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1. What do you mean by Digital Rupee? In this context, explain the working and progress of India's Central Bank Digital Currency (CBDC).

ANS.

STRUCTURE

1. INTRODUCTION: Definition of the Digital Rupee as India's sovereign CBDC.
2. BODY: How it works (architecture) and its progress to date.
3. CONCLUSION: Punchline on calibrated scale-up over big-bang rollout.

INTRODUCTION

The Digital Rupee (₹) is the Reserve Bank of India's Central Bank Digital Currency — a tokenised, legal-tender digital form of the rupee, issued directly as a liability of the RBI (unlike private wallet balances or bank deposits), distinguishing it from UPI, which merely moves commercial-bank money.

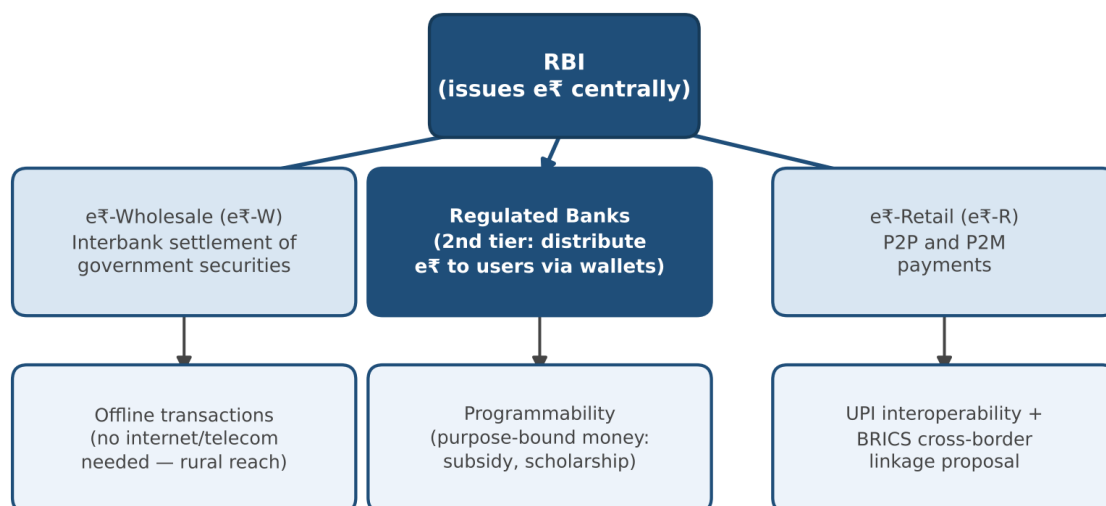
BODY

Working:

1. Two variants: ₹-Wholesale (₹-W), for interbank settlement of government securities, and ₹-Retail (₹-R), for person-to-person and person-to-merchant payments — piloted separately from November-December 2022.
2. Two-tier distribution model: RBI issues the token centrally; regulated banks distribute it to users through digital wallets, mirroring physical-currency distribution and preserving the existing banking channel's KYC/AML checks.
3. Technology: token-based (not account-based) representation, using distributed-ledger-inspired but centrally-controlled infrastructure, enabling offline transactions, programmability (restricting use to a specified purpose, e.g., fertiliser subsidy or scholarship disbursement), and traceability superior to cash.

The Digital Rupee's two-tier architecture is shown below:

Digital Rupee: Two-Tier Issuance and Distribution Architecture



Key distinction from UPI: ₹ is a direct RBI liability (sovereign digital cash); UPI only moves commercial-bank deposit money

Fig: Digital Rupee (₹) two-tier issuance and distribution architecture

Progress:

1. Steady pilot expansion: retail pilot grew from 4 banks and select cities in December 2022 to most major public and private banks, with user numbers crossing several million wallets.
2. Offline functionality: RBI operationalised offline ₹ transactions (usable without internet or telecom connectivity), extending reach to low-connectivity rural areas — a step beyond what UPI can offer.
3. Programmability trials: pilots for targeted welfare delivery (input subsidies, corporate expense disbursement) tested the CBDC's unique advantage over cash and bank transfers of purpose-bound money.
4. Interoperability and cross-border push: ₹ was integrated with UPI QR infrastructure, and India has proposed linking CBDCs across BRICS members to enable cheaper, faster cross-border settlement and reduce dollar-dependence.
5. Cautious calibration: the RBI has repeatedly emphasised a graduated, learning-by-doing approach over a fixed rollout timeline, prioritising resilience and privacy safeguards over scale.

CONCLUSION

The Digital Rupee's trajectory — from a narrow wholesale pilot to an offline-capable, programmable, UPI-interoperable retail instrument — shows the RBI treating CBDC issuance as a long-horizon infrastructure build rather than a race to scale, precisely because a sovereign digital currency's credibility depends on getting settlement finality, privacy, and resilience right the first time.

2. Examine the view that financial inclusion is an integral part of social and economic inclusion in a country like India. Also throw light on the usefulness of the R.B.I.'s Financial Inclusion Index.

ANS.

STRUCTURE

1. **INTRODUCTION:** Stating agreement with the view, with the qualification that inclusion must be substantive, not merely nominal.
2. **BODY:** Why financial inclusion is integral to social/economic inclusion, and the FI-Index's usefulness.
3. **CONCLUSION:** Punchline on access as necessary but not sufficient.

INTRODUCTION

I agree with this view: in a country where large segments were historically excluded from formal finance by geography, income, or social status, access to banking is not a peripheral economic facility but a precondition for exercising economic agency and, through Direct Benefit Transfer, even social entitlements — though access alone does not guarantee genuine inclusion.

BODY

Why financial inclusion is integral to broader inclusion:

1. **Enabler of DBT and welfare access:** Jan Dhan-Aadhaar-Mobile (JAM) linkage routes subsidies, pensions, and scholarships directly to bank accounts, making financial inclusion the delivery infrastructure for social inclusion itself.
2. **Economic participation:** access to credit, insurance, and savings instruments allows small farmers, women, and informal workers to smooth consumption, absorb shocks, and invest in enterprise — converting financial access into economic mobility.
3. **Reduction of exploitative alternatives:** formal access displaces informal moneylenders and unsafe savings practices, reducing debt-trap vulnerability, particularly for women (a majority of PMJDY accounts) and rural households.
4. **Data and formalisation:** a bank-linked economy generates the transaction trail needed for credit history, tax formalisation, and targeted policy design — a structural, not merely transactional, form of inclusion.

Usefulness of the RBI's Financial Inclusion Index:

1. **Composite, multi-dimensional measure:** the FI-Index (range 0-100) combines Access (45% weight), Usage (35%), and Quality (20%) across banking, investment, insurance, postal, and pension services, avoiding the distortion of judging inclusion by account-opening numbers alone.
2. **Trend tracking:** the Index has risen steadily — from 53.9 in March 2021 to 64.2 in March 2024, 67.0 in March 2025, and further in FY26 (up 4.48% with growth recorded uniformly across sub-indices) — giving policymakers an annual, comparable gauge of progress.
3. **Policy diagnostic value:** because it disaggregates into sub-indices, it reveals whether growth is coming from access (accounts opened) or genuine usage/quality (active transactions, grievance redressal, financial literacy) — flagging where "financial inclusion" risks remaining nominal.

4. No-base-year distortion: being a single-number index (not a mere account count), it is resistant to double-counting inactive or zero-balance accounts, a known criticism of earlier PMJDY-account-based inclusion claims.

CONCLUSION

Financial inclusion is indeed integral to India's social and economic inclusion project because it is the rail on which welfare, credit, and formal economic identity all travel — but the FI-Index's own architecture, by separately tracking usage and quality, is itself an admission that access is only the first, not the final, mile of that journey.

3. Describe the various Technology Missions initiated in Indian agriculture and examine their role in food security.

ANS.

STRUCTURE

1. **INTRODUCTION:** Technology Missions as India's instrument for translating research into farm-level productivity gains.
2. **BODY:** Description of key missions, then their role in food security.
3. **CONCLUSION:** Punchline on missions as necessary infrastructure for the next productivity leap.

INTRODUCTION

Since the 1980s Technology Mission on Oilseeds, India has used dedicated, time-bound Technology Missions to bridge the gap between agricultural research and field-level adoption — a model now extended to digital and climate technologies as the productivity frontier has shifted from mere output growth to precision, resilience, and value-chain efficiency.

BODY

Key Technology Missions:

1. **National Food Security Mission (NFSM):** targets yield gaps in rice, wheat, pulses, coarse cereals, and now nutri-cereals (millets), through improved seed, cropping-system demonstrations, and farm machinery support.
2. **National Mission on Agricultural Extension and Technology (NMAET):** disseminates technology through Krishi Vigyan Kendras, extension reforms (ATMA), seed and planting-material missions, and farm mechanization sub-missions.
3. **National Mission on Sustainable Agriculture (NMSA):** promotes climate-resilient practices — rainfed area development, soil health management, and agroforestry — under the National Action Plan on Climate Change.
4. **Digital Agriculture Mission (2024):** builds the AgriStack — farmers' registry, digital crop survey, and geo-referenced village land-record maps — enabling real-time crop-area estimation, faster insurance and credit disbursal, and a Kisan Rin Portal for loan tracking.
5. **National Mission on Edible Oils–Oilseeds and Oil Palm (2022):** targets India's high edible-oil import dependence through oil-palm area expansion and oilseed productivity support.
6. **Sub-Mission on Agricultural Mechanization (SMAM):** promotes Custom Hiring Centres and farm-machinery banks to extend mechanization to small and marginal holdings.

Role in food security:

1. **Yield and production stability:** NFSM-driven interventions have been credited with much of India's shift from a grain-deficit to a grain-surplus country, sustaining buffer stocks well above minimum norms.
2. **Targeting and leakage reduction:** AgriStack's digital crop survey enables accurate, real-time production estimates, improving the precision of MSP procurement planning and PDS allocation.

3. Climate resilience: NMSA-supported drought/flood-resilient varieties and practices reduce production volatility, which is a food-security risk in itself given rainfed agriculture's continued predominance.
4. Import substitution: the edible-oil mission directly targets a structural food-security vulnerability — India imports over half its edible-oil requirement — by building domestic supply.
5. Faster institutional response: geo-tagged digital records allow quicker crop-loss assessment (PMFBY claims) and credit access after climate shocks, shortening the vulnerability window for affected farmers.

CONCLUSION

Technology Missions have moved Indian agriculture from a reactive, output-chasing model to one where digital and climate technology jointly underwrite production stability — the next phase of food security now depends less on adding new missions than on ensuring the AgriStack-era data infrastructure actually reaches the smallholder at the last mile.

4. Explain the factors responsible for inefficiency of agri-produce marketing. How e-commerce helps to reduce inefficiency of agri-produce marketing? Explain.

ANS.

STRUCTURE

1. INTRODUCTION: Framing agri-marketing inefficiency as a structural, multi-layered problem.
2. BODY: Factors responsible, then e-commerce's specific remedies.
3. CONCLUSION: Punchline on e-commerce as a partial, infrastructure-dependent solution.

INTRODUCTION

Agri-produce marketing in India remains inefficient because it combines fragmented supply (small, scattered holdings) with a mandi-centred structure that adds cost and delay at every intermediary layer between farmgate and consumer.

BODY

Factors responsible for inefficiency:

1. Fragmented land holdings: the average holding size (under 1.1 hectares) forces small farmers to sell locally, at low bargaining power, rather than accessing distant, better-paying markets.
2. Multiple intermediaries: produce typically passes through commission agents (arhatiyas), wholesalers, and retailers before reaching consumers, each layer adding margin without proportionate value addition.
3. Restrictive regulatory legacy: APMC Acts historically confined first sale to notified mandis, limiting farmers' choice of buyer despite reforms (Model APMC Act 2003, Model Contract Farming Act 2018, and states' own deregulation).
4. Poor storage and cold-chain infrastructure: inadequate warehousing and cold storage cause high post-harvest losses (estimated 5-15% depending on crop, higher for perishables), forcing distress sales.
5. Information asymmetry: farmers often lack real-time price information across markets, weakening their negotiating position relative to traders who track prices closely.
6. Quality-grading gaps: absence of standardised grading at the farm level prevents price differentiation for quality, discouraging investment in better produce.

How e-commerce reduces this inefficiency:

1. Direct market access: platforms under the Open Network for Digital Commerce (ONDC)-Agri and e-NAM's unified electronic trading portal let farmers list produce for buyers beyond their local mandi, widening the buyer pool.
2. Price transparency: mobile apps (e.g., Kisan Suvidha, e-NAM price modules) give farmers real-time, multi-market price data, narrowing the information asymmetry that intermediaries have historically exploited.
3. Disintermediation: direct farmer-to-retailer and farmer-to-consumer e-commerce models shorten the supply chain, allowing farmers to capture a larger share of the final price.

4. Warehouse-receipt-backed finance: e-NWR (electronic Negotiable Warehouse Receipt) systems, linked digitally to accredited warehouses, let farmers avoid distress sales by borrowing against stored produce instead of selling immediately.
5. Aggregation via Farmer Producer Organisations (FPOs): e-commerce platforms increasingly contract with FPOs rather than individual farmers, giving small holders collective bargaining power they could not achieve alone.

CONCLUSION

E-commerce attacks agri-marketing inefficiency at its informational and intermediary roots, but its gains remain contingent on complementary investment in cold-chain, digital literacy, and last-mile logistics — without which even a well-designed digital market cannot fully substitute for physical marketing infrastructure.

5. Explain by giving two examples, how biotechnology has helped the Indian farmers in processing their perishable crops.

ANS.

STRUCTURE

1. INTRODUCTION: Biotechnology's specific role in post-harvest processing, distinct from its role in crop breeding.
2. BODY: Two illustrative examples.
3. CONCLUSION: Punchline on biotechnology closing the post-harvest gap.

INTRODUCTION

Beyond genetically improved seed, biotechnology has given Indian farmers tools to slow spoilage and add value to perishable produce after harvest — the stage where India loses the largest share of its horticultural output.

BODY

Example 1 — Ripening control and shelf-life extension: biotechnology-derived ripening inhibitors, such as 1-methylcyclopropene (1-MCP) treatment, block the ethylene receptors responsible for fruit ripening in bananas, mangoes, and apples, extending shelf life during transport and storage; combined with biotech-developed edible bio-coatings (e.g., chitosan- and wax-based coatings), this allows farmers and aggregators to move perishables to distant markets without the rapid quality loss that previously confined sales to local buyers.

Example 2 — Enzyme-based processing and disease-free planting material: enzyme biotechnology (pectinase, cellulase, amylase) is used in decentralised fruit-processing units to clarify and extract juice from produce (such as mango, guava, and citrus) that would otherwise be discarded as unfit for the fresh market, converting a loss into pulp, concentrate, or juice with a longer shelf life; separately, tissue-culture-propagated, virus-free planting material (widely used for banana and potato) produces more uniform, better-keeping-quality produce, directly reducing the volume lost to disease-related spoilage before it ever reaches processing.

CONCLUSION

In both cases, biotechnology intervenes precisely at the point where India's perishable-crop economy has historically bled value — between harvest and market — turning what was previously wastage into shelf-stable, sellable, or processed produce.

6. Distinguish between a Fast Breeder Reactor (FBR) and a thermal nuclear reactor. In the context of first indigenously developed prototype FBR at Kalpakkam, explain the term 'criticality'. What are its implications for clean energy future of our country?

ANS.

STRUCTURE

1. INTRODUCTION: Locating the FBR-thermal reactor distinction within India's three-stage nuclear programme.
2. BODY: Distinguishing table, explanation of criticality at Kalpakkam, and implications.
3. CONCLUSION: Punchline on PFBR as the gateway to Stage 2.

INTRODUCTION

India's three-stage nuclear programme was designed by Homi Bhabha specifically to exploit its large thorium reserves via an intermediate plutonium-breeding stage — which is why the distinction between a Fast Breeder Reactor and a conventional thermal reactor is not merely technical but central to India's long-term energy strategy.

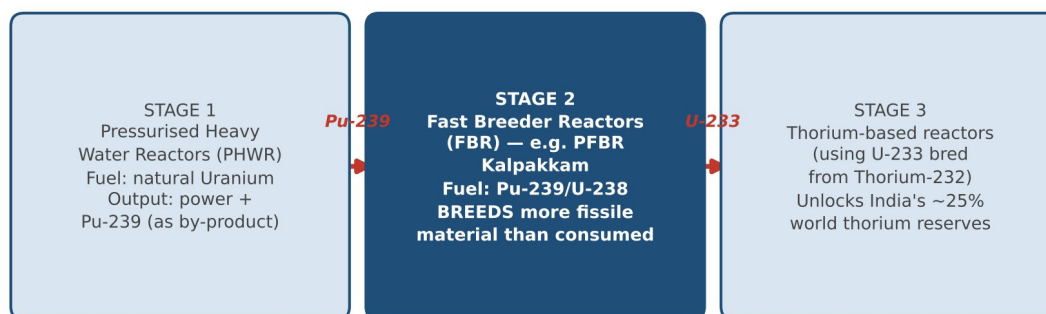
BODY

Distinguishing FBR from a thermal nuclear reactor:

Basis	Fast Breeder Reactor (FBR)	Thermal Nuclear Reactor
Neutron energy used	Fast (high-energy) neutrons, unmoderated	Slow (thermal) neutrons, moderated by water/heavy water
Fuel	Plutonium-239 / Uranium-238 mixed oxide (MOX)	Enriched or natural Uranium-235
Coolant	Liquid sodium (high thermal conductivity, no moderation)	Light or heavy water, which also moderates neutrons
Fuel behaviour	"Breeds" more fissile material (Pu-239) than it consumes, via U-238 conversion	Consumes fissile material without net breeding
Role in India's programme	Stage 2 — bridges to thorium-based Stage 3	Stage 1 — India's existing PHWR/LWR fleet
Example	Prototype Fast Breeder Reactor (PFBR), Kalpakkam	Tarapur, Kaiga, Rawatbhata PHWRs

India's three-stage nuclear programme, and the FBR's bridging role within it, is shown below:

India's Three-Stage Nuclear Programme: The Thorium Bridge



PFBR Kalpakkam's first criticality (2026) activates Stage 2 — the essential bridge converting Stage 1's Pu-239 into the fuel base for Stage 3

Fig: India's three-stage nuclear power programme

Criticality at Kalpakkam: 'Criticality' denotes the self-sustaining state of a nuclear chain reaction, where each fission event triggers, on average, exactly one further fission (a multiplication factor of 1) — the reactor is neither dying out (sub-critical) nor exponentially escalating (super-critical), producing a steady, controlled release of energy. The PFBR at Kalpakkam — India's first indigenously designed and built FBR — attained this first criticality, confirmed by the Department of Atomic Energy, marking the moment its core became self-sustaining for the first time, over fifteen years behind its originally envisaged schedule, before progressing toward full power generation and grid connection.

Implications for India's clean energy future:

1. Activates Stage 2: criticality operationalises the plutonium-breeding stage that is the essential bridge to Stage 3 (thorium-based reactors), unlocking India's roughly one-quarter share of world thorium reserves as a long-term, low-carbon fuel base.
2. Fuel-cycle closure: FBRs "breed" more fissile fuel than they consume, multiplying the energy extractable from India's limited natural uranium reserves many-fold and reducing import dependence on enriched uranium.
3. Low-carbon baseload: unlike variable renewables, FBR-based nuclear power supplies steady, dispatchable baseload generation, complementing solar and wind in India's decarbonisation pathway and Panchamrit/net-zero-by-2070 commitments.
4. Technological validation: successful, indigenously engineered criticality demonstrates sodium-cooled fast-reactor capability largely independent of international fuel-cycle technology transfer, which had been constrained by India's non-NPT status.

CONCLUSION

Criticality at Kalpakkam is less an endpoint than an ignition switch — it converts India's three-stage nuclear vision from a theoretical roadmap into an operating reactor, and with it, brings the thorium-fuelled, energy-secure future the programme was designed around considerably closer.

7. Discuss, with suitable examples, how the contradiction between 'rapid infrastructure development' and 'disaster-risk reduction' in India's ecologically sensitive areas can be managed.

ANS.

STRUCTURE

1. INTRODUCTION: Naming the contradiction as a trade-off between short-term connectivity gains and long-term ecological stability.
2. BODY: Examples illustrating the contradiction, then how it can be managed.
3. CONCLUSION: Punchline on carrying capacity as the reconciling principle.

INTRODUCTION

India's ecologically sensitive Himalayan and Western Ghats regions have repeatedly shown that infrastructure built for connectivity, tourism, or strategic access can itself become a disaster multiplier when it disregards the terrain's carrying capacity.

BODY

Examples of the contradiction:

1. Joshimath subsidence (2023): road-widening under the Char Dham project and hydropower tunnelling in the geologically fragile Himalayan region were linked by expert committees to accelerated land subsidence in the town.
2. Chamoli flash flood (2021): a glacial rock-ice avalanche, exacerbated by hydropower infrastructure in the Rishiganga-Dhauliganga basin, caused massive loss of life and destroyed under-construction hydel projects themselves.
3. Wayanad landslides (2024): unregulated construction, quarrying, and land-use change in the ecologically fragile Western Ghats were cited by the Gadgil and subsequent expert assessments as aggravating factors in the landslide's severity.
4. Urban wetland encroachment: infrastructure and real-estate expansion over natural drainage channels and wetlands in cities like Chennai and Bengaluru has intensified recurrent urban flooding.

Managing the contradiction:

1. Rigorous, enforced Environmental Impact Assessment: strengthening EIA processes (rather than diluting them for "ease of clearance") and ensuring cumulative-impact assessment for multiple simultaneous projects in one river basin, not just project-by-project review.
2. Scientific carrying-capacity studies: mandating terrain- and basin-specific carrying-capacity assessments (as recommended post-Joshimath) before greenlighting new construction, hydropower, or tourism-infrastructure expansion.
3. Zonation and regulation: adopting Eco-Sensitive Zone and CRZ-style graded-restriction zoning for Himalayan and Western Ghats regions, with stricter norms in the most fragile sub-zones.
4. Nature-based and resilient engineering: preferring smaller, distributed run-of-river hydel designs, slope-stabilisation and bioengineering techniques, and disaster-resilient construction codes (NDMA guidelines) over large, disruptive single structures.

5. Institutional early-warning integration: linking infrastructure project monitoring with real-time glacial lake, rainfall, and slope-stability sensors, as being scaled up after Chamoli, to allow pre-emptive action rather than post-disaster response.

CONCLUSION

The contradiction cannot be eliminated, only managed — by making a region's ecological carrying capacity, not just its economic or strategic value, the binding constraint against which every infrastructure decision in sensitive zones is tested.

8. Discuss the aim and goals of Kunming-Montreal global biodiversity framework. Mention India's commitments and initiatives to achieve the goals and targets of this framework giving suitable examples.

ANS.

STRUCTURE

1. INTRODUCTION: The Framework's headline vision and mission under the CBD.
2. BODY: Aims/goals, then India's commitments and initiatives.
3. CONCLUSION: Punchline on translating global targets into local outcomes.

INTRODUCTION

Adopted at CBD COP15 (Montreal, December 2022), the Kunming-Montreal Global Biodiversity Framework (KMGBF) sets a 2050 Vision of "living in harmony with nature" and a 2030 Mission to halt and reverse biodiversity loss, replacing the missed Aichi Targets with a more accountable, monitorable framework.

BODY

Aims and goals:

1. Four long-term 2050 goals covering: reducing extinction risk and maintaining genetic diversity; sustainable use of biodiversity's contributions to people; fair and equitable benefit-sharing from genetic resources; and adequate means of implementation (finance, capacity, technology).
2. 23 action-oriented 2030 targets, the most prominent being Target 3 — the "30x30" pledge to effectively conserve at least 30% of the world's land, inland waters, and coastal/marine areas by 2030.
3. Other key targets: restoring 30% of degraded ecosystems (Target 2), reducing harmful subsidies by at least USD 500 billion annually (Target 18), and mobilising USD 200 billion per year in biodiversity finance while closing the finance gap (Target 19).

India's commitments and initiatives:

1. Updated National Biodiversity Strategy and Action Plan (NBSAP): launched at CBD COP16 (Cali, Colombia, November 2024), aligning India's response with the KMGBF through 23 National Biodiversity Targets (NBTs) under a "Whole-of-Government, Whole-of-Society" approach spanning 23 central ministries.
2. Institutional architecture: implementation is anchored in the three-tier structure of the National Biodiversity Authority, State Biodiversity Boards, and local Biodiversity Management Committees under the Biological Diversity Act, 2002 (amended 2023).
3. Protected-area and habitat initiatives: Project Tiger and Project Elephant (species recovery), Project Lion and Cheetah reintroduction (species restoration), and the Amrit Dharohar scheme for optimal use of wetlands (Ramsar sites) — directly advancing Target 2/3-type outcomes.
4. Restoration and connectivity: the Green India Mission and Namami Gange river-rejuvenation programme target degraded-ecosystem restoration, while India's expanding network of Ramsar sites and marine protected areas contributes toward the 30x30 goal.

5. Mainstreaming and finance: India's LiFE (Lifestyle for Environment) Mission promotes sustainable consumption aligned with the Framework's behaviour-change goals, while budgetary allocations and green-bond financing address Target 19's resource-mobilisation objective.

CONCLUSION

India's updated NBSAP shows a country translating a global framework's numeric targets into an institutionally anchored domestic programme — the real test now is whether India's existing conservation machinery, stretched across ministries, can deliver the 30x30 and restoration targets on the Framework's tight 2030 timeline.

9. Explain how fake news and disinformation pose threat to Internal Security and Public Order in Indian context? In this regard, discuss salient features of amendments in respect of Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Rules, 2021.

ANS.

STRUCTURE

1. INTRODUCTION: Fake news as a force-multiplier for internal-security threats in a digitally connected, socially fractured society.
2. BODY: Channels of threat, then the 2026 amendment's salient features.
3. CONCLUSION: Punchline on regulation racing technology.

INTRODUCTION

Fake news and disinformation threaten India's internal security not by creating new fault lines but by weaponising existing communal, regional, and cross-border ones at the speed of a viral message — a threat regulation has had to continuously catch up with.

BODY

How fake news threatens internal security and public order:

1. Communal and ethnic mobilisation: rumours and doctored content have repeatedly triggered or intensified communal violence and, during the Manipur ethnic clashes, circulated old or unrelated visuals as "fresh" atrocity content, deepening polarisation and hindering peace efforts.
2. Deepfake-driven panic and reputational attacks: AI-generated audio/video impersonating public figures or officials can trigger panic (false emergency alerts), financial fraud, or targeted defamation with near-immediate, hard-to-retract reach.
3. Cross-border psychological operations: disinformation networks traced to hostile state and non-state actors amplify separatist or anti-national narratives, particularly around border states and during security operations, complicating counter-terror and counter-insurgency messaging.
4. Undermining public trust and law enforcement: fake alerts about law-and-order incidents can trigger panic-buying, unrest, or mob action before authorities can verify and respond, straining public-order machinery.
5. Election and policy misinformation: synthetic or fabricated content around elections and government policy can distort public discourse in ways traditional libel or defamation law cannot address at platform scale.

Salient features of the amendments to the IT Rules 2021:

1. Synthetic content definition: the amendment defines "synthetic media" as content created or algorithmically altered to appear indistinguishable from an authentic recording of a real person, bringing deepfakes explicitly within the rules' scope.
2. Mandatory labelling: platforms must ensure prominent, visible labelling of AI-generated or synthetically altered content, and must seek user disclosure at the point of upload about AI generation.

3. Accelerated takedown timelines: general unlawful content must be removed within 3 hours of a valid order (down from 24-36 hours earlier), while sensitive content such as non-consensual deepfakes or intimate imagery must be removed within 2 hours.
4. Safe-harbour conditionality: intermediaries that knowingly host, promote, or fail to act against violative synthetic content risk losing Section 79 IT Act safe-harbour protection, sharpening platform accountability.
5. Enforcement architecture: states may designate multiple authorised officers for issuing takedown directions, decentralising and speeding up enforcement.

CONCLUSION

The amendment shows the state shifting from generic "fake news" rhetoric to a technically precise, synthetic-media-specific regime — but as generative AI tools keep outpacing detection and labelling technology, this is likely to remain an iterative, not a one-time, regulatory fix.

10. Ladakh is strategically located between China and Pakistan. As a measure to win hearts and minds of locals, discuss the Border Area Development Programmes (BADP) by the Central Government and civic actions by the Army. Also discuss demand of promulgation of provision of the Sixth Schedule of constitution for Ladakh.

ANS.

STRUCTURE

1. INTRODUCTION: Ladakh's strategic sensitivity as the reason "hearts and minds" measures matter operationally, not just administratively.
2. BODY: BADP, Army civic action, and the Sixth Schedule demand's status.
3. CONCLUSION: Punchline on unresolved political demands amid deepening security investment.

INTRODUCTION

Sharing borders with both China (Line of Actual Control) and Pakistan-administered territory, Ladakh's sparse, ethnically distinct population makes local goodwill a genuine strategic asset — which is why border-development spending and Army civic outreach are treated as security instruments, not merely welfare schemes.

BODY

Border Area Development Programme (BADP): funds border-village infrastructure — roads, schools, health centres, drinking water, and last-mile connectivity — in strategic hamlets, aiming to reduce out-migration from border villages (which would otherwise leave the frontier under-populated and harder to secure) and to visibly demonstrate state presence and welfare delivery.

Army's civic action: under initiatives such as "Operation Sadbhavana," the Army runs schools, medical camps, vocational training, and winter-stocking support in remote Ladakhi villages cut off for months by snow, building trust with border communities who often have more regular contact with soldiers than civilian administration — directly aiding intelligence-gathering and reducing susceptibility to hostile propaganda.

Ladakh's strategic location and its BADP/civic-action/Sixth-Schedule context are mapped below:

Ladakh: Strategically Sandwiched Between Two Fronts

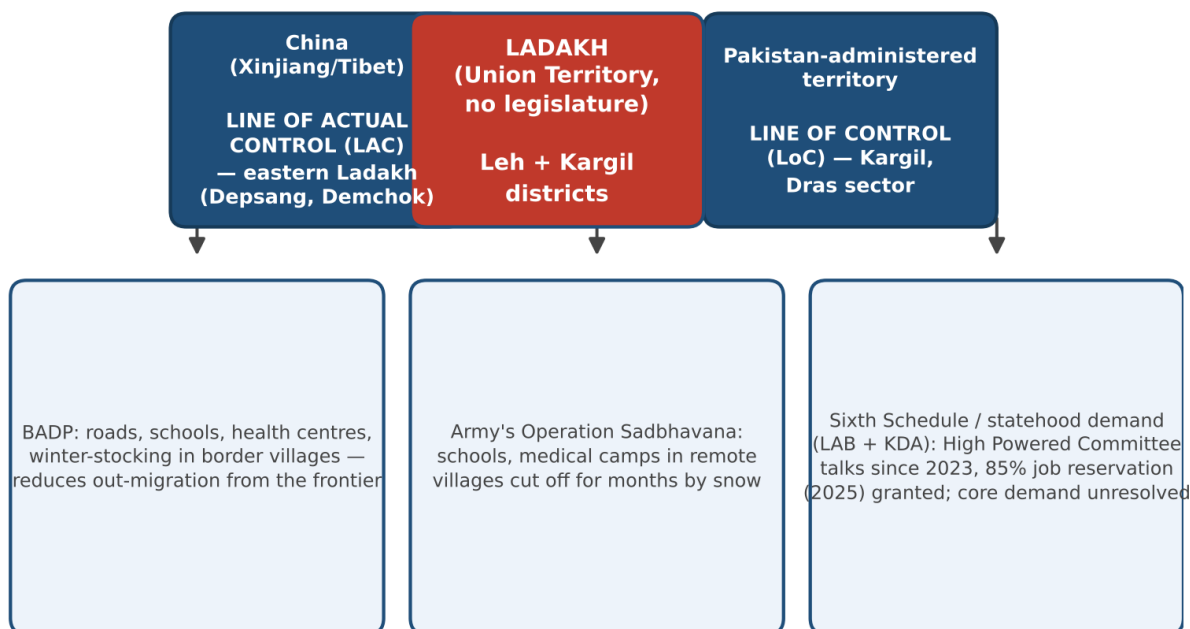


Fig: Ladakh's strategic location between China and Pakistan

The Sixth Schedule demand:

1. Origin: since Ladakh's 2019 reorganisation into a Union Territory without a legislature, both the Buddhist-majority Leh Apex Body (LAB) and the Muslim-majority Kargil Democratic Alliance (KDA) — rare allies on this issue — have jointly demanded full statehood, Sixth Schedule protections, a separate Public Service Commission, and two Lok Sabha seats, fearing loss of land, jobs, and cultural identity without constitutional safeguards.
2. Government response so far: a High Powered Committee under the Ministry of Home Affairs has held multiple rounds of talks with LAB and KDA since 2023; in 2025, the government notified the Ladakh Reservation (Amendment) Regulation, granting 85% reservation in local government jobs for residents with 15 years' domicile — a significant but partial concession.
3. Current status: as of early 2026, protests by LAB and KDA have continued, with the core demands for full statehood and Sixth Schedule inclusion still unresolved, leaving Ladakh administered as a UT without a legislature even as targeted job-protection measures have been rolled out.

CONCLUSION

BADP and Army civic action address Ladakh's material and security needs effectively, but they cannot substitute for a political settlement on land, jobs, and representation — until the Sixth Schedule/statehood question is resolved, hearts-and-minds outreach will keep managing, rather than closing, the region's underlying grievance.

11. Explain the key challenges for India's energy security. What measures do you suggest for ensuring energy security along with economic growth and sustainability?

ANS.

STRUCTURE

1. INTRODUCTION: Energy security as a triad of availability, affordability, and sustainability, all under strain.
2. BODY: Key challenges, then measures addressing growth and sustainability jointly.
3. CONCLUSION: Punchline on diversification as the unifying principle.

INTRODUCTION

India's energy security challenge is structurally difficult because it must reconcile rapidly growing demand from a still-developing economy with heavy import dependence and a global decarbonisation mandate it has voluntarily accepted — making "energy security" now inseparable from "energy transition."

BODY

Key challenges:

1. Import dependence: India imports roughly 85-88% of its crude oil requirement and a significant share of natural gas, exposing the economy to geopolitical shocks (Russia-Ukraine war, Red Sea shipping disruptions, Strait of Hormuz risk).
2. Coal-heavy power mix: coal still generates around 70% of electricity, locking in emissions even as India commits to net-zero by 2070, and creating stranded-asset risk for future coal investment.
3. Renewable intermittency and storage gap: solar and wind capacity has expanded rapidly, but grid-scale battery storage and pumped-hydro capacity lag behind, causing curtailment and grid-balancing stress.
4. Critical mineral dependence: India relies heavily on imports (much of it from China) of lithium, cobalt, and rare earths essential for batteries, EVs, and solar cells, creating a new import vulnerability even as oil dependence is addressed.
5. DISCOM financial stress: chronically loss-making state power distribution companies limit investment in grid modernisation and constrain the pace of renewable integration.

Measures for energy security with growth and sustainability:

1. Diversify import sources and build strategic reserves: expand Strategic Petroleum Reserve capacity and diversify crude sourcing beyond traditional Gulf suppliers.
2. Accelerate renewables with storage: scale battery storage and pumped-hydro through the PLI scheme for Advanced Chemistry Cell manufacturing, alongside continued solar/wind capacity addition (PM-KUSUM, rooftop solar).
3. Domestic critical-mineral security: operationalise the Critical Mineral Mission for domestic exploration, recycling, and overseas mineral-asset acquisition (via Khanij Bidesh India).
4. Green hydrogen and nuclear: scale the National Green Hydrogen Mission for hard-to-abate sectors, and pursue Small Modular Reactors alongside the Kalpakkam-led fast-breeder programme for low-carbon baseload power.

5. Demand-side efficiency and DISCOM reform: deepen the Perform, Achieve and Trade (PAT) scheme for industrial efficiency, and continue DISCOM financial-restructuring reforms to enable grid investment.

CONCLUSION

Energy security for India can no longer mean simply securing more fossil fuel — it means diversifying every link of the energy chain (sources, technologies, and minerals) so that growth and the net-zero commitment reinforce rather than undercut each other.

12. How are startups in India promoting entrepreneurship, innovation and employment? Discuss the global and domestic challenges in their working and suggest suitable measures to overcome these challenges.

ANS.

STRUCTURE

1. INTRODUCTION: Startups as India's fastest-growing channel for entrepreneurship-led job creation.
2. BODY: Their contribution, then global and domestic challenges, then measures.
3. CONCLUSION: Punchline on sustaining momentum beyond the funding cycle.

INTRODUCTION

Since the Startup India initiative's 2016 launch, India has built the world's third-largest startup ecosystem, with startups now serving as a structural channel for entrepreneurship, technology-led innovation, and formal-sector employment beyond what traditional industry has generated at comparable pace.

BODY

How startups promote entrepreneurship, innovation, and employment:

1. Scale of registration and employment: DPIIT-recognised startups have grown from around 500 in 2016 to over 1.7 lakh, having generated more than 16.6 lakh direct jobs, with over 44,000 new startups registered in 2025 alone.
2. Innovation across sectors: startups have driven India's rise in fintech, agritech, healthtech, and deep-tech (space, semiconductors), with over 100 unicorns now spanning diverse sectors rather than only e-commerce.
3. Inclusive entrepreneurship: over 73,000 recognised startups have at least one woman director, and Tier-2/Tier-3 cities are contributing a growing share of new startups, widening entrepreneurship beyond metro hubs.
4. Ecosystem support: tax holidays, the Fund of Funds for Startups, the Atal Innovation Mission, and simplified compliance (self-certification) have lowered entry barriers for first-generation entrepreneurs.

Global and domestic challenges:

1. Funding winter: global venture-capital pullback since 2022 has tightened late-stage funding, forcing "down rounds," layoffs, and delayed IPOs even for well-established Indian startups.
2. International competition: Indian deep-tech and AI startups compete against better-capitalised US and Chinese counterparts for both talent and global market share.
3. Domestic capital-access gap: funding remains concentrated at seed stage; growth and late-stage domestic capital pools remain shallow, pushing many startups to raise from, and legally domicile in, overseas jurisdictions ("flipping").
4. Regulatory and compliance burden: multiplicity of labour, tax, and sector-specific approvals continues to raise the cost of scaling despite reforms.
5. IPR and deep-tech gaps: slow patent processing and limited translation of research into commercial deep-tech products constrain high-value innovation.

Suggested measures: expand the domestic Fund of Funds corpus and GIFT City-based fund structures to reduce "flipping" incentives; simplify IPO norms for loss-making tech companies; fast-track patent examination for startups; and deepen sector-specific regulatory sandboxes (as already used in fintech) to other frontier sectors.

CONCLUSION

Startups have proved their capacity to generate jobs and innovation at a pace traditional industry cannot match; sustaining that capacity now depends on building deep domestic capital pools so that Indian innovation is funded, and retained, at home rather than abroad.

13. How Indian agriculture has been transformed from food scarcity to food-surplus level? Explain the various government policies implemented for diversification of Indian agriculture.

ANS.

STRUCTURE

1. INTRODUCTION: The scarcity-to-surplus transformation as a two-phase story — productivity first, diversification now.
2. BODY: The transformation's drivers, then diversification policies.
3. CONCLUSION: Punchline on diversification as the second Green Revolution's real objective.

INTRODUCTION

India moved from ship-to-mouth grain dependence in the 1960s to a position of comfortable, often exportable, food-grain surplus — a transformation achieved first through the Green Revolution's productivity push, and now being extended through deliberate diversification away from cereal monoculture.

BODY

Transformation from scarcity to surplus:

1. Green Revolution (from mid-1960s): high-yielding variety seeds, assured irrigation, and fertiliser use dramatically raised wheat and rice productivity in Punjab, Haryana, and western UP, ending chronic grain shortages by the 1970s-80s.
2. Price and procurement support: the Minimum Support Price system combined with Food Corporation of India procurement guaranteed farmers a market, incentivising sustained production of surplus grain for buffer stocks and the Public Distribution System.
3. Complementary revolutions: the White Revolution (Operation Flood, dairy self-sufficiency), Blue Revolution (fisheries), and more recent Yellow Revolution efforts (edible oils) diversified surplus beyond food grains alone.
4. Institutional and technological deepening: expansion of irrigation (canal and groundwater), fertiliser subsidy, and later biotechnology and precision-agriculture tools sustained yield growth even as the cultivable area stagnated.

Government policies for diversification:

1. Rashtriya Krishi Vikas Yojana (RKVY): provides states flexible funding to promote crop diversification, horticulture, and value addition suited to local agro-climatic conditions.
2. National Mission on Edible Oils–Oilseeds and Oil Palm (2022): incentivises area shift toward oilseeds and oil palm to reduce edible-oil import dependence.
3. PM-AASHA: extends price-support and procurement mechanisms beyond wheat/rice to pulses and oilseeds, correcting the historic cereal bias of MSP-driven cropping choices.
4. Millets promotion (Shree Anna initiative): leveraging the International Year of Millets (2023) momentum to promote nutri-cereals as a climate-resilient, water-efficient diversification away from paddy in water-stressed regions like Punjab-Haryana.

5. Natural/organic farming promotion: schemes such as PM-PRANAM and the Bharatiya Prakritik Krishi Paddhati incentivise reduced chemical-input, diversified cropping systems for long-term soil health.
6. Horticulture Cluster Development Programme: promotes region-specific horticultural clusters for higher-value crop diversification and export competitiveness.

CONCLUSION

Having solved the scarcity problem through cereal-focused productivity gains, Indian agricultural policy's current challenge is to diversify that surplus toward nutrition, water-sustainability, and farmer income — a second transformation as deliberate as the first.

14. Discuss the different types of subsidies and supports provided by the Government of India to agricultural sector. Examine the related issues pertaining to Agreement on Agriculture of World Trade Organisation (WTO).

ANS.

STRUCTURE

1. INTRODUCTION: Indian agricultural support as a mix of input, credit, insurance, and price interventions, each with a distinct WTO classification.
2. BODY: Types of subsidies/support, then WTO Agreement on Agriculture issues.
3. CONCLUSION: Punchline on the unresolved Public Stockholding dispute.

INTRODUCTION

The Government of India supports agriculture through a layered mix of input subsidies, credit concessions, insurance, and price support — a structure that has repeatedly put India at odds with the WTO's Agreement on Agriculture (AoA) over how such support is measured and capped.

BODY

Types of subsidies and support:

1. Input subsidies: fertiliser subsidy (Nutrient-Based Subsidy scheme, urea price control), and subsidised electricity for irrigation pump-sets provided mainly by state governments.
2. Credit subsidy: interest subvention on Kisan Credit Card loans, effectively lowering the interest rate for short-term crop loans.
3. Irrigation and infrastructure support: subsidised drip/sprinkler irrigation under PM Krishi Sinchayee Yojana, and warehousing/cold-chain infrastructure support.
4. Insurance subsidy: premium subsidy under the Pradhan Mantri Fasal Bima Yojana (PMFBY), sharing crop-insurance premium cost between farmer, state, and centre.
5. Price support: Minimum Support Price-based procurement of wheat, rice, and select pulses/oilseeds through the Food Corporation of India and state agencies.
6. Historical export subsidy: sugar export subsidies were provided in the past but have been phased down amid WTO disputes.

WTO Agreement on Agriculture issues:

1. Amber Box classification: MSP-based procurement is classified as trade-distorting ("Amber Box") support subject to a de minimis ceiling of 10% of the value of production for developing countries — a limit India argues is breached only because AoA calculates it using an outdated 1986-88 reference price, ignoring decades of inflation.
2. Public Stockholding dispute: India's foodgrain stockholding for food-security purposes has been repeatedly challenged by exporting countries as exceeding this ceiling; the Bali Peace Clause (2013) provides an interim protection from WTO disputes pending a "permanent solution," which remains unresolved.
3. G-33 coalition advocacy: India, leading the G-33 developing-country coalition, has consistently pushed for a permanent solution recognising food-security stockholding as legitimately outside trade-distorting disciplines.

4. Stalled negotiations: the 13th Ministerial Conference (Abu Dhabi, 2024) failed to deliver the permanent solution; as preparatory negotiations continue toward the 14th Ministerial Conference, member submissions through 2025-26 show the issue remains unresolved.
5. Fisheries and other subsidy overlaps: India has separately resisted disciplines on fisheries subsidies that it argues would disproportionately curb small-scale, subsistence fishers while leaving industrial fishing fleets of developed nations less affected.

CONCLUSION

India's agricultural support system reflects genuine food-security and farmer-welfare imperatives that sit uneasily within a WTO framework calibrated to older trade realities — until the Public Stockholding "permanent solution" is achieved, this friction between domestic food security and multilateral trade discipline will persist.

15. Mention salient features of 'Mission Drishti'. Discuss the imaging techniques (imaging techniques) used in the satellite launched on 3rd May 2026. Why it is being considered world's first satellite of its kind?

ANS.

STRUCTURE

1. **INTRODUCTION:** Mission Drishti as a landmark for India's private space and earth-observation capability.
2. **BODY:** Salient features, imaging techniques, and why it is world's first of its kind.
3. **CONCLUSION:** Punchline on fused sensing as the mission's real innovation.

INTRODUCTION

Mission Drishti, launched on 3 May 2026 by IIT Madras-incubated GalaxEye Space, is India's largest satellite built by a private company and the world's first satellite to combine radar and optical earth-observation sensing on a single integrated platform.

BODY

Salient features:

1. Built and launched by GalaxEye Space, launched aboard a SpaceX Falcon 9 from Vandenberg Space Force Base, the 190-kg satellite successfully deployed and established initial contact, now in its commissioning phase.
2. Equipped with NVIDIA Jetson Orin hardware for onboard AI processing, enabling real-time data fusion rather than only ground-based post-processing.
3. Uses electric propulsion for extended orbital manoeuvring and lifespan, and is designed as the first of a planned 10-satellite "Drishti Constellation" targeted for completion by 2029, aimed at continuous global coverage.
4. Intended applications span defence and strategic surveillance, agriculture monitoring, disaster response, and urban planning.

Imaging techniques used:

1. Synthetic Aperture Radar (SAR): an active microwave sensor that penetrates cloud cover and operates day or night, providing all-weather imaging regardless of visibility conditions.
2. Multispectral optical imaging: a 7-band passive optical imager captures fine-detail, colour-differentiated surface information under clear conditions.
3. Onboard sensor fusion: rather than combining SAR and optical data on the ground after separate passes (the conventional approach), Drishti fuses both data streams onboard using AI processing, achieving a combined resolution of approximately 1.8 metres and delivering, per the company's claim, up to three times more actionable insight than a single-sensor satellite.

Why it is considered world's first of its kind: existing earth-observation systems rely on separate SAR and optical satellites (or constellations), requiring data from each to be downlinked and fused later on the ground — a process that adds delay and loses some complementary detail. Drishti is described as the world's first "OptoSAR" satellite because it is the first single spacecraft to carry both sensor types together and fuse their data onboard in near real-time, rather than relying on distinct missions and post-facto ground fusion.

CONCLUSION

Mission Drishti's significance lies less in any single sensor than in the integration itself — by fusing all-weather radar and high-resolution optical imaging onboard a single Indian-built platform, it demonstrates a genuinely novel earth-observation architecture rather than an incremental improvement on existing satellite capability.

16. What is agentic Artificial Intelligence (AI)? Explain its working. Describe its applications with suitable examples. Discuss the advantages, risks and challenges associated with agentic AI systems.

ANS.

STRUCTURE

1. INTRODUCTION: Distinguishing agentic AI from conversational/generative AI.
2. BODY: Definition and working, applications, and advantages/risks/challenges.
3. CONCLUSION: Punchline on autonomy as both agentic AI's value and its danger.

INTRODUCTION

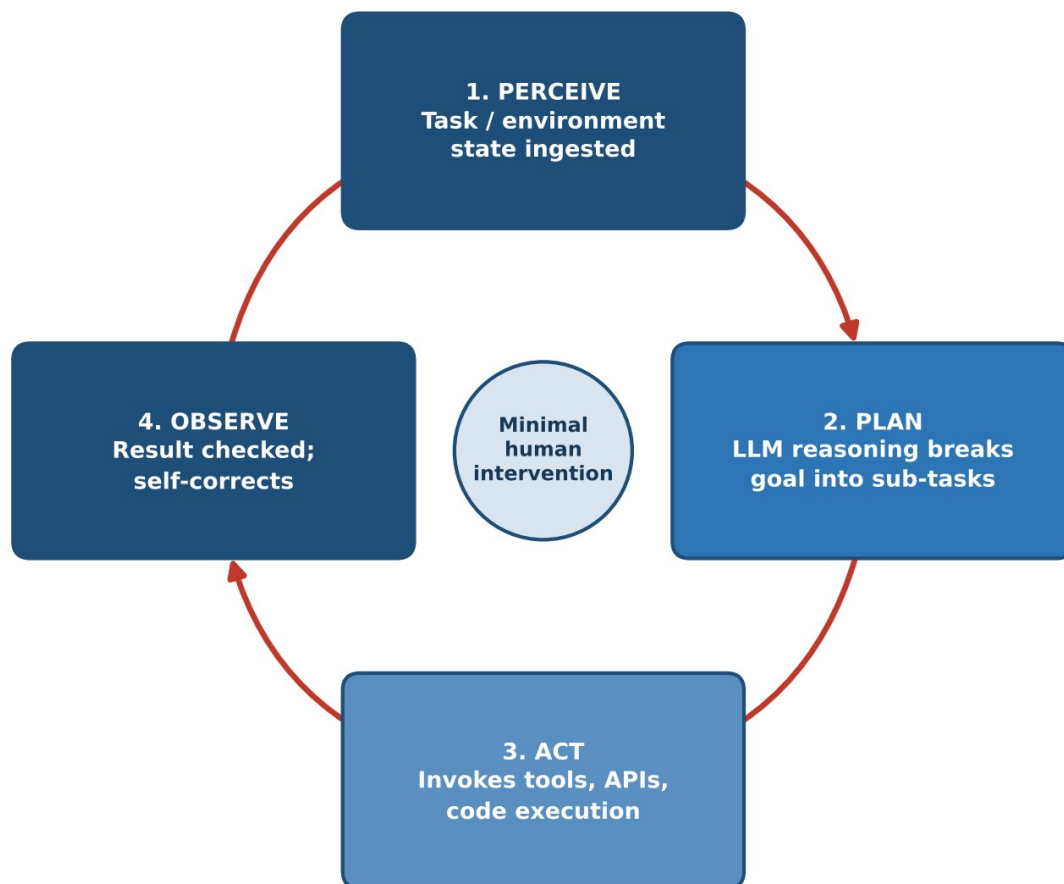
Agentic Artificial Intelligence refers to AI systems that can autonomously plan, decide, and execute multi-step tasks toward a given goal with minimal human intervention — a qualitative shift from conversational or generative AI, which merely responds to individual prompts without independently pursuing an objective across multiple steps.

BODY

Working: an agentic AI system typically operates in an iterative loop — it perceives its task/environment, uses a large language model (or similar reasoning engine) to break the goal into sub-tasks, acts by invoking external tools, APIs, or code execution to carry out each sub-task, observes the outcome, and self-corrects before proceeding to the next step, often orchestrating multiple specialised sub-agents rather than a single monolithic model.

This perceive-plan-act-observe loop is illustrated below:

Agentic AI: The Autonomous Perceive-Plan-Act-Observe Loop



Repeats autonomously across multiple steps toward the goal — the qualitative shift from conversational AI, which only responds once per prompt

Fig: The agentic AI perceive-plan-act-observe loop

Applications with examples:

1. Autonomous coding agents that write, test, and debug software with minimal human prompting at each step.
2. Customer-service agents that independently resolve support tickets end-to-end, from diagnosis to resolution, without human handoff.

3. Autonomous research and reporting agents that gather data from multiple sources, synthesise it, and produce structured analysis.
4. Agricultural advisory agents under India's digital agriculture push, providing personalised, multi-step crop-advisory workflows to farmers.
5. India's IndiaAI Mission is beginning to explore agentic extensions of public digital infrastructure (such as Bhashini) for autonomous, multilingual citizen-service delivery.

Advantages: automation of complex, multi-step workflows beyond simple query-response; round-the-clock operation without fatigue-driven error; and scalable personalisation across large user bases (e.g., citizen services, customer support).

Risks and challenges:

1. Reduced human oversight: autonomous, multi-step decision chains can act in ways not directly reviewed by a human before execution, raising accountability gaps when something goes wrong.
2. Compounding errors: a hallucination or misjudgement early in a multi-step chain can propagate and amplify through subsequent autonomous actions.
3. Security vulnerabilities: prompt-injection attacks and unauthorised autonomous actions (e.g., unintended financial transactions or data access) present new attack surfaces.
4. Employment displacement: agentic systems capable of end-to-end task completion pose a more direct substitution risk to white-collar cognitive work than earlier generative tools.
5. Regulatory lag: liability, safety, and alignment frameworks for autonomous AI action are still nascent, even as India's evolving AI governance guidelines under the IndiaAI Mission attempt to catch up.

CONCLUSION

Agentic AI's defining strength — autonomous, multi-step execution — is also its defining risk, making robust human-in-the-loop safeguards and clear accountability frameworks a precondition, not an afterthought, for its safe deployment at scale.

17. What are the challenges to solid waste management in India? Discuss the governmental policy framework on solid waste management. Discuss the success/failure cases of Delhi and Indore cities highlighting the salient feature of their solid waste management initiatives.

ANS.

STRUCTURE

1. INTRODUCTION: Solid waste management as a governance-capacity problem as much as a technical one.
2. BODY: Challenges, policy framework, and the Delhi-Indore comparison.
3. CONCLUSION: Punchline on Indore as proof that the policy framework itself is not the bottleneck.

INTRODUCTION

India's solid waste management challenge is less about the absence of policy — the framework is fairly comprehensive — and more about the wide gap in municipal capacity and civic compliance between cities that have implemented it well and those that have not, a gap starkly visible when comparing Indore and Delhi.

BODY

Challenges to solid waste management:

1. Poor source segregation: most urban households do not segregate wet, dry, and hazardous waste, complicating downstream processing.
2. Legacy waste mountains: decades of unscientific dumping have created massive landfill mounds in large cities, posing fire, leachate, and structural collapse risks.
3. Weak ULB capacity: many municipal bodies lack the financial and technical capacity for scientific processing, and rely heavily on unintegrated informal-sector waste-pickers.
4. Land scarcity: finding suitable land for new scientific landfills or processing facilities near dense urban areas is increasingly difficult.
5. Rising complex waste streams: growing e-waste and plastic waste volumes require specialised processing capacity most cities lack.

Governmental policy framework: the Solid Waste Management Rules (2016, further amended since) mandate source segregation, extended producer responsibility for plastics, and processing before disposal; Swachh Bharat Mission-Urban 2.0 (launched 2021) targets garbage-free city status, scientific legacy-waste remediation, and wastewater management; and the GOBARdhan scheme promotes biomethanisation of wet/organic waste into biogas and compost.

Delhi (failure case): despite Supreme Court and NGT directions, Delhi's three landfill mountains — Bhalswa, Ghazipur, and Okhla — have collectively accumulated tens of millions of tonnes of legacy waste over decades, with repeated missed deadlines for bio-mining remediation, periodic landfill fires, and fragmented civic-body coordination that persisted even after the 2022 unification of Delhi's three municipal corporations.

Indore (success case): Indore has been ranked India's cleanest city in the Swachh Survekshan rankings for multiple consecutive years, including again in 2025, built on near-universal door-to-door collection with source segregation into up to six categories, a "zero waste to landfill" processing model, and a GOBAR-

Dhan biomethanisation plant that converts wet waste into CNG used to fuel city buses — demonstrating that decentralised processing, not just landfilling, can be achieved at city scale.

CONCLUSION

Delhi and Indore operate under the same national policy framework, yet one remains defined by unresolved legacy landfills and the other by replicable, decentralised processing — confirming that municipal execution capacity, not policy design, is the binding constraint on India's solid waste management outcomes.

18. "Community participation is effective disaster management's cornerstone." Analyse this statement with suitable examples from India. Also discuss the challenges to community participation and measures to strengthen it.

ANS.

STRUCTURE

1. INTRODUCTION: Agreeing with the statement, grounded in India's own shift from relief-centric to community-based disaster management.
2. BODY: Supporting examples, challenges, and strengthening measures.
3. CONCLUSION: Punchline on community participation as infrastructure, not sentiment.

INTRODUCTION

I agree that community participation is the cornerstone of effective disaster management in India, because the country's most-cited successes in casualty reduction have come precisely where local communities, not just external agencies, were mobilised for early warning and evacuation.

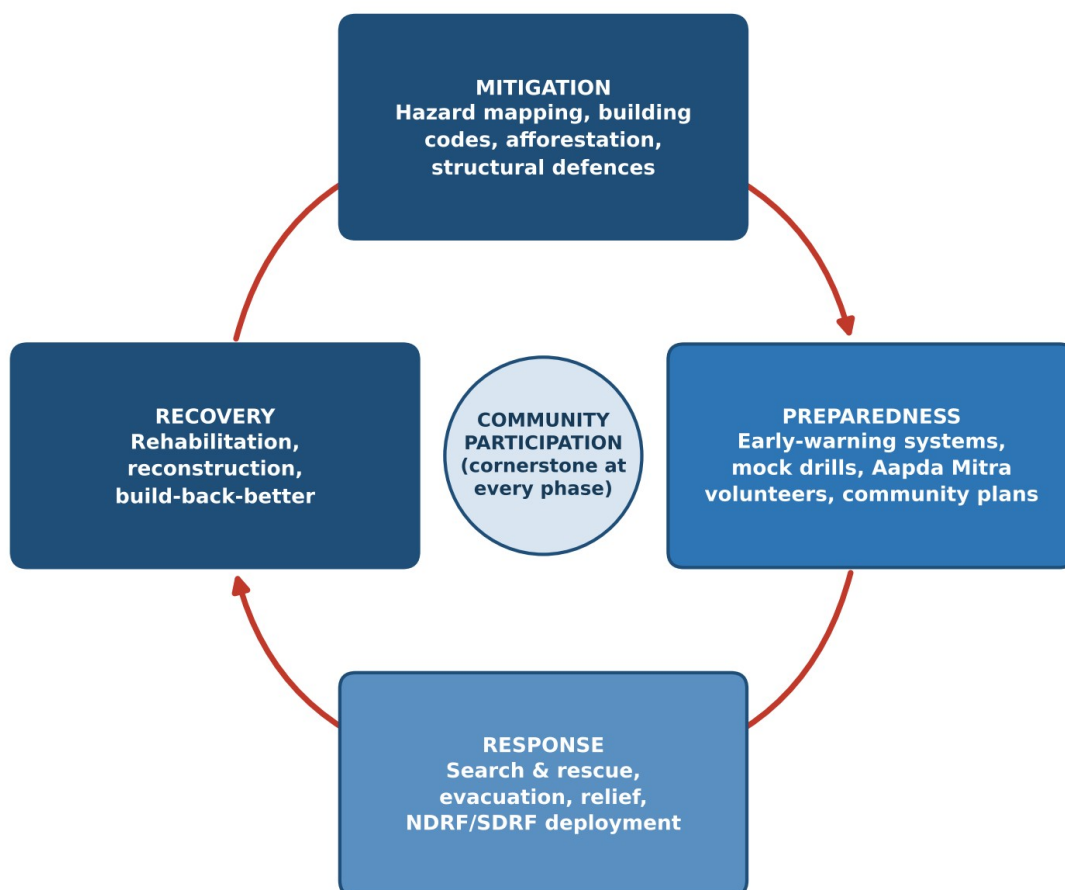
BODY

Supporting examples:

1. Odisha's near-zero-casualty cyclone model: since Cyclone Phailin (2013), Odisha's community-level cyclone shelters, trained local volunteers, and village-level evacuation drills have progressively reduced cyclone deaths from thousands (1999 super-cyclone) to near-zero in subsequent cyclones (Fani 2019, Yaas 2021) — a model built on community trust in, and participation with, the warning-evacuation chain.
2. Kudumbashree in Kerala floods: Kerala's women's self-help-group network, Kudumbashree, played a central role in relief distribution, shelter management, and post-flood rehabilitation during the 2018 and subsequent floods, demonstrating how pre-existing community institutions can be repurposed for disaster response.
3. Aapda Mitra volunteers: the NDMA's Aapda Mitra scheme trains community volunteers in flood-prone and disaster-prone districts in search, rescue, and first-response skills, embedding response capacity within the community itself rather than relying solely on external agencies' arrival time.
4. Village Disaster Management Plans: Panchayat-level disaster management planning in states like Uttarakhand has improved localised hazard mapping and evacuation-route awareness ahead of monsoon and flash-flood events.

The disaster management cycle, with community participation at its core, is shown below:

The Disaster Management Cycle



A continuous cycle, not a linear sequence — recovery feeds back into stronger mitigation for the next hazard event

Fig: The disaster management cycle with community participation at its core

Challenges to community participation: limited and inconsistent public awareness of hazard risk between disasters; activation of community structures only after a disaster strikes rather than continuous engagement; inadequate training and resource support at the panchayat/ward level; weak coordination between informal community groups and formal disaster-response machinery; and exclusion of marginalised or migrant populations from local planning processes.

Measures to strengthen community participation: institutionalise and expand the Aapda Mitra scheme to all disaster-prone districts; integrate disaster-management planning into regular Panchayati Raj functioning, funded through Finance Commission grants; conduct regular, not one-off, mock drills; leverage existing women's SHG networks (the Kudumbashree model) for last-mile mobilisation; and

deploy technology-enabled, Common Alerting Protocol-based alert systems that reach communities directly rather than only through official intermediaries.

CONCLUSION

Where India has succeeded in disaster-risk reduction, it is because communities were treated as first responders, not merely disaster victims — making sustained investment in community participation, rather than post-disaster relief capacity alone, the real cornerstone the statement identifies.

19. Separatist movements have been one of the major factors contributing to militancy and instability in Jammu & Kashmir (J&K). Bring out actions taken by the Government to bring J&K into national mainstream. Discuss pre and post abrogation status of Articles 370 and 35A. Also bring out positive impacts of abrogation of both articles in mainstreaming the state.

ANS.

STRUCTURE

1. INTRODUCTION: Framing 2019 abrogation as the pivot between two distinct constitutional-political phases for J&K.
2. BODY: Government actions, pre/post-abrogation comparison table, and positive impacts.
3. CONCLUSION: Punchline on integration achieved, statehood still pending.

INTRODUCTION

Separatist mobilisation, sustained by Article 370's special status and Article 35A's restrictive residency provisions, long complicated J&K's integration into the constitutional and economic mainstream — a status the government sought to fundamentally alter through the August 2019 reorganisation.

BODY

Government actions to bring J&K into the mainstream:

1. Reorganisation (2019): J&K was bifurcated into two Union Territories (J&K, and Ladakh), and roughly 890 central laws — including the RTI Act and RTE Act — were extended to the region.
2. Delimitation exercise (2022): redrew assembly constituencies, increasing Jammu region's seats and taking the total Assembly strength to 90 seats.
3. Restoration of electoral process: J&K Assembly elections were held in September-October 2024, the first in a decade, with turnout around 63%, followed by Panchayat and District Development Council elections institutionalising grassroots democracy.
4. Investment and infrastructure push: an Industrial Development Scheme, new industrial estates, and major connectivity projects — the Banihal-Katra rail link (completed January 2025, connecting Kashmir to the national rail grid via the world's highest railway bridge over the Chenab) and Zojila tunnel — aim to integrate J&K economically.

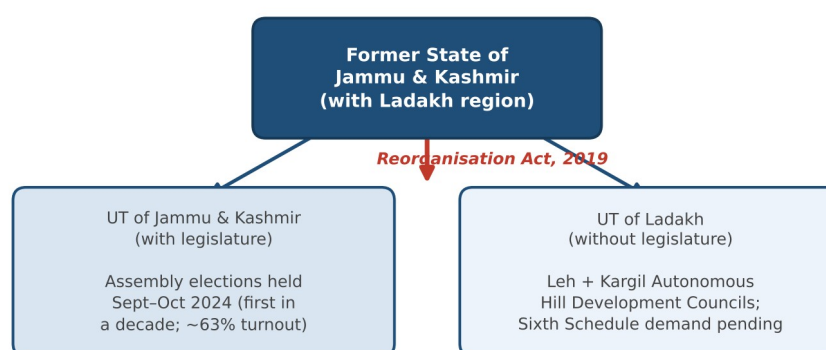
Pre- and post-abrogation status:

Aspect	Pre-abrogation (before Aug 2019)	Post-abrogation (after Aug 2019)
Constitutional status	Special status under Article 370; separate flag/constitution	Union Territory status; Indian Constitution applies fully
Property/job rights	Restricted to "permanent residents" under Article 35A	Domicile-based rights extended to a broader resident base
Central laws	Most central laws did not automatically apply	Around 890 central laws extended, including RTI, RTE

Aspect	Pre-abrogation (before Aug 2019)	Post-abrogation (after Aug 2019)
Legislature	State legislature (until Governor's/President's Rule periods)	UT without full legislature until 2024 Assembly elections
Investment climate	Restricted outside investment due to land-ownership limits	Open to investment; new industrial and tourism schemes

The pre- and post-reorganisation territorial change is shown below:

J&K Reorganisation, August 2019: Before and After



Both remain Union Territories as of 2026 — statehood for J&K promised only "once normalcy is fully established" (government position, undated)

Common thread: Article 370/35A abrogation ended J&K's separate constitutional status; both UTs now governed under central laws and institutions applied uniformly across India, while each pursues its own unresolved political demand

Fig: J&K before and after the 2019 reorganisation into J&K and Ladakh UTs

Positive impacts of abrogation in mainstreaming the state:

1. Restored democratic process: the 2024 Assembly and local-body elections re-established elected representation after years of central rule.
2. Security improvement trend: infiltration attempts and stone-pelting incidents have shown a declining trend compared to the pre-2019 period, per government data.
3. Investment and tourism revival: J&K investment summits have attracted proposals worth thousands of crores, and tourist arrivals have reached record levels, aided by improved connectivity.
4. Legal and rights uniformity: extension of central welfare, transparency, and rights legislation has brought J&K's residents the same legal protections available elsewhere in India.

Statehood, however, remains restored on a promised-but-undated basis, with the government maintaining it will follow "once normalcy is fully established" — leaving UT status as the still-unresolved end of the mainstreaming process.

CONCLUSION

The abrogation of Articles 370 and 35A has measurably deepened J&K's legal, electoral, and economic integration with the rest of India — but mainstreaming will remain incomplete, in both substance and public perception, until statehood itself is restored.

20. Discuss counterfeit currency and money laundering as major sources of terror funding in India. State the actions being taken at International level to check these menaces. Highlight the role of Financial Action Task Force (FATF) and methods of compliance by its member states in preventing terror funding.

ANS.

STRUCTURE

1. INTRODUCTION: Counterfeit currency and money laundering as the financial plumbing of terrorism.
2. BODY: Their role in terror funding, international action, and FATF's role/compliance methods.
3. CONCLUSION: Punchline on financial choke-points as counter-terrorism's quiet front.

INTRODUCTION

Counterfeit currency and money laundering matter to India's internal security not as ordinary financial crimes but as the mechanisms through which terrorist and separatist networks convert illicit or cross-border funds into usable operational money — making financial-intelligence tools as central to counter-terrorism as physical security operations.

BODY

Counterfeit currency and money laundering as terror-funding sources:

1. Fake Indian Currency Notes (FICN): historically smuggled into India via Pakistan, Nepal, and Bangladesh border routes, often linked to state-backed networks, FICN has funded militancy, particularly in Jammu & Kashmir and along the eastern border.
2. Hawala and trade-based laundering: informal hawala networks and over/under-invoiced trade transactions move terror funds while evading formal banking scrutiny and leaving minimal audit trails.
3. Shell companies and NGOs: illicit funds have been routed through shell companies and, in some documented cases, ostensibly charitable organisations to disguise their ultimate use.
4. Emerging channels: cryptocurrency transfers are an increasingly used, harder-to-trace channel for cross-border terror financing.

International actions:

1. UN Security Council Resolution 1373 (2001): obligates all member states to criminalise terror financing and freeze relevant assets.
2. Egmont Group: facilitates international cooperation and intelligence-sharing between national Financial Intelligence Units.
3. Bilateral and multilateral cooperation: Mutual Legal Assistance Treaties and information-sharing arrangements enable cross-border investigation and extradition in terror-finance cases.

Role of FATF and compliance methods: the Financial Action Task Force sets global Anti-Money Laundering/Countering the Financing of Terrorism (AML/CFT) standards through its 40 Recommendations, and conducts periodic mutual evaluations of member and non-member jurisdictions. Non-compliant jurisdictions are placed under "increased monitoring" (the grey list) or, for the most serious deficiencies, the black list — a reputational and economic pressure tool that has historically pushed even reluctant states toward reform. As of the latest FATF list, the black list comprises North

Korea, Iran, and Myanmar, while the grey list includes 21 jurisdictions; Pakistan formally exited the grey list in 2022 and remains off both lists, though concerns about the durability of its compliance persist in Indian security assessments. Member states comply through: enacting domestic AML/CFT legislation (India's Prevention of Money Laundering Act, 2002, and Unlawful Activities (Prevention) Act amendments); establishing Financial Intelligence Units (FIU-IND in India) for suspicious-transaction reporting; enforcing Know-Your-Customer and Customer Due Diligence norms across banks and designated non-financial businesses; and freezing, seizing, and confiscating terror-linked assets. India has additionally built domestic mechanisms such as the Fake Currency Coordination Centre (FCORD) and empowered the National Investigation Agency and Enforcement Directorate for dedicated terror-finance investigation.

CONCLUSION

Countering terror financing is as much a matter of financial-intelligence architecture — FIUs, KYC norms, and FATF-driven peer pressure — as of border security, and sustained compliance by every FATF member, not periodic list-based naming and shaming alone, is what ultimately determines whether this financial front against terrorism holds.