.
- **Livelihood Implications:** Pastoral communities in the Deccan rely on these ecosystems; mismanagement undermines **traditional grazing economies**.
- **Climate and Fire Management:** Ignoring natural fire-grazing cycles can lead to **woody encroachment and ecological imbalance**.

Conclusion

India must recognise savannas and grasslands as **distinct, ancient ecosystems** rather than degraded forests. Conservation policy should shift from blanket afforestation to **biome-specific management**, integrating fire ecology, native grasses, and pastoral knowledge. Protecting these landscapes will simultaneously safeguard biodiversity, cultural heritage, and sustainable livelihoods. Republic-era environmental governance must move toward **evidence-based ecological classification**.

EXPECTED QUESTIONS FOR UPSC CSE

Prelims MCQ

Q. Savanna ecosystems are best characterised by:

- (a) Dense canopy and shade-tolerant species
- (b) Open tree cover with continuous grass layer
- (c) Permanent marsh vegetation
- (d) Alpine shrub dominance

(b) :Answer

Descriptive Question

Q. Examine how historical literature and traditional knowledge can improve ecosystem classification and conservation policy in India. (150 Words, 10 Marks)

Nagauri Ashwagandha

Nagauri Ashwagandha

GI-Tagged Medicinal Plant

Latest Update

- Nagauri Ashwagandha awarded Geographical Indication (GI) Tag
- Recognised for its **distinct quality** from Nagaur, Rajasthan.

Place of Origin



- Nagaur District, Rajasthan
- Dry Climate & Sandy Soil

Unique Characteristics



- Thick, Alkaloid-Rich Roots
- Bright Red Berries

About Ashwagandha



- Scientific Name: *Withania somnifera*
- Known as: Indian Ginseng, Indian Winter Cherry

Growth Requirements



- **Climate:** Dry & Sub-Tropical
- **Season:** Late Rainy (Kharif)
- **Rainfall:** 500–750 mm
- **Temperature:** 20°C – 38°C
- **Soil:** Sandy Loam, pH 7.5–8.0

Major Producing Regions



Medicinal Value



- Adaptogen for Stress Relief
- Reduces Inflammation
- Boosts Energy & Sleep Quality
- Alleviates Anxiety

WHITE-BELLIED HERON (*Ardea insignis*)



LATEST NEWS

- ▶ EAC Recommends Environmental Clearance for Kalai-II Hydroelectric Project on Lohit River (Arunachal Pradesh) - A Critical Habitat of the **White-Billed Heron**.

ABOUT THE SPECIES

- ▶ Scientific Name: *Ardea insignis*
- ▶ Also Known As: Imperial Heron, Great White-Bellied Heron
- ★ 2nd Largest Heron After Goliath Heron
- ★ Indicator of Healthy Rivers & Water Quality

HABITAT & ECOLOGY

- ▶ Free-Flowing Rivers & Wetlands
- ▶ Eastern Himalayas Foothills
- ▶ Fast-Flowing Rapids

DIET:

- 🐟 Fish from River Rapids

THREATS

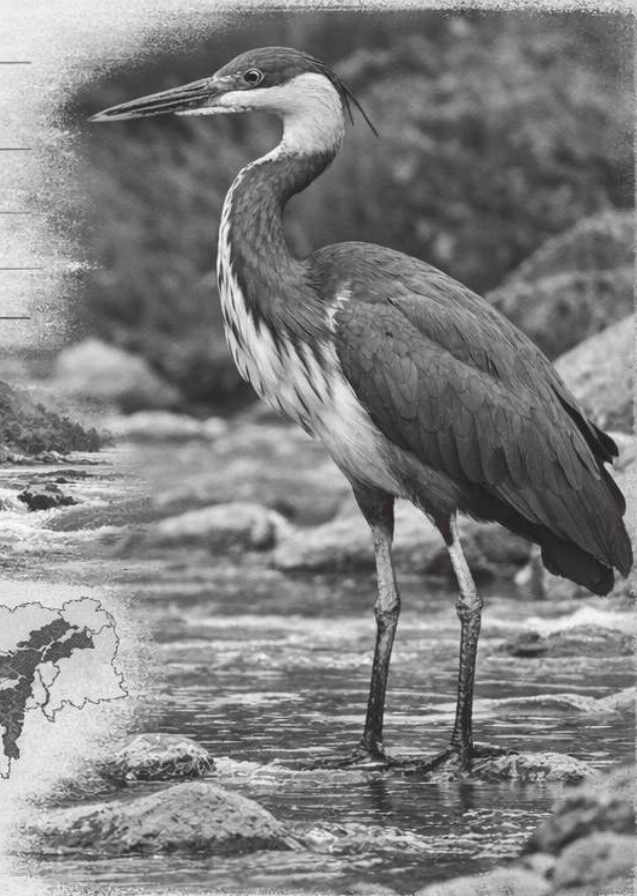
- 🏢 Hydropower Projects
- 🏠 Habitat Loss & Wetland Conversion
- 👤 Human Disturbance

CONSERVATION STATUS

🟡 IUCN: Critically Endangered

📖 WPA, 1972: Schedule I

🌐 CITES: Not Listed

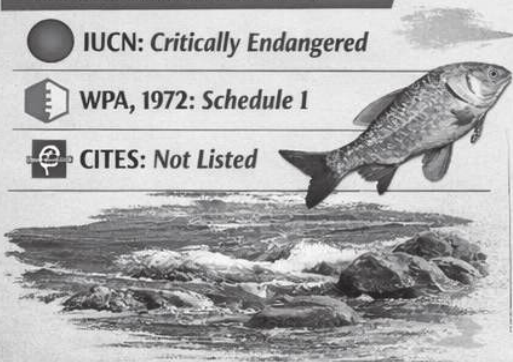


POPULATION: < 60 Mature Individuals

One of the Rarest Birds in the World

WHY IMPORTANT FOR UPSC?

- ▶ Hydropower vs Biodiversity Conflict
- ▶ River Ecosystem Conservation
- ▶ Prelims & GS-III Mains Relevance



MASSIVE SOLAR STORM AND SPACE WEATHER IMPACTS

Why in News: A significant solar radiation storm (solar flare) has been reported, affecting Earth's magnetosphere and increasing aurora activity — important for space science & communications systems.

Key Components

1. Solar Flare

- Sudden release of energy from the Sun's surface.
- Emits X-rays and ultraviolet radiation.
- Can disrupt radio communication on Earth almost immediately.

2. Coronal Mass Ejection (CME)

- Massive cloud of plasma and magnetic field ejected from the Sun.
- Takes 1–3 days to reach Earth.
- Causes geomagnetic storms when interacting with Earth's magnetosphere.

3. Magnetosphere

- Earth's magnetic shield protecting it from solar and cosmic radiation.
- Strong solar storms can compress or distort it, leading to geomagnetic disturbances.

Impacts of the Solar Storm

1. Space and Atmospheric effects

- Intensified aurora borealis and australis, visible even at lower latitudes.
- Heating of the upper atmosphere, increasing satellite drag.

2. Technological Impacts

- Disruption of satellite communication and GPS navigation.
- Potential damage to satellite electronics.
- Interference in high-frequency radio signals used by aviation and maritime services.

3. Earth-Based Infrastructure

- Induced electric currents can overload power grids, leading to blackouts.

- Damage to transformers and pipelines due to geomagnetically induced currents (GICs).

Importance of space weather monitoring

- Helps in early warning for satellites, astronauts, and power utilities.
- Critical for defence systems, aviation safety, and disaster preparedness.
- Growing relevance due to increasing dependence on space-based services.

India's Initiatives in space weather monitoring

- Aditya-L1 Mission (ISRO)
 - ✓ India's first solar observatory placed at Lagrange Point L1.
 - ✓ Studies solar flares, CMEs, and solar wind in real time.
- Indian Space Situational Awareness (SSA) Programme
- Collaboration with international space agencies for data sharing.

Way forward

- Strengthening space weather forecasting capabilities.
- Developing resilient satellite and power infrastructure.
- Enhancing international cooperation for solar storm early warning systems.
- Integrating space weather risks into national disaster management frameworks.

ISRO'S XPOSAT MISSION DEVELOPMENTS

Why in News: India's first dedicated X-ray polarimetry mission XPoSat has begun delivering scientific data, strengthening India's capabilities in space-based high-energy astrophysics.

Key Details

- XPoSat is India's **first X-ray Polarimeter Satellite**, launched by **Indian Space Research Organisation (ISRO)** in January 2024.
- It studies the **polarisation of X-rays** from celestial sources like black holes and neutron stars.
- The mission places India among a **select group of countries** capable of space-based X-ray polarimetry.

- Recent updates indicate **successful payload performance and initial scientific observations**.

What is XPoSat Mission?

- Mission Objective:** XPoSat (X-ray Polarimeter Satellite) is designed to measure the **degree and angle of X-ray polarisation** from bright cosmic X-ray sources, an area with limited global missions.
- Launch Details:** The satellite was launched aboard PSLV-C58 from **Satish Dhawan Space Centre**, demonstrating India's reliable PSLV platform.
- Orbital Placement:** It operates in a **low Earth orbit (~650 km)**, enabling stable long-duration observations of astrophysical sources.
- Strategic Significance:** XPoSat strengthens India's presence in **space astronomy and high-energy astrophysics**, complementing earlier missions like **AstroSat**.

Scientific Payloads & Working

- POLIX (Primary Payload):** The **Polarimeter Instrument in X-rays (POLIX)** measures X-ray polarisation in the **8–30 keV energy band**, developed by **Raman Research Institute**.
- XSPECT (Secondary Payload):** XSPECT studies **spectral and timing properties** of cosmic X-ray sources, improving understanding of high-energy phenomena.
- Polarimetry Importance:** Unlike imaging or spectroscopy, polarimetry reveals **geometry, magnetic fields, and emission mechanisms** near extreme objects.
- Observation Targets:** Key targets include **black holes, neutron stars, pulsars, and active galactic nuclei**, crucial for astrophysics research.

Key Developments

- Successful Commissioning:** ISRO has reported **healthy payload performance** and initiation of scientific observations.
- Data Generation Phase:** The mission is now producing **polarisation measurements**, expected to contribute to global astrophysics datasets.
- Global Positioning:** With XPoSat, India joins a **limited group of nations** (including the US and China) with dedicated X-ray polarimetry capability.
- Future Synergy:** Data from XPoSat will complement multi-wavelength observations from ground and space telescopes.

Significance for India

- Advancement in Space Science:** Enhances indigenous capability in **high-energy astronomy**, a frontier domain.
- Technological Self-Reliance:** Demonstrates India's progress in **precision detectors, satellite stabilisation, and deep-space observation**.
- Scientific Diplomacy:** Opens avenues for **international collaboration and data sharing**.

Conclusion

XPoSat marks a significant step in India's transition from operational space applications to **frontier space science missions**. Sustained investment in astrophysics missions, international collaboration, and data utilisation will help India emerge as a major player in global space science. The mission reflects India's growing capability in advanced observational astronomy.

EXPECTED QUESTION FOR UPSC CSE

Prelims MCQ

Q. XPoSat mission is primarily related to:

- Navigation services
- X-ray polarimetry of cosmic sources
- Earth observation
- Communication satellites

Answer: (b)

INDIA ENERGY WEEK (IEW) 2026

Why in News: India concluded **India Energy Week (IEW) 2026 in Goa**, highlighting its dual strategy of ensuring energy security while accelerating the clean energy transition.

Key Details

- IEW 2026 emphasised the concept of **"energy addition"**—expanding both conventional and renewable energy sources.
- India showcased reforms like **OALP and DSF bidding rounds** to boost domestic hydrocarbon exploration.
- The **India-UAE energy partnership** was reinforced, with UAE remaining a major crude and LPG supplier.
- Goa announced its vision to achieve **100% renewable energy by 2050**.

Significance and Objectives

- Flagship Global Energy Platform:** Launched in 2023 under the Ministry of Petroleum and Natural Gas, IEW serves as India's premier forum for energy dialogue, investment promotion, and technology collaboration.
- Energy Diplomacy Tool:** IEW positions India as a key stakeholder in global energy governance, helping attract foreign investment and deepen strategic energy partnerships.
- Focus on Affordable and Sustainable Energy:** The platform emphasises the trilemma of **energy security, affordability, and sustainability**, aligning with India's long-term energy roadmap.
- Interface of Public and Private Stakeholders:** It brings together governments, oil majors, renewable firms,

and innovators, strengthening India's role in the global energy ecosystem.

Paradigm Shift: From Energy Transition to Energy Addition

- **Conceptual Shift:** India argued that the global transition is about **adding cleaner energy sources** rather than abruptly replacing fossil fuels, given rising global demand.
- **Balanced Energy Mix:** India continues investment across **oil, gas, LNG, biofuels, and green hydrogen**, recognising that renewables alone cannot meet near-term demand.
- **Energy Justice Perspective:** As a developing economy, India emphasises **equitable energy transition**, highlighting per capita energy consumption still below developed nations.
- **Policy Continuity:** The approach reflects India's pragmatic stance in global climate negotiations—supporting decarbonisation without compromising growth.

Strengthening Domestic Hydrocarbon Exploration

- **Open Acreage Licensing Policy (OALP):** Allows companies to bid for exploration blocks throughout the year, improving ease of doing business and investor flexibility.
- **Discovered Small Fields (DSF) Policy:** Encourages monetisation of smaller oil and gas fields that were earlier unviable, boosting domestic production.
- **HELP Framework:** The Hydrocarbon Exploration Licensing Policy provides revenue-sharing contracts and marketing freedom to investors.
- **Strategic Objective:** These reforms aim to reduce India's high import dependence, as the country remains the **third-largest net energy importer globally**.

India-UAE Energy Partnership

- **Reliable Energy Supplier:** UAE reaffirmed its commitment as a dependable supplier of crude oil and LPG to India.
- **Trade Significance:** UAE is India's **fourth-largest oil import source** and **third-largest trading partner**, with exports exceeding **USD 36.63 billion in FY 2024–25**.
- **Future Trade Target:** Both countries aim to double bilateral trade to **USD 200 billion by 2032**, strengthening energy and economic ties.
- **Strategic Diversification:** The partnership helps India diversify energy sources amid global geopolitical volatility.

India's Renewable Energy Progress

- **Global Rankings (IRENA 2025):** India ranks **3rd in solar capacity, 4th in wind, and 4th in total renewable capacity**, indicating rapid clean energy growth.
- **Non-Fossil Capacity Milestone:** India has achieved **50% of installed electricity capacity from non-fossil sources**, five years ahead of its 2030 target.

- **Major Schemes Driving Transition:** Key initiatives include **PM Surya Ghar Muft Bijli Yojana, PM-KUSUM, National Green Hydrogen Mission, and Ethanol Blending Programme (20% achieved in 2025)**.
- **Global Solar Leadership:** India promotes solar diplomacy through the **International Solar Alliance** and **One Sun One World One Grid (OSOWOG)** initiative.

Persistent Challenges to Energy Security

- **Energy Transition Index Decline:** India slipped to **71st rank in WEF Energy Transition Index 2025** (from 63rd in 2024), indicating structural gaps.
- **High Import Dependence:** Despite renewable growth, India imports over **85% of crude oil**, exposing it to global price shocks.
- **Infrastructure and Financing Constraints:** Grid integration, storage capacity, and green hydrogen costs remain major bottlenecks.
- **Balancing Growth and Decarbonisation:** Rapid industrialisation and rising electricity demand complicate the pace of transition.

Green Steel: Emerging Priority in Energy Transition

- **Major Emission Source:** The steel sector contributes about **12% of India's carbon emissions**, largely due to coal-based blast furnaces.
- **Rising Demand Pressure:** India's steel output may rise from **~125 million tonnes to over 400 million tonnes by mid-century**, creating a carbon lock-in risk.
- **Global Competitive Pressure:** Measures like the EU's **Carbon Border Adjustment Mechanism (CBAM)** could penalise carbon-intensive Indian exports.
- **Policy Push:** India has introduced the **Green Steel Taxonomy, Greening Steel Roadmap, and hydrogen-based pilot projects**.

Conclusion

India's strategy of combining energy security with clean transition reflects a pragmatic and growth-oriented approach. Going forward, India must deepen domestic exploration, scale up renewable storage and green hydrogen, strengthen carbon markets, and accelerate industrial decarbonisation—especially in steel. A calibrated "energy addition" pathway, supported by global partnerships and robust policy signals, will be crucial for India to emerge as a resilient and sustainable energy leader.

EXPECTED QUESTION FOR UPSC CSE

Prelims MCQ

- Q. India Energy Week (IEW) is primarily associated with:
- (a) Nuclear safety
 - (b) Global energy cooperation and investment

- (c) Climate finance negotiations
- (d) Coal sector reforms

(b) :Answer

Descriptive Question

Q. Discuss India’s strategy of “energy addition” in the context of balancing energy security with clean energy transition. (150 Words, 10 Marks)

INDIA’S DEEP OCEAN MISSION AND LEADERSHIP IN PMS EXPLORATION

Why in News: Recently, India became the first country to hold two exploration contracts for Polymetallic Sulphides (PMS) from the International Seabed Authority.

Key Details

- India secured exclusive exploration rights over **10,000 sq km in the Carlsberg Ridge** of the Indian Ocean.
- This complements India’s earlier allocation in the **Central and Southwest Indian Ridge**.
- The development strengthens India’s **Deep Ocean Mission (DOM)** and Blue Economy strategy.
- It enhances India’s influence in **global seabed resource governance**.

Polymetallic Sulphides (PMS): Resource Significance

- **Nature and Location:** PMS deposits occur near hydrothermal vents along mid-ocean ridges at depths of about **3,000–6,000 metres**, making their extraction technologically demanding but resource intensive.
- **Critical Mineral Composition:** These deposits contain **copper, zinc, iron, gold, silver, and platinum**, which are crucial for electronics, electric vehicles, renewable energy infrastructure, and aerospace manufacturing.
- **Future Resource Security:** With the global clean energy transition increasing demand for critical minerals, PMS is emerging as a **strategic supplement to depleting land-based mineral reserves**.
- **Global Competition:** Countries such as **China, Russia, and EU members** are aggressively pursuing deep-sea mining, elevating PMS exploration to a matter of geopolitical and economic importance.

International Seabed Authority (ISA)

- **Legal Basis under UNCLOS:** The ISA was established in 1994 under the **United Nations Convention on the Law of the Sea (UNCLOS)** to manage mineral resources in areas beyond national jurisdiction.
- **Common Heritage Principle:** Seabed resources in international waters are designated as the **“common heritage of humankind,”** requiring equitable and environmentally responsible exploitation.

- **Regulatory Functions:** ISA allocates exploration contracts, develops the **Mining Code**, and monitors environmental safeguards to balance commercial interests with marine protection.
- **India’s Long Association:** India became the **first Pioneer Investor in 1987** for polymetallic nodules, demonstrating its early and sustained engagement in seabed resource exploration.
- **Contemporary Relevance:** Holding two PMS contracts strengthens India’s bargaining power in shaping future **global deep-sea mining regulations**.

Deep Ocean Mission (DOM): Strategic Vision

- **Launch and Objectives:** Launched in **2021 by the Ministry of Earth Sciences**, the mission aims to build India’s capabilities in deep-sea mining, ocean research, and marine-based services.
- **Six Core Components:** These include development of **manned submersibles, PMS exploration, deep-sea biodiversity assessment, ocean climate services, marine bioprospecting, and advanced ocean stations**.
- **Technological Push – Samudrayaan:** The mission is developing the manned submersible **Samudrayaan**, designed to reach depths of **6,000 metres**, marking a major technological milestone.
- **Blue Economy Linkage:** DOM supports expansion of India’s Blue Economy, which currently contributes **around 4% to India’s GDP**, with potential for significant growth.

Strategic and Geopolitical Significance

- **Indian Ocean Competition:** The Indian Ocean is witnessing increasing strategic contestation, particularly due to **China’s expanding deep-sea exploration footprint**.
- **Enhanced Maritime Presence:** Securing dual ISA contracts improves India’s **maritime domain awareness** and long-term strategic depth in key oceanic regions.
- **Leadership in Ocean Governance:** Hosting the **8th ISA Contractors’ Meeting in Goa (2025)** projects India as a responsible and proactive stakeholder in global ocean governance.
- **Alignment with SAGAR Vision:** The initiative supports India’s **Security and Growth for All in the Region (SAGAR)** doctrine, promoting cooperative and sustainable maritime development.

Economic and Industrial Implications

- **Critical Mineral Security:** India depends heavily on imports for several strategic minerals; PMS resources can **reduce supply vulnerability and improve resource self-reliance**.
- **Boost to Sunrise Sectors:** Availability of deep-sea minerals will support **electric mobility, renewable energy, electronics manufacturing, and defence production**.

- **New Value Chains:** PMS exploration can stimulate industries in **deep-sea robotics, marine metallurgy, subsea logistics, and offshore engineering.**
- **Blue Economy Diversification:** Deep-sea mining expands ocean-based economic activity beyond traditional sectors like fisheries and shipping.

Scientific and Technological Advancement

- **Indigenous Capability Building:** Deep-sea mining requires **advanced robotics, AI-enabled systems, and pressure-resistant materials,** pushing India toward high-end technological self-reliance.
- **Oceanographic Research Gains:** Studying hydrothermal vents improves understanding of **extremophile life forms and deep-sea ecosystems,** contributing to frontier science.
- **Strategic Technology Spillovers:** Technologies developed under DOM have applications in **defence surveillance, space missions, and offshore energy exploration.**
- **Global Scientific Standing:** India joins a select group of countries possessing **end-to-end deep ocean exploration capability,** enhancing its scientific prestige.

Environmental and Ethical Concerns

- **Fragile Deep-Sea Ecosystems:** Hydrothermal vents host rare and endemic species; mining activities risk **irreversible biodiversity damage.**
- **Limited Scientific Knowledge:** More than **99% of the deep ocean floor remains unexplored,** raising concerns about premature commercial exploitation.
- **Pollution and Sediment Risks:** Mining may generate sediment plumes and release toxic metals, potentially disturbing **marine food webs and carbon sequestration processes.**
- **Global Moratorium Debate:** Several countries and environmental groups advocate a **precautionary pause on deep-sea mining** until stronger scientific evidence is available.

Technological and Economic Challenges

- **Extreme Operating Conditions:** Mining at depths beyond **3,000–6,000 metres** requires highly sophisticated and failure-resistant equipment.
- **High Capital Intensity:** Deep-sea extraction, processing, and transport remain **cost-intensive and commercially uncertain** compared to terrestrial mining.
- **Regulatory Uncertainty:** ISA's commercial mining code is still evolving, creating **policy and investment risks** for participating countries.
- **Market Volatility:** Economic viability depends on long-term global demand and price stability of **critical minerals.**

Conclusion

India must advance PMS exploration through **technological innovation, strong environmental safeguards, and proactive**

diplomacy within ISA. By integrating deep-sea mining with the **Blue Economy, SAGAR vision, and Atmanirbhar Bharat,** India can secure critical mineral supplies while upholding the principle of oceans as the **common heritage of humankind.**

EXPECTED QUESTION FOR UPSC CSE

Prelims MCQ

Q. Polymetallic Sulphides are primarily found:

- Continental shelves
- Hydrothermal vents on ocean ridges
- Coastal sediments
- River deltas

(b) Answer

INDIAN SCIENTISTS SIMULATE MPEMBA EFFECT USING SUPERCOMPUTERS

Why in News: Indian scientists have successfully simulated the Mpemba effect using supercomputers, resolving a long-standing physics puzzle.

Key Details

- India has produced the **first supercomputer-powered simulation** capturing the Mpemba effect in water.
- The study confirms the role of **non-equilibrium thermodynamics** in freezing dynamics.
- Researchers found the effect may occur in **fluid-to-solid transitions beyond water.**
- The achievement highlights India's growing strength in **computational physics and supercomputing.**

Mpemba Effect – Concept & Definition

- **Counterintuitive Freezing Phenomenon:** The Mpemba effect refers to situations where **hot water freezes faster than cold water** under certain controlled conditions, challenging conventional thermodynamic intuition.
- **Historical Origin:** The effect is named after **Erasto Mpemba,** a Tanzanian student who observed it in the 1960s while making ice cream, later validated by physicists.
- **Scientific Paradox:** For decades, the phenomenon lacked a **single universal theoretical explanation,** making it an important problem in thermal physics.
- **Conditional Nature:** The effect does not always occur; it depends on factors like **evaporation, convection, dissolved gases, and container properties.**

Role of Supercomputer Simulation

- **First High-Resolution Computational Capture:** Indian

scientists used advanced supercomputing to model **molecular-level heat transfer and phase change**, successfully reproducing the Mpemba effect.

- **Atomic-Scale Modelling:** Supercomputers allow simulation of **millions of particle interactions simultaneously**, which is impossible through conventional laboratory methods.
- **Validation of Physical Mechanisms:** The simulation provides quantitative support to previously debated hypotheses regarding **energy dissipation and cooling pathways**.
- **Boost to Computational Science:** The work demonstrates how **high-performance computing (HPC)** can solve long-standing theoretical physics problems.

Role of Non-Equilibrium Thermodynamics

- **Departure from Classical Equilibrium Theory:** Traditional thermodynamics assumes systems move toward equilibrium slowly, but the Mpemba effect arises in **non-equilibrium conditions**.
- **Energy Redistribution Dynamics:** The study shows that **initial thermal states influence cooling pathways**, allowing hot water in some cases to lose heat more efficiently.
- **Microscopic Explanation:** Molecular rearrangements and **faster structural ordering** in hotter samples may accelerate freezing under specific conditions.
- **Broader Scientific Relevance:** Understanding non-equilibrium processes is crucial in **climate science, metallurgy, cryogenics, and materials engineering**.

Scientific and Technological Significance

- **Resolution of a Long-Standing Puzzle:** The successful simulation helps demystify a phenomenon debated for **over five decades**, strengthening theoretical physics.
- **Advancement in Phase Transition Studies:** Insights into **fluid-to-solid transitions** can improve industrial processes such as casting, cryopreservation, and refrigeration.
- **Implications for Materials Science:** The finding that the effect may occur beyond water opens research in **complex fluids and condensed matter systems**.
- **Demonstration of Supercomputing Power:** Reinforces the importance of national supercomputing capacity for **frontier scientific research and innovation**.

Institutional and National Context

- **Alignment with India's Supercomputing Mission:** The research reflects progress under initiatives like the **National Supercomputing Mission (NSM)** aimed at building indigenous HPC capability.
- **Strengthening Scientific Ecosystem:** It supports India's push in **computational physics, AI-driven simulations, and advanced research infrastructure**.
- **Strategic Importance:** Supercomputing capacity is

vital for **weather forecasting, drug discovery, nuclear simulations, and defence modelling**.

- **Global Scientific Positioning:** Such breakthroughs enhance India's reputation in **high-end fundamental research and technology leadership**.

Conclusion

The successful simulation of the Mpemba effect marks a significant step in resolving complex thermodynamic questions through computational science. Going forward, India must strengthen high-performance computing infrastructure, promote interdisciplinary research in non-equilibrium physics, and translate such theoretical advances into industrial and technological applications. This achievement underlines the growing role of supercomputing in modern scientific discovery.

EXPECTED QUESTION FOR UPSC CSE

Prelims MCQ

Q. The Mpemba effect refers to:

- Water boiling at lower pressure
- Hot water freezing faster than cold water under certain conditions
- Expansion of water on heating
- Supercooling of liquids

Answer: (b)

BLUEBIRD-6 SATELLITE AND LVM-3

Why in News: ISRO is scheduled to launch the BlueBird-6 satellite of AST SpaceMobile using the heavy-lift LVM-3 rocket, highlighting India's growing role in the global commercial space market.

Key Details

- BlueBird-6 is a US-developed commercial satellite aimed at **direct-to-device broadband connectivity**.
- It will be launched by **ISRO's LVM-3**, India's most powerful operational rocket.
- The mission strengthens **India-US space cooperation and commercial launch capabilities**.
- The satellite aims to **bridge the digital divide in remote regions globally**.

BlueBird-6 Satellite: Key Features

- **Developer and Nature:** BlueBird-6 is developed by AST SpaceMobile (USA) as part of a commercial satellite constellation to provide space-based cellular broadband services.
- **Direct-to-Device Connectivity:** The satellite can connect **ordinary smartphones directly to space**, eliminating

dependence on ground cell towers—an emerging frontier in telecom technology.

- **Heavy Commercial Payload:** With a mass of about **6.5 tonnes**, it is among the heaviest commercial satellites to be launched by ISRO, demonstrating India's heavy-lift capability.
- **Low Earth Orbit Deployment:** It will operate in **Low Earth Orbit (LEO)**, which offers lower latency and better broadband performance compared to geostationary satellites.
- **Large Phased Array Antenna:** The satellite carries a massive antenna (~2,400 sq ft), one of the largest in space, enabling wide-area mobile coverage.

Technological Significance of Direct-to-Device Satellites

- **Next-Generation Telecom:** Direct-to-device (D2D) satellites represent the next evolution beyond traditional satellite phones by enabling **standard 4G/5G smartphones** to connect directly.
- **Bridging Digital Divide:** This technology can provide connectivity in **remote, maritime, desert, and disaster-hit areas** where terrestrial towers are absent.
- **Disaster Resilience:** Satellite-based mobile networks remain functional even when ground infrastructure fails, enhancing **emergency communication capacity**.
- **Global Competition:** Companies like SpaceX (Starlink Direct-to-Cell) and AST SpaceMobile are racing to dominate this market, making the mission strategically important.

Strategic Importance for India

- **Commercial Launch Hub:** Launching a heavy US commercial satellite reinforces India's position as a **cost-effective and reliable launch service provider**.
- **India-US Space Cooperation:** The mission deepens bilateral cooperation in high-technology sectors, complementing broader strategic ties.
- **Revenue and Space Economy:** Commercial launches contribute to India's goal of expanding its share in the **global space economy (target: ~\$44 billion by 2033 as per IN-SPACE vision)**.
- **Private Sector Boost:** Such missions encourage participation of Indian private space startups under the **space sector reforms (2020 onwards)**.

LVM-3: India's Heavy-Lift Rocket

- **Basic Profile:** LVM-3 (Launch Vehicle Mark-3), earlier called GSLV Mk III and nicknamed "**Bahubali**", is ISRO's most powerful operational rocket.
- **Heavy Payload Capability:** It can place about **4 tonnes in GTO** and **8+ tonnes in LEO**, making it suitable for large communication satellites and deep-space missions.
- **Human Spaceflight Role:** LVM-3 is the designated launch vehicle for **Gaganyaan**, India's human spaceflight programme.

- **Three-Stage Configuration:** It uses two solid strap-on boosters, a liquid core stage, and a cryogenic upper stage—showcasing advanced propulsion capability.
- **Proven Track Record:** Successfully used in missions like **Chandrayaan-2 and Chandrayaan-3**, enhancing India's credibility.

LVM-3 vs PSLV vs GSLV

- **PSLV:** Known as ISRO's workhorse; mainly launches **Earth observation satellites** into polar sun-synchronous orbits.
- **GSLV (Mk II):** Designed primarily for **geostationary communication satellites** using cryogenic upper stage.
- **LVM-3:** Heavy-lift vehicle for **large satellites and human missions**, marking India's entry into the heavy launch segment.

Future Implications

- **Global Connectivity Revolution:** Direct-to-mobile satellites may transform telecom by enabling **space-based universal coverage**.
- **India's Space Diplomacy:** Successful commercial launches strengthen India's soft power in the **Global South space market**.
- **Boost to NewSpace Ecosystem:** Aligns with India's push for **private participation, IN-SPACE facilitation, and NSIL commercialization**.
- **Strategic Autonomy:** Enhances India's independent heavy-lift capability, important for national security and deep-space ambitions.

Conclusion

The BlueBird-6 launch using LVM-3 reflects India's transition from a primarily developmental space programme to a **major commercial and strategic space power**. Continued investment in heavy-lift rockets, private sector participation, and advanced satellite technologies will be crucial for India to capture a larger share of the global space economy while supporting inclusive digital connectivity worldwide.

EXPECTED QUESTION FOR UPSC CSE

Prelims MCQ

- Q. With reference to the BlueBird-6 satellite, consider the following statements:
1. It enables direct broadband connectivity to standard smartphones.
 2. It will be placed in Geostationary Earth Orbit.
 3. It is being launched using ISRO's LVM-3.

Which of the statements given above is/are correct?

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

(a) Answer

VEHICLE-TO-VEHICLE (V2V) COMMUNICATION TECHNOLOGY

Why in News: The Government of India plans to roll out Vehicle-to-Vehicle (V2V) communication technology by the end of 2026 to reduce road accidents, especially in fog and highway pile-ups.

Key Details

- V2V enables **direct wireless communication between vehicles** for real-time safety alerts.
- The system works **without dependence on mobile networks or internet**.
- It is being coordinated by the **Ministry of Road Transport and Highways (MoRTH)**.
- The technology aims to reduce **rear-end collisions, fog accidents, and multi-vehicle pile-ups**.

Vehicle-to-Vehicle (V2V) Technology – Concept

- **Direct Short-Range Communication:** V2V is a wireless communication system that allows vehicles to exchange data such as speed, location, and direction in real time to enhance road safety.
- **Part of Intelligent Transport Systems (ITS):** It forms a key component of next-generation smart mobility solutions under Intelligent Transport Systems aimed at reducing human error in driving.
- **No Internet Dependency:** Unlike GPS tracking apps, V2V uses dedicated short-range communication (DSRC/C-V2X), making it functional even in **remote or low-network areas**.
- **Safety-First Design:** The primary objective is **collision avoidance**, not navigation or infotainment, distinguishing it from conventional vehicle telematics.

How the V2V System Works?

- **On-Board Communication Unit:** Vehicles are fitted with a SIM-like wireless device that continuously broadcasts vehicle parameters to nearby vehicles within a short radius.
- **Real-Time Data Exchange:** Key data transmitted include **speed, position, heading direction, and sudden braking events**, enabling predictive risk assessment.
- **Instant Driver Alerts:** When risk is detected, the receiving vehicle generates **audio-visual warnings** to alert the driver for corrective action.
- **Low Latency Communication:** The system operates within milliseconds, which is crucial because most highway collisions occur due to delayed human reaction.

Key Features and Safety Benefits

- **360-Degree Situational Awareness:** Unlike mirrors or cameras, V2V provides alerts from **all directions**, including blind spots, improving driver awareness.
- **Distance Warning System:** It warns drivers when

another vehicle is dangerously close, helping prevent **rear-end collisions**, which form a major share of highway accidents.

- **Stationary Vehicle Detection:** The system alerts approaching vehicles about **parked, broken-down, or slow-moving vehicles**, especially useful on highways at night.
- **Fog and Low-Visibility Safety:** India records high accident rates during winter fog in northern states; V2V works independent of visibility, making it highly relevant.
- **Pile-Up Prevention:** Multi-vehicle collisions (chain accidents) can be significantly reduced through **early braking alerts** transmitted across vehicles.

Relevance for India

- **High Road Fatality Burden:** India accounts for about **11% of global road accident deaths** despite having only ~1% of the world's vehicles (MoRTH data).
- **Human Error Dominance:** Over **85–90% of accidents** in India are attributed to driver error, which V2V aims to mitigate through automated alerts.
- **Fog-Prone Regions:** Northern India, including Delhi-NCR, Punjab, and Uttar Pradesh, frequently faces dense fog leading to **winter highway pile-ups**.
- **Push for Smart Mobility:** V2V aligns with India's goals under **Digital India, Smart Cities Mission, and Intelligent Transport Systems policy**.

Challenges and Concerns

- **Standardisation Issues:** Interoperability between different automobile manufacturers requires common communication standards and regulatory clarity.
- **Cost of Installation:** Retrofitting older vehicles may be expensive, posing adoption challenges in India's price-sensitive automobile market.
- **Cybersecurity Risks:** Connected vehicle ecosystems may face risks of **data hacking, spoofing, or signal interference**, requiring robust encryption.
- **Infrastructure and Policy Readiness:** Large-scale deployment needs supporting ITS infrastructure, testing protocols, and legal backing for liability in automated warnings.

Conclusion

Vehicle-to-Vehicle communication technology represents a major step toward **preventive road safety and intelligent mobility in India**. For effective implementation, India must ensure standardisation, affordability, cybersecurity safeguards, and integration with broader Intelligent Transport Systems. If deployed at scale, V2V can significantly reduce accident fatalities and support India's transition toward **safe, connected, and autonomous mobility**.

commitments under the **Sendai Framework for Disaster Risk Reduction**.

India’s First Sovereign AI Park (Chennai)

- **Strategic Infrastructure:** Tamil Nadu plans a ₹10,000 crore Sovereign AI Park with **high-performance computing (HPC), secure data labs and innovation clusters**.
- **Data Sovereignty:** The term “sovereign AI” reflects the need for **domestic control over critical AI infrastructure and datasets**.
- **Boost to AI Ecosystem:** Expected to attract startups, research institutions and global partnerships, strengthening India’s AI value chain.
- **Policy Context:** Supports IndiaAI Mission, semiconductor push, and digital public infrastructure expansion.

Space-Based Surveillance Phase-3

- **All-Weather Monitoring:** India plans to deploy **synthetic aperture radar (SAR) satellites**, capable of imaging through clouds and at night.
- **National Security Dimension:** Enhances border surveillance, maritime domain awareness and intelligence gathering.
- **Strategic Autonomy:** Reduces dependence on foreign satellite data and strengthens India’s space security architecture.
- **Dual-Use Technology:** SAR satellites also support disaster management, agriculture monitoring and urban planning.

Discovery of New Marine Species in Lakshadweep

- **Scientific Breakthrough:** Researchers discovered a new crustacean species **Indiaphonte bijoyi** in the Kavaratti lagoon.
- **Biodiversity Significance:** Highlights the rich but underexplored marine ecosystems of India’s coral islands.
- **Conservation Implications:** Strengthens the case for **marine protected areas and blue economy research**.

Progress in Fusion Energy Research

- **Star-like Energy on Earth:** Projects like **ITER and EAST** reported milestones in sustained plasma confinement.
- **Clean Energy Potential:** Fusion promises **near-zero carbon, abundant fuel and minimal long-lived radioactive waste**.
- **Technological Challenges:** Issues remain in achieving net energy gain, material durability and commercial scalability.
- **India’s Role:** India is a key partner in ITER, making fusion research strategically important for long-term energy security.

Conclusion

India must integrate advances in AI, space technology, disaster science, and clean energy into a coherent innovation strategy. Strengthening research funding, promoting STEM education, ensuring ethical AI governance, and building sovereign technological capacity will be crucial for achieving the vision of **Viksit Bharat and technological self-reliance**.

INDIA CLEARS MAJOR RAFALE FIGHTER JET DEAL

Why in News: India's Defence Procurement Board has approved the acquisition of 114 additional Rafale fighter jets — the largest fighter procurement in India's history — significantly augmenting Air Force combat strength.

Background

- The IAF's sanctioned strength is **42 fighter squadrons**, but it currently operates at around **30–31 squadrons**.
- Delays in indigenous aircraft programmes and the retirement of legacy platforms such as **MiG-21s, MiG-27s, and Jaguars** have widened the capability gap.
- India inducted **36 Rafale jets** under a 2016 **government-to-government deal with France**.
- The present approval is linked to the **Multi-Role Fighter Aircraft (MRFA)** programme, intended to meet medium-term combat needs.

India's Defence Procurement Board (DPB)

- It is a high-level procurement body created to fast-track defence purchases and reduce delays in the acquisition process.
- It was setup in 2020 as part of reforms to modernise defence procurement.
- Defence Secretary chairs it.

What it does:

- Clears capital and revenue procurements within its delegated financial powers
- Focuses strongly on indigenisation (Buy Indian, Buy Indian-IDDM categories)
- Handles cases that earlier had to wait for higher committees

How it fits in the system:

- Works below the Defence Acquisition Council (DAC)
- DAC handles big-ticket and policy-level acquisitions
- DPB handles a large volume of mid-level and urgent procurements, making the system faster overall

Why it matters:

- Cuts red tape
- Speeds up military modernization
- Supports Atmanirbhar Bharat in defence manufacturing

About the Rafale fighter jet

- **Manufacturer:** Dassault Aviation (France)
- **Type:** Twin-engine, 4.5-generation multirole fighter
- **Key Roles:**
 - Air superiority
 - Ground and maritime strike
 - Reconnaissance
 - Nuclear delivery capability

Advanced technologies

- AESA Radar (RBE2-AA)
- SPECTRA Electronic Warfare System
- Meteor Beyond Visual Range (BVR) missiles
- SCALP long-range cruise missiles
- High sortie generation rate and low maintenance downtime

Strategic Significance of the Deal

- **Enhancing Air Power and Deterrence**
 - Strengthens India's ability to counter simultaneous threats on two fronts.
 - Enhances deep-strike, first-strike, and precision-strike capabilities.
- **Addressing Squadron Deficiency**
 - Helps mitigate the steep decline in fighter squadrons due to fleet retirements.
 - Ensures continuity until indigenous platforms become operational.
- **Force Multiplier Effect**
 - Rafale's advanced sensors and weapons improve overall network-centric warfare capability.
 - Enhances interoperability with existing platforms such as Su-30 MKI and AWACS.
- **Strategic Partnerships**
 - Reinforces India–France strategic defence cooperation.
 - France has emerged as a reliable defence partner with minimal geopolitical conditionalities.

Economic and Industrial Implications

1. Make in India and Atmanirbhar Bharat

- The deal is expected to include:
 - Technology transfer

- Licensed production
- Participation of Indian private sector defence firms
- Opportunity to strengthen India's aerospace manufacturing ecosystem.

2. Employment and Skill Development

- Large-scale production may generate high-skilled employment.
- Boosts MSMEs linked to defence supply chains.

Challenges and Concerns

- **High Financial Cost**
 - Rafale is among the most expensive fighter aircraft globally.
 - Could exert pressure on the defence capital budget.
- **Import Dependence**
 - Core technologies like engines and avionics remain foreign-sourced.
 - Raises concerns about strategic autonomy.
- **Induction and Delivery Timeline**
 - Long production and delivery schedules may delay operational benefits.
- **Opportunity Cost**
 - Large imports may divert funds from indigenous platforms such as:
 - ◆ Tejas Mk-2
 - ◆ Advanced Medium Combat Aircraft (AMCA)

Way Forward

- Ensure maximum indigenisation through offsets and local manufacturing.
- Adopt a balanced fighter acquisition strategy, combining imports and indigenous development.
- Fast-track indigenous programmes like AMCA and Tejas Mk-2.
- Strengthen defence R&D and private sector participation.
- Improve long-term planning to avoid ad-hoc emergency procurements.

EXPECTED QUESTION FOR UPSC CSE

Prelims Question

Q. With reference to the Rafale fighter aircraft, consider the following statements:

1. Rafale is a twin-engine, multirole fighter aircraft.
2. It is equipped with the Meteor beyond visual range (BVR) air-to-air missile.
3. Rafale is a fifth-generation stealth fighter aircraft.

4. India procured Rafale aircraft through a government-to-government agreement with France.

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

(a) :Answer

TERROR THREAT FROM EXTREMIST GROUPS

Why in News: Intelligence agencies have issued heightened security warnings ahead of Republic Day, flagging potential terror threats from Bangladesh-based and Khalistani extremist groups, with Delhi as a primary focus.

Background

- Republic Day is a high-profile national event, making it a preferred target for terrorist and extremist groups seeking symbolic impact.
- Intelligence inputs suggest increased online propaganda, recruitment efforts, and cross-border coordination by extremist networks.
- The alert comes amid concerns over revival attempts by dormant terror modules and exploitation of regional instability.

Key Extremist Threats Highlighted

- **Bangladesh-based Extremist Groups**
 - Groups such as Ansarullah Bangla Team (ABT) and other Islamist outfits have been under surveillance for:
 - Radicalisation through online platforms
 - Cross-border linkages with Indian sleeper cells
 - Use of porous borders, fake identities, and illegal migration routes to infiltrate operatives.
- **Khalistani Extremist Groups**
 - Certain Khalistani outfits, operating mainly from foreign soil, are:
 - Attempting to revive separatist sentiment
 - Engaging in targeted propaganda, especially among youth
 - Evidence of foreign funding, misuse of social media, and collaboration with organised crime networks.

Why Delhi is a Primary Focus?

- National capital with high symbolic and strategic value
- Hosts constitutional authorities, foreign dignitaries, and mass public gatherings
- Extensive media coverage enhances the propaganda value of any disruption

Modes of Threat

- Lone-wolf attacks
- Improvised Explosive Devices (IEDs)
- Cyber radicalisation and online incitement
- Targeting of soft locations such as public transport, crowded markets, and ceremonial venues

Security Measures Undertaken

- **Multi-layered security deployment involving:**
 - Delhi Police
 - Central Armed Police Forces (CAPFs)
 - Intelligence Bureau and RAW
- **Enhanced:**
 - Surveillance and CCTV monitoring
 - Border checks and airport security
 - Cyber monitoring of extremist content
- Increased coordination with state police forces and foreign intelligence agencies

Challenges in Countering Terror Threats

- Rapid radicalisation through encrypted digital platforms
- Cross-border sanctuaries for extremist leaders
- Difficulty in detecting lone-wolf attackers
- Use of legal and humanitarian channels to mask extremist activity

Way Forward

- Strengthen intelligence-led policing and real-time data sharing
- Enhance counter-radicalisation strategies, especially online
- Improve border management using technology-driven surveillance
- Strengthen international cooperation to curb terror financing and propaganda
- Promote community engagement to prevent local radicalisation

EXPECTED QUESTION FOR UPSC CSE

Prelims Question

Q. Which of the following poses the greatest challenge in preventing modern terror attacks?

- Poor inter-agency coordination
- Difficulty in detecting lone-wolf radicalisation
- Lack of legal framework to counter terrorism
- Absence of international cooperation

Answer: (b)

STRATEGIC BORDER DEFENCE PROJECTS

Why in News: The Environment Ministry panel approved 17 defence-related infrastructure proposals near the China border (Ladakh & Sikkim), enhancing logistics and strategic preparedness in high-altitude defence sectors.

Key Highlights

- **Purpose:** To strengthen India's border infrastructure in areas of strategic importance, particularly in high-altitude regions.
- **Locations:** Projects approved along the Ladakh and Sikkim sectors, sensitive due to China's proximity.
- **Scope of Projects:** Includes road construction, airstrips, bridges, and forward operational facilities, ensuring better mobilization and deployment of defence forces.
- **Strategic Significance:**
 - Improves military logistics and rapid troop movement.
 - Enhances surveillance and operational readiness in border areas.
 - Supports India's border infrastructure modernization, crucial amid evolving China-India border dynamics.

Background

- India's border infrastructure has historically faced challenges due to difficult terrain, adverse weather, and environmental clearances.
- Earlier, infrastructure projects near the LAC (Line of Actual Control) required special environmental approvals due to their location in ecologically sensitive zones.
- The recent approvals indicate a streamlining of environmental norms for critical defence projects.

Types of strategic defence infrastructure

- **Border roads and connectivity projects:** Road construction to provide allweather connectivity in forward areas near the Line of Actual Control (LAC).
- **Border outposts (BOPs):** Establishment or expansion of forward military posts for surveillance and deployment.
- **Bridge and culvert work:** Strategic bridges/culverts that aid movement of troops and supplies in rugged terrain.
- **Army brigade headquarters facilities:** Infrastructure for brigadelevel military units in forward sectors.
- **Ammunition storage and logistical support facilities:** Key for readiness and stockpiling in highaltitude sectors.
- **Training and support infrastructure:** Firing ranges, training grounds, and allied facilities.

Conclusion

The approval of these projects is a step towards strengthening India's border defence capabilities in strategically sensitive areas, ensuring better preparedness against emerging security challenges along the China border.

HYPERSONIC ANTI-SHIP MISSILE

Why in News: The DRDO will exhibit the Long-Range Anti-Ship Hypersonic Missile (LR-AShM) at the Republic Day parade an indigenous system capable of high-speed maritime engagement, highlighting advancements in naval warfare tech.

Key Details

- DRDO will showcase the LongRange AntiShip Hypersonic Missile (LRAShM) along with its launcher. This marks the first official public exhibition of the missile system.
- Alongside LRAShM, the DRDO will present other defence innovations and a tableau themed “Naval Technologies for Combat Submarines” at Bharat Parv (Jan 26–31).

Long-range anti-ship hypersonic missile (LRAShM)

- LRAShM is an indigenous hypersonic glide missile developed by India’s Defence Research and Development Organisation (DRDO) for the Indian Navy’s coastal defence and maritime strike needs.

Key Characteristics

- **Speed:** Achieves hypersonic velocity — speeds above Mach 5 — with initial boosts reportedly up to Mach 10 before stabilising around Mach 5.
- **Trajectory:** Uses a quasiballistic glide profile, combining high speed with unpredictable flight paths that make interception difficult.
- **Flight Profile:** Flies at low altitudes with high manoeuvrability, which significantly reduces detectability by enemy radar systems.
- **Propulsion:** Employs a twostage solid rocket system — the first stage boosts the missile, the second accelerates it before transitioning to an unpowered hypersonic glide phase.
- **Guidance & Sensors:** Features indigenous avionics and sensor suites that assist terminal guidance against static and moving surface ships.

Range & Payload

- The missile reportedly has an estimated range of ~1,500 km, enabling standoff engagement far beyond the reach of conventional antiship weapons.

Importance

- **Boost to indigenous defence tech:** The LRAShM represents a major milestone in India’s quest for selfreliance (Atmanirbhar Bharat) in cuttingedge defence technologies. Its indigenous avionics, sensors and propulsion reflect deep technological progress.
- **Naval strike capability & deterrence:** A hypersonic antiship missile with long reach and low detectability enhances India’s maritime strike capabilities in the Indian Ocean Region (IOR), giving strategic depth and deterrence against hostile naval forces.

- **Strategic signal:** Showcasing LRAShM during Republic Day — India’s premier national event sends a strong message of military innovation and strength to both domestic and international audiences, especially amid evolving regional dynamics.
- **Maritime defence evolution:** Hypersonic weapons are at the cutting edge of modern warfare; few nations possess such capabilities. LRAShM’s performance (high speed, manoeuvrability, low observability) makes it a gamechanger in sea control and denial operations.

Broader strategic context

- **Global race in Hypersonics:** Countries like the U.S., China, and Russia are investing heavily in hypersonic weapons for their speed, speed of engagement and ability to evade existing missile defences. Compared with conventional cruise missiles, hypersonics offer faster reaction times and greater survivability against interception.
- **Complementing existing arsenal:** LRAShM complements other Indian naval strike systems like BrahMos, forming a tiered missile capability spanning subsonic, supersonic, and hypersonic regimes.

Conclusion

The Long-Range Anti-Ship Hypersonic Missile (LR-AShM) marks a significant leap in India’s naval and missile capabilities. By combining hypersonic speed, long-range reach, low observability, and indigenous technology, it not only strengthens maritime deterrence but also signals India’s emergence as a front-runner in next-generation military technology. Its showcase at the Republic Day parade underscores the nation’s commitment to self-reliance in defence and strategic preparedness in an evolving geopolitical landscape.

EXPECTED QUESTION FOR UPSC CSE

Prelims MCQ

Q. Which of the following statements about India’s Long-Range Anti-Ship Hypersonic Missile (LR-AShM) is CORRECT?

- It is a subsonic missile primarily designed for short-range coastal defence.
- It uses hypersonic speed and a low-altitude glide trajectory to evade enemy radar.
- It is imported from Russia and integrated into the Indian Navy.
- It has a range of less than 200 km and targets only stationary ships.

(b) Answer:

BSF LAUNCHES “OPS ALERT”

Why in News: The Border Security Force has launched a special operation along the Jaisalmer sector, deploying multi-layer security grids and intensified patrols in response to increased threats and drone intrusions.

Key Details

- The exercise is expected to run through January 28, focuses on bolstering surveillance and patrols in one of the most sensitive desert borders stretches of the Western Command.
- It comes at a time of heightened vigilance ahead of Republic Day, when security forces across the nation step up counterthreat measures.

MultiLayered Security Measures

Under Ops Alert, the BSF has deployed multilayered security grids and additional forces to reinforce key sectors prone to unauthorized crossings and aerial intrusions. The operation includes:

- Fourlayered security grids with enhanced coverage in vulnerable zones.
- Increased foot and vehicle patrols, along with camel patrols suited to the desert terrain.
- Screening and monitoring using advanced surveillance systems to detect drones or suspicious movement.
- Joint patrols and intelligence sharing with local police to ensure quick responses to potential threats.
- Local police leadership has also stepped-up coordination.

Drone intrusions and border vigilance

- The move follows a series of security concerns in the region, including frequent reports of drone intrusions along the Ganganagar and Rajasthan borders, which triggered increased monitoring and response capabilities.
- As per Security agencies, aerial incursions pose risks ranging from intelligence gathering to the potential delivery of contraband or hostile payloads, underscoring why layered vigilance and technological monitoring systems have become operational priorities.

Wider security posture

The BSF's decision to launch Ops Alert reflects an ongoing emphasis on proactive readiness at key border points especially ahead of national events. The force routinely reviews and adapts its deployment and technology mix in response to evolving challenges along the Indo-Pak border.

Border Security Force

- **Full Name:** Border Security Force (BSF)
- **Established:** December 1, 1965 (after the India-Pakistan war of 1965)
- **Parent Ministry:** Ministry of Home Affairs, Government of India

- **Motto:** “Duty unto Death”

Primary Roles

1. Border Security:

- Guarding India's international land borders with Pakistan and Bangladesh, and other sensitive areas.
- Preventing illegal crossings, smuggling, and infiltration.

2. Counter-Insurgency & Anti-Smuggling Operations:

- Assisting in internal security operations when needed.
- Participating in operations against terrorism and organized crime.

3. Disaster Management & Assistance:

- Provides relief during natural disasters like floods, cyclones, and earthquakes.

4. Ceremonial Duties:

- Famous for the Beating Retreat ceremony and the daily Wagah-Attari border ceremony with Pakistan.

Organization & Strength

- **Personnel:** Approximately 250,000 active personnel.
- **Structure:** Divided into frontier headquarters, battalions, and specialized units like the Quick Action Teams and Cavalry & Camel Units (useful in desert areas like Jaisalmer).
- **Equipment:** Includes light and heavy weapons, surveillance tech, drones, vehicles, and specialized desert/counter-terrorism gear.

Way Forward

- **The BSF plans to:**
 - **Maintain heightened vigilance** throughout the border region, particularly during key national events.
 - **Leverage technology** such as drones, sensors, and night-vision equipment for real-time monitoring.
 - **Enhance coordination** with local police, intelligence agencies, and community stakeholders to prevent incursions and respond swiftly to any threats.
 - **Continuously review and adapt strategies** based on emerging security challenges, ensuring that the Jaisalmer sector remains robustly protected.

Conclusion

The launch of “Ops Alert” underscores the BSF's proactive approach to border management, especially in sensitive sectors like Jaisalmer, where desert terrain and proximity to the Pakistan border make security operations challenging. By deploying multi-layered patrols and advanced surveillance systems, the force aims to deter potential threats, secure the border, and reassure local communities of their safety.

INDIAN ARMY COUNTER-INSURGENCY OPERATION IN MANIPUR

Why in News: India's Army launched a counter-insurgency operation targeting insurgent groups like the United Kuki National Army in Churachandpur and Kangpokpi, aiming to neutralise militant threats in the Northeast.

Key Highlights

- In mid-January 2026, the Indian Army, along with the Assam Rifles and other security forces, began a major counterinsurgency operation in the hill districts of Churachandpur and Kangpokpi in Manipur.
- Special units such as Para Special Forces were reportedly inserted into remote jungle areas by helicopter to target suspected militant hideouts.

Who is being targeted

- The operation is primarily aimed at insurgent groups, especially the United Kuki National Army (UKNA) a militant outfit operating in southern Manipur.
- UKNA is *not* part of the government's Suspension of Operations (SoO) agreement — a pact under which many other ethnic insurgent groups agreed to cease hostilities and keep weapons locked up.

SoO (Suspension of Operations)

- The SoO is essentially a ceasefire agreement between the government and insurgent groups.
- Unlike a formal peace treaty, it does not require insurgents to disband or surrender weapons immediately, but it pauses hostilities against the government and civilians.
- It's intended as a confidence-building measure that allows dialogue to continue while reducing violence on the ground.

Eligibility

- Only registered insurgent groups operating in the state can sign the SoO.
- Groups that agree to the SoO commit to ceasing attacks, not recruiting minors, and avoiding civilian targets.
- For example, in Manipur, multiple Kuki and Meitei insurgent outfits have signed the SoO, but the United Kuki National Army (UKNA) has refused, which is why operations are still targeting them.

Why it's important in Manipur

- Manipur's conflict involves ethnic tensions between Meitei (valley) and Kuki-Zo (hills) communities.
- SoO allows the majority of insurgent groups to step back from violence without forcing an abrupt disarmament.

- The problem arises with groups like UKNA, who remain outside the SoO framework, continuing attacks on civilians and security forces, which is why targeted counter-insurgency operations are necessary.

Escalation of violence by UKNA

- Events, such as the abduction and killing of a civilian by suspected UKNA militants in Churachandpur, have triggered fresh tensions across Manipur.
- Such incidents have reignited ethnic divides and renewed concerns about security in the region.

Longerterm breakdown of peace

- The Manipur conflict originated in May 2023 over ethnic and political tensions between Meitei (mostly valleybased) and KukiZo (mostly hillbased) communities, causing hundreds of deaths and thousands to be displaced.
- Many insurgent groups had agreed to cease hostilities under the SoO framework. UKNA, however, refused to join this pact and has continued militant activities, including extortion, intimidation, and attacks on civilians.

Targeted intelligencebased operations

- Security forces carried out operations in areas like Henglep, known to be strongholds or transit routes for insurgents, based on specific intelligence about their movements.
- Past encounters have seen militants neutralised and foreignmade arms recovered, signalling both the threat level and the government's intent to dismantle these outfits.

Conclusion

The counter-insurgency operation in Manipur highlights the continuing challenges of internal security in a conflict-prone, ethnically diverse region. While decisive military action against non-compliant insurgent groups is necessary to restore law and order, lasting peace in Manipur will ultimately depend on a comprehensive strategy that combines security measures with political dialogue, effective governance, and reconciliation between communities. Addressing root causes of alienation and ensuring inclusive development remain critical for long-term stability in the Northeast.

EXPECTED QUESTION FOR UPSC CSE

Descriptive Question

- Q. The recent counter-insurgency operations in Manipur highlight the complex interplay between internal security challenges and ethnic tensions in the Northeast. Discuss the causes behind such operations and examine the measures needed to ensure long-term peace and stability in the region. (250 words, 15marks)

MENSTRUAL HEALTH AS A FUNDAMENTAL RIGHT

Why in News: In *Dr. Jaya Thakur v. Union of India (2026)*, the Supreme Court recognised **Menstrual Health and Hygiene (MHH)** as a **fundamental right under Article 21**, issuing binding directions to ensure free sanitary products and sanitation facilities in schools.

Key Details

- The Supreme Court held that denial of menstrual hygiene facilities violates **Article 21 (Right to Life with Dignity)** and **Article 14 (Substantive Equality)**.
- The Court issued a **continuing mandamus**, directing Centre and States to provide free sanitary napkins, functional toilets, and waste disposal systems.
- MHH was linked with **Right to Education (RTE), bodily autonomy, privacy, and public health**.
- The judgment converts menstrual health from a welfare issue into a **constitutionally enforceable entitlement**.

Constitutional Basis of Menstrual Health Rights

- **Article 21 – Life with Dignity:** The Court expanded Article 21 to include menstrual health, holding that stigma, humiliation, and lack of facilities during menstruation deny girls a dignified life.
- **Bodily Autonomy & Privacy:** Forced absenteeism due to lack of menstrual support violates bodily autonomy, recognising menstruation as part of reproductive health and personal liberty.
- **Judicial Expansion of Rights:** Similar to past rulings on health, privacy, and environment, the judgment reflects the evolving nature of Article 21 as a living constitutional guarantee.
- **From Survival to Dignity:** The Court clarified that the right to life is not mere survival but includes conditions necessary for human development and self-respect.

Substantive Equality under Article 14

- **Beyond Formal Equality:** Treating boys and girls identically ignores biological realities, resulting in indirect discrimination against menstruating students.
- **Structural Disadvantage:** The Court recognised menstruation as a source of structural exclusion, requiring proactive state intervention.
- **Positive State Obligation:** Equality demands differential

treatment to place girls on an equal footing with male peers in education and public spaces.

- **Gender-Responsive Governance:** The judgment reinforces the idea that laws and policies must account for gender-specific needs.

Menstrual Health and Right to Education (RTE Act, 2009)

- **Redefining “Free Education”:** The Court ruled that “free” education includes removal of indirect financial barriers such as the cost of sanitary products.
- **Infrastructure as a Constitutional Requirement:** Separate, functional toilets are no longer optional guidelines but **substantive constitutional necessities**.
- **Dropout and Absenteeism Link:** NFHS-5 shows only 77.3% of women (15–24 years) use hygienic methods, contributing to **23% dropout or chronic absenteeism** after puberty.
- **Menstrual Poverty:** Lack of access to products, water, and disposal was identified as a key factor undermining educational continuity.

Directions Issued by the Supreme Court

- **Free Sanitary Products:** All government and private schools must provide **oxo-biodegradable sanitary napkins** through vending machines.
- **Menstrual Hygiene Management (MHM) Corners:** Schools must set up dedicated spaces with spare uniforms, innerwear, and disposal bags.
- **Sanitation Infrastructure:** Functional, gender-segregated toilets with water and soap must be available at all times.
- **Waste Disposal Compliance:** Disposal systems must comply with **Solid Waste Management Rules, 2026** to prevent environmental harm.
- **Accountability Mechanisms:** DEOs must conduct inspections and collect **anonymous student feedback**, overseen by NCPCR/State CPCRs.

Social Sensitisation and Curriculum Reform

- **Male Sensitisation:** The Court mandated educating boys about menstruation to prevent harassment and stigma.
- **Teacher Training:** All teachers, regardless of gender, must be trained to support menstruating students sensitively.
- **Curricular Integration:** NCERT and SCERTs must incorporate gender-responsive and scientifically accurate content on menstruation.
- **Law as Social Engineering:** The judgment uses legal

mandates to reshape social attitudes and school environments.

Significance of MHH as a Fundamental Right

- **Biological Citizenship:** The ruling recognises that women bear a “biological tax,” which the State must neutralise through support.
- **Positive Liberty:** Moves from non-interference to affirmative state action—providing pads, toilets, and privacy.
- **Human Rights Framework:** Menstrual health is framed as a matter of dignity, equality, education, and health, not charity.
- **Public Health Impact:** Poor hygiene leads to reproductive and urinary infections, affecting long-term health outcomes.

Government Initiatives on Menstrual Hygiene

- **Menstrual Hygiene Scheme:** Targets adolescent girls (10–19 years) with awareness, access, and safe disposal.
- **PM Bharatiya Janaushadhi Pariyojana:** Over 16,000 Kendras sell ‘Suvidha’ pads at ₹1 per pad, with 96 crore pads sold by Nov 2025.
- **ASHA Network:** Distributes subsidised napkins and conducts community-level awareness to break taboos.
- **Education & Sanitation Programs:** Samagra Shiksha, Swachh Bharat Mission, and UGC advisories support infrastructure and awareness.

Key Challenges in Implementation

- **Last-Mile Infrastructure Gaps:** Toilets often lack water, soap, maintenance, and regular stocking, especially in rural schools.
- **Funding Constraints:** Absence of dedicated MHM budgets may strain state education finances.
- **Waste Management Risks:** Improper incineration and lack of technical capacity threaten environmental compliance.
- **Social Stigma:** Persistent taboos discourage reporting, usage, and honest feedback from students.

Way Forward

- **Inclusive Policy Design:** Extend MHH frameworks to trans-men and non-binary individuals who menstruate.
- **Local Production through SHGs:** Promote biodegradable pad manufacturing to reduce costs and enhance livelihood generation.
- **Water Security:** Integrate school sanitation with Jal Jeevan Mission for assured water supply.
- **Privacy-First Infrastructure:** Toilets should include internal latches, privacy screens, mirrors, and hooks.
- **Innovative Delivery Models:** Explore Pad Credits or DBT where physical supply chains fail.
- **Standardised Procurement:** Ensure all products meet IS 17518 / ASTM D-6954 biodegradability standards.

Conclusion

The Supreme Court’s judgment constitutionalises a fundamental truth: **menstruation cannot be a barrier to dignity, equality, or education.** By recognising menstrual health as a fundamental right, the Court has transformed a long-neglected issue into a matter of enforceable justice. Effective implementation now holds the key to ensuring that **a period ends a sentence, not a girl’s future.**

EXPECTED QUESTIONS FOR UPSC CSE

Prelims MCQ

Q. Menstrual Health and Hygiene has been recognised as a fundamental right under which Article of the Constitution?

- (a) Article 15
- (b) Article 19
- (c) Article 21
- (d) Article 25

(c) :Answer

Descriptive Question

Q. Examine how the recognition of menstrual health as a fundamental right strengthens substantive equality and the Right to Education in India. (GS 2; 150 Words, 10 Marks)

SUPREME COURT STAYS UGC EQUITY REGULATIONS, 2026

Why in News: The Supreme Court has stayed the implementation of the **UGC (Promotion of Equity in Higher Education Institutions) Regulations, 2026**, directing continuation of the 2012 regulations until further orders.

Key Details

- The 2026 Regulations aimed to create a **stricter, enforceable framework** to curb caste-based discrimination in higher education institutions (HEIs).
- The Supreme Court invoked **Article 142**, restoring the 2012 Regulations after raising concerns about vagueness and potential social division.
- The Regulations were framed in response to incidents of caste discrimination and student suicides, including cases like **Rohith Vemula and Payal Tadvi**.
- The Court questioned whether the new rules were **inclusive, precise, and constitutionally balanced**.

Constitutional & Legal Framework

- **Article 14 – Equality Before Law:** Article 14 guarantees equality before law and equal protection of laws. Any regulatory framework must ensure that protection against discrimination applies uniformly unless justified under reasonable classification.
- **Article 15(1) & 15(4) – Non-Discrimination &**

Protective Discrimination: While Article 15(1) prohibits discrimination on grounds of religion, race, caste, sex, or place of birth, Article 15(4) allows special provisions for socially and educationally backward classes, SCs and STs. The debate revolves around whether the 2026 rules balanced affirmative action with universal equality.

- **Article 21 – Right to Life with Dignity:** Student suicides linked to institutional discrimination bring the issue within Article 21, which includes the right to live with dignity and mental well-being.
- **Article 142 – Complete Justice:** The Supreme Court used Article 142 to restore the 2012 framework, ensuring continuity of protection while reconsidering constitutional validity.

Key Features of UGC Regulations, 2026

- **Targeted Definition of Discrimination**
 - Section 3(1)(c) specifically defined caste-based discrimination against SC/ST/OBC groups, creating a separate category distinct from general discrimination.
- **Institutional Mechanisms**
 - Mandatory establishment of:
 - ◆ Equal Opportunity Centres (EOCs)
 - ◆ Equity Ambassadors in departments
 - ◆ Equity Squads for monitoring vulnerable areas
 - ◆ This institutionalization aimed to ensure preventive vigilance.
- **Time-bound Redressal**
 - Complaint review within 24 hours
 - Investigation within 15 working days
 - Action by Head of Institution within 7 days
 - This addressed delays under the 2012 advisory framework.
- **Punitive Measures**
 - Non-compliance could lead to:
 - Withdrawal of UGC grants
 - De-recognition
 - Removal from Sections 2(f) and 12B list
 - This marked a shift from advisory to enforceable regulation.

Rationale Behind Stronger Regulations

- **Rising Discrimination Cases** UGC data (2026) reportedly indicated a significant rise in reported caste-based discrimination cases over five years, exposing weaknesses in voluntary compliance.
- **Student Suicide Concerns** Several judicial observations, including in cases involving IIT campuses, highlighted patterns of academic exclusion and institutional neglect.
- **Scholarship Delays & Financial Stress** Delays in scholarships disproportionately impact marginalized

students, leading to academic dropout and psychological distress.

- **Invisible & Epistemic Bias** Studies have pointed to subtle forms of discrimination in grading, viva voce, and mentorship allocation, beyond overt misconduct.

Judicial Concerns and Challenges

- **Exclusionary Scope:** Petitioners argued that defining caste discrimination exclusively for SC/ST/OBC may deny remedy to general category students facing targeted harassment.
- **Principle of No-Regression:** The Court questioned why the 2026 rules appeared less inclusive than the 2012 version, invoking the principle that rights protection should not regress.
- **Vagueness & Overbreadth:** Terms such as segregation in hostels or mentorship groups were seen as undefined, raising fears of arbitrary interpretation.
- **Absence of Safeguards Against Misuse:** No explicit penalty for false complaints raised concerns about potential misuse and erosion of trust.
- **Omission of Ragging:** Unlike earlier guidelines, the 2026 rules did not explicitly integrate ragging within discrimination, despite it being a major campus issue.

Governance & Policy Dimension

- **Alignment with NEP 2020:** The Regulations were framed in line with NEP's emphasis on equity and inclusion as foundational pillars of educational reform.
- **Central Regulatory Authority:** Under the UGC Act, 1956, the UGC is empowered to frame regulations binding on HEIs, making the issue one of regulatory overreach versus necessity.
- **Autonomy vs Accountability:** The debate reflects a classic governance tension between institutional autonomy and state oversight to ensure social justice.
- **Social Cohesion Concerns:** The Court warned that poorly drafted identity-based mechanisms might deepen polarization rather than foster campus unity.

Way Forward

- **Inclusive Redrafting:** Redefine discrimination in universal terms while retaining targeted safeguards under Article 15(4), ensuring equal access to remedies for all.
- **Expert Committee Review:** Constitute a panel of constitutional jurists, academicians, and social justice experts to refine language and remove ambiguity.
- **Safeguards Against Misuse:** Introduce penalties for malicious complaints and establish procedural fairness mechanisms.
- **Integrate Ragging & Regional Bias:** Explicitly incorporate ragging, linguistic discrimination, and regional bias within the equity framework.
- **Shift from Punitive to Preventive Approach:** Focus

on sensitization workshops, faculty training, peer mentoring, and mental health support systems alongside enforcement.

Conclusion

The UGC Regulations, 2026 represent a well-intentioned attempt to strengthen equity in higher education. However, constitutional governance demands that protective legislation must be precise, inclusive, and balanced. By staying the regulations, the Supreme Court has reaffirmed that social justice must advance without compromising equality before law. The challenge ahead lies in crafting a framework that protects marginalized students while strengthening social harmony and institutional trust.

EXPECTED QUESTIONS FOR UPSC CSE

Prelims MCQ

Q. Article 142 of the Constitution empowers the Supreme Court to:

- (a) Amend the Constitution
- (b) Enforce Fundamental Rights
- (c) Pass decrees to do complete justice
- (d) Frame subordinate legislation

Answer: (c)

Descriptive Question

Q. Discuss the constitutional balance between affirmative action and equality before law in the context of the UGC Equity Regulations, 2026. (150 Words, 10 Marks)

RISING DIGITAL ADDICTION AND MENTAL HEALTH PROBLEMS

Why in News: The Economic Survey 2025-26 has flagged rising digital addiction and screen-related mental health issues as a major public health risk and a threat to India's long-term productivity.

Key Details

- Internet connections increased from **250 million (2014) to nearly 970 million (2024)**, making access nearly universal among youth aged 15–29.
- Indians spent nearly **1 lakh crore hours on smartphones in 2024**, indicating excessive digital exposure.
- The Survey identifies youth (15–24 years) as the most vulnerable to **social media addiction and gaming disorders**.
- Despite progress in traditional health indicators like **MMR declining by 86% since 1990**, lifestyle-driven mental health issues are rising.

Understanding Digital Addiction

- **Compulsive Digital Engagement:** Digital addiction refers to persistent and excessive use of digital devices leading to psychological distress and functional impairment. The Economic Survey defines it as behaviour similar to substance addiction, involving cravings, withdrawal, and loss of control.
- **Mental Health Consequences:** Excessive screen use is linked to anxiety, depression, low self-esteem, and cyberbullying. Doctors report rising cases of sleep disorders, emotional instability, and attention deficits among adolescents.
- **Physical Health Impact:** Prolonged exposure causes sleep debt due to melatonin suppression from blue light. Issues such as obesity, "tech neck", digital eye strain, and sedentary lifestyle disorders are increasing.
- **Cognitive and Social Effects:** Constant digital stimulation reduces attention span and deep learning capacity. Offline peer networks weaken, leading to reduced social capital and interpersonal skills.

Key Trends Highlighted by Economic Survey 2025-26

- **Near-Universal Digital Access:** Internet penetration rose sharply, especially among youth aged 15–29. Affordable data and smartphone penetration have made India one of the largest digital markets globally.
- **Usage Patterns and Education Gap:** ASER 2024 shows only **57% of children (14–16 years)** use phones for education, while **76% use them for social media**, indicating skewed digital priorities.
- **Digital Economy Paradox:** The digital economy now contributes nearly **74% of national income**, showing strong economic gains. However, productivity losses due to addiction create a paradox of growth versus behavioural health decline.
- **Shift in Health Burden:** While communicable diseases and maternal mortality have declined, mental health disorders and lifestyle issues are emerging as dominant concerns.

Structural Causes of Digital Addiction

- **Dopamine-Driven Algorithms:** Platforms use infinite scroll, auto-play, and AI-driven feeds to maximize engagement. Algorithms often target psychological vulnerabilities of youth aged 15–24 for prolonged usage.
- **Pandemic-Induced Dependency:** COVID-19 normalized online education, remote work, and digital socialization. High screen time became compulsory rather than optional, creating long-term habits.
- **Cheap Data and 5G Expansion:** India has among the world's lowest data tariffs. The rollout of 5G has accelerated high-definition streaming and online gaming consumption.
- **Gaming and Real-Money Incentives:** Real-money gaming apps exploit financial incentives, encouraging

compulsive behaviour. The Online Gaming (Regulation) Act, 2025 attempts to address financial and psychological risks.

- **Urban Isolation and Lifestyle Changes:** Urban nuclear families and working parents reduce traditional social support systems. The phenomenon of the “iPad kid” reflects digital substitution for parental engagement.

Social Media Addiction in Children: A Policy Debate

- **Global Example – Australia:** Australia passed the Online Safety Amendment Bill (2024), banning social media use for children under 16. Platforms face heavy fines for non-compliance.
- **Arguments Supporting Restrictions:** Concerns include cyberbullying, academic decline, sleep deprivation, and exposure to harmful viral trends. Excessive validation culture fosters insecurity and distorted self-image.
- **Arguments Opposing Blanket Bans:** Enforcement challenges and risk of pushing children to unsafe digital spaces are major concerns. Experts argue for safer platforms rather than outright prohibition.

Indian Legal Framework

- IT Act, 2000 (Section 67B)
- Digital Personal Data Protection Act, 2023 (parental consent for minors)
- IT Rules, 2021
- NCPCR complaint mechanism

However, implementation gaps remain significant.

Key Challenges for India

- **Lack of Comprehensive Data:** The Second National Mental Health Survey is pending, limiting evidence-based policymaking.
- **Technological Evasion:** Children bypass parental controls using VPNs or fake accounts, weakening regulatory efforts.
- **Corporate Resistance:** India is a major global user base for tech companies; strict age regulations may face industry pushback.
- **Normalization of Excessive Use:** High screen time is often seen as modern lifestyle rather than a clinical risk.
- **Limited Specialist Care:** Few specialized clinics like NIMHANS SHUT Clinic exist, mostly in urban centres.

Way Forward

- **Digital Wellness Policy Framework:** Shift from “Digital Access” to “Digital Wellness”. Introduce measurable national indicators for healthy digital use.
- **Age-Based Safeguards:** Mandatory age verification for social media and gaming platforms. Consider calibrated age limits rather than blanket bans.
- **Network-Level Controls:** ISP-based family data plans with differentiated quotas—unlimited for education, capped for entertainment.

- **Digital Literacy & Curriculum Reform:** Incorporate digital well-being, cyber safety, and emotional intelligence into school curricula under NEP 2020.
- **Strengthening Mental Health Infrastructure:** Expand Tele-MANAS beyond crisis counseling to preventive digital addiction management. Promote district-level mental health clinics.
- **Promoting Offline Engagement:** Invest in youth clubs, sports infrastructure, libraries, and community hubs to offer alternatives.
- **Safety-by-Design Approach:** Mandate privacy-by-default settings for minors. Encourage AI-based harmful content detection.

Conclusion

India stands at a critical juncture where digital expansion has delivered economic transformation but also introduced behavioural and psychological risks. The Economic Survey 2025-26 rightly highlights that digital addiction is not merely an individual weakness but a structural challenge shaped by algorithms, market incentives, and social change.

Protecting India’s demographic dividend requires balancing innovation with regulation and access with well-being. A coordinated approach involving government, schools, parents, and technology companies is essential to ensure that technology remains an empowering tool rather than a source of dependency and distress.

EXPECTED QUESTIONS FOR UPSC CSE

Prelims MCQ

Q. With reference to digital addiction in India, consider the following statements:

1. The Economic Survey 2025–26 identifies youth aged 15–24 as highly vulnerable to digital addiction.
2. India has comprehensive national-level data on the prevalence of digital addiction.
3. The Digital Personal Data Protection Act, 2023 mandates verifiable parental consent for processing personal data of children.

Which of the statements given above is/are correct?

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

(a) : Answer

Descriptive Question

Q. Discuss the paradox between digital economic growth and rising mental health disorders in India. Suggest a balanced regulatory framework. (250 Words, 15 Marks)

FASTER IS NOT FAIRER IN POCSO CASE CLEARANCE NUMBERS

Why in News: In 2025, Fast Track Special Courts (FTSCs) under the POCSO Act recorded a 109% disposal rate, but falling conviction rates have raised concerns about the quality of justice delivered to child survivors.

Key Details

- Fast Track Special Courts disposed **87,754 cases against 80,320 registered cases** in 2025 (109% disposal rate).
- India currently operates **773 FTSCs**, including **400 dedicated POCSO courts**, funded under the Nirbhaya Fund.
- Conviction rates have declined from **35% (2019) to 29% (2023)**.
- Support systems such as **support persons and para-legal volunteers (PLVs)** remain inadequately implemented across states.

POCSO Act, 2012: Legal Framework and Objectives

- **Child-Centric Legislation:** Enacted in 2012, the Protection of Children from Sexual Offences (POCSO) Act provides a comprehensive, gender-neutral legal framework to protect children below 18 years from sexual abuse and exploitation.
- **Wide Spectrum of Offences:** It criminalises penetrative and non-penetrative assault, sexual harassment, and child pornography, including aggravated offences with enhanced punishments (2019 Amendment introduced the death penalty in extreme cases).
- **Child-Friendly Procedures:** The Act mandates in-camera trials, confidentiality of identity, statement recording in a safe environment, and completion of trial within one year.
- **Institutional Mechanisms:** Special Courts, Special Public Prosecutors, Child Welfare Committees, and support persons were envisaged to ensure a trauma-sensitive justice process.

Expansion of Fast Track Special Courts (FTSCs)

- **Institutional Growth:** Since October 2019, ₹1,952 crore from the Nirbhaya Fund has supported the establishment of 773 FTSCs, with 400 exclusively handling POCSO cases.
- **Improved Disposal Efficiency:** FTSCs dispose of an average of 9.5 cases per month compared to 3.2 in regular courts, clearing over 3.5 lakh cases by September 2025.
- **Backlog Reduction Narrative:** The 109% disposal rate in 2025 created the perception of effective backlog management and strengthened public confidence in speedy justice.
- **Speed vs Substance Debate:** However, disposal statistics focus on closure rates rather than conviction quality or survivor rehabilitation outcomes.

Declining Conviction Rates: Indicator of Fragile Justice

- **Falling Conviction Trends:** National conviction rates declined from 35% (2019) to 29% (2023), while FTSCs report an average conviction rate of only 19%.
- **Hasty Investigations:** In several high-burden states such as Uttar Pradesh and Maharashtra, incomplete charge sheets and delayed forensic reports weaken prosecution cases.
- **Forensic Infrastructure Gaps:** Delays in medical and forensic lab reports compromise evidence reliability, leading to acquittals.
- **Procedural Weaknesses:** Fast disposal sometimes reduces witness examination depth and cross-verification, affecting evidentiary standards.

Weak Implementation of Support Mechanisms

- **Support Persons under Section 39:** The Act mandates appointment of trained support persons to guide child survivors, but many states have not effectively empanelled them despite Supreme Court directions (2021).
- **Para-Legal Volunteers (PLVs):** PLVs are critical at police stations to assist families during FIR registration, yet Andhra Pradesh has PLVs in only 42 of 919 stations, while Tamil Nadu has none across 1,577 stations.
- **Victim Withdrawal and Trauma:** Lack of counselling and legal guidance leads to survivors disengaging from the legal process, increasing acquittals.
- **Delayed Compensation:** Interim compensation is often delayed until final judgment, undermining educational continuity and financial stability of affected families.

Socio-Economic and Judicial Concerns

- **Economic Burden on Families:** Marginalised families incur travel and legal expenses, lose daily wages, and face prolonged uncertainty during trials.
- **Problematic Judicial Practices:** In some cases, courts have diluted convictions when accused offer marriage to survivors after attaining adulthood, contradicting the spirit of child protection law.
- **Awareness Gaps:** Studies indicate low awareness levels about POCSO among children and caregivers, particularly in rural and tribal areas.
- **Balancing Adolescent Relationships Debate:** There are increasing discussions on reviewing age of consent provisions to differentiate consensual adolescent relationships from exploitative abuse.

Way Forward

- **Strengthen Investigation Quality:** Establish strict timelines for forensic reporting, improve police training, and ensure complete charge sheets before trial commencement.
- **Universal Deployment of Support Persons & PLVs:** Mandatory appointment and monitoring through RTI-based transparency mechanisms.

- **Quarterly Conviction Audits:** Evaluate states on conviction rates and quality indicators, not merely disposal numbers.
- **Timely Interim Compensation:** Ensure compensation at early stages to prevent educational disruption and financial distress.
- **Child-Centric Evaluation Metrics:** Shift performance assessment from “cases disposed” to “justice delivered” indicators including survivor satisfaction and rehabilitation outcomes.
- **Judicial Sensitisation:** Continuous training of judges and prosecutors to uphold constitutional morality and child rights principles.

Conclusion

The expansion of Fast Track Special Courts has improved numerical efficiency under the POCSO framework, but declining conviction rates and weak support systems reveal structural deficiencies. Justice for child survivors cannot be measured solely through disposal statistics. A truly protective system must balance speed with fairness, accountability, and child-centric care. Only then can the POCSO framework fulfil its constitutional mandate of safeguarding vulnerable children.

EXPECTED QUESTIONS FOR UPSC CSE

Prelims MCQ

Q. With reference to the POCSO Act, consider the following statements:

1. It is gender-neutral legislation.
2. It mandates appointment of support persons for child survivors.
3. It applies only to female victims.

Which of the above is/are correct?

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

(c) :Answer

Descriptive Question

Q. “Higher disposal rates in POCSO cases do not necessarily translate into better justice outcomes.” Critically examine. (150 Words, 10 Marks)

POVERTY AND DEVELOPMENTAL ISSUES

Why in News: The **Economic Survey 2025–26** highlights a significant decline in multidimensional poverty in India, with the MPI headcount ratio reducing to **11.28%**, reflecting progress in inclusive development.

Key Details

- Around **248 million people** were lifted out of multidimensional poverty between **2013–14 and 2022–23**.
- India’s MPI headcount ratio declined from **29.17% to 11.28%** during this period.
- Social sector expenditure has increased to **7.9% of GDP**, supporting inclusive growth.
- Despite progress, regional disparities, nutrition deficits, and rural poverty remain major concerns.

Concept and Measurement of Poverty

- **Absolute and Relative Poverty:** Absolute poverty refers to the inability to meet minimum consumption needs such as food and shelter. Relative poverty measures inequality within society and reflects disparities in income distribution.
- **Multidimensional Poverty Index (MPI):** The MPI measures deprivation across **three dimensions — health, education, and living standards**. A household is considered poor if deprived in at least **one-third of weighted indicators**.
- **Global and National MPI:** India’s national MPI, based on NFHS data, allows district-level targeting. According to recent estimates, **415 million people escaped multidimensional poverty between 2005–06 and 2019–21**.

Shift from Income to Capability Approach

- Inspired by Amartya Sen’s capability approach, poverty is now seen not merely as low income but as deprivation of opportunities and freedoms.
- **Status of Poverty in India: Trends and Data**
- **Long-Term Decline:** India’s poverty rate declined from about **55% in 1973 to 21.9% in 2011** (Tendulkar methodology), showing structural improvement over decades.
- **Recent MPI Reduction:** Economic Survey 2025–26 reports a decline in MPI headcount to **11.28%**, marking one of the fastest poverty reduction episodes globally.
- **Rural–Urban Divide:** Rural poverty remains significantly higher than urban poverty. Earlier MPI data showed rural poverty around **32% compared to 8–9% in urban areas**, reflecting uneven access to services.
- **State-Level Variations:** States like **Bihar, Jharkhand, and Uttar Pradesh** still record higher poverty rates, while **Kerala, Tamil Nadu, and Goa** show minimal multidimensional deprivation.

Structural Characteristics of Poverty in India

- **Agrarian Distress:** Nearly half of India’s workforce remains dependent on agriculture, often characterized by low productivity and fragmented landholdings.
- **Income Inequality:** According to Oxfam (2022), the top 5% own more than 60% of India’s wealth, indicating concentration of assets.
- **Caste and Social Exclusion:** Scheduled Castes and

Scheduled Tribes continue to be overrepresented among the multidimensionally poor.

- **Gender Dimension:** Women face higher vulnerability due to wage gaps, unpaid care work, and limited asset ownership, leading to feminisation of poverty.
- **Informal Sector Dominance:** Over 80% of workers are in informal employment, lacking job security and social protection.

Developmental Issues Arising from Poverty

- **Poor Health Outcomes:** India accounts for a high number of stunted children globally. NFHS-5 reports **IMR at 35 per 1,000 live births**, indicating persistent vulnerability.
- **Educational Deprivation:** Children from poor households often drop out early, perpetuating intergenerational poverty cycles.
- **Urban Slums and Migration:** Poverty-driven migration leads to growth of slums, straining urban infrastructure and public services.
- **Environmental Degradation:** Overuse of natural resources by poor communities for survival contributes to ecological imbalance.
- **Social Instability:** Persistent poverty can increase crime, social unrest, and vulnerability to exploitation.

Link Between Demography and Poverty

- **Population Pressure:** Rapid population growth increases competition for jobs, land, and public services.
- **Demographic Dividend vs Burden:** India's working-age population presents opportunity, but without adequate skills and employment generation, it can deepen poverty.
- **High Fertility and Poverty Cycle:** Lack of education and access to family planning reinforces high fertility among poorer households.

Policy Interventions Driving Poverty Reduction

- **Direct Benefit Transfers (DBT):** Improved targeting has reduced leakages in welfare schemes like PDS and PM-KISAN.
- **Sanitation and Water Access:** Swachh Bharat and Jal Jeevan Mission significantly reduced deprivation in sanitation and drinking water indicators.
- **Financial Inclusion:** Over **55 crore Jan Dhan accounts** have integrated poor households into the formal banking system.
- **Health and Insurance:** Ayushman Bharat provides financial protection against catastrophic health expenditure.
- **Employment and Skill Development:** MGNREGA and Skill India initiatives address rural employment and skill gaps.

Way Forward

- **Focus on Nutrition and Human Capital:** Targeted interventions to reduce child stunting and anaemia are essential to break intergenerational poverty.

- **Enhancing Quality of Services:** Access must be complemented by quality in education, healthcare, and infrastructure.
- **Urban Poverty Strategy:** Develop dedicated policies for migrant labour, slum rehabilitation, and informal workers.
- **Climate-Resilient Development:** Integrate poverty alleviation with climate adaptation, especially in agriculture-dependent regions.
- **Inclusive Growth Model:** Promote labour-intensive manufacturing, MSMEs, and social sector spending to ensure broad-based growth.

EXPECTED QUESTIONS FOR UPSC CSE

Prelims MCQ

- Q. The Multidimensional Poverty Index measures deprivation across:
- (a) Income, employment, and assets
 - (b) Health, education, and living standards
 - (c) Income and consumption only
 - (d) Infrastructure and governance

Answer: (b)

Descriptive Question

- Q. "India's recent decline in multidimensional poverty reflects improvements in social infrastructure but challenges remain." Discuss. (150 Words, 10 Marks)

FIRST PHASE OF CENSUS 2027

Why in News: The Government of India has issued the notification for the **first phase of Census 2027**, marking India's first fully digital Census and the first nationwide caste enumeration since 1931.

Key Details

- **Phase I (Houselisting Operations):** April–September 2026 across all States and UTs.
- **Phase II (Population Enumeration):** February 2027 (September 2026 for snow-bound regions).
- **India's First Digital Census:** Mobile apps, self-enumeration portal, GIS-based mapping.
- **Historic Caste Enumeration:** First comprehensive caste data collection since 1931.

Constitutional & Legal Framework

- **Statutory Basis:** The Census is conducted under the **Census Act, 1948** and Census Rules, 1990. Entry 69 of the Union List (Seventh Schedule) empowers the Union Government to conduct the Census.

- **Administrative Authority:** It is administered by the **Office of the Registrar General & Census Commissioner of India**, under the Ministry of Home Affairs, ensuring national uniformity.
- **Decennial Exercise:** Conducted every 10 years since 1881 (first synchronous census), Census 2027 will be the **16th overall and 8th after Independence**.
- **Confidentiality Clause:** Census data is protected under law; individual-level information cannot be used for legal or taxation purposes, ensuring public trust.

Phased Structure of Census 2027

- **Houselisting & Housing Census (HLHC):** Conducted between April–September 2026, it collects data on housing conditions, amenities, and assets such as electricity, sanitation, and drinking water.
- **Population Enumeration (PE):** Scheduled for February 2027, it records demographic details such as age, gender, literacy, occupation, and now caste data.
- **Special Regional Schedule:** Snow-bound regions like **Ladakh, Jammu & Kashmir, Himachal Pradesh, and Uttarakhand** will have enumeration in September 2026 due to climatic constraints.
- **Massive Workforce:** Around **30 lakh enumerators and supervisors** are expected to participate, making it one of the world's largest administrative exercises.

Digital Transformation of Census

- **Mobile App-Based Enumeration:** For the first time, enumerators will use **Android/iOS applications**, replacing paper schedules to improve speed and reduce errors.
- **Self-Enumeration Portal:** Citizens can fill in details online 15 days prior to field visits, encouraging participatory governance and digital inclusion.
- **Census Management & Monitoring System (CMMS):** Enables real-time monitoring by district and state officials, enhancing transparency and accountability.
- **GIS-based Houselisting Block (HLB) Creator:** Satellite-based mapping ensures precise digital boundaries, reducing duplication and omission errors.

Historic Caste Enumeration: Social Justice Dimension

- **First Since 1931:** Independent India has collected caste data only for SCs and STs; Census 2027 will include enumeration of all caste groups.
- **Policy Relevance:** Accurate caste data can inform **reservation policies, welfare targeting, and OBC sub-categorisation**, improving distributive justice.
- **Delimitation & Fiscal Transfers:** Updated population data influences **delimitation of constituencies** and allocation of central funds under Finance Commission recommendations.
- **Evidence-Based Governance:** The “Census-as-a-Service (CaaS)” initiative will provide machine-readable datasets to ministries for efficient policymaking.

Census as a Tool of Governance & Development

- **Foundation of Welfare Schemes:** Schemes like PMAY, Jal Jeevan Mission, and NFSA rely on demographic and housing data for targeting beneficiaries.
- **Socio-Economic Planning:** Census data informs urban planning, migration analysis, employment trends, and regional development strategies.
- **Digital Governance Push:** The digital format aligns with **Digital India Mission**, improving administrative efficiency and reducing costs.
- **International Significance:** India's Census remains one of the largest statistical exercises globally, contributing to UN demographic databases.

Challenges and Concerns

- **Data Privacy & Cybersecurity:** Digital enumeration raises concerns about data protection, requiring robust cybersecurity safeguards.
- **Political Sensitivity of Caste Data:** Enumeration may intensify identity politics if not handled carefully and transparently.
- **Digital Divide:** Self-enumeration assumes digital literacy, which may exclude vulnerable populations without proper facilitation.
- **Operational Complexity:** Managing 30 lakh enumerators and real-time digital monitoring poses significant administrative challenges.

Conclusion

Census 2027 represents a transformative shift in India's statistical governance, combining **digital innovation with expanded social data collection**. While caste enumeration may strengthen social justice policies, its implementation must ensure transparency, data security, and ethical safeguards. A credible, inclusive, and technologically robust Census will strengthen India's democratic planning framework and evidence-based policymaking.

EXPECTED QUESTIONS FOR UPSC CSE

Prelims MCQ

- Q. The Census of India is conducted under which legal provision?
- Representation of the People Act, 1951
 - Census Act, 1948
 - National Population Register Act
 - Statistical Data Act

(b) Answer:

Descriptive Question

- Q. Examine the opportunities and challenges associated with the digitalisation of Census operations in India. (150 Words, 10 Marks)

SHISHUPALGARH: REDISCOVERING AN ANCIENT URBAN CENTRE OF KALINGA

Why in News: The ancient city of Shishupalgarh, near Bhubaneswar in Odisha, has gained renewed attention for its importance as a planned urban centre of ancient India and Kalinga's forgotten capital.



Key Details

- Shishupalgarh was an early urban settlement in the Mahanadi delta, near contemporary Bhubaneswar, flourishing between the 1st century BC and 3rd century AD.
- Archaeological evidence shows grid-planning, fortifications and civic structures indicative of advanced town planning in ancient India.
- The city thrived during the period of expanding maritime trade networks, connecting India with other civilisations like the Roman and Han empires.

Key highlights

- Fortifications were aligned precisely to cardinal directions, signalling advanced engineering knowledge.
- Finds such as Rouletted pottery and semi-precious beads point to intercontinental trade links.
- Unlike many Indian sites, Shishupalgarh did not emphasise monumental religious structures, offering a window into urban civic life rather than solely ritual activity.

Background

Shishupalgarh lays under the broader narrative of early historic India, a period marked by urbanisation, evolution of state structures, and expanding overseas trade. Its rediscovery challenges older perceptions that equated ancient India primarily with religious and monumental urban sites.

Issues & challenges

- The original name remains uncertain; "Shishupalgarh" is a folk attribution, not inscriptional evidence, complicating historical identity.
- Encroachments and degradation threaten preservation of the site.

- Limited public awareness restricts its recognition among India's major ancient sites.

Conclusion

Shishupalgarh's study enriches our understanding of early Indian urban planning and global interactions. Integrating research, preservation, and public engagement will ensure that such forgotten civilisational nodes are recognised in the broader narrative of Indian history.

EXPECTED QUESTIONS FOR UPSC CSE

Prelims MCQ

Q. Shishupalgarh is historically significant because it best illustrates:

- Early Vedic sacrificial altars
- Ancient Indian urban planning
- Mughal military architecture
- Mythological capital of Hastinapur

Answer: (b)

Descriptive Question

Q. "Shishupalgarh reveals an early phase of complex urbanism in ancient India." Analyse its historical significance and the challenges in preserving such archaeological sites today. (10marks/ 150words)

KERALA LEGISLATURE INTERNATIONAL BOOK FESTIVAL 2026

Why in News: The Fourth Kerala Legislature International Book Festival (KLIBF) held from 7–13 January 2026 in Thiruvananthapuram drew over 2 lakh visitors, making it a major cultural and public discourse event.

Key Details

- Organized by the Kerala Legislative Assembly, the festival offered free entry and hosted 407 events including panel discussions, author meets, book launches, and cultural performances.
- Over 173 distinguished guests participated, with 170+ publishers and 282 stalls showcasing diverse literary genres.

- Traditional art forms like Theyyam and interactive sessions for students enhanced cultural engagement.

Highlights

- The festival was not limited to books; it featured cultural programmes, performances, and inclusive spaces for the visually impaired and students.
- It blended literature with heritage art forms, showcasing the diversity of Indian culture and arts.
- The event also provided tours of the legislative assembly hall and museum, linking civic institutions with cultural discourse.

Background

KLIBF was conceived to democratise access to literature and ideas, bridging legislative spaces with public cultural engagement. Since its inception, the festival has gained increasing participation from scholars, authors and the general public.

Conclusion

KLIBF's success reflects India's vibrant literary landscape and demonstrates how cultural festivals can foster intellectual exchange, promote books, and deepen democratic engagement.

EXPECTED QUESTIONS FOR UPSC CSE

Prelims MCQ

Q: The Kerala Legislature International Book Festival primarily aims to:

- (a) Promote regional cuisine
- (b) Encourage reading and cultural exchange
- (c) Showcase military history
- (d) Focus solely on children's literature

Answer: (b)

Descriptive Question

Q. Discuss how literary festivals like the KLIBF contribute to cultural development and democratic discourse in India. (150 words 10 marks)

64th KERALA SCHOOL KALOLSAVAM 2026

Why in News: The 64th Kerala School Kalolsavam, held from 14 – 18 January 2026 in Thrissur, emerged as one of Asia's largest school arts festivals, featuring intense competition across hundreds of art forms.

Key Details

- Organized annually since 1957, the Kalolsavam sees participation from ~14,000 students in 249 categories.

- The 2026 edition introduced an online participation option for the first time for students with medical constraints.

Highlights

- The range of competitions spans dance, music, theatre, visual arts and literature.
- It draws national attention as a youth-centric cultural showcase, nurturing future artists.

Background

Kalolsavam is rooted in Kerala's tradition of school culture festivals, emphasizing performing arts and youth engagement a key space for preserving regional art forms and fostering cultural confidence.

Conclusion

Kalolsavam's inclusive model can inspire national student arts festivals, strengthening cultural continuity and creative excellence across India.

EXPECTED QUESTION FOR UPSC CSE

Prelims MCQ

Q: The Kerala School Kalolsavam is significant because it:

- (a) Focuses exclusively on sports
- (b) Is a major student cultural arts festival
- (c) Is a military parade event
- (d) Only showcases international art

Answer: (b)

Descriptive Question

Q. Analyse the role of school-level cultural festivals like Kerala Kalolsavam in preserving and promoting India's artistic heritage. (150 words, 10 marks)

'BAGURUMBA DAHOU' FOLK DANCE

Why in News: Prime Minister Narendra Modi attended the massive 'Bagurumba Dahou' performance in Guwahati by 10,000 dancers from the Bodo community, highlighting tribal art and culture.

Key Details



- Bagurumba is a traditional folk dance of the Bodo community, symbolising nature and harmony.

- Performance involved women dancers and musicians depicting butterflies, birds, flowers, reflecting cultural aesthetics rooted in ecology.

Highlights

- The scale 10,000 performers underscores community mobilisation for cultural heritage.
- The focus on tribal identity and nature reflects evolving contemporary cultural narratives.

Background

Bagurumba is embedded in the socio-cultural fabric of Assam’s tribal populations, with performances traditionally tied to social ceremonies and festivals.

Conclusion

Folk traditions must be nurtured through institutional support and community leadership to thrive in modern cultural landscapes.

- Organised by the Delhi Govt’s Art & Culture department and the Centre for Indian Classical Dances, the event showcased classical forms, workshops, and performances.
- Eminent dancer Dr. Sonal Mansingh described the festival as a celebration of tradition and innovation.

Highlights

- Multiple classical dance genres were performed, integrating tradition with contemporary choreography.
- The event aimed to engage youth and expose them to India’s performing arts legacy.

Background

India’s classical dance forms (Bharatanatyam, Kathak, Odissi, etc.) have evolved over centuries, embodying mythological stories, aesthetics and philosophical concepts central to Indian culture.

Conclusion

Festivals like Kala-Yatra serve as bridges between traditional art forms and contemporary audiences, ensuring sustainable cultural engagement.

EXPECTED QUESTIONS FOR UPSC CSE

Prelims MCQ

Q: Bagurumba is a folk dance associated with which community?

(a) Santhal (b) Bodo

(c) Gondi (d) Bhutia

Answer: (b)

Descriptive Question

Q. Evaluate the importance of tribal folk dances like Bagurumba in preserving India’s cultural diversity. How can they be better supported? (10 marks/ 150 words)

EXPECTED QUESTIONS FOR UPSC CSE

Prelims MCQ

Q. ‘Kala-Yatra’ festival primarily celebrates:

(a) Space science (b) Classical arts and culture

(c) Sports achievements (d) Economic forums

Answer: (b)

Descriptive Question

Q. Discuss the role of cultural festivals like ‘Kala-Yatra’ in reviving and sustaining India’s classical performing arts. (150 words, 10 marks)

DELHI ‘KALA-YATRA 2026’

Why in News: The five-day ‘Kala-Yatra 2026’ festival commenced in Delhi to celebrate classical arts, marking an important cultural event supported by the government and eminent artists.

Key Details



VADODARA BHARATANATYAM TROUPE AT REPUBLIC DAY PARADE 2026

Why in News: A Bharatanatyam troupe from Vadodara was selected to perform at the 77th Republic Day Parade in New Delhi, highlighting regional cultural representation and national integration through classical art.

Key Details

- The troupe, led by Prof. Parul Shah and students, will perform as part of a cultural segment commemorating the 150th anniversary of ‘Vande Mataram’.
- Hosted by the Central Sangeet Natak Akademi, the performance signifies recognition of classical dance at the national level.

Highlights

- Bharatanatyam, an ancient classical dance form, tells stories through rhythm, expression and narrative gestures derived from Sanskrit and Tamil traditions.
- The presence of regional troupes at Republic Day reflects India's plural cultural identity.

Background

- Republic Day cultural performances often spotlight India's heritage and artistic diversity, complementing military and civic displays.

Conclusion

Integrating classical arts into national celebrations reinforces India's pluralistic ethos and enhances cultural pride among citizens.

EXPECTED QUESTION FOR UPSC CSE

Prelims MCQ

Q: Bharatanatyam is a classical dance form originating from:

- (a) Punjab (b) Tamil Nadu
(c) Rajasthan (d) Assam

Answer: (b)

Descriptive Question

Q. Analyse the significance of classical dance performances at national events like Republic Day in reinforcing India's cultural identity. (150 Words 10 Marks)

Free Initiative by Chahal Academy



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HEALTHY POPULATION: THE ABDM-CENTRIC PATH TO A RESILIENT FUTURE

Why in News: The Economic Survey 2025–26 highlights improved health outcomes and emphasises digital health initiatives like the Ayushman Bharat Digital Mission (ABDM) as central to building a resilient healthcare system.

Key Details

- India has achieved sharp declines in MMR, U5MR, NMR and IMR, outperforming global averages since the 1990s.
- Digital initiatives such as ABDM and e-Sanjeevani are strengthening universal health coverage and healthcare access.
- The Survey flags emerging risks like obesity, ultra-processed foods, digital addiction and youth mental health concerns.
- AI-driven surveys and digital health platforms are being used to identify health hotspots and improve evidence-based policymaking.



Health: Strengthening Public and Preventive Healthcare

- ▶ India achieves reduction in **MMR, U5MR, and NMR** above global trends since 1990s
- ▶ **Infant Mortality rate (IMR)** marked a drop of more than 37% over past decade
- ▶ **Ayushman Bharat Digital Mission & e-Sanjeevani** enhanced citizens access to digital health services
- ▶ **Tele-MANAS** offers 24/7 toll-free mental health helpline (14416) across all states & UTs
- ▶ Online Gaming (Regulation) Act, 2025 address digital addiction & financial harm among youth

@PIB_India
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India's Health Transition: Key Achievements

- **Sharp decline in maternal and child mortality:** India reduced Maternal Mortality Ratio by **86% since 1990**, far exceeding the global decline of 48%. This reflects improvements in institutional delivery, antenatal care and health infrastructure.
- **Improvement in child survival indicators:** Under-Five Mortality Rate declined by **78% (1990–2023)** and Neonatal Mortality Rate by **70%**, signalling better neonatal care and immunisation coverage.
- **Infant Mortality Rate (IMR) progress:** IMR fell from **40 (2013) to 25 (2023)**—a drop of over **37% in the last decade**, indicating gains in primary healthcare and nutrition.
- **Role of flagship programmes:** Initiatives such as National Health Mission, Ayushman Bharat and Poshan Abhiyaan have expanded access to preventive and curative services.

Ayushman Bharat Digital Mission (ABDM)

- **Vision of a federated digital health ecosystem:** Launched in 2021, ABDM aims to create an interoperable digital health infrastructure with Health IDs, registries and consent-based data sharing.
- **ABHA (Ayushman Bharat Health Account):** Citizens receive a unique digital health ID enabling seamless access to medical records across hospitals, reducing duplication and improving continuity of care.
- **Integration with health services:** ABDM links hospitals, laboratories, pharmacies and insurers, helping reduce fragmentation and enabling paperless service delivery.
- **Evidence-based policymaking:** Digital health data generated under ABDM supports disease surveillance, resource allocation and targeted interventions, strengthening public health governance.
- **Boost to digital health economy:** The mission is creating new opportunities in health-tech, telemedicine and digital services, contributing to employment and innovation.

ICT Innovations Complementing ABDM

- **e-Sanjeevani telemedicine platform:** Provides doctor-to-doctor and doctor-to-patient teleconsultations, improving access in rural and remote areas and reducing out-of-pocket expenditure.
- **Hospital Management Information Systems (HMIS):** Digitisation of hospital workflows improves efficiency, transparency and patient tracking across public facilities.
- **AI-based health hotspot identification:** Platforms using

AI and ABDM data help detect clusters of diseases such as diabetes or obesity, enabling targeted interventions.

- **Frontline worker digitisation:** Tools like ASHA digital platforms and mobile apps enhance real-time monitoring of maternal and child health indicators.

Emerging Public Health Challenges

- **Rising obesity burden:** NFHS-5 shows **24% women and 23% men** are overweight or obese. Childhood overweight prevalence has also risen, signalling a looming NCD crisis.
- **Ultra-Processed Foods (UPFs) surge:** India's UPF market grew by **over 150% (2009–2023)**, contributing to poor diet quality and higher risk of diabetes, cardiovascular diseases and hypertension.
- **Lifestyle and sedentary patterns:** Urbanisation, screen time and reduced physical activity are accelerating metabolic disorders, particularly among youth.
- **Double burden of disease:** India simultaneously faces communicable diseases and non-communicable diseases, straining health systems and finances.

Digital Addiction and Mental Health Concerns

- **Youth vulnerability:** High social media and gaming use among the **15–24 age group** is linked with anxiety, depression and sleep disruption.
- **Tele-MANAS initiative:** Launched in 2022, it provides a **24×7 toll-free mental health helpline (14416)** and has already received over **32 lakh calls**, indicating significant demand.
- **SHUT Clinic model:** The Service for Healthy Use of Technology clinic at NIMHANS offers specialised care for technology addiction, especially among adolescents.
- **Policy and regulatory response:** Measures such as the Online Gaming (Regulation) Act, 2025 and the Pragyata framework aim to promote safe digital behaviour.
- **Need for digital wellness education:** Schools are increasingly recognised as critical spaces for building healthy digital habits through curriculum interventions.

Role of Nutrition and Preventive Health

- **POSHAN Abhiyaan & Poshan 2.0:** Focus on maternal and child nutrition to address stunting, wasting and anaemia, which remain structural health challenges.
- **Eat Right India & Fit India Movement:** Promote behavioural change towards healthy diets and physical activity to combat lifestyle diseases.
- **Traditional systems and AYUSH:** Yoga and traditional dietary practices are being encouraged as cost-effective preventive health strategies.
- **Food policy interventions:** The Survey stresses regulation, labelling and awareness to curb excessive consumption of ultra-processed foods.

Technology, AI and the Future of Public Health

- **Data-driven governance:** Integration of ABDM with

UDISE+, AISHE and other datasets enables cross-sectoral health planning.

- **Predictive public health:** AI tools can forecast disease outbreaks and identify vulnerable populations, improving preparedness.
- **Public-private partnerships:** Collaboration with health-tech startups and digital innovators can accelerate scalable solutions.
- **Capital-efficient healthcare delivery:** Digital public goods reduce costs while expanding reach, critical for achieving Universal Health Coverage.

Way Forward

- Strengthen ABDM implementation with universal ABHA coverage and last-mile digital infrastructure.
- Increase public health expenditure towards the National Health Policy target of **2.5% of GDP**.
- Adopt a **whole-of-government approach** integrating nutrition, education, urban planning and digital regulation.
- Promote preventive healthcare through behavioural change, food policy reforms and physical activity campaigns.
- Build robust data privacy and cybersecurity safeguards to maintain public trust in digital health systems.

Conclusion: India's impressive gains in mortality reduction demonstrate the success of sustained public health investments. However, the next phase of health transformation hinges on effectively leveraging the Ayushman Bharat Digital Mission alongside preventive and behavioural interventions. A healthy population, supported by a digitally integrated and citizen-centric health system, will be a decisive pillar for achieving a resilient and developed India.

EXPECTED QUESTIONS FOR UPSC CSE

Prelims MCQ

Q. Consider the following statements regarding Ayushman Bharat Digital Mission (ABDM):

1. It aims to create a federated digital health ecosystem.
2. ABHA provides a unique health ID for citizens.
3. It mandates centralised storage of all patient data without consent.

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

(a) Answer

Descriptive Question

Q. "Digital health initiatives like the Ayushman Bharat Digital Mission can transform India's journey towards Universal Health Coverage." Discuss. (250 Words, 15 Marks)

NPS VATSALYA SCHEME GUIDELINES 2025

Why in News: The Pension Fund Regulatory and Development Authority (PFRDA) issued the **NPS Vatsalya Scheme Guidelines 2025** to promote early pension savings and long-term financial security for minors.

Key Details

- NPS Vatsalya is a **contributory pension savings scheme for minors**, announced in Budget 2024–25 and launched in September 2024.
- The scheme allows **parents/guardians to build retirement savings for children** from an early age.
- Guidelines clarify **eligibility, contribution norms, withdrawal rules, and transition to regular NPS**.
- It aims to promote **financial literacy and a pensioned society under Viksit Bharat@2047 vision**.

Institutional Framework and Governance

- **Regulatory Authority:** The scheme is regulated by the **Pension Fund Regulatory and Development Authority (PFRDA)** under the Ministry of Finance, ensuring uniform pension sector oversight.
- **Integration with National Pension System:** NPS Vatsalya functions as a **feeder scheme to the National Pension**

System (NPS), enabling seamless transition after the child attains majority.

- **Legal Backing:** The guidelines align with amendments to the **PFRDA (Exits and Withdrawals under NPS) Regulations, 2015**, providing regulatory clarity and investor protection.
- **Policy Context:** The scheme complements India’s broader push towards **universal pension coverage**, financial inclusion, and long-term household savings.

Eligibility and Beneficiary Structure

- **Universal Minor Coverage:** The scheme is open to **all Indian citizens below 18 years**, including NRIs and OCIs, expanding the pension net globally.
- **Minor as Sole Beneficiary:** The account is maintained in the **name of the child**, ensuring that savings legally belong to the minor.
- **Guardian-Based Operation:** Parents or legal guardians operate the account until the child turns 18, ensuring administrative feasibility.
- **Financial Inclusion Dimension:** By allowing NRI/OCI participation, the scheme taps into **diaspora-linked savings**, strengthening capital formation.

Contribution Architecture and Flexibility

- **Low Entry Barrier:** The minimum initial and annual contribution is **₹250**, making the scheme accessible even to low-income households.

NPS Vatsalya Yojana

Objective
Aimed at creating a pensioned society and empowering children.

Nodal Ministry
 वित्त मंत्रालय
MINISTRY OF FINANCE

Minor receives a unique **Permanent Retirement Account Number (PRAN)**.




Contributory pension scheme for minors under NPS.

Eligibility
Indian citizens **aged 0–18 years** are eligible minors.
Guardian can be a **Non-Resident Indian (NRI)** or **Overseas Citizen of India (OCI)**; NRE/NRO bank account is mandatory in such cases.

Regulated by
Pension Fund Regulatory Authority of India (PFRDA)

Contribution
Parents can contribute a **minimum of ₹1,000/month** with **no upper limit**.

At 18, the account converts to a regular NPS or non-NPS account.

Withdrawal Rules

➤ **Lock-in Period**
3-year lock-in from account opening.

➤ **Partial Withdrawals**
After lock-in, up to **25%** can be withdrawn for education, medical treatment, or disability (max **three withdrawals**).

◀ **In Case of Death**
Full corpus goes to **guardian**. If a parent dies, a new guardian is registered; legal guardianship applies if both die.

◀ **Withdrawal at 18**
Converts to regular NPS. If corpus > ₹2.5 lakh, 80% for annuity, 20% withdrawable; else, full withdrawal allowed.



- **No Upper Contribution Limit:** Absence of a cap encourages **long-term wealth accumulation** and voluntary pension planning.
- **Third-Party Contributions Allowed:** Contributions can be gifted by relatives and friends, promoting **family-based financial planning culture**.
- **Power of Compounding:** Early entry into pension savings leverages **long investment horizons**, potentially generating significant retirement corpus.

Investment and Pension Fund Choice

- **Freedom of Fund Selection:** Guardians can choose any **PFRDA-registered pension fund**, introducing competition and efficiency.
- **Market-Linked Returns:** Like NPS, investments are **market-linked**, offering potentially higher long-term returns compared to traditional savings.
- **Risk Diversification:** The NPS architecture allows exposure to **equity, corporate bonds, and government securities**, balancing risk and return.
- **Financial Literacy Impact:** Early exposure to market-based pension products may deepen **household financial awareness** over time.

Withdrawal and Liquidity Provisions

- **Three-Year Lock-in:** Partial withdrawal is permitted only after **three years**, ensuring commitment to long-term savings.
- **Limited Partial Withdrawal:** Up to **25% of own contributions (excluding returns)** can be withdrawn for specified purposes.
- **Permitted Uses:** Withdrawals allowed for **education, medical treatment, and disability-related needs**, aligning with child welfare priorities.
- **Frequency Caps:** Withdrawals are limited to **two times before age 18 and two times between 18–21**, preventing misuse.

Transition on Attaining Majority

- **Mandatory Fresh KYC:** At age 18, the subscriber must complete **fresh KYC**, ensuring regulatory compliance.
- **Multiple Continuity Options:** The individual can continue under NPS Vatsalya, shift to **NPS Tier I**, or exit subject to conditions.
- **Annuity Requirement:** On exit, **minimum 20% of corpus must be annuitised**, promoting pension discipline.
- **Small Corpus Flexibility:** Full withdrawal is permitted if corpus is **₹8 lakh or less**, providing relief to small savers.

Role of Grassroots Financial Intermediaries

- **Community-Level Incentivisation:** Guidelines provide incentives to **Anganwadi workers, ASHAs, and Bank Sakhis** for awareness and onboarding.
- **Rural Outreach:** This strategy targets **rural and semi-**

urban households, where pension penetration remains low.

- **Financial Inclusion Synergy:** It complements initiatives like **Jan Dhan–Aadhaar–Mobile (JAM) trinity** and social security expansion.
- **Women-Led Last-Mile Delivery:** Leveraging frontline women workers strengthens **gender-inclusive financial outreach**.

Significance for India's Pension Ecosystem

- **Early Savings Culture:** The scheme institutionalises **life-cycle financial planning**, starting from childhood.
- **Demographic Advantage:** With nearly **40% of India's population below 18**, early pension enrolment can deepen long-term savings pools.
- **Capital Market Deepening:** Increased pension assets support **domestic capital formation and infrastructure financing**.
- **Viksit Bharat@2047 Alignment:** The initiative supports the vision of a **financially secure and pensioned society**.

Challenges and Concerns

- **Awareness Deficit:** Pension products for minors are still unfamiliar to many households, especially in rural India.
- **Equity Market Risks:** Market-linked returns expose investors to **volatility risk**, requiring strong financial literacy.
- **Administrative Complexity:** Fresh KYC and transition rules may create **procedural friction** for some users.
- **Overlap with Other Savings Schemes:** Competition with instruments like **PPF, Sukanya Samridhi Yojana**, etc., may affect uptake.

Conclusion

The NPS Vatsalya Scheme represents a forward-looking reform in India's pension architecture by embedding retirement planning into the life cycle from childhood. Its success, however, will depend on widespread awareness, simplified procedures, robust investor protection, and sustained grassroots outreach. If effectively implemented, the scheme can significantly contribute to building a financially secure and pension-ready India by 2047.

EXPECTED QUESTIONS FOR UPSC CSE

Prelims MCQ

- Q. With reference to NPS Vatsalya Scheme, consider the following statements:
1. It is regulated by PFRDA.
 2. It is open only to resident Indian minors.
 3. Partial withdrawal up to 25% of own contribution is permitted after a lock-in period.

Which of the statements given above is/are correct?

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

(a) :Answer

Descriptive Question

Q. Early-life financial planning initiatives like NPS Vatsalya can transform India’s savings behaviour. Critically examine. (150 Words, 10 Marks)

CABINET APPROVES CONTINUATION OF ATAL PENSION YOJANA (APY) TILL 2030-31

Why in News: The Union Cabinet has approved the continuation of the Atal Pension Yojana (APY) along with funding support for promotional and gap funding activities till FY 2030-31.

Key Details

- The scheme will continue till **2030-31** with government support for outreach and sustainability.
- Focus on expanding coverage among **unorganised sector workers** through awareness and capacity building.
- Provides **guaranteed minimum pension of ₹1,000-₹5,000 per month** from age 60.
- Over **8.66 crore subscribers (as of January 2026)** enrolled under the scheme.

Atal Pension Yojana: Objectives and Rationale

- **Old-Age Income Security:** APY aims to provide a guaranteed pension to workers in the unorganised sector who lack formal retirement benefits. It addresses the vulnerability of informal workers in old age.
- **Targeting the Unorganised Sector:** Nearly **85-90% of India’s workforce** is in the informal sector, which typically lacks social security coverage. APY seeks to bridge this structural gap.
- **Financial Inclusion Linkage:** The scheme builds upon the **Jan Dhan-Aadhaar-Mobile (JAM) trinity**, encouraging long-term savings habits among low-income households.
- **Vision of Pensioned Society:** APY supports India’s transition towards a **social security-oriented welfare state**, aligned with the goal of inclusive growth.

Key Features of Atal Pension Yojana

- **Guaranteed Minimum Pension:** Subscribers receive a fixed pension between **₹1,000 and ₹5,000 per month** after attaining 60 years, depending on their contribution level.
- **Defined Contribution Scheme:** Contributions vary based on entry age (18-40 years) and desired pension slab, making the scheme actuarially structured.

- **Government Co-Contribution (Initial Phase):** For early enrollees (2015-16), the government provided **50% co-contribution or ₹1,000 annually**, boosting initial adoption.
- **Auto-Debit Mechanism:** Contributions are automatically deducted from bank accounts, improving compliance and reducing administrative burden.

Implementation Strategy for Extension till 2030-31

- **Promotional and Developmental Activities:** The government will fund awareness campaigns, financial literacy drives, and institutional capacity building to increase penetration.
- **Gap Funding for Viability:** Budgetary support will bridge actuarial or operational gaps to ensure long-term sustainability of the pension commitments.
- **Focus on Last-Mile Inclusion:** Special emphasis is expected on rural areas, women workers, gig workers, and migrant labour to deepen coverage.
- **Digital and Institutional Strengthening:** Leveraging banks, India Post Payments Bank, and fintech platforms will improve enrolment and servicing efficiency.

Performance and Achievements

- **Rapid Subscriber Growth:** As of **19 January 2026**, APY has crossed **8.66 crore subscribers**, indicating strong acceptance among low-income groups.
- **Gender Inclusion:** A significant proportion of subscribers are women, reflecting progress in **gendered financial inclusion**.
- **Complement to Other Schemes:** APY complements schemes like **PM Jan Dhan Yojana** and **PM Shram Yogi Maandhan**, forming a broader social security architecture.
- **Fiscal Prudence:** Being largely contribution-based, APY imposes relatively **lower long-term fiscal burden** compared to fully funded pension schemes.

Challenges and Concerns

- **Low Pension Adequacy:** The maximum pension of ₹5,000 may be insufficient considering **future inflation and rising cost of living**.
- **Awareness Gaps:** Despite progress, many informal workers remain unaware of pension products due to **low financial literacy**.
- **Irregular Contributions:** Income volatility among informal workers leads to **account dormancy and contribution defaults**.
- **Coverage Limitations:** Gig workers, platform workers, and migrant labourers still remain **underrepresented** in the scheme.

Significance for India’s Social Security Framework

- **Supports Inclusive Growth:** APY strengthens the social protection net, a key requirement for achieving **Sustainable Development Goals (SDGs)**.

attempt to link **retirement savings with healthcare financing**, reflecting evolving social security needs.

- **Reducing OOOPE Burden:** India's out-of-pocket expenditure remains high (around **48% of total health spending**, per National Health Accounts). The scheme can cushion households against medical shocks.
- **Preventing Medical Impoverishment:** Health shocks push millions into poverty annually. Pension-linked health support can reduce distress asset sales and debt dependence.
- **Strengthening NPS Ecosystem:** By adding health utility, the scheme may increase NPS attractiveness, especially among the **informal and self-employed workforce**.

Challenges and Concerns

- **Limited Pilot Scale:** Being a Proof of Concept, subscriber coverage will initially be small, limiting immediate macro impact.
- **Risk to Retirement Corpus:** Frequent medical withdrawals may reduce long-term pension adequacy if not carefully regulated.
- **Awareness and Financial Literacy:** Low understanding of pension products among informal workers may hinder adoption.
- **Operational Coordination:** Effective integration among Pension Funds, FinTech firms, TPAs, and hospitals will be crucial for smooth implementation.

Regulatory Sandbox: Broader Importance

- **Promotes FinTech Innovation:** Sandbox frameworks enable safe testing of innovative financial products without full regulatory burden.
- **Evidence-Based Policymaking:** The PoC approach allows PFRDA to refine product design based on real-world data before nationwide rollout.
- **Global Best Practice:** Many regulators (e.g., UK FCA, RBI sandbox) use sandbox models to balance innovation with consumer protection.
- **Future Social Security Models:** Success of this pilot may pave the way for **integrated pension-insurance-health products** in India.

Conclusion

The NPS Swasthya Pension Scheme represents an important step toward **holistic social security reform** by converging healthcare financing with retirement planning. For long-term success, the government must ensure adequate safeguards to protect pension adequacy, enhance financial literacy, and strengthen digital and institutional infrastructure. If the pilot proves viable, it could significantly reduce medical vulnerability and deepen pension penetration in India.

EXPECTED QUESTION FOR UPSC CSE

Prelims MCQ

- Q. The NPS Swasthya Pension Scheme aims to:
- Provide universal health insurance
 - Link pension savings with medical expense support
 - Replace Ayushman Bharat
 - Provide free hospitalization

(b) Answer

GOBARDHAN SCHEME: CONVERTING WASTE INTO WEALTH

Why in News: As of **January 2026**, India has **189 functional Compressed Biogas (CBG) projects** under the GOBARDhan initiative, though transparency and implementation gaps remain concerns.

Key Details

- The **GOBARDhan Scheme** is a Government of India initiative under the **Ministry of Jal Shakti** to convert organic waste into biogas and bio-CNG.
- India currently has **189 functional CBG plants** and **979 community/cluster-based biogas projects** across states.
- The scheme supports the **waste-to-wealth and circular economy** approach in rural areas.
- Reports by policy bodies highlight **data transparency and slow adoption issues** in the programme.

Concept & Institutional Framework

- **Flagship Waste-to-Energy Initiative:** Launched under the Swachh Bharat Mission (Grameen), GOBARDhan aims to manage cattle dung and organic waste scientifically while generating renewable energy and organic manure.
- **Nodal Ministry:** The **Department of Drinking Water and Sanitation (DDWS)** under the Ministry of Jal Shakti coordinates implementation, ensuring convergence with sanitation and rural development goals.
- **Multi-Ministry Convergence:** The scheme involves the Ministries of Petroleum & Natural Gas, New & Renewable Energy, Agriculture, and Rural Development, reflecting its cross-sectoral nature.
- **Integration with SATAT Programme:** It complements the **Sustainable Alternative Towards Affordable Transportation (SATAT)** initiative, which promotes Compressed Biogas as a transport fuel.

Objectives of the GOBARDhan Scheme

- **Waste-to-Wealth Transformation:** The scheme converts

cattle dung, crop residue, municipal solid waste, and sewage into **biogas, CBG, and organic fertiliser**, reducing environmental burden.

- **Village Cleanliness & Sanitation:** Scientific waste management reduces **open dumping, stray cattle waste, and biomass burning**, supporting Swachh Bharat goals.
- **Augmenting Rural Income:** Farmers and rural households can earn by supplying dung and organic waste to biogas plants, creating **supplementary income streams**.
- **Energy Security:** By promoting CBG as a substitute for LPG, petrol, and diesel, the scheme contributes to **import substitution and energy diversification**.
- **Circular Economy Promotion:** It encourages recycling of waste into energy and manure, aligning with India's **resource efficiency and sustainability agenda**.

Key Features & Operational Mechanism

- **Compressed Biogas (CBG) Production:** CBG is produced by purifying biogas derived from organic waste; it has properties similar to CNG, making it suitable for transport and cooking.
- **Bio-CNG Plant Ecosystem:** The government provides policy support and facilitates **district-level biogas/CBG plants**, encouraging private and cooperative participation.
- **Unified Registration Portal:** A centralized digital platform enables registration, monitoring, and tracking of biogas projects to improve transparency and coordination.
- **Community & Cluster-Based Models:** Apart from commercial plants, **979 community biogas projects** promote decentralized waste management at the village level.
- **State-wise Progress:** Uttar Pradesh (37 plants), Gujarat (25), and Haryana (20) currently lead in functional CBG infrastructure.

Benefits of the Scheme

- **Environmental Benefits**
 - **Methane Emission Reduction:** Scientific dung management prevents methane release from open decomposition, contributing to **climate change mitigation**.
 - **Improved Waste Management:** It reduces landfill pressure and curbs stubble burning and organic waste dumping in rural areas.
 - **Pollution Control:** Use of clean biogas/CBG lowers particulate and carbon emissions compared to conventional fossil fuels.
- **Economic & Social Benefits**
 - **Rural Employment Generation:** Biogas plants create jobs in waste collection, plant operation, logistics, and maintenance.
 - **Additional Farmer Income:** Farmers monetise cattle

and agricultural residue, supporting **doubling farmers' income objectives**.

- **Entrepreneurship Opportunities:** The scheme promotes private investment and start-ups in the bioenergy sector.
- **Energy & Agricultural Benefits**
 - **Renewable Energy Expansion:** CBG strengthens India's non-fossil energy basket and supports the **net-zero pathway**.
 - **Import Bill Reduction:** Substitution of natural gas and petroleum fuels helps reduce India's **energy import dependence**.
 - **Organic Manure Production:** Digestate from biogas plants improves soil health and reduces reliance on chemical fertilisers.

Key Challenges

- **Transparency Deficit:** Reports by research organisations indicate incomplete data on operational CBG plants on the GOBARDhan portal, affecting monitoring and policy response.
- **Slow Adoption Pace:** Only around **115–189 plants are functional** against the ambitious target of **5,000 CBG plants by 2030**, indicating implementation gaps.
- **Inter-State Imbalance:** Progress is concentrated in a few states, while many regions lag due to weak institutional capacity and investment constraints.
- **Awareness & Capacity Gaps:** Farmers, panchayats, and local entrepreneurs often lack technical knowledge and training for efficient plant operation.
- **Feedstock Supply Issues:** Ensuring consistent collection and aggregation of organic waste remains a logistical challenge in many districts.

Conclusion

The GOBARDhan Scheme holds significant potential to advance India's goals of **clean energy, rural prosperity, and circular economy**. However, achieving the 2030 targets requires improving data transparency, strengthening last-mile implementation, enhancing farmer awareness, and incentivising private investment. With better institutional convergence and community participation, GOBARDhan can become a cornerstone of India's sustainable rural transformation.

FUND OF FUNDS FOR STARTUPS (FFS)

Why in News: The **Startup India Mission completed a decade (2026)**, highlighting the role of the **Fund of Funds for Startups (FFS)** in expanding domestic risk capital for India's startup ecosystem.

Key Details

- FFS was approved in **2016** with a **₹10,000 crore corpus** under Startup India.

- It provides capital to **SEBI-registered Alternative Investment Funds (AIFs)**, not directly to startups.
- **SIDBI** manages the scheme and oversees fund deployment.
- Over **₹25,500+ crore** invested in **1,370+ startups** through **140+ AIFs**.

Fund of Funds for Startups (FFS): Concept & Structure

- **Indirect Funding Model:** FFS does not invest directly in startups; instead, it commits capital to SEBI-registered AIFs (daughter funds) which invest in startups through equity and equity-linked instruments. This reduces government risk while leveraging professional fund management.
- **Corpus and Timeline:** The scheme was approved in **2016 with ₹10,000 crore corpus**, to be released over the **14th and 15th Finance Commission cycles** based on implementation progress.
- **Mandatory Multiplier Effect:** AIFs receiving FFS support must invest **at least twice the committed amount** in startups, ensuring crowding-in of private capital and enhancing fund efficiency.
- **Sectoral Coverage:** Investments target **innovation-driven sectors** such as fintech, deep-tech, health-tech, agri-tech, and manufacturing, aligning with India’s digital and industrial priorities.

- **Fund Manager Function:** SIDBI selects suitable AIFs, commits capital, monitors performance, and ensures compliance with scheme guidelines, acting as the nodal operating agency.
- **MSME–Startup Linkage:** By supporting technology startups that integrate with MSME value chains, SIDBI strengthens innovation diffusion across the broader industrial ecosystem.
- **Green and Inclusive Focus:** SIDBI also promotes **cleaner production and energy efficiency**, aligning startup financing with sustainability goals.

Startup India Ecosystem: A Decade of Growth

- **Scale of Ecosystem:** India now hosts **2 lakh+ DPIIT-recognised startups (Dec 2025)**, making it one of the world’s largest startup ecosystems.
- **Rise of Unicorns:** The number of billion-dollar startups increased from **4 in 2014 to 120+ today**, with a combined valuation exceeding **\$350 billion**.
- **Geographical Democratisation:** Nearly **50% of startups originate from Tier-II and Tier-III cities**, indicating diffusion of entrepreneurship beyond metropolitan hubs.
- **Women-led Innovation:** Over **45% of recognised startups have at least one woman director/partner**, reflecting inclusive entrepreneurial growth.

Complementary Startup India Schemes

- **Credit Guarantee Scheme for Startups (CGSS):** Provides **collateral-free loans** through NCGTC; more than **330 loans worth ₹800+ crore** have been guaranteed, improving credit access.
- **Startup India Seed Fund Scheme (SISFS):** With **₹945 crore corpus**, it supports proof of concept, prototyping, and market entry via **215+ incubators**.
- **Startup India Hub & Investor Connect:** Digital platforms linking startups with mentors, incubators, and investors, reducing information asymmetry.
- **States’ Startup Ranking Framework:** Encourages **competitive federalism** by ranking states on startup policy and ecosystem performance.

Atal Innovation Mission (AIM) & Pipeline Creation

- **Innovation Culture in Schools:** **10,000+ Atal Tinkering Labs** across **733 districts** have engaged over **1.1 crore students**, building early innovation capacity.
- **AIM 2.0 Focus:** Emphasises ecosystem gaps, deep-tech commercialisation, and regional inclusion through programmes like **Deeptech Reactor** and **LIPI**.
- **Frontier & Aspirational Regions:** Special focus on **J&K, Ladakh, North-East, and Aspirational Districts** to reduce regional innovation disparity.
- **Global Collaboration:** International innovation partnerships aim to integrate Indian startups into global value chains.



Role of SIDBI in FFS Implementation

- **Institutional Mandate:** The Small Industries Development Bank of India (SIDBI), established in **1990**, is the principal financial institution for promotion and development of the MSME sector.

WEF GLOBAL RISKS REPORT 2026: IMPLICATIONS FOR INDIA

Why in News: The World Economic Forum Global Risks Report 2026 has identified cybersecurity as India's biggest immediate risk and geo-economic confrontation as the most severe global threat.

Key Details

- The report flags **geo-economic confrontation** as the top global risk in the short term.
- For India, **cybersecurity risk** ranks first, followed by inequality and weak public services.
- Technological threats like **AI misuse and misinformation** are rising globally.
- Long-term risks continue to be dominated by **climate change and biodiversity loss**.

About the World Economic Forum & Global Risk Framework

- Established in **1971** by **Klaus Schwab**, headquartered in **Geneva, Switzerland**.
- Functions as a **public-private cooperation platform** bringing together global leaders.
- Known for the annual **Davos Meeting** and flagship reports like the Global Risks Report.
- Promotes the idea of **stakeholder capitalism** and global policy dialogue.
- **Definition of Global Risk:** A global risk refers to an event or condition that could significantly impact global GDP, population, or natural resources. This framework helps governments anticipate systemic vulnerabilities.

Geo-economic Confrontation: Emerging Global Flashpoint

- **Meaning and Nature:** Geo-economic confrontation involves the strategic use of trade barriers, sanctions, technology bans, and investment controls to achieve geopolitical objectives, reflecting the weaponisation of economic tools.
- **Why Ranked Highest:** The report places it above armed conflict and extreme weather due to rising protectionism, supply-chain fragmentation, and strategic decoupling among major powers.

- **Recent Global Trends:** Examples include tariff wars, restrictions on semiconductor exports, and critical mineral controls. These actions weaken multilateral trade norms and increase uncertainty.
- **Implications for India:** As a trade-dependent economy, India faces risks through export volatility, capital flow instability, and supply disruptions, making economic resilience crucial.

Cybersecurity as India's Top Systemic Risk

- **Scale of Threat:** India recorded about **369 million malware detections in 2025** (Data Security Council of India), highlighting high exposure in a rapidly digitising economy.
- **Nature of Attacks:** Trojans (43%) and infectors (34%) dominate, indicating increasingly sophisticated and targeted cyber campaigns rather than random attacks.
- **Digital Expansion Outpacing Security:** Rapid growth of UPI, Aadhaar-linked services, DBT architecture, and fintech has expanded the digital surface faster than cyber defence capacity.
- **Strategic Implications:** Cyber risks now threaten elections, banking systems, power grids, and governance credibility, making cybersecurity a **national security and economic stability issue**.

Inequality as a Risk Multiplier

- **Contrasting Indicators:** India's World Bank Gini Index (~25.5) suggests moderate inequality, but Oxfam estimates show the **top 1% captured about 22.6% of national income**, indicating deeper structural disparities.
- Workers more vulnerable to shocks like inflation, pandemics, or automation-led job losses.
- **Political and Social Risks:** Persistent disparities can fuel social unrest, regional imbalance, and declining trust in institutions, affecting governance stability.
- **Policy Significance:** The report treats inequality not merely as a welfare issue but as a **macro-economic and political risk factor**.

The Largest Risks Faced by the World

Experts' view on the most severe global risks over the next 2 and 10 years*



■ Environmental ■ Geopolitical ■ Societal ■ Technological



* Based on risk assessments by over 900 experts across academia, business, government, international organizations and civil society collected Sep.-Oct. 2024

Source: World Economic Forum

Insufficient Public Services and Social Protection

- **Health Spending Gap:** India's public health expenditure is about **1.9% of GDP**, below the National Health Policy target of 2.5%, indicating capacity constraints.
- **Social Protection Deficit:** India spends roughly **5% of GDP on social protection (excluding health)** compared to the global average of about 13% (ILO).
- **Shock Absorption Weakness:** Limited coverage in pensions, urban services, and education reduces the state's ability to manage crises like pandemics or climate disasters.
- **Governance Implications:** Weak public services convert external shocks into domestic instability, increasing fiscal stress and inequality pressures.

Exposure to Goeconomic and Financial Shocks

- **Capital Flow Volatility:** India witnessed about **USD 18.9 billion FPI outflows in 2025**, showing sensitivity to global monetary tightening and trade tensions.

- **Trade Dependence Risks:** Slowdowns in major economies can quickly affect India's exports, manufacturing growth, and employment.
- **Currency and Market Pressures:** Global uncertainty can weaken the rupee, raise import costs, and complicate macroeconomic management.
- **Strategic Lesson:** Building diversified trade partnerships and strong forex buffers is essential for economic stability.

State-Based Conflict and Hybrid Security Threats

- **Regional Security Pressures:** Continued cross-border terrorism and sporadic attacks highlight persistent external security risks.
- **Rise of Hybrid Warfare:** Modern threats combine cyber attacks, misinformation, economic coercion, and proxy conflicts.
- **Urban and Lone-Wolf Risks:** Increasing urbanisation and digital radicalisation create new internal security challenges.
- **Developmental Trade-off:** Prolonged security tensions divert resources from social and infrastructure spending.

Conclusion

India’s risk landscape is increasingly shaped by the convergence of cyber insecurity, inequality, geoeconomic fragmentation, and hybrid threats. The country must strengthen digital resilience, deepen inclusive growth, expand social protection, and diversify economic linkages. A whole-of-government and whole-of-society approach, backed by robust institutions and strategic foresight, is essential to safeguard India’s growth and national security in an era of systemic global risks.

EXPECTED QUESTIONS FOR UPSC CSE

Prelims MCQ

Q. According to recent global assessments, which of the following is the top immediate risk for India?

(a) Climate change (b) Cyber insecurity

(c) Armed conflict (d) Food inflation

Answer: (b)

Descriptive Question

Q. Cyber insecurity has emerged as a systemic national risk for India in the digital age. Examine the challenges and suggest a comprehensive strategy. (150 Words, 10 Marks)

INDIA INTERNATIONAL CONFERENCE ON DEMOCRACY AND ELECTION MANAGEMENT (IICDEM) 2026

Why in News: The Election Commission of India is hosting the inaugural **India International Conference on Democracy and Election Management (IICDEM) 2026** in New Delhi.

Key Details

- The three-day IICDEM 2026 began on **21 January 2026** at **Bharat Mandapam, New Delhi**.
- It is organised by the **India International Institute of Democracy and Election Management (IIIDEM)** under the **Election Commission of India (ECI)**.
- Around **100 delegates from over 70 countries** are participating, making it a major global electoral platform.
- The ECI also launched **ECINET**, a unified digital platform for election-related services and information.

IICDEM 2026: Significance for Global Electoral Governance

- **India as a Democratic Leader:** Hosting the inaugural conference positions India as a **global knowledge hub on election management**, leveraging its experience of conducting the world’s largest elections.
- **Largest Conference of its Kind:** With participation from

70+ countries and international organisations, the event promotes cross-country learning on electoral integrity and democratic resilience.

- **Focus on Emerging Challenges:** Discussions centre on issues such as **misinformation, technology in elections, voter inclusion, and electoral trust**, which are key global concerns today.
- **Strengthening Electoral Diplomacy:** The conference reflects India’s growing role in **South-South cooperation and democratic capacity building**, complementing its soft power outreach.

Key Themes and Deliberations

- **Election Management Bodies (EMBs) Dialogue:** Plenary sessions bring together EMBs worldwide to exchange **best practices, institutional innovations, and regulatory frameworks**.
- **36 Thematic Working Groups:** Led by Chief Electoral Officers of States/UTs, these groups deliberate on **voter rolls, technology adoption, inclusivity, and legal reforms**.
- **International Electoral Standards:** The conference examines global norms such as **free and fair elections, transparency, and accountability**, aligning with democratic benchmarks.
- **Innovation in Election Processes:** Sessions highlight India’s experience with **EVMs, VVPAT, large-scale logistics, and digital electoral management systems**.

Launch of ECINET: Digital Transformation of Elections

- **One-Stop Electoral Platform:** ECINET integrates election-related information and services into a **single digital interface**, improving accessibility for voters and stakeholders.
- **Enhancing Transparency and Efficiency:** Digital consolidation reduces duplication, improves **real-time data availability**, and strengthens public trust in electoral processes.
- **Citizen-Centric Governance:** The platform aligns with the **Digital India initiative**, making electoral participation more convenient and inclusive.
- **Global Demonstration Effect:** ECINET showcases India’s technological capability in managing **large-scale democratic exercises**, offering a model for other countries.

Role of the Election Commission of India (Static + Contemporary)

- **Constitutional Status:** The ECI is an independent constitutional body under **Article 324**, responsible for superintendence, direction, and control of elections.
- **World’s Largest Electoral Exercise:** India conducts elections involving **over 900 million voters (Lok Sabha 2024)**, demonstrating unmatched logistical and administrative capacity.
- **Recent Reforms:** Initiatives such as **electoral roll**

purification, voter awareness programmes (SVEEP), and technology integration have strengthened credibility.

- **Global Capacity Building:** Through training programmes and international cooperation, the ECI increasingly supports **Election Management Bodies worldwide**.

India International Institute of Democracy and Election Management (IIIDEM)

- **Institutional Background:** Established in 2011, IIIDEM serves as the **training and research arm of the ECI**, focusing on electoral capacity building.
- **Global Knowledge Hub:** It conducts domestic and international training programmes for election officials, contributing to **democratic governance worldwide**.
- **Specialised Academic Programmes:** IIIDEM runs residential and non-residential courses covering **electoral laws, logistics, technology, and voter inclusion**.
- **Dedicated Campus at Dwarka:** The institute now functions from a full-fledged campus in Delhi, enhancing India's institutional infrastructure for electoral excellence.

Broader Democratic and Governance Implications

- **Strengthening Electoral Integrity:** Global cooperation helps address threats like **fake news, deepfakes, money power, and voter suppression**.
- **Promoting Inclusive Democracy:** Focus areas include participation of **women, youth, persons with disabilities, and migrant voters**.
- **Technology vs Trust Debate:** The conference reflects the growing need to balance **digital innovation with transparency and public confidence**.
- **India's Democratic Soft Power:** By sharing best practices, India enhances its image as the **"mother of democracy"** in international discourse.

Conclusion

IICDEM 2026 marks an important step in positioning India as a global leader in democratic governance and election management. Going forward, India must deepen technological safeguards, strengthen institutional independence, and promote inclusive electoral participation. Sustained international collaboration through platforms like IICDEM and IIIDEM can help build resilient democracies in an era of rapid technological and political change.

EXPECTED QUESTION FOR UPSC CSE

Prelims MCQ

- Q. The India International Conference on Democracy and Election Management (IICDEM) is organised by:
- Ministry of External Affairs
 - Election Commission of India
 - NITI Aayog
 - Law Commission of India

(b) Answer:

PRAGATI PLATFORM

Why in News: The Prime Minister's PRAGATI platform recently completed its **50th review meeting**, highlighting its role in strengthening real-time governance and project monitoring.

Key Details

- PRAGATI is the Prime Minister's flagship **ICT-enabled governance platform** launched in 2015.
- It integrates **grievance redressal, programme monitoring, and project review** on a single interface.
- The platform enables **direct interaction between the PM and Central/State officials** through video conferencing.
- It aims to ensure **e-transparency, e-accountability, and timely implementation** of government initiatives.

Genesis and Institutional Framework

- **Launch and Vision (2015):** PRAGATI (Pro-Active Governance and Timely Implementation) was launched on **25 March 2015** to fast-track governance and improve Centre-State coordination.
- **Designed In-house:** The platform was developed by the **Prime Minister's Office (PMO)** with technical support from the **National Informatics Centre (NIC)**, ensuring secure government ownership.
- **Whole-of-Government Approach:** It brings together the PMO, Union Ministries, and State Governments on a **single digital platform**, reducing bureaucratic silos.
- **Focus on Cooperative Federalism:** By involving Chief Secretaries of States, PRAGATI operationalises the idea of **Team India**, improving policy implementation across levels.

Technological Architecture

- **Three-Technologies Integration:** PRAGATI uniquely combines **digital data management, video conferencing, and geospatial technology**, enabling evidence-based review.
- **Real-time Visual Monitoring:** The Prime Minister can view **live project images and dashboards**, improving decision-making and reducing information asymmetry.
- **Data Convergence:** It integrates databases such as **CPGRAMS (grievances), Project Monitoring Group (PMG), and MoSPI project data** for holistic oversight.
- **Secure Digital Governance:** Being a government-controlled platform ensures **data security and administrative reliability**, critical for sensitive infrastructure reviews.

Key Features and Working Mechanism

- **Three-tier Structure:** The system operates at **PMO level, Union Secretaries level, and State Chief Secretaries level**, ensuring vertical coordination.
- **Monthly PRAGATI Meetings:** The Prime Minister

chairs periodic meetings to review **major infrastructure projects, flagship schemes, and public grievances.**

- **Issue Identification Process:** Cases are flagged from **public complaints, stalled projects, and priority programmes**, ensuring targeted intervention.
- **Follow-up Mechanism:** After meetings, the **Cabinet Secretariat monitors projects**, while Ministries track schemes and grievances under PMO oversight.
- **Outcome-oriented Governance:** The design ensures that decisions are linked with **time-bound implementation**, reducing policy delays.

Role in Improving Governance

- **Fast-tracking Infrastructure:** PRAGATI has been used to monitor highways, railways, power, and urban projects, helping unlock **stalled investments worth thousands of crores.**
- **Strengthening Grievance Redressal:** Integration with CPGRAMS improves responsiveness to citizen complaints, enhancing **citizen-centric governance.**
- **Promoting Cooperative Federalism:** Direct PM–State interaction reduces coordination gaps and improves **Centre–State policy alignment.**
- **Enhancing Accountability:** Real-time review creates **top-level pressure for timely delivery**, addressing chronic implementation deficits in India.

Expanding Scope and Contemporary Relevance

- **From Infrastructure to Social Sector:** Initially focused on big projects, PRAGATI now monitors **social schemes, DBT programmes, and welfare delivery.**
- **Digital Governance Push:** The platform aligns with **Digital India** and the government's emphasis on **minimum government, maximum governance.**
- **Evidence-based Policymaking:** Use of geospatial and dashboard analytics supports **data-driven administration**, a key reform in public policy.
- **Milestone of 50 Meetings:** The recent milestone indicates institutionalisation of **technology-led executive monitoring** in India's governance model.

Challenges and Limitations

- **Over-centralisation Concerns:** Excessive top-level monitoring may reduce **ministerial autonomy** and bureaucratic initiative.
- **Data Quality Issues:** Effectiveness depends on **accurate and timely data entry** by departments, which varies across states.
- **Digital Divide:** States with weaker digital infrastructure may face **capacity constraints** in fully leveraging the platform.
- **Transparency vs Executive Control:** While enhancing efficiency, PRAGATI operates largely within the executive domain, raising debates on **institutional transparency.**

Conclusion

PRAGATI represents a significant step toward **technology-driven, outcome-oriented governance** in India. Going forward, strengthening data quality, enhancing state capacity, and institutionalising transparency mechanisms will be crucial. If effectively leveraged, PRAGATI can become a cornerstone of **real-time cooperative federalism and citizen-centric administration**, helping bridge India's long-standing implementation deficit.

EXPECTED QUESTIONS FOR UPSC CSE

Prelims MCQ

Q. PRAGATI integrates which of the following technologies?

1. Digital data management
2. Video conferencing
3. Geospatial technology

Select the correct answer:

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

Answer: (d)

Descriptive Question

Q. Discuss the role of the PRAGATI platform in improving governance and cooperative federalism in India. (150 Words, 10 Marks)

HENLEY PASSPORT INDEX 2026

Why in News: The **Henley Passport Index 2026** highlights major shifts in global travel mobility, with Asian countries dominating the top ranks and India improving its position.

Key Details

- The **Henley Passport Index 2026** ranks passports based on visa-free access to global destinations.
- **Singapore** tops the ranking, while **Japan and South Korea** jointly hold second place.
- **India** has improved to the **80th position**, reflecting gradual mobility gains.
- The index is based on **International Air Transport Association (IATA)** data covering **199 passports and 227 destinations.**

Henley Passport Index: Concept and Methodology

- **Definition and Purpose:** The Henley Passport Index measures the **strength of passports** by counting the number of destinations accessible without a prior visa. It serves as a proxy for global mobility.
- **Data Source (IATA):** The ranking relies on exclusive data from the **International Air Transport Association (IATA)**, ensuring high reliability and global coverage of travel regulations.

- **Historical Evolution:** The index began in 2006 as the Henley & Partners Visa Restrictions Index (HVRI) and has evolved into one of the most cited global mobility indicators.
- **Coverage and Scope:** The 2026 edition evaluates 199 passports and 227 travel destinations, making it one of the most comprehensive comparative mobility datasets.

Global Mobility Trends in 2026

- **Asian Dominance:** Asian countries continue to lead the rankings, indicating their **strong diplomatic networks, economic integration, and global trust.**
- **Rise of Strategic Mobility:** Passport strength increasingly reflects **geopolitical influence, trade partnerships, and bilateral visa agreements**, not merely economic size.
- **Growing Mobility Inequality:** The gap between top and bottom passports remains wide, highlighting **global inequality in freedom of movement.**
- **Post-Pandemic Normalisation:** Global travel access has largely stabilised after COVID-19 disruptions, but mobility recovery remains uneven across regions.

Key Highlights of Henley Passport Index 2026

- **Top Rank – Singapore:** Singapore holds the **first position globally**, offering visa-free or visa-on-arrival access to the highest number of destinations.
- **Second Position – Japan and South Korea:** Both countries share the **second rank**, reflecting strong diplomatic credibility and advanced economies.
- **India's Improved Ranking:** India has climbed **five places to 80th rank**, indicating gradual improvement in international mobility and diplomatic outreach.
- **Lowest Rank – Afghanistan:** Afghanistan remains at the **bottom (101st)** with visa-free access to only **24 destinations**, reflecting geopolitical instability.

Determinants of Passport Strength

- **Diplomatic Relations:** Countries with extensive bilateral agreements and stable foreign relations tend to enjoy **greater visa-free access.**
- **Economic Power:** Strong economies inspire confidence among destination countries, improving **mobility privileges** for their citizens.
- **Security and Migration Risk Perception:** Nations perceived to have **lower illegal migration risks** typically receive more visa relaxations.
- **Soft Power and Global Reputation:** Cultural influence, international cooperation, and political stability contribute significantly to passport strength.

India's Position: Opportunities and Challenges

- **Gradual Improvement:** India's rise to **80th rank** reflects expanding diplomatic engagement and improving global integration.
- **Structural Constraints:** Factors such as income differentials, migration concerns, and security perceptions still limit broader visa-free access.
- **Regional Comparison:** India continues to lag behind several East and Southeast Asian economies in mobility strength.
- **Policy Implications:** Enhancing trade agreements, tourism diplomacy, and bilateral visa waivers could improve India's ranking in the long term.

Significance for UPSC Perspective

- **Indicator of Global Standing:** Passport rankings reflect a country's **external relations, economic credibility, and geopolitical trust.**
- **Link to Foreign Policy:** Visa liberalisation is often negotiated through **bilateral and multilateral diplomacy**, relevant for GS Paper II.
- **Development Dimension:** Mobility inequality highlights disparities between developed and developing nations, relevant for **globalisation debates.**
- **Governance and Migration:** The index intersects with issues of **migration policy, border management, and international cooperation.**

Conclusion

India should pursue **strategic visa diplomacy, stronger trade partnerships, and enhanced global engagement** to improve passport mobility. As global movement becomes a key marker of economic and diplomatic strength, sustained reforms in foreign policy outreach and international trust-building will be essential. The Henley Passport Index thus offers important insights into India's evolving position in the global order.

EXPECTED QUESTION FOR UPSC CSE

Prelims MCQ

- Q. The Henley Passport Index ranks countries based on:
- (a) Number of citizens travelling abroad
 - (b) Visa-free access to destinations
 - (c) Size of diaspora population
 - (d) Tourism revenue

Answer: (b)

PERSONALITIES IN NEWS

SUBHASH CHANDRA BOSE

Why in News: The birth anniversary of **Subhas Chandra Bose** on **23 January (Parakram Divas)** renewed focus on his contributions to India's freedom struggle and his distinctive nationalist vision.



Key Details

- Subhas Chandra Bose was a prominent nationalist who advocated **complete independence through assertive means**.
- He founded and led the **Indian National Army (INA)** to militarily challenge British rule.
- He served as President of the **Indian National Congress** but later formed the **All India Forward Bloc** in 1939.
- His slogan **"Give me blood, and I will give you freedom"** inspired militant nationalism among Indian youth.

Early Life and Education

- **Birth and Family Background:** Subhas Chandra Bose was born on **23 January 1897 in Cuttack (Odisha)** into a well-educated Bengali family. His father Janakinath Bose was a prominent lawyer, which ensured a strong academic environment.
- **School and College Education:** He studied at Protestant European School and Ravenshaw Collegiate School, later joining Presidency College, Calcutta. His expulsion in 1916 for nationalist activities reflected his early political awakening.
- **Cambridge and ICS Success:** Bose went to the **University of Cambridge** and passed the prestigious **Indian Civil Services (ICS) examination in 1920**, demonstrating exceptional academic merit.
- **Resignation from ICS:** Influenced by the **Jallianwala Bagh massacre**, he resigned from ICS in 1921, choosing national service over a secure colonial career.
- **Intellectual Influences:** Bose was deeply inspired by **Swami Vivekananda** and mentored by **Chittaranjan Das**, shaping his blend of spirituality and militant nationalism.

Role within the Indian National Congress

- **Entry into Congress (1921):** Bose joined the Congress during the Non-Cooperation phase and quickly emerged as a dynamic youth leader advocating complete independence.

- **Organisational and Editorial Work:** He edited the newspaper *Forward* and later launched *Swaraj*, using the press to mobilise nationalist opinion and criticise colonial policies.
- **Advocacy of Poorna Swaraj:** Along with **Jawaharlal Nehru**, Bose opposed Dominion Status in 1928 and demanded **complete independence**, which later became Congress policy in 1929.
- **Congress Presidency:** He was elected Congress President at the **Haripura Session (1938)** and again at the **Tripuri Session (1939)**, reflecting his national popularity.
- **National Planning Vision:** At Haripura, Bose supported the creation of a **National Planning Committee**, anticipating state-led industrialisation decades before independence.

Ideological Differences with Mahatma Gandhi

- **Approach to Freedom Struggle:** Bose favoured **militant and international strategy**, whereas **Mahatma Gandhi** emphasised non-violent mass mobilisation.
- **Views on British Negotiations:** Gandhi preferred gradual pressure and negotiation; Bose believed in **immediate and forceful expulsion** of British rule.
- **Leadership Style:** Gandhi followed consensus-based mass politics, while Bose adopted a **centralised and disciplined organisational approach**.
- **Foreign Alliances Debate:** Bose was willing to seek foreign support during World War II, unlike Gandhi's insistence on self-reliance.
- **Mutual Respect Despite Differences:** Gandhi called Bose the **"Prince among Patriots"**, while Bose addressed Gandhi as **"Father of the Nation"**, showing ideological divergence without personal hostility.

Formation of Forward Bloc (1939)

- **Reason for Formation:** After resigning from Congress presidency in 1939 due to internal differences, Bose formed the Forward Bloc to consolidate radical nationalist forces.
- **Objectives:** The Bloc aimed at **immediate independence**, socialist orientation, and mobilisation of peasants and workers.
- **Political Significance:** It represented the **left-wing and militant stream** within the broader nationalist movement.
- **Mass Appeal:** The Forward Bloc strengthened Bose's image as a leader of uncompromising nationalism.

Escape from India and International Strategy

- **Dramatic Escape (1941):** Bose escaped house arrest in Calcutta disguised as “Ziauddin” and travelled via Peshawar to Germany, demonstrating remarkable planning.
- **Free India Centre in Germany:** In Berlin, he organised Indian POWs and began radio broadcasts urging Indians to rise against British rule.
- **Shift to East Asia (1943):** Recognising Japan’s strategic position, Bose moved to Southeast Asia to take charge of the INA.
- **Globalisation of Freedom Struggle:** His efforts internationalised India’s cause, linking it with World War II geopolitics.

Indian National Army (INA) and Military Campaign

- **Reorganisation of INA:** Originally formed by Mohan Singh (1942), Bose revitalised the INA in 1943 at Singapore and gave the call “Delhi Chalo”.
- **Provisional Government of Azad Hind:** Bose established the **Provisional Government of Free India (1943)**, which was recognised by several Axis powers.
- **Rani Jhansi Regiment:** The INA included an all-women combat unit led by **Lakshmi Sahgal**, highlighting Bose’s progressive outlook on women’s participation.
- **Military Advances:** INA forces reached **Moirang (Manipur) in 1944**, where the tricolour was hoisted on Indian soil.
- **Limitations and Retreat:** With Japan’s defeat in World War II (1945), INA campaigns collapsed, but their psychological impact on Indian nationalism was immense.

Legacy and Historical Significance

- **Parakram Divas:** The Government of India celebrates **23 January as Parakram Divas** to honour Bose’s courage and leadership.
- **Impact on British Policy:** INA trials and the Royal Indian Navy mutiny (1946) reportedly shook British confidence in controlling India’s armed forces.
- **Symbol of Assertive Nationalism:** Bose represents the **militant and internationalist strand** of the freedom struggle complementing Gandhian methods.
- **Enduring Popular Appeal:** His slogans “**Jai Hind**” and “**Give me blood...**” remain embedded in India’s national consciousness.
- **Historiographical Importance:** Modern scholarship views Bose as expanding the **strategic spectrum of the freedom movement**, not merely opposing Gandhi.

Conclusion

Subhas Chandra Bose’s life underscores that India’s freedom struggle was **multi-dimensional**, combining non-violent mass movements with revolutionary and international efforts. His emphasis on discipline, planning, and national unity

remains relevant for contemporary India. Remembering Bose should go beyond symbolism to deeper engagement with constitutional patriotism, national integration, and strategic self-reliance.

EXPECTED QUESTIONS FOR UPSC CSE

Prelims MCQ

- Q. Which of the following statements about Subhas Chandra Bose is correct?
- He founded the Indian National Army in 1930
 - He passed the ICS examination but resigned before joining
 - He never served as Congress President
 - He opposed the idea of Poorna Swaraj

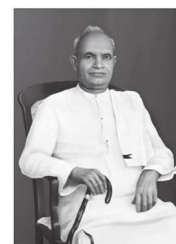
Answer: (b)

Descriptive Question

- Q. Subhas Chandra Bose represented the militant and internationalist strand of India’s freedom struggle. Critically examine. (150 Words, 10 Marks)

MANNATHU PADMANABHAN

Why in News: Prime Minister paid tribute to renowned social reformer and freedom fighter Mannathu Padmanabhan on his birth anniversary (2nd January 2026).



Background

- Full Name: Mannathu Padmanabhan
- Born: 2 January 1878, Kerala
- Died: 25 February 1970
- Founder: Nair Service Society (NSS) in 1914
- Fields: Social reform, education, freedom struggle, community upliftment

Mannathu Padmanabhan was one of Kerala’s most influential social reformers who worked to eradicate caste-based discrimination and promote social equality while actively participating in India’s freedom movement.

Contributions to social reform

1. Temple entry movement

- Played a pivotal role in the Vaikom Satyagraha (1924–25), which demanded access to temple roads for lower castes.
- Actively supported the Temple Entry Proclamation (1936) by the Maharaja of Travancore, which opened Hindu temples to all castes.
- His efforts helped dismantle entrenched caste barriers in Kerala society.

2. Community reform through NSS

- Founded the Nair Service Society (NSS) to:
 - ✓ Promote education and social mobility.
 - ✓ Encourage unity, discipline, and reform within the Nair community.
 - ✓ Transformed NSS into a broader platform for social harmony and public welfare.

3. Educational reforms

- Established and promoted educational institutions to spread modern education.
- Emphasized women’s education and moral development.
- Viewed education as the key instrument for social transformation.

Role in India’s freedom struggle

- Participated in the Indian National Movement and supported Gandhian principles.
- Actively involved in:
 - ✓ Civil Disobedience Movement
 - ✓ Quit India Movement
- Served as the President of the Travancore State Congress.
- Arrested multiple times by British authorities for nationalist activities.

Philosophy and ideals

- Believed in social reform alongside national freedom.
- Advocated:
 - ✓ Equality and dignity for all castes.
 - ✓ National integration beyond community identities.
- Worked closely with leaders like Mahatma Gandhi, aligning reformist efforts with the freedom struggle.

Significance of his legacy

- Contributed decisively to Kerala’s reputation as a progressive, socially inclusive society.
- His work laid foundations for:
 - ✓ Social justice movements in South India.
 - ✓ Democratic participation of marginalized groups.
- Remembered as a bridge between community reform and nationalism.

Conclusion

Mannathu Padmanabhan’s life and work underline the transformative power of social reform combined with national consciousness. By challenging caste hierarchies, promoting education, and aligning community reform with the freedom struggle, he contributed significantly to building a more inclusive and progressive Indian society. His legacy continues to inspire efforts toward social justice, equality, and democratic participation, making him a relevant figure even in contemporary India.

EXPECTED QUESTION FOR UPSC CSE

Prelims MCQ

Q. With reference to Mannathu Padmanabhan, consider the following statements:

1. He founded the Nair Service Society to promote social reform and education.
2. He played an active role in the Vaikom Satyagraha.
3. He was associated with the Temple Entry Proclamation of 1936.
4. He served as the President of the Indian National Congress at the national level.

Which of the statements given above are correct?

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

Answer: (a)

SAVITRIBAI PHULE

Why in News: Prime Minister on January 3, 2025 hailed Savitribai Phule as a pioneering social reformer who devoted her life to the transformation of society through service and education.



Historical background

- Savitribai Phule lived during the mid-19th century, a period marked by:
 - ✓ Rigid caste hierarchies
 - ✓ Deep-rooted patriarchy
 - ✓ Denial of education to women and Dalits
 - ✓ Dominance of orthodox social customs under colonial rule
- Against this backdrop, Savitribai emerged as one of the earliest and boldest voices for social equality in modern India.

Role as India’s first woman teacher

- In 1848, Savitribai Phule and Jyotirao Phule established the first girls’ school in Pune at Bhide Wada.
- Savitribai became India’s first formally trained woman teacher.
- She taught girls from all castes, including those considered “untouchable”

Social resistance faced

- Orthodox groups strongly opposed women’s education.

- Savitribai was often abused, threatened, and pelted with stones and cow dung while going to school.
- Despite this, she carried an extra saree to change into and continued teaching — a testament to her moral courage and commitment.
- She succumbed to the disease while serving affected people
- Her death symbolized a life devoted entirely to service and sacrifice

Contribution to women's empowerment

- Savitribai Phule viewed education as a tool for liberation rather than mere literacy.
- Key initiatives:
 - ✓ Opened separate schools for girls, Dalits, and the poor
 - ✓ Advocated education for widows, which was revolutionary for the time
- Established the Balhatya Pratibandhak Griha, a shelter for:
 - ✓ Pregnant widows
 - ✓ Victims of sexual exploitation
- Actively opposed:
 - ✓ Child marriage
 - ✓ Forced widowhood
 - ✓ Female infanticide

Work for dalit and marginalised communities

- Challenged Brahmanical dominance and caste discrimination
- Along with Jyotirao Phule, founded the Satyashodhak Samaj (1873)

Objectives of Satyashodhak Samaj

- Promote social equality
- Reject caste-based rituals and priestly dominance
- Encourage rational thinking and human dignity
- Provide a platform for Shudras and Ati-Shudras

Literary and Intellectual Contributions

- Savitribai Phule used literature as a weapon of reform.
- Major Works:
 - ✓ Kavya Phule (Poetry collection)
 - ✓ Bavan Kashi Subodh Ratnakar
- Themes in her writings:
 - ✓ Gender injustice
 - ✓ Caste oppression
 - ✓ Importance of education
 - ✓ Critique of social hypocrisy

Humanitarian work

- During the plague epidemic of 1897, Savitribai personally cared for the sick

Ideological Significance

- Savitribai Phule's thought was rooted in:
 - ✓ Social justice
 - ✓ Human equality
 - ✓ Rationalism
 - ✓ Education as empowerment
- She challenged both:
 - ✓ Colonial indifference
 - ✓ Indigenous social oppression

Legacy and contemporary relevance

- Regarded as a precursor to later social reformers like B.R. Ambedkar
- Her birth anniversary (January 3) is celebrated as Women's Education Day in Maharashtra
- Continues to inspire:
 - ✓ Feminist movements
 - ✓ Dalit rights activism
 - ✓ Educational reforms focused on inclusion

Conclusion

Savitribai Phule's life exemplifies the power of education and social reform as instruments of transformation. She not only broke societal barriers to empower women and marginalized communities but also laid the foundation for a more inclusive and egalitarian India. Her courage, resilience, and vision remain a guiding light for addressing contemporary challenges of gender inequality, caste discrimination, and educational disparity.

Way Forward

- **Promote inclusive education:** Expand quality education for girls, Dalits, and marginalized groups, inspired by Phule's model.
- **Strengthen social reform initiatives:** Encourage community programs addressing gender equality, social justice, and anti-discrimination.
- **Incorporate value-based learning:** Include ethical and social awareness modules in education to nurture responsible citizens.
- **Celebrate reformers' legacies:** Ensure recognition of historical social reformers like Savitribai Phule to inspire youth leadership and activism.
- **Policy integration:** Tie government programs like Beti Bachao, Beti Padhao and inclusive education schemes to her vision of social transformation.

Descriptive Question

Q. "Savitribai Phule's pioneering efforts in education and social reform were instrumental in challenging caste and gender discrimination in 19th-century India. Discuss her contributions and examine their relevance in addressing contemporary social inequalities in India." (15 marks/ 250 words)

RANI VELU NACHIYAR

Why in News: Prime Minister on 3rd January 2026 paid tributes to Rani Velu Nachiyar on her birth anniversary, remembering her as one of India's bravest and most visionary rulers whose courage, sacrifice, and leadership continue to inspire generations.



Early life and background

- Born: 3rd January 1730, Ramanathapuram, Tamil Nadu
- Dynasty: Nayak of Sivaganga
- Family: Daughter of King Chellamuthu Vijayaraghunatha Sethupathi
- Education: Trained in martial arts, archery, horse riding, and sword fighting—unusual for women of the time

Rani Velu Nachiyar grew up in a royal environment but was steeped in knowledge of warfare and administration, preparing her for the challenges ahead.

Struggle against colonial powers

- She is remembered for her resistance against the British East India Company.
- After her husband, Muthuvaduganatha Periyavudaya Thevar, was killed in 1772 in a battle with the British, she went into exile.

While in exile, she formed alliances with neighboring rulers and sought guidance from Hyder Ali, the Sultan of Mysore, to strengthen her military strategy.

Military leadership and victory

- Rani Velu Nachiyar organized a strategic army, including women soldiers called "Udaiyaal", making her one of the first Indian queens to deploy a women-led military force.
- In 1780, she successfully recaptured Sivaganga from the British, employing innovative tactics such as guerrilla warfare and sabotage, demonstrating her visionary military acumen.
- She became the first Indian queen to fight against the British colonial powers and reclaim her kingdom independently.

Contributions beyond the battlefield

- Known for her progressive governance, she prioritized:

- ✓ Welfare of her people, especially peasants and marginalized communities
- ✓ Women's empowerment, training women in self-defense and administration
- ✓ Encouraging education and social reform in her kingdom
- She is remembered as a symbol of courage, sacrifice, and visionary leadership, inspiring later freedom fighters.

Legacy

- Rani Velu Nachiyar's life and rule challenge gender stereotypes, showcasing women's role as warriors, administrators, and strategists.
- She remains an icon of anti-colonial resistance in Indian history.
- Her birth anniversary (3rd January) is commemorated to inspire courage, leadership, and patriotism.

Conclusion

Rani Velu Nachiyar's life exemplifies courage, foresight, and resilience. Her fight against the British and her progressive governance highlight the role of women as leaders and strategists. Remembering her today serves as a reminder of women's capacity to lead, protect, and transform society, bridging historical valor with contemporary inspiration.

Way Forward

- **Inspire youth leadership:** Include her story in educational curricula to encourage courage and ethical leadership.
- **Promote gender equality in defense and administration:** Take lessons from her women-led army in contemporary empowerment programs.
- **Celebrate regional heroes:** Highlight contributions of lesser-known anti-colonial leaders in mainstream history.
- **Historical awareness campaigns:** Use her story to foster national pride and understanding of local histories.

EXPECTED QUESTION FOR UPSC CSE

Prelims MCQ

- Q. Rani Velu Nachiyar is historically significant because she:
- (a) Was the first female ruler to sign a treaty with the British East India Company
 - (b) Formed a women-led army and fought against the British to reclaim her kingdom
 - (c) Established the first women's school in Tamil Nadu
 - (d) Allied with the French to capture British territories

(b) Answer

RANI AHILYABAI HOLKAR

Why in News: A group of people were detained, mostly from the Pal community, protested over the alleged damage to a statue of Rani Ahilyabai Holkar at Varanasi's Manikarnika Ghat.



Historical Background

- Full Name: Ahilyabai Holkar
- Born: 31 May 1725, Chondi, Maharashtra
- Dynasty: Holkar Dynasty of Indore
- Reign: 1767 – 1795

Rani Ahilyabai Holkar is remembered as one of India's most capable and revered rulers, celebrated for her administrative acumen, justice, and philanthropic works. She assumed power after the death of her husband, Malhar Rao Holkar, and governed the kingdom of Indore with distinction.

Contributions as a ruler

- Administrative Excellence:
 - ✓ Known for efficient governance, focusing on justice, welfare, and infrastructure.
 - ✓ Maintained a peaceful and prosperous kingdom, even amid political turmoil.
- Patronage of Religion and Culture:
 - ✓ Built and renovated numerous temples, ghats, wells, and dharamshalas across India, including at Varanasi, Gaya, Somnath, and Kashi.
 - ✓ Promoted religious harmony, respected all faiths, and encouraged pilgrimage
- Philanthropy and Welfare:
 - ✓ Emphasized public works, including roads, tanks, wells, and rest houses for pilgrims
 - ✓ Advocated for education and women's empowerment.
 - ✓ Instituted fair taxation and transparent administration.

Administrative Achievements

- Governance & Justice
 - ✓ Emphasized fair and transparent administration.
 - ✓ Appointed honest officials and ensured swift justice.
 - ✓ Maintained a prosperous, corruption-free kingdom.
- Economic Development
 - ✓ Encouraged agriculture, trade, and crafts.
 - ✓ Constructed roads, wells, and irrigation systems.
 - ✓ Promoted local markets and artisans, strengthening the economy.
- Law and Order
 - ✓ Maintained peace and protected her subjects from external threats.

- ✓ Ensured welfare of soldiers and civil servants.
- Cultural and Religious Contributions
 - ✓ Built and renovated temples, ghats, wells, dharamshalas, and rest houses across India.
 - ✓ Famous sites include: Kashi Vishwanath Temple (Varanasi), Somnath Temple (Gujarat), Trimbakeshwar (Maharashtra), Dwarka, Gaya, and Rameshwaram.
 - ✓ Supported pilgrimages and religious harmony, welcoming people of all faiths.
- Social Welfare & Women Empowerment
 - ✓ Focused on education, health, and women's welfare.
 - ✓ Established schools, dharamshalas, and wells for villages.
 - ✓ Advocated for equity and fair treatment of women and marginalized communities
 - ✓ Often consulted her ministers but maintained personal involvement in welfare projects.

Military Prowess

- While primarily a civil administrator, she maintained a well-trained army to protect her kingdom.
- Exercised strategic diplomacy to avoid unnecessary conflicts with the British or Maratha rivals.
- Her reign was marked by internal peace and external security.

Leadership Style

- **Ethical and Compassionate:** Valued justice, honesty, and service above power.
- **Visionary:** Invested in long-term infrastructure and cultural projects.
- **Inclusive:** Encouraged participation of women and marginalized groups in social and religious projects.
- **Respected by Contemporaries:** Both allies and rivals praised her wisdom and integrity.

Legacy

- Known as the "Maryada Purushottam of Women Rulers".
- Her kingdom remained stable and prosperous after her reign.
- Inspired later rulers and administrators for good governance.
- Her contributions highlight the role of women in pre-colonial India not just as consorts, but as effective rulers.
- Annual commemorations and statues celebrate her values of leadership, service, and cultural patronage.

Way Forward

- **Heritage preservation:** Ensure protection and maintenance of statues and monuments of historical figures

- **Community engagement:** Involve local communities in protecting and celebrating history
- **Education:** Promote awareness of Ahilyabai's contributions through school curricula and public programs
- **Role models for leadership:** Use her life to inspire ethical governance and public service today

Conclusion

Rani Ahilyabai Holkar's life is a testament to ethical, visionary leadership and public service. The recent protests underscore the enduring emotional and cultural resonance of her legacy. Preserving her statues and memorials is not just an act of respect, but also a reminder of the values of justice, governance, and welfare she exemplified.

EXPECTED QUESTION FOR UPSC CSE

Prelims MCQ

Q. Rani Ahilyabai Holkar became the ruler of Indore after:

- (a) Her father's death
- (b) Her husband and son's death
- (c) A treaty with the Maratha Peshwa
- (d) British appointment

Answer: (b)

PARBATI GIRI

Why in News: Prime Minister paid homage to freedom fighter Parbati Giri on the occasion of her birth centenary (19 January 2026), saying that she played a commendable role in India's freedom struggle against colonial rule.



About Parbati Giri

Parbati Giri (1926–1995) was an eminent freedom fighter, social activist, and philanthropist from Odisha. She played a pivotal role in mobilizing youth, women, and marginalized communities during India's fight against colonial rule. Known for her courage and commitment, Giri was deeply involved in grassroots movements aimed at promoting social justice, women's empowerment, and education.

Contributions to Freedom Struggle

- Actively participated in Quit India Movement (1942) and other nationalist activities in Odisha.
- Advocated for women's participation in political activism during a period when societal norms restricted their public engagement.
- Risked personal safety to organize protests, demonstrations, and awareness campaigns against British colonial policies.

Post-Independence Social Work

- After India gained independence, Parbati Giri dedicated herself to social service:
- Focused on education for underprivileged children, especially girls, in rural Odisha.
- Worked to promote healthcare awareness and social welfare programs.
- Championed causes related to women's empowerment and rural development, leaving a lasting impact on community-led initiatives.

Significance of Commemoration

The centenary celebrations underscore the importance of remembering unsung heroes of India's freedom struggle, especially women who played crucial roles at the grassroots level. The Prime Minister emphasized that leaders like Parbati Giri embody the spirit of courage, resilience, and service, inspiring future generations to contribute to nation-building.

Conclusion

Remembering freedom fighters like Parbati Giri is crucial not only to honor their sacrifices but also to inspire contemporary civic engagement and social responsibility. Her life exemplifies the enduring connection between freedom, social justice, and nation-building.

EXPECTED QUESTION FOR UPSC CSE

Prelims MCQ

Q. Who was Parbati Giri?

- (a) A famous classical dancer from Odisha
- (b) A freedom fighter and social activist from Odisha
- (c) The first female Chief Minister of Odisha
- (d) A Nobel laureate in literature

Answer: (b)

DISTRICT MINERAL FOUNDATIONS (DMFs)

Why in News: The Allahabad High Court recently ruled that District Mineral Foundations are beneficial legislation and must be interpreted liberally for mining-affected communities.

Key Details

- The Court emphasised the **welfare-oriented nature of DMFs** for people affected by mining activities.
- DMFs are **statutory, non-profit trusts** created under the MMDR Amendment Act, 2015.
- They are funded by **mandatory contributions from mining lease holders**.
- Funds are channelled through **PMKKKY** for development of mining-affected regions.

Legal and Institutional Framework of DMFs

- **Statutory Basis:** DMFs derive legal backing from **Section 9B of the Mines and Minerals (Development and Regulation) Act, 1957**, amended in 2015. This makes them legally enforceable welfare institutions.
- **State Government Authority:** State governments notify and operationalise DMFs in mining-affected districts, reflecting India's **federal structure in mineral governance**.
- **Non-Profit Trust Structure:** Each DMF is constituted as a **public trust**, ensuring funds are earmarked exclusively for community welfare rather than general state expenditure.
- **Beneficial Legislation Doctrine:** The Allahabad High Court's recent observation reinforces that welfare statutes like DMFs must be **interpreted liberally in favour of affected populations**.

Objectives and Core Mandate

- **Welfare of Mining-Affected People:** The primary aim is to improve the **quality of life of persons directly and indirectly affected** by mining operations.
- **Area-Based Development:** DMFs focus on **district-level planning**, recognising that mining impacts are geographically concentrated and require localised solutions.

- **Environmental and Social Mitigation:** They seek to offset **ecological degradation, displacement, and livelihood loss**, which are common in mineral-rich regions.
- **Complementary Governance Tool:** DMFs are designed to **supplement existing central and state schemes**, not replace them, ensuring convergence in development spending.

Funding Mechanism and Financial Architecture

- **Mandatory Miner Contributions:** DMFs are funded through statutory payments by mining lease holders, operationalising the **"polluter pays" principle** in resource governance.
- **Contribution Rates:**
 - **30% of royalty** for leases granted before 12 January 2015
 - **10% of royalty** for leases granted after that date This ensures a steady revenue stream linked to mineral extraction.
- **Central Government Role:** The Union Government notifies contribution rates, ensuring **uniformity and regulatory oversight** across states.
- **Growing Financial Significance:** Over the years, DMFs have accumulated **tens of thousands of crores**, making them one of the largest district-level development funds in India.

Utilisation of DMF Funds

- **Local Infrastructure Creation:** Funds are used for building roads, drinking water systems, schools, and health facilities in mining-affected areas.
- **Community Asset Development:** DMFs support **maintenance and upgrading of public services**, improving last-mile delivery in remote mineral belts.
- **Skill Development and Livelihoods:** Training programmes aim to create **employment and self-employment opportunities**, especially for displaced populations.
- **Annual Action Plan Mechanism:** Spending is guided by district-specific plans prepared by trustees, enabling **need-based and decentralised planning**.

Pradhan Mantri Khanij Kshetra Kalyan Yojana (PMKKKY)

- **Launch and Purpose:** Launched in 2015 by the Ministry of Mines, PMKKKY provides the **policy framework for utilisation of DMF funds**.

- **High-Priority Spending (Minimum 60%):** Includes drinking water, healthcare, education, environment preservation, and welfare of women and children.
- **Other Priority Areas (Up to 40%):** Covers physical infrastructure, irrigation, energy, watershed development, and livelihood generation.
- **Sustainable Development Focus:** PMKKKY aims to ensure **long-term livelihood security** and mitigate post-mining socio-economic distress.

Significance in India’s Mineral Governance

- **Inclusive Growth Instrument:** DMFs operationalise **cooperative federalism and local development**, particularly in tribal and backward districts.
- **Addressing Resource Curse:** By redistributing mining wealth locally, DMFs attempt to counter the **“resource curse” phenomenon**.
- **Alignment with SDGs:** Investments in health, education, water, and environment support India’s commitments to **Sustainable Development Goals**.
- **Strengthening District Planning:** DMFs represent a shift toward **decentralised, participatory mineral area development**.

Key Challenges and Concerns

- **Under-utilisation of Funds:** Several states show **large unspent balances**, indicating capacity and planning gaps.
- **Transparency Issues:** Limited public disclosure and weak social audits reduce **community oversight**.
- **Deviation from Core Mandate:** In some districts, funds have been diverted to **general infrastructure projects** not directly benefiting affected communities.
- **Institutional Capacity Constraints:** District administrations often lack **technical expertise and participatory planning mechanisms**.

Conclusion

District Mineral Foundations represent a transformative step toward **equitable and sustainable mineral development** in India. However, their full potential depends on strengthening transparency, community participation, and outcome-based planning. The recent judicial emphasis on liberal interpretation reinforces the need to treat DMFs as **people-centric welfare institutions**, ensuring that mineral wealth genuinely benefits the communities that bear its costs.

EXPECTED QUESTIONS FOR UPSC CSE

Prelims MCQ

Q. District Mineral Foundations are established under:

(a) Environment Protection Act, 1986

(b) Mines and Minerals (Development and Regulation) Act, 1957

(c) National Mineral Policy, 2019

(d) Forest Conservation Act, 1980

(b) :Answer

Descriptive Question

Q. District Mineral Foundations were created to ensure that mining-led growth is inclusive. Examine their performance and challenges. (GS Paper III)

CENTRAL GROUND WATER BOARD & GROUNDWATER CONTAMINATION IN INDIA

Why in News: The Central Ground Water Board (CGWB) in its *Annual Ground Water Quality Report-2025* flagged **widespread groundwater contamination in Andhra Pradesh** as per BIS standards.

Key Details

- CGWB’s 2025 report identifies **Andhra Pradesh among the states with significant groundwater quality issues**.
- Contaminants such as **fluoride, nitrate, salinity and heavy metals** exceed BIS drinking water norms in several districts.
- The finding raises concerns about **drinking water safety, agriculture and public health**.
- It underscores the need for **scientific groundwater management and stricter regulation**.

Central Ground Water Board (CGWB): Institutional Framework

- **Apex Scientific Agency:** CGWB functions under the **Department of Water Resources, Ministry of Jal Shakti**, and serves as the national authority for groundwater assessment and management.
- **Historical Evolution:** Established in **1970** by renaming the Exploratory Tube Wells Organisation and later merged (1972) with the Ground Water Wing of the Geological Survey of India, expanding its technical capacity.
- **Multidisciplinary Structure:** The Board comprises hydrogeologists, geophysicists, chemists, hydrologists, and engineers, enabling **integrated groundwater science and policy support**.
- **Organisational Wings:** Its four major wings—**SML, SAM, ED&MM, and WQ&TT**—cover sustainability, monitoring, drilling, and water quality, reflecting a comprehensive governance framework.

Groundwater Scenario in India

- **Primary Source of Drinking Water:** Groundwater supplies nearly **85% of rural drinking water** and about **50% of urban water needs**, making it critical for water security.

- **Irrigation Dependence:** Around 60–65% of India's irrigation depends on groundwater, supporting food security but also accelerating over-extraction.
- **Global Status:** India is the largest user of groundwater in the world, extracting more than the US and China combined (World Bank estimates).
- **Over-exploited Blocks:** According to CGWB assessments, a significant number of assessment units fall in over-exploited and critical categories, especially in north-western and peninsular India.
- **Public Health Implications:** Poor groundwater quality threatens drinking water safety, increasing the burden of fluorosis and water-borne diseases.
- **Agricultural Impact:** Salinity and nitrate contamination can reduce soil productivity and crop yields, affecting farm incomes.
- **Policy Implementation Gap:** Despite schemes like Jal Jeevan Mission and Atal Bhujal Yojana, monitoring and local regulation remain uneven.

Groundwater Contamination: Nature and Causes

- **Fluoride Contamination:** Common in hard-rock regions like Andhra Pradesh and Rajasthan, excess fluoride (>1.5 mg/l) leads to fluorosis affecting bones and teeth.
- **Nitrate Pollution:** Caused mainly by fertiliser runoff, sewage leakage, and animal waste, nitrate contamination is linked to blue baby syndrome and other health risks.
- **Salinity and Heavy Metals:** Coastal intrusion, industrial effluents, and geogenic sources contribute to salinity, arsenic, and heavy metal presence in aquifers.
- **Anthropogenic Pressure:** Rapid urbanisation, unregulated borewells, and poor waste management accelerate groundwater quality degradation.

Major Functions and Activities of CGWB

- **National Aquifer Mapping (NAQUIM):** CGWB prepares detailed aquifer maps to enable scientific groundwater planning at micro-level, improving recharge and extraction decisions.
- **Monitoring Network:** Through thousands of observation wells, the Board conducts periodic groundwater level and quality monitoring, forming the backbone of water policy.
- **Exploratory Drilling & Surveys:** Geophysical surveys and drilling help identify groundwater-bearing zones, especially in water-scarce regions.
- **Groundwater Modelling & GIS:** Use of remote sensing, GIS and numerical models improves prediction of groundwater behaviour and supports climate-resilient planning.
- **Regulatory Support via CGWA:** The Board provides technical inputs to the Central Ground Water Authority (CGWA) for regulating groundwater extraction.

Contemporary Concerns Highlighted by the 2025 Report

- **State-level Vulnerability:** Andhra Pradesh's widespread contamination reflects regional hydro-geological stress, particularly in hard-rock aquifers.

Government Initiatives for Groundwater Management

- **Atal Bhujal Yojana (ABY):** A community-led groundwater management scheme in water-stressed states focusing on demand-side management.
- **Jal Jeevan Mission (JJM):** Aims to provide Functional Household Tap Connections (FHTCs), reducing unsafe groundwater dependence.
- **National Aquifer Mapping Programme:** Supports scientific planning of recharge and extraction at village and block levels.
- **Artificial Recharge Projects:** Construction of check dams, recharge shafts and percolation tanks to augment groundwater levels.

Conclusion

India's groundwater crisis is both a quantity and quality challenge. Strengthening CGWB's monitoring network, enforcing groundwater regulation, promoting community-based aquifer management, and integrating water quality surveillance with public health systems are essential. Sustainable groundwater governance must combine science, policy, and citizen participation to secure India's water future.

EXPECTED QUESTION FOR UPSC CSE

Prelims MCQ

Q. Consider the following statements regarding the Central Ground Water Board (CGWB):

1. It functions under the Ministry of Jal Shakti.
2. It is responsible for national aquifer mapping.
3. It directly regulates groundwater extraction in India.


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

Answer: (a)

Saltwater Crocodile

Latest News:
Odisha's Drone Survey Reveals Rising Population of Saltwater Crocodiles!



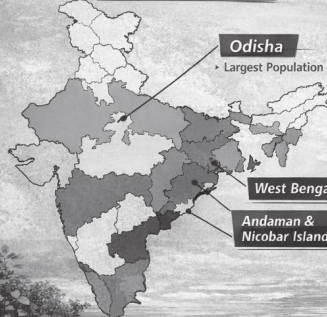
About Saltwater Crocodile

- ▶ Largest & Heaviest Living Reptile
- ▶ Estuarine Crocodile • Sea Crocodile • "Saltie"
- ▶ Apex Predator | Hypercarnivore
- ▶ Habitat: Mangroves, Estuaries & Coastal Areas

Key Features

- ▶ Solitary & Territorial
- ▶ Large Males Control Extensive Territories

Where in India?




- Odisha - Largest Population
- West Bengal
- Andaman & Nicobar Islands

Conservation Status

IUCN Red List: **Least Concern**

Up to 6-7 meters



Eastern Imperial Eagle

Winter Visitor to Mudumalai Tiger Reserve (MTR)

About

- Scientific Name: *Aquila heliaca*
- Family: Accipitridae ~ Subfamily: Aquilinae
- Large Bird of Prey (2nd Largest in Europe)

Conservation Status

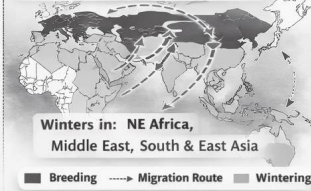
IUCN Red List: **Vulnerable**

Least Concern Near Threatened Vulnerable

Distribution

Breeds: SE Europe, West & Central Asia

Winters in: NE Africa, Middle East, South & East Asia



Features

- Length: 0.92 m
- Wingspan: up to 2.14 m
- Weight: ~3.6 kg
- Color: Black-Brown, Golden Crown, Grey Tail Base
- Reverse Sexual Dimorphism: ♀ > ♂ (Females larger)
- Strong Legs & Feet → Long, Curved Talons
- Lifespan: ~56 Years

Mudumalai Tiger Reserve (MTR)

- Location: Nilgiris District, Tamil Nadu
- Area: 321 sq. km - Tri-junction of 3 States: TN, Kerala, Karnataka
- Part of: Nilgiris Biosphere Reserve (India's 1st Biosphere Reserve)
- Western Ghats - 65 Million Years Old
- River: Moyar River
- Habitats: Evergreen, Deciduous, Teak Forests, Grasslands, Swamps

Significance

- Winter Migratory Visitor
- Indicator of Healthy Ecosystem
- Conservation Priority (Vulnerable)

Flora & Fauna

Flora: Elephant Grass, Bamboo, Teak, Rosewood, Wild Rice, Ginger, Turmeric, Cinnamon

Fauna: Tiger, Elephant, Deer, etc.

Bird Species: ~8% of India's Total

Protecting Wildlife & Western Ghats Biodiversity

Source: TH | UPSC Current Affairs

Gorakhnath Temple, Gorakhpur, Uttar Pradesh

LATEST NEWS: MASSIVE RUSH OF DEVOTEES OFFERING KHICHDI AHEAD OF MAKAR SANKRANTI.


About the Temple

- 1 Located in Gorakhpur >, Uttar Pradesh
- 1 Center of the Nath Sect of Hinduism
- 3 Named after Guru Gorakhnath, Master of Hatha Yoga

Key Features

- 1 Gorakhnath Shrine & Shiva Linga
- 2 Samadhi of Guru Gorakhnath
- 3 Tall Conical Dome
- 4 Intricate Stonework & Carved Pillars

Legacy of Gorakhnath & Hatha Yoga

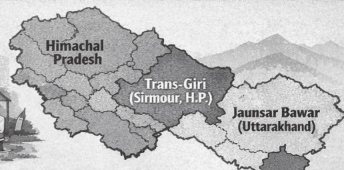


EPICENTER OF THE NATH TRADITION

HATTI TRIBE

KEY FACTS

Boda Tyohar Begins
Biggest Festival Celebrated with Fervour



About the Hatti Tribe

- Name from 'Haat' Markets
- Reside in Himachal-Uttarakhand Border (Giri & Tons River Basin)
- Two Clans: Trans-Giri (H.P.) & Jaunsar Bawar (Uttarakhand)
- Distinctive White Headgear

Polyandry Custom Jodidara: Woman Marries Two or More Brothers	Khumbli Council Traditional Council Governing Community Matters	Economy Agriculture & Cash Crops
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Population: ~ 3 Lakhs (2023)	St Status: Granted in 2023 (Himachal Pradesh) Jaunsar Bawar (Uttarakhand) - ST Status Since 1967	Traditions & Inter-marriage Shared Customs & Frequent Inter-marriages
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Recognized as Scheduled Tribe

The Mpemba Effect

Hot Water Freezing Faster than Cold?

LATEST NEWS
Indian scientists from JNCASR have simulated ice formation proving the Mpemba Effect of water.

What is the Mpemba Effect?
A phenomenon where hot water can freeze faster than cold water in certain conditions.
Described by **ARISTOTLE** (Meteorologica)

Possible Explanations:

Micro Bubbles Trapped bubbles speed up cooling	Evaporation Hot water loses heat through evaporation	Frost Insulation Frost in cold water slows heat loss.	Mineral Precipitates Boiling removes minerals, raising freezing point
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Recent Findings:
Mpemba Effect seen in other substances
Fluid-to-Solid Phase Transitions Simulated
More than just water!

Katydid

Latest Discoveries in Jammu & Kashmir

Latest News:

- Three new species of meadow katydids identified in Jammu & Kashmir.
- Conocephalus usmanii*, *Conocephalus nagariensis*, *Conocephalus ganderbali*

About Katydid

- Found Worldwide Except Antarctica
- Over 8,000 Species (Family Tettigoniidae)
- Related to Crickets & Grasshoppers
- Known as "Bush Crickets"

Long Antennae	Leaf Mimicry	Stridulation Sound "kat-y-did"	Herbivorous Diet	Four-Segmented Feet	Lifespan ~1 Year
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Meadow Katydid

- Found Near Lakes & Ponds
- Dive Underwater When Disturbed

New Species Found in J&K


<i>Conocephalus usmanii</i> Named after Prof. Mohd Kamil Usmani 36 Teeth Stridulatory File	<i>Conocephalus nagariensis</i> Budgam District 34 Teeth Stridulatory File	<i>Conocephalus ganderbali</i> Ganderbal Region 28 Teeth & V-Shaped Mark
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*Orthopterans: Katydid, Crickets, Grasshoppers

PHAYRE'S LEAF MONKEY

(Trachypithecus phayrei)

LATEST NEWS
Habitat loss is forcing the Phayre's leaf monkey to alter its habits.

OTHER NAMES • Chasma Bandoor (Bengali) • Chasma-Chakuwa Bandar (Assamese)	HABITAT 
DIET Leaves, Shoots, & Fruits	DISTRIBUTION • Northeast India Bangladesh & Myanmar
SHY & ARBOREAL Spends 75% of time in trees	SPECIALIZED STOMACH Digests fibrous leaves efficiently

CONSERVATION STATUS
IUCN RED LIST: ENDANGERED
CITES Appendix II

THREATS
Habitat Loss, Fragmentation, Hunting

VALLEY OF FLOWERS NATIONAL PARK

Chamoli District, Uttarakhand



Location

- State: Uttarakhand
- District: Chamoli
- Altitude: 3,200 - 6,500 m



Area: **87 sq.km**

UNESCO World Heritage Site

Part of Nanda Devi Biosphere Reserve
(Core Zone)

Discovered: **1931**

by Frank S. Smythe & British Mountaineers

Backdrop:
Snow-capped Himalayas

Nanda Devi Biosphere Reserve



Flora (600+ Species)

- Orchids, Poppies, Primulas,
- Marigolds, Daisies, Anemones
- Medicinal Plants & Herbs

Fauna

- Snow Leopard
- Black Bear
- Red Fox
- Himalayan Weasel
- Gray Langur
- Flying Squirrel
- Lime Butterfly

Key Features

- Vibrant Alpine Meadows
- Rich Biodiversity
- Sub-alpine Forests (Birch, Rhododendron)
- Snow Covered in Winter
- Trek Route: Govindghat → Ghangaria → Valley (17 km trek)

Significance

- UNESCO World Heritage Site (Since 2005)
- High Altitude Floral Diversity
- Ecological Zone between Zaskar & Great Himalayan Ranges
- Eco-Tourism & Conservation Site

Best Time to Visit

July - September
(Monsoon Season)

Threats

- Forest Fires
- Climate Change
- Over-tourism

Need for Conservation & Fire Management

Source: UNESCO, Uttarakhand Govt.

HAVANA SYNDROME

Recent Concerns Resurface

PENTAGON TESTS RADIO WAVE DEVICE

WHAT IS IT?

Mysterious Symptoms in US Diplomats & Spies

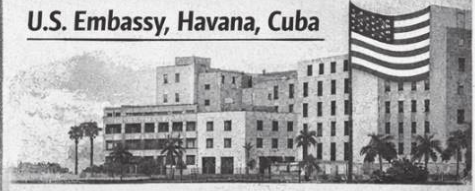


SYMPTOMS

- Hearing Sounds
- Vertigo & Nausea
- Headaches
- Headaches
- Memory & Balance Issues

ORIGIN

First Reported in 2016
U.S. Embassy, Havana, Cuba



► 2021 Case Reported in INDIA

KEY FACTS

- Hearing strange sounds
- Dizziness & Nausea
- Headaches & Memory Loss

Emerging 2016 Cuba

U.S. Officials Affected Globally

U.S. Officials Affected Globally

Unclear, Unproven Causes?

JANUARY 2026 - DAILY MCQs FROM THE HINDU & INDIAN EXPRESS

DAILY MCQs PRACTICE

Q1. Which of the following statements are correct in respect of Electoral Registration Officers (EROs)?

1. They are responsible for the preparation, revision, and correction of electoral rolls for a constituency.
2. They are appointed by the Election Commission of India in consultation with the State Government.
3. They have the authority to conduct elections and declare results for Parliamentary and Assembly constituencies.

Select the answer using the code given below:

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

Q2. Consider the following statements:

Statement I: The International Space Station serves as a permanent laboratory for conducting scientific research in microgravity.

Statement II: The ISS enables long-duration experiments in human physiology, materials science, and space technology that cannot be conducted effectively on Earth.

Statement III: The ISS is operated solely by NASA, without participation from other countries.

Which one of the following is correct in respect of the above statements?

- (a) Both Statement II and Statement III are correct and both of them explain Statement I
- (b) Both Statement II and Statement III are correct but only one of them explains Statement I
- (c) Only one of the Statements II and III is correct and that explains Statement I
- (d) Neither Statement II nor Statement III is correct

Q3. Consider the following statements regarding the impact of GST rate cuts on India's fiscal position in 2025-26:

1. The Centre's fiscal deficit widened mainly due to lagging tax revenue despite controlled expenditure.

2. GST collections in November 2025 remained largely unchanged from the previous year, reflecting the effect of rate cuts.

3. Non-tax revenue, including RBI dividends, has helped partially offset the shortfall in tax revenue.

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 & 3

Q4. Consider the following statements regarding India-US cooperation in nuclear energy:

1. India is partnering with a US firm to develop thorium as an alternative nuclear fuel due to its abundance and lower radioactive waste.

2. The partnership reflects India's strategic alignment with the US under the broader Indo-Pacific security framework.

3. Thorium-based nuclear technology reduces nuclear proliferation risks compared to uranium.

4. Such energy cooperation falls under India's civil nuclear agreements, requiring regulatory approvals from both countries.

How many of the above statements is/are incorrect?

- (a) Only one (b) Only two
(c) Only three (d) All four

Q5. Consider the following statements regarding the G20:

1. It is an international forum comprising 19 countries, the European Union, and the African Union.

2. Its primary objective is to promote international financial stability and sustainable economic growth.

3. G20 meetings are legally binding, and its decisions must be implemented by member countries through a centralized enforcement mechanism.

How many of the above statements is/are incorrect?

- (a) Only one (b) Only two
(c) All three (d) None

Q13. Consider the following statements:

Statement 1: The Shram Suvidha Portal was launched to promote ease of compliance and transparent labour law enforcement through a unified online platform.

Statement 2: The portal integrates registration, licensing, inspection reports, and returns filing under multiple central labour laws administered by the Ministry of Labour and Employment.

Which one of the following is correct in respect of the above statements?

- (a) Both statement 1 and Statement 2 are correct and statement 2 explains statement 1
- (b) Both statement 1 and Statement 2 are correct and statement 2 does not explain statement 1
- (c) Statement 1 is correct, but Statement 2 is incorrect
- (d) Statement 2 is correct, but Statement 1 is incorrect

Q15. Consider the following statements with reference to the 15th Finance Commission and state borrowing:

- 1. It allowed additional borrowing flexibility linked to power sector reforms.
- 2. It permitted states to carry forward unutilised borrowing limits within its award period.
- 3. It mandated a uniform fiscal deficit ceiling of 3% of GSDP for all states without exceptions.

How many of the above statements are correct?

- (a) Only one
- (b) Only two
- (c) All the three
- (d) None

Q16. Which of the following countries have been cited in recent discourse as examples where external military intervention led to prolonged instability rather than political resolution?

- 1. Vietnam
- 2. Iraq
- 3. Afghanistan
- 4. Ukraine

Select the correct answer using the code below:

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

Q17. Which of the following statements are correct in respect of Unlawful Activities (Prevention) Act (UAPA):

- 1. The Act was enacted to curb unlawful activities threatening the sovereignty and integrity of India and later expanded to cover terrorism.

2. The Central Government is empowered to designate an individual as a terrorist under the Act.

3. The Act permits detention up to 180 days without filing a charge sheet, with judicial approval.

Select the answer using the code given below:

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

Q18. Yudh Abhyas is primarily conducted between which of the following forces?

- (a) Indian Army and US Army
- (b) Indian Navy and US Navy
- (c) Indian Air Force and US Air Force
- (d) Indian Army and US Marine Corps

Q19. Consider the following countries:

- 1. Colombia
- 2. Mexico
- 3. Cuba
- 4. Venezuela
- 5. Greenland
- 6. China

Which of the above countries are directly associated with US strategic, political, or security concerns in the context of Latin America and the Arctic?

- (a) 1, 3 and 4
- (b) 1, 2, 4 and 6
- (c) 1, 2, 3, 4, and 5
- (d) 1, 2, 3, 4, 5 and 6

Q20. Consider the following statements regarding the recent surge in gold and silver prices:

- 1. The rise in gold and silver prices is primarily driven by geopolitical tensions, including the US strike in Venezuela and the capture of President Nicolás Maduro.
- 2. Venezuela is a major contributor to global oil supplies, and its production levels are a key factor influencing the surge in precious metal prices.

Which of the statements given above is/are correct?

- (a) Only 1
- (b) Only 2
- (c) Both 1 and 2
- (d) Neither 1 nor 2

Q21. Consider the following impacts of carbon-linked trade measures on developing economies:

- 1. Increased compliance costs for export industries with carbon-intensive production.
- 2. Enhanced bargaining power for developing countries in WTO trade negotiations.

3. Potential shift of global supply chains to cleaner technologies.

Which of the above are valid outcomes?

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

Q22. Consider the following statements:

1. The Line of Actual Control (LAC) refers to the line up to which each side exercises actual administrative and military control pending a final boundary settlement.
2. The LAC is a formally demarcated and mutually agreed boundary between India and China.

Which of the statements given above is/are correct?

- (a) 1 only (b) 2 only
(c) Both 1 and 2 (d) Neither 1 nor 2

Q23. Which of the following statements are correct in respect of Services Purchasing Managers' Index (Services PMI)?

1. Services PMI is compiled from consumer price inflation data released by the government.
2. A Services PMI reading above 50 indicates expansion, while a reading below 50 indicates contraction.
3. Services PMI measures business conditions in the services sector based on monthly surveys of purchasing managers.

Select the answer using the code given below:

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

Q24. Consider the following with reference to the Chief of Army Staff (COAS):

1. The Chief of Army Staff is appointed by the President of India under the provisions of the Constitution of India.
2. The Chief of Army Staff acts as the principal military adviser to the Union Government on matters related to the Indian Army.
3. The Chief of Army Staff is a member of the Cabinet Committee on Security (CCS).

How many of the above is/are correct?

- (a) Only one (b) Only two
(c) All three (d) None

Q25. With reference to global oil reserves in 2025, which of the following statements is/are correct?

1. Venezuela holds the single largest proven oil reserves.
2. OPEC countries collectively control less than 50% of world reserves.
3. India figures among the top 10 countries in terms of oil reserves.

Select the correct answer using the codes given below:

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

Q26. "Reform Express" is a term used in Indian policy discourse to refer to:

- (a) A high speed train project connecting all capitals of India
- (b) A government initiative emphasizing structural reforms and economic liberalization measures
- (c) A World Bank programme for digital public goods
- (d) A consumer protection scheme for telecom users

Q27. Which of the following statements are correct in respect of Global Antimicrobial Resistance and Use Surveillance System (GLASS)?

1. GLASS was launched by the World Health Organization to support global surveillance of antimicrobial resistance.
2. Participation in GLASS is mandatory for all WHO Member States.
3. GLASS collects standardized data on antimicrobial resistance, antimicrobial use, and consumption.

Select the answer using the code given below:

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

Q28. The present-day Somnath Temple was built in which architectural style?

- (a) Nagara (b) Dravidian
- (c) Vesara (d) Indo-Islamic

Q29. India's economy is projected to grow at a robust rate in FY 2025-26. Which of the following statements about this projection is/are correct?

1. The projected GDP growth rate for FY 2025-26 is higher than 7%.

2. This projection was highlighted as a result of ongoing structural reforms under the current government.

3. It reflects an increase in manufacturing growth but stagnation in services growth.

Select the correct answer using the code below:

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

Q30. With reference to the recent Congress demand related to Indore water deaths, which body has the party asked to undertake a probe?

- (a) State Human Rights Commission
(b) Supreme Court
(c) Central Bureau of Investigation
(d) National Green Tribunal

Q31. Consider the following statements:

Statement 1: The Jan Vishwas (Amendment of Provisions) Act aims to decriminalise minor offences by replacing imprisonment with monetary penalties in several laws.

Statement 2: The Act seeks to improve ease of doing business and ease of living by reducing compliance burden and promoting a trust-based governance framework.

Which one of the following is correct in respect of the above statements?

- (a) Both statement 1 and Statement 2 are correct and statement 2 explains statement 1
(b) Both statement 1 and Statement 2 are correct and statement 2 does not explain statement 1
(c) Statement 1 is correct, but Statement 2 is incorrect
(d) Statement 2 is correct, but Statement 1 is incorrect

Q32. Which of the following is not a mandate of the Finance Commission?

- (a) Principles governing grants-in-aid to States
(b) Measures to augment State Consolidated Funds
(c) Fixation of GST rates
(d) Distribution of net proceeds of taxes

Q33. Which of the following statements are correct in respect of State Commission for Women:

1. The State Commission for Women is constituted by the State Government under the State Commission for Women Act of the respective State.

2. The Commission primarily deals with matters relating to deprivation of women's rights and safeguards provided under the Constitution and other laws.

3. The State Commission for Women has the power to frame criminal laws for the protection of women.

Select the answer using the code given below:

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

Q34. The Bab el-Mandeb Strait connects which of the following water bodies?

- (a) Red Sea and Mediterranean Sea
(b) Red Sea and Gulf of Aden
(c) Arabian Sea and Persian Gulf
(d) Gulf of Oman and Arabian Sea

Q35. The Indian Railways intends to extensively use artificial intelligence (AI) in 2026 for which of the following purposes?

- (a) To automate ticket booking and customer service
(b) To conduct predictive maintenance of infrastructure
(c) To replace human drivers on passenger trains
(d) To manage freight logistics exclusively

Q36. In the context of global climate governance, the US exit from climate treaties was argued to provide which potential outcome?

- (a) Marginalisation of middle-income countries in climate finance
(b) Opportunity to reimagine and strengthen climate governance architecture
(c) Mandatory inclusion of all developed nations in the ISA
(d) Reduction of climate mitigation commitments globally

Q37. Which of the following statements are correct in respect of Special Courts under the POCSO Act:

1. Special Courts are established to ensure speedy trial of offences.
2. The trial under the Act should, as far as possible, be completed within one year.
3. Special Courts can conduct trials in camera to protect the child.

Select the answer using the code given below:

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

Q38. Consider the following with reference to Central Ground Water Board:

1. The CGWB functions under the Ministry of Jal Shakti.
2. It is responsible for scientific assessment and monitoring of groundwater resources in India.
3. It has the power to directly levy water-use charges on farmers across India.

How many of the above is/are correct?

- (a) Only one (b) Only two
(c) All three (d) None

Q39. Which of the following is correct about National Youth Day in India?

- (a) It commemorates the birth anniversary of Mahatma Gandhi.
- (b) It is observed every year on 12 January.
- (c) It celebrates the adoption of India's first Five Year Plan.
- (d) It marks the formation of the National Youth Commission.

Q40. Consider the following statements:

Statement I: The IRCTC Aadhaar-based reservation rule was introduced to reduce ticket scalping.

Statement II: Aadhaar authentication extends the reservation window for users until midnight on ARP opening day.

Statement III: The policy applies only to booking of premium trains like Vande Bharat.

Which of the statements given above are correct?

- (a) I and II only (b) I and III only
(c) II and III only (d) I, II and III

Q41. Which of the following statements are correct in respect of National Education Policy (NEP) 2020?

1. It replaces the 10+2 structure with a 5+3+3+4 curricular structure.
2. It emphasizes foundational literacy and numeracy as a national priority.
3. It mandates compulsory education till the age of 18 years.

Select the answer using the code given below:

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

Q42. Which of the following reflects the constitutional balance Central Board of Film Certification (CBFC) tries to maintain?

- (a) Article 14 and Article 15
- (b) Article 19(1)(a) and Article 21
- (c) Article 19(1)(a) and reasonable restrictions under Article 19(2)
- (d) Article 25 and Article 26

Q43. Which of the following organisations does Venezuela belong to?

1. OPEC (Organisation of the Petroleum Exporting Countries)
2. United Nations
3. SAARC (South Asian Association for Regional Cooperation)

Select the correct answers using the codes given below:

- (a) 1 and 2 only (b) 2 and 3 only
(c) 1 and 3 only (d) All of the above

Q44. Which rare animal sighting was recently reported from Karnataka?

- (a) Snow leopard (b) Sandalwood leopard
- (c) Black rhino (d) Bengal vulture

Q45. Which of the following statements are correct in respect of the Inter-State Council?

1. The Inter-State Council is a constitutional body established under Article 263 of the Constitution of India.
2. It is constituted by the President of India to promote coordination and cooperation between the Centre and the States.
3. The recommendations of the Inter-State Council are binding on both the Union and the States.

Select the answer using the code given below:

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

Q46. Consider the following with reference to seas and water bodies bordering Iran:

1. Iran has a coastline along the Caspian Sea.
2. The Persian Gulf lies to the south-west of Iran.
3. The Red Sea directly borders Iran.

How many of the above is/are correct?

- (a) Only one (b) Only two
(c) All three (d) None

Q47. Makar Sankranti, Magh Bihu and Pongal were in news recently. In this context, consider the following statements:

1. These festivals are linked to solar cycles rather than lunar calendars.
2. They reflect India's cultural diversity and support the constitutional value of fraternity.
3. All these festivals are declared national holidays under the Negotiable Instruments Act.

Which of the statements given above is/are correct?

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

Q48. With reference to India's border infrastructure development, consider the following statements:

1. Border infrastructure has both civilian and military utility.
2. Improved connectivity near borders automatically escalates militarisation.
3. Infrastructure development in border areas can aid socio-economic inclusion.

Which of the statements given above is/are correct?

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

Q49. Consider the following statements:

Statement I: The Justice Verma Committee was constituted to recommend reforms in criminal law related to sexual offences.

Statement II: It was set up in the aftermath of the 2012 Delhi gang rape case.

Statement III: The Committee was mandated to examine laws affecting women's safety and dignity.

Which one of the following is correct in respect of the above statements?

- (a) Both Statement II and Statement III are correct and both of them explain Statement I
(b) Both Statement II and Statement III are correct but only one of them explains Statement I
(c) Only one of the Statements II and III is correct and that explains Statement I
(d) Neither Statement II nor Statement III is correct

Q50. Consider the following with reference to Central Ground Water Board:

1. The CGWB functions under the Ministry of Jal Shakti.
2. It is responsible for scientific assessment and monitoring of groundwater resources in India.
3. It has the power to directly levy water-use charges on farmers across India.

How many of the above is/are correct?

- (a) Only one (b) Only two
(c) All three (d) None

Q51. Consider the following statements:

Statement I: PSLV-C62 is slated to deploy Earth observation satellites.

Statement II: The mission exclusively carries Indian government satellites.

Statement III: The launch enhances India's space cooperation with foreign entities.

Which one of the following is correct in respect of the above statements?

- (a) Both Statement II and Statement III are correct and both of them explain Statement I
(b) Both Statement I and Statement III are correct and Statement II stands incorrect
(c) Only one of the Statements II and III is correct and that explains Statement I
(d) Neither Statement II nor Statement III is correct

Q52. Which of the following is correct about National Youth Day in India?

- (a) It commemorates the birth anniversary of Mahatma Gandhi.
(b) It is observed every year on 12 January.

- (c) It celebrates the adoption of India's first Five Year Plan.
- (d) It marks the formation of the National Youth Commission.

Q53. Which of the following statements are correct in respect of Green Hydrogen?

1. Green hydrogen is produced using renewable energy sources through electrolysis of water.
2. It emits carbon dioxide during the production process.
3. Green hydrogen can play a role in decarbonising hard-to-abate sectors like steel and fertilisers.

Select the answer using the code given below:

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

Q54. Consider the following with reference to Consumer Price Index (CPI):

1. CPI measures changes in the retail prices of goods and services consumed by households.
2. CPI inflation is officially used by the Reserve Bank of India for its inflation targeting framework.
3. CPI includes the prices of goods and services consumed by both rural and urban consumers.

How many of the above is/are correct?

- (a) Only one (b) Only two
- (c) All three (d) None

Q55. With respect to the National Investigation Agency (NIA), consider the following statements:

1. The NIA was constituted under the National Investigation Agency Act, 2008.
2. The Director General of the NIA is appointed by the Appointments Committee of the Cabinet (ACC).
3. A serving IPS officer appointed as DG NIA must retire at the age of 58 years.

Which of the statements given above are correct?

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

Q56. Consider the following statements about NITI Aayog's Export Preparedness Index (EPI) 2024:

1. The EPI 2024 is structured around four broad pillars including Export Infrastructure and Policy & Governance which are equally weighted.

2. Maharashtra has emerged as the top-ranked large state, displacing Tamil Nadu in terms of export preparedness.
3. One of the objectives of EPI is to support India's USD 1 trillion merchandise exports target by 2030.

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 & 3

Q57. Which of the following statements are correct in respect of Civic Elections in India?

1. Civic elections are conducted by the State Election Commission.
2. The constitutional basis for civic elections is provided by the 74th Constitutional Amendment Act, 1992.
3. Civic elections are held only after the approval of the Election Commission of India.

Select the answer using the code given below:

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

Q58. Consider the following with reference to Defence Research and Development Organisation:

1. The DRDO functions under the Ministry of Defence.
2. It is responsible for the design and development of strategic systems such as missiles.
3. It collaborates with private industry and academic institutions.

How many of the above is/are correct?

- (a) Only one (b) Only two
- (c) All three (d) None

Q59. With reference to the Nobel Peace Prize, consider the following statements:

1. The prize is awarded by a committee appointed by the Norwegian Parliament.
2. Heads of State can be nominated only by national governments.
3. The prize can be awarded for diplomatic efforts even if peace outcomes remain contested.

Which of the statements given above are correct?

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

Q60. India–Japan cooperation is strategically significant because:

1. Both support a Free and Open Indo-Pacific.
2. Japan is India’s largest bilateral aid donor.
3. Their partnership is a formal military alliance.

Which of the above are correct?

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

Q61. Consider the following with reference to the Prime Minister of India:

1. The Prime Minister must be a member of either House of Parliament at the time of appointment.
2. The Prime Minister is appointed by the President and holds office during the pleasure of the President.
3. The Prime Minister is the real executive authority in the parliamentary system of India.

How many of the above is/are correct?

- (a) Only one (b) Only two
 (c) All three (d) No ne

Q62. Which river flows through southern Germany and eventually drains into the Black Sea?

- (a) Rhine (b) Elbe
 (c) Oder (d) Danube

Q63. Consider the following statements regarding gig work and women’s employment in India:

1. Gig work offers flexible employment opportunities, increasing participation of women in the workforce.
2. Labour laws fully cover gig workers in India, ensuring all social security benefits.
3. The Code on Social Security 2020 includes provisions to protect gig workers and enhance social justice.

Which of the statements given above is/are correct?

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

Q64. Consider the following factors affecting India’s stock market performance:

1. Regulatory institutions like SEBI play a key role in improving investor confidence.

2. Ease of Doing Business has no significant impact on the stock market.

3. Financial sector reforms and institutional development are essential for sustained market growth.

Which of the statements given above is/are correct?

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

Q65. With reference to the death penalty and human rights, consider the following statements:

1. International Covenant on Civil and Political Rights (ICCPR) permits death penalty only for the “most serious crimes”.
2. Iran is a signatory to the ICCPR but continues to allow capital punishment under domestic law.
3. The UN Human Rights Council can directly enforce a moratorium on executions.

Which of the statements given above is/are correct?

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

Q66. Consider the following statements about the Commonwealth:

1. The Commonwealth is a voluntary association of countries, mostly former British colonies.
2. The Commonwealth Secretariat is headquartered in London.
3. The Commonwealth Speakers’ Summit deals with legislative best practices.

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

Q67. Which of the following statements are correct in respect of Southern Transitional Council (STC)?

1. The STC was formed in 2017 and seeks secession of southern Yemen.
2. The STC supports the internationally recognized Yemeni government led by President Hadi.
3. The STC has received political and military backing from the United Arab Emirates (UAE).

Select the answer using the code given below:

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

Q68. Article 32 of the Constitution of India deals with:

- (a) Amendment of the Constitution
 (b) Right to Constitutional Remedies
 (c) Directive Principles of State Policy
 (d) Emergency provisions

Q69. Consider the following statements regarding regulation of private school fees in India:

1. Education is a subject under the Concurrent List, allowing both Centre and States to legislate on fee regulation.
2. Judicial pronouncements have held that complete State control over private unaided school fees violates Article 19(1)(g).
3. The Right to Education Act, 2009 explicitly prescribes a uniform fee structure for all recognised schools.

Which of the statements given above is/are correct?

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

Q70. With reference to India's National Ambient Air Quality Standards, consider the following statements:

1. NAAQS are notified under the Air (Prevention and Control of Pollution) Act, 1981.
2. India's permissible limits for PM2.5 are stricter than the World Health Organization's latest guidelines.
3. CPCB uses NAAQS as the basis for identifying non-attainment cities.

Which of the statements given above is/are correct?

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

Q71. Which of the following statements are correct in respect of India–Middle East–Europe Economic Corridor (IMEC)?

1. IMEC aims to enhance connectivity through an integrated network of railways, ports, and digital infrastructure linking India with Europe via the Middle East.
2. The corridor includes an Eastern and a Northern corridor, connecting India to the Arabian Gulf and onward to Europe.

3. BIMEC was announced during the G20 Summit to promote trade, energy security, and supply chain resilience.

Select the answer using the code given below:

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

Q72. Consider the following statements:

Statement 1: The Monroe Doctrine declared that European powers should not establish new colonies or interfere in the affairs of the Western Hemisphere.

Statement 2: It was proclaimed in 1823 to safeguard the newly independent Latin American states from European intervention.

Which one of the following is correct in respect of the above statements?

- (a) Both statement 1 and Statement 2 are correct and statement 2 explains statement 1
 (b) Both statement 1 and Statement 2 are correct and statement 2 does not explain statement 1
 (c) Statement 1 is correct, but Statement 2 is incorrect
 (d) Statement 2 is correct, but Statement 1 is incorrect

Q73. Which of the following objectives are associated with global AI summits?

1. Harmonising ethical AI standards
2. Promoting monopolistic control of AI by developed countries
3. Encouraging inclusive digital public infrastructure

Choose the correct answer using the codes given below:

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

Q74. Consider the following statements related to UK's international education strategy.

Statement 1: International education is increasingly viewed by countries as a component of service exports.

Statement 2: Expenditure by foreign students contributes to a country's balance of payments under the services account.

Which one of the following is correct?

- (a) Both statements are correct and statement 2 explains statement 1

- (b) Both statements are correct but statement 2 does not explain statement 1
- (c) Statement 1 is correct but statement 2 is incorrect
- (d) Statement 2 is correct but statement 1 is incorrect

Q75. Which of the following statements are correct in respect of the composition of the World Economic Forum?

1. The World Economic Forum is a not-for-profit international organization headquartered in Geneva, Switzerland.
2. Its membership primarily consists of leading multinational companies, selected on the basis of global reach and industry leadership.
3. Governments of countries are formal voting members of the World Economic Forum.

Select the answer using the code given below:

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

Q76. Consider the following with reference to Central Bank Digital Currency (CBDC):

1. CBDC is a digital form of legal tender issued by a country's central bank and is a direct liability of the central bank.
2. Retail CBDC is primarily meant for interbank settlements and large-value financial transactions between banks.
3. CBDC can help in reducing cash handling costs, improving payment efficiency, and promoting financial inclusion.

How many of the above is/are correct?

- (a) Only one (b) Only two
- (c) All three (d) None

Q77. Consider the following statements regarding media regulation in India:

Statement I: The News Broadcasting & Digital Standards Authority (NBDSA) primarily handles complaints related to communal code violations in TV and digital news.

Statement II: Article 19(1)(a) of the Indian Constitution guarantees absolute freedom of speech and expression without any restrictions.

Statement III: Ethical reporting in sensitive societies helps reduce communal tensions and hate speech.

Which of the following is correct in respect of the above statements?

- (a) Only Statement I and Statement III are correct.
- (b) Both Statement I and Statement II are correct but Statement III is incorrect.
- (c) Only Statement III is correct.
- (d) All Statements I, II, and III are correct.

Q78. Consider the following statements regarding RBI's economic indicators:

Statement I: High Frequency Indicators (HFIs) suggest the economy is showing signs of recovery.

Statement II: RBI's fiscal policy is directly controlled by the government, not the RBI.

Statement III: Employment and industrial activity are monitored as part of economic growth trends.

Which of the following is correct?

- (a) Only Statement I and Statement III are correct.
- (b) Only Statement II is correct.
- (c) All statements are correct.
- (d) None of the statements are correct.

Q79. Consider the following with reference to Denmark and Greenland:

1. Greenland is an autonomous territory within the Kingdom of Denmark, with its own parliament and prime minister.

2. Denmark is responsible for Greenland's defence and foreign affairs, while Greenland manages most domestic matters.

3. Greenland is a member of the European Union because Denmark is an EU member.

How many of the above is/are not correct?

- (a) Only one (b) Only two
- (c) All three (d) None

Q80. Which of the following Indian states has extensive Devdar forests?

- (a) Odisha (b) Rajasthan
- (c) Himachal Pradesh (d) Tamil Nadu

Q81. With reference to the Special Intensive Revision (SIR) of electoral rolls conducted by the Election Commission of India, consider the following statements:

1. The objective of SIR is to ensure accuracy and integrity of electoral rolls through intensive verification.
2. Article 326 of the Constitution mandates that only Indian citizens can be registered as voters.
3. The SIR exercise explicitly aims at identifying illegal immigrants.

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 & 3

Q82. With reference to Netaji Subhas Chandra Bose and the Indian National Army (INA), consider the following statements:

1. The INA transformed India's freedom struggle into an international movement.
2. Netaji believed that political independence alone was sufficient to achieve social justice in India.
3. The INA rejected caste distinctions and promoted gender equality.

How many of the statements given above are correct?

- (a) Only one (b) Only two
(c) Only three (d) None

Q83. Consider the following with reference to Finance Commission:

1. It recommends the distribution of net tax proceeds between the Union and the States.
2. It decides the borrowing limits of State governments.
3. It suggests measures to augment the Consolidated Fund of States to supplement local bodies.

How many of the above is/are correct?

- (a) Only one (b) Only two
(c) All three (d) None

Q84. Under Carbon Border Adjustment Mechanism (CBAM) importers are required to:

- (a) Pay customs duty on all imports
- (b) Purchase carbon certificates equivalent to embedded emissions

- (c) Follow EU labor standards
- (d) Shift production to EU countries

Q85. Consider the following statements regarding India-EU relations and the ongoing Free Trade Agreement (FTA) negotiations:

1. The India-EU FTA aims to reduce India's economic reliance on China, Russia, and the US.
2. The 16th India-EU Summit coincides with the Republic Day celebrations of India in 2026.
3. The formal signing of the FTA depends solely on conclusion of negotiations between India and the EU.

How many of the statements given above is/are correct?

- (a) Only one (b) Only two
(c) All three (d) None

Q86. Consider the following statements regarding the right to display the Indian national flag:

1. The Supreme Court, in Union of India vs Naveen Jindal (2004), recognized the right to fly the national flag as part of the fundamental right to freedom of speech and expression.
2. The Flag Code of India still prohibits citizens from flying the national flag throughout the year, allowing it only on specified national days.

Which of the statements given above is/are correct?

- (a) 1 only (b) 2 only
(c) Both 1 and 2 (d) Neither 1 nor 2

Q87. Which of the following statements are correct in respect of factors influencing gold prices?

1. Rising real interest rates generally reduce the attractiveness of gold as it does not yield interest.
2. Appreciation of the US dollar tends to increase global gold prices.
3. Higher geopolitical uncertainty usually leads to increased demand for gold as a safe-haven asset.

Select the answer using the code given below:

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

Q88. Loss and Damage finance is best described as

- (a) Voluntary private insurance
- (b) Market-based carbon trading

(c) A development aid substitute

(d) A climate justice mechanism

Q89. With reference to the institutional structure of the European Union, consider the following statements:

1. The European Council provides the overall political direction of the European Union.
2. The European Commission functions as the executive arm of the European Union.
3. The European Parliament alone represents the governments of EU member states.

Which of the statements given above is/are correct?

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

Q90. Consider the following pairs:

Missile Technology	Key Feature
1. Ballistic missile	Unpowered flight after boost
2. Hypersonic glide vehicle	Atmospheric manoeuvring
3. Hypersonic cruise missile	Scramjet propulsion

Which of the pairs given above are correctly matched?

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

Q91. Which of the following statements are correct in respect of Initial Public Offering (IPO)?

1. An IPO is the process by which a private company offers its shares to the public for the first time.
2. Companies issue shares through an IPO to raise capital for expansion, debt repayment, or growth.
3. An IPO can be launched without regulatory approval if the issue size is small.

Select the answer using the code given below:

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

Q92. Consider the following with reference to Hindustan Aeronautics Limited (HAL):

1. HAL is a Maharatna Central Public Sector Enterprise under the Ministry of Defence.
2. HAL is primarily involved in the design, development, manufacture and maintenance of aircraft, helicopters and aero-engines.

3. HAL was established after India's independence to meet defence production needs.

How many of the above is/are correct?

- (a) Only one (b) Only two
 (c) All three (d) None

Q93. With reference to the self-enumeration facility in Census 2027, consider the following statements:

1. The self-enumeration facility allows citizens to fill, complete, and submit census details online through a dedicated portal.
2. The self-enumeration portal will be available in all 22 languages listed in the Eighth Schedule of the Constitution.
3. After submitting details through self-enumeration, a reference ID is generated which must be shared with the enumerator during the field visit.
4. The provision for self-enumeration was enabled after amendments to the Census Rules, 1990.

Which of the statements given above are correct?

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

Q94. With reference to the quality of healthcare in India, consider the following statements:

1. As per estimates cited in the Economic Survey 2021, a larger number of deaths in India are attributable to poor quality of healthcare than to lack of access to healthcare.
2. Expanding the number of doctors, hospitals and medicines by itself is adequate to overcome India's major healthcare challenges.

Which of the above statements is/are correct?

- (a) 1 only (b) 2 only
 (c) Both 1 and 2 (d) Neither 1 nor 2

Q95. Which of the following statements are correct in respect of Narasimhavarman I?

1. He defeated the Chalukya ruler Pulakesin II and assumed the title Vatapikonda.
2. He was responsible for the construction of the rock-cut temples at Mahabalipuram.
3. During his reign, Fa Hein visited Kanchipuram.

Select the answer using the code given below:

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

Q96. The Baramati Airstrip lies in which physiographic region of Maharashtra?

- (a) Deccan Plateau (b) Konkan Coast
(c) Western Ghats (d) Vidarbha Plain

Q97. The Lodhi Art District (LAD) in New Delhi is best described as:

- (a) A centrally protected heritage zone notified under the Archaeological Survey of India
(b) India's first public art district that integrates contemporary murals with urban public spaces
(c) An art village developed exclusively under the Smart Cities Mission
(d) A private gallery cluster accessible only through ticketed entry

Q98. With reference to the Aravalli Range and its ecological role, consider the following statements:

1. The Aravalli Range was formed during the Cenozoic era and is geologically younger than the Himalayan mountain system.
2. The Aravallis act as a complete climatic barrier, preventing the expansion of the Thar Desert into eastern India.
3. The Aravalli landscape supports important wildlife corridors, facilitating the movement of large mammals like leopards across Rajasthan and the Delhi NCR.

How many of the statements above are correct?

- (a) Only one (b) Only two
(c) All three (d) None

Q99. Which of the following statements are correct in respect of features of the new prior-intimation mechanism for drug research?

1. Intimation must be submitted through the SUGAM Portal.
2. It applies only to commercial-scale drug manufacturing.
3. Drug synthesis can begin after online acknowledgement.

Select the answer using the code given below:

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

Q100. Under which ministry does the Central Drugs Standard Control Organisation (CDSCO) operate?

- (a) Ministry of Chemicals and Fertilizers
(b) Ministry of Science and Technology
(c) Ministry of Health and Family Welfare
(d) Ministry of Commerce and Industry

Q101. Which one of the following best reflects the impact of reforms in Central Public Sector Enterprises (CPSEs) in India during the last decade, as highlighted in recent assessments?

- (a) CPSEs have increasingly relied on foreign borrowing to finance capital formation.
(b) The number of loss-making CPSEs has increased due to higher capital expenditure obligations.
(c) CPSEs have emerged as a significant source of government revenue and domestic investment.
(d) CPSE reforms have led to a complete withdrawal of the government from strategic sectors.

Q102. With reference to the marital rape exception under Indian criminal law, consider the following statements:

1. The marital rape exception presumes continuous consent within marriage and denies criminal liability for non-consensual sexual acts by a husband.
2. This legal presumption raises constitutional concerns as it conflicts with the fundamental rights to equality, dignity, and bodily autonomy guaranteed under the Constitution of India.

Which of the above statements is/are correct?

- (a) 1 only (b) 2 only
(c) Both 1 and 2 (d) Neither 1 nor 2

Q103. Which of the following statements are correct in respect of Revenue Deficit?

1. Revenue deficit occurs when revenue expenditure exceeds revenue receipts.
2. A revenue deficit indicates that the government is borrowing for capital formation.
3. A persistent revenue deficit can reduce funds available for capital expenditure.

Select the answer using the code given below:

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

Q104. Consider the following statements:

Statement I: The National Food Security Act (NFSA), 2013 aims to provide food and nutritional security to a large section of India’s population through a rights-based framework.

Statement II: Under the Act, Priority Households are entitled to 5 kg of foodgrains per person per month at highly subsidised prices through the Targeted Public Distribution System (TPDS).

Statement III: The Act provides nutritional support to women and children through schemes such as ICDS and Mid-Day Meal, along with maternity benefits to pregnant and lactating women.

Which one of the following is correct in respect of the above statements?

- (a) Both Statement II and Statement III are correct and both of them explain Statement I
- (b) Both Statement II and Statement III are correct but only one of them explains Statement
- (c) Only one of the Statements II and III is correct and that explains Statement I
- (d) Neither Statement II nor Statement III is correct

Q105. With reference to the rising trend of heart disease-related deaths in India, consider the following statements:

1. Age-adjusted death rates are used to compare mortality trends across time by eliminating the effect of differences in population age structure.
2. An increase in reported cardiac deaths necessarily indicates a proportional rise in the actual incidence of heart disease.

Which of the statements given above is/are correct?

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

Q106. With reference to the Right to Information (RTI) Act, 2005, consider the following statements:

1. The RTI Act reduces information asymmetry between citizens and the State, thereby strengthening democratic accountability.
2. The Supreme Court has held that the Reserve Bank of India is exempt from disclosing information related to non-performing assets of public sector banks under the RTI Act.
3. Recent legislations such as the Digital Personal Data Protection Act have introduced exemptions that may limit disclosure of certain categories of information under RTI.

How many of the above statements are correct?


- (a) Only one
- (b) Only two
- (c) All three
- (d) None



Answer Key									
Q1.	a	Q2.	c	Q3.	d	Q4.	a	Q5.	a (3 only)
Q6.	b	Q7.	c	Q8.	b	Q9.	a	Q10.	d
Q11.	a	Q12.	c	Q13.	a	Q14.	a	Q15.	b
Q16.	c	Q17.	d	Q18.	a	Q19.	c	Q20.	a
Q21.	b	Q22.	a	Q23.	b	Q24.	b (1 and 2 only)	Q25.	b (1 and 3 only)
Q26.	b	Q27.	c	Q28.	a	Q29.	b	Q30.	b
Q31.	a	Q32.	c	Q33.	a	Q34.	b	Q35.	b
Q36.	b	Q37.	d	Q38.	b (1 and 2 only)	Q39.	b	Q40.	a

Q41.	a	Q42.	c	Q43.	s	Q44.	b	Q45.	a
Q46.	b (1 and 2 only)	Q47.	a	Q48.	b	Q49.	a	Q50.	b (1 and 2 only)
Q51.	b	Q52.	b	Q53.	c	Q54.	c	Q55.	b
Q56.	b	Q57.	a	Q58.	c	Q59.	a	Q60.	a
Q61.	b (2 and 3 only)	Q62.	d	Q63.	b	Q64.	b	Q65.	a
Q66.	d	Q67.	c	Q68.	b	Q69.	a	Q70.	a
Q71.	d	Q72.	a	Q73.	b	Q74.	a	Q75.	a
Q76.	b (1 and 3 only)	Q77.	a	Q78.	a	Q79.	a (3 only)	Q80.	c
Q81.	a	Q82.	b (1 & 3 only)	Q83.	b (1 & 3 only)	Q84.	b	Q85.	b
Q86.	a	Q87.	c	Q88.	d	Q89.	a	Q90.	d
Q91.	a	Q92.	b (1 and 2 only)	Q93.	a	Q94.	a	Q95.	a
Q96.	a	Q97.	b	Q98.	a	Q99.	c	Q100.	c
Q101.	c	Q102.	c	Q103.	c	Q104.	a	Q105.	a
Q106.	b (1 & 3 only)								


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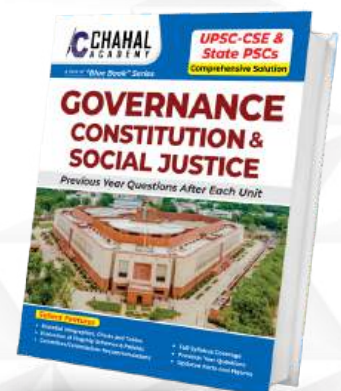
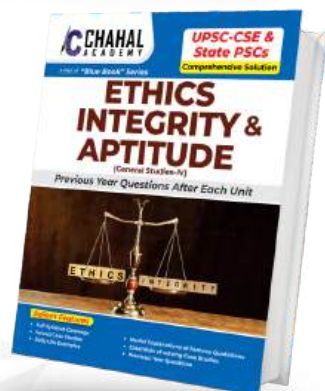
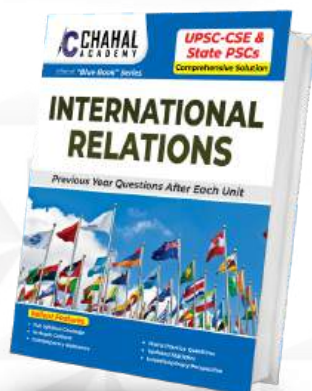
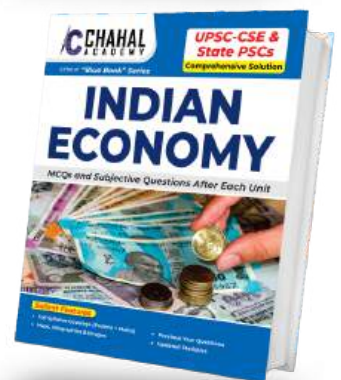
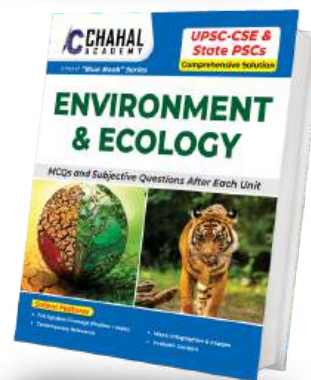
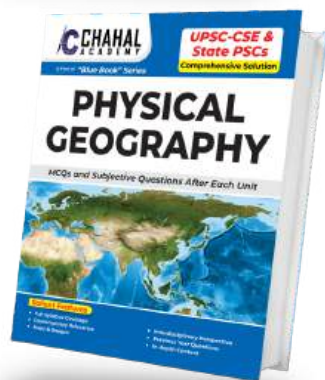
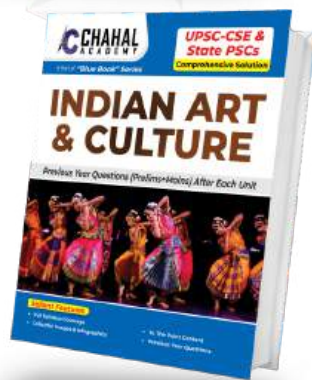
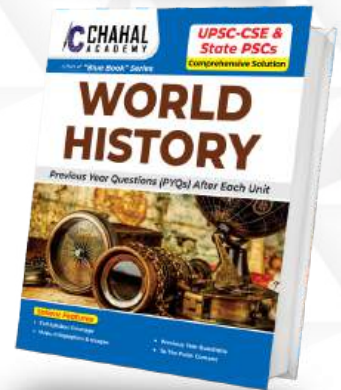
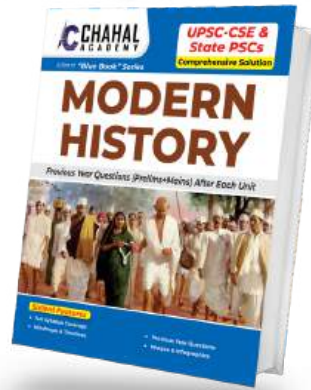
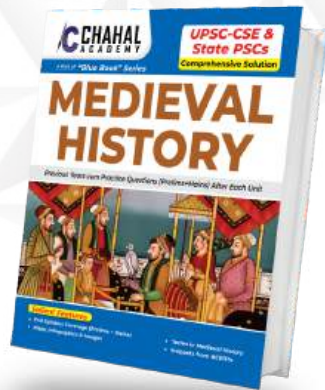
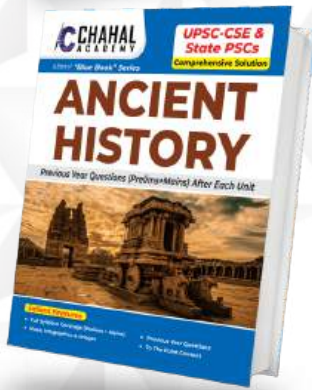





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