



UPSC CIVIL SERVICES MAINS 2026 · SOLVED

General Studies Paper III

Model Answers

Every question of the paper written on 23 August 2026, answered in full: the examiner's demand decoded first, then a structured answer with dated figures and a source list in which each entry is marked primary or secondary.

20

QUESTIONS

20

ANSWERED

250

MARKS

3 hrs

DURATION

INSIDE

- The examiner's demand decoded before every answer
- A full model answer, with its real word count against the paper's limit
- Value additions that earn marks, and the mistakes that lose them
- Sources under every answer, each marked primary or secondary
- The dated current-affairs trail behind the question



Bharat Choudhary

Editor · BharatNotes and Ujiyari



BharatNotes

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Ujiyari

Daily current affairs
and editorial analysis

FOREWORD

Why this document exists

On 23 August 2026 a few lakh candidates sat down to answer 20 questions in three hours. By evening the paper was everywhere and the answers were nowhere, because the Union Public Service Commission does not release model answers for the Mains examination and never has. What fills that gap is usually written fast, sourced thinly and never corrected.

This is the alternative I wanted when I was preparing. Every question in this paper is answered here in full. Each one opens with the examiner's demand decoded, because most marks are lost to a misread directive rather than to weak content, and *analyse*, *examine* and *comment* are not interchangeable. After the answer come the additions that earn marks and the mistakes that lose them.

On sourcing

Every source under every answer is labelled **primary** or **secondary**, so you can see at a glance whether you are reading the issuing authority or somebody's account of it. Where a document exists but its host could not be reached, it is cited in full rather than pointed at a URL that may not resolve. No link here was invented to satisfy a format. Where two official figures disagree, both appear with the basis of each. Where a widely repeated quotation could not be traced to a primary source, the page says so and tells you not to use it.

On length, honestly

These answers run longer than the exam allows, often two to three times longer on the 150-word questions, and each one prints its real word count against the limit so you can see by how much. That is deliberate. A study answer has to carry the reasoning, the alternatives and the sourcing that a three-hour answer leaves out. The exam-length answer is already inside it: the bold lead-in of each paragraph is the skeleton you would actually write, and the bullets under it are the material you would pick two of. Practise the compression. Do not reproduce the length.

On the two sites

This paper was written by an examiner reading the same year you were. Questions came from the Kalpakkam reactor, an amendment passed in March, a judgment delivered in May. So under each answer, where a question grew out of a story, you will find the dated coverage on **Ujiyari**, which is where the year is tracked, alongside the chapter on **BharatNotes**, which is where the syllabus lives. Static preparation without the year is out of date; current affairs without the framework is trivia. The two sites exist as a pair for that reason.

Use this to audit your own answer; not to replace it. Compare the structure, the sourcing and the balance of argument, then write your own and have it evaluated. That is the only part of this that actually raises a score.



Bharat Choudhary

Editor, BharatNotes and Ujiyari

27 August 2026

HOW TO USE THIS DOCUMENT

Five things worth knowing before you read

1. **Read the demand line first.** Most marks are lost to a misread directive, not to weak content. Each question opens with what the examiner actually asked for.
2. **Treat the answer as a skeleton with muscle.** Copying it into a test verbatim will not help. Internalise the structure, the data anchors and the balance of argument.
3. **Mind the word count, ours and yours.** Every answer prints its real length against the paper's limit. They run longer on purpose; the bold lead-in of each paragraph is the exam-length skeleton.
4. **Follow the source links.** The Budget, Economic Survey, PIB, RBI and ministry documents named under each answer are where the numbers came from, and are worth reading on their own.
5. **Use the current-affairs trail.** Where a question grew out of a story from the year, the dated Ujjiyari coverage is listed so you can see how it built up.

CONTENTS

All 20 questions

Q	THEME	MARKS	WORDS
1	Economy — money and banking	10	150
2	Economy — financial inclusion	10	150
3	Agriculture — technology missions	10	150
4	Agriculture — marketing and e-commerce	10	150
5	Science and technology — agricultural biotechnology	10	150
6	Science and technology — nuclear energy	10	150
7	Disaster management — infrastructure in fragile zones	10	150
8	Environment — global biodiversity governance	10	150
9	Internal security — information disorder	10	150
10	Internal security — border areas and Ladakh	10	150
11	Energy — security and transition	15	250
12	Economy — startups and innovation	15	250
13	Agriculture — from scarcity to surplus	15	250
14	Agriculture — subsidies and the WTO	15	250
15	Space technology — Earth observation	15	250
16	Science and technology — artificial intelligence	15	250

Q	THEME	MARKS	WORDS
17	Environment — solid waste management	15	250
18	Disaster management — community participation	15	250
19	Internal security — Jammu and Kashmir	15	250
20	Internal security — terror financing	15	250

PAPER ANALYSIS

What this paper actually tested

GS Paper III in 2026 was, more than usual, a paper about things that had happened in the preceding eighteen months. Four questions were anchored to datable events: the first criticality of the Kalpakkam fast breeder reactor on 6 April 2026, the launch of Mission Drishti on 3 May 2026, the IT Amendment Rules on synthetically generated information in force from 20 February 2026, and the Solid Waste Management Rules in force from 1 April 2026. Agriculture carried the heaviest weight of any single area, with five questions spanning technology missions, marketing, biotechnology, the scarcity-to-surplus transformation and the WTO, which is a reminder that agriculture is the most reliably examined part of this paper. Economy stayed close to the RBI, with the Digital Rupee and the Financial Inclusion Index both asking for an instrument to be explained rather than praised. Security and disaster management were framed regionally and specifically: Ladakh, Jammu and Kashmir, community participation, and terror financing. The paper rewarded precision of a particular kind — the ability to say what a thing is and how it works, with a date attached — and it punished generalities about technology and development that could have been written in any year.

WHERE THE 20 QUESTIONS FELL



1

10 marks

150 words

Economy — money and banking

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

Syllabus: Indian economy — mobilization of resources; inclusive growth

WHAT THE EXAMINER IS ASKING FOR

Three things: **define** the Digital Rupee, **explain how it works**, and give the **progress** of the pilots. The working half is where most answers go thin, and where the marks are, so be specific about the token model, the two-tier distribution and what makes it different from a bank deposit or UPI.

- Define with the three properties that matter: sovereign liability, legal tender, digital form.
- Explain the architecture — wholesale and retail, two-tier distribution through banks, token-based wallets, anonymity and offline capability, programmability.
- Give dated progress and then the honest assessment of why adoption remains small next to UPI.

MODEL ANSWER

437 words · paper allows 150

What it is. The Digital Rupee, or e-rupee, is India's **Central Bank Digital Currency**: a sovereign currency issued by the Reserve Bank in digital form. It is a **liability of the RBI**, not of a commercial bank, it is **legal tender**, and it is exchangeable at par with cash and bank deposits. That distinguishes it from a bank deposit, which is a claim on a bank, from UPI, which is a messaging layer that moves deposits, and from a private cryptocurrency, which has no issuer standing behind it.

How it works

- **Two variants.** Wholesale CBDC (e₹-W), for settlement between financial institutions, and retail CBDC (e₹-R), for person-to-person and person-to-merchant payments.
- **Two-tier distribution.** The RBI issues to banks; banks distribute to users through CBDC wallets. The central bank does not maintain retail accounts, so the existing banking relationship is preserved.
- **Token, not account.** e₹-R is issued in the same denominations as notes and coins and held as digital tokens in a wallet, so it behaves like cash rather than like a balance.
- **Cash-like features.** It bears no interest, and it is designed for a degree of anonymity in small transactions and for **offline** functionality in areas of poor connectivity, which UPI cannot offer.
- **Programmability.** Because the token can carry conditions, CBDC can be restricted to a purpose, a merchant category or a validity period, which is what makes it interesting for subsidy delivery.

Progress

- Pilots began with **wholesale on 1 November 2022**, for settlement of government securities transactions, and **retail on 1 December 2022**, in closed user groups of customers and merchants.
- The retail pilot was progressively widened to more banks, cities and use cases, reaching several million users, with interoperability with UPI QR codes so that a CBDC wallet can pay at an existing merchant.

- Programmability has been tested for **targeted transfers**, including tying funds to specified purposes such as agricultural inputs and subsidised food, so that the money can only be spent where it was intended.
- Cross-border and wholesale applications are being explored, and the RBI has repeatedly said there is **no target date** for a full launch, since the pilots are designed to learn rather than to scale.

Assessment. Volumes remain a small fraction of UPI, and this is unsurprising: UPI already works, is free at point of use, and there is little reason for a consumer to switch. The genuine case for CBDC in India is therefore not retail payments but the things UPI cannot do, **offline transactions, programmable public expenditure and cheaper cross-border settlement**, and the risks that must be managed are disintermediation of bank deposits, privacy of transaction data, and cyber resilience.

VALUE ADDITION THAT EARNS MARKS

- The clean one-line differentiator: UPI moves commercial bank money, CBDC is central bank money. Very few answers state this precisely, and it settles half the question.
- Legal basis matters: the RBI Act was amended through the Finance Act, 2022 to include currency in digital form within the definition of bank note, which is what makes e₹ legal tender.
- Programmability tested for subsidy and welfare delivery is the policy-relevant frontier, and it connects directly to the PDS case study in the same year's GS4 paper.
- Flag the risk honestly: full-scale retail CBDC could drain bank deposits in a stress episode, which is why design caps and non-remuneration are deliberate choices.

WHERE ANSWERS LOST MARKS

- Describing CBDC as a cryptocurrency or as blockchain-based by necessity. The design is technology-neutral and the token is a sovereign liability.
- Confusing e-RUPI, a prepaid voucher, with e₹, the central bank digital currency. They are different instruments.
- Quoting user or transaction numbers without a date. Give the figure with its as-of date or describe the trend instead.

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PRIMARY Reserve Bank of India — Concept Note on Central Bank Digital Currency and CBDC pilot announcements
<https://www.rbi.org.in/>

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<https://www.pib.gov.in/PressReleaseIframePage.aspx?PRID=1882883®=48&lang=2>

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Digital public infrastructure, UPI and India Stack
bharatnotes.com/subjects/economy/indian-economy/digital-public-infrastructure-upi-india-stack/

2

10 marks

150 words

Economy — financial inclusion

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.

Syllabus: Inclusive growth and issues arising from it

WHAT THE EXAMINER IS ASKING FOR

Examine the view that financial inclusion is integral to social and economic inclusion, then evaluate the **usefulness of a specific measurement instrument**. The second half is a question about measurement, and it needs the Index's construction, not a description of financial inclusion again.

- Argue the linkage through mechanisms — consumption smoothing, asset building, and the shift from exclusion to citizenship — rather than by assertion.
- Set out the FI-Index's construction, its parameters and weights, and its latest value with the date.
- Then say honestly what the Index cannot capture, which is where an *examine* answer earns its marks.

MODEL ANSWER

513 words · paper allows 150

Why financial inclusion is not merely a banking question

- **Risk and consumption smoothing.** A household without savings, credit or insurance meets a shock, illness, crop failure, a funeral, by selling an asset or borrowing at usurious rates. Financial access converts a permanent setback into a temporary one, which is why it is the difference between vulnerability and poverty.
- **Escape from the informal lender.** Access to formal credit breaks the interlocked credit, land and labour relationships through which rural dependence has historically been reproduced. That is a social change, not only a financial one.
- **Entitlement delivery.** Direct benefit transfer needs an account. Financial inclusion is therefore the precondition for the welfare state reaching the citizen directly rather than through an intermediary.
- **Agency, particularly for women.** An account in a woman's own name changes bargaining power within the household, and self-help group credit has been the main route to women's collective economic action in rural India.
- **Enterprise and formalisation.** Credit history built through formal transactions is what allows a micro-enterprise to borrow at a reasonable rate; without it, the informal firm stays informal.

The counterpoint has to be stated: **an account is not inclusion**. Dormant accounts, low-value insurance with weak claim settlement, and credit that arrives as consumption debt rather than productive investment can produce over-indebtedness. Inclusion measured by ownership overstates inclusion experienced as usable service.

The RBI's Financial Inclusion Index

- It is a **composite index on a 0 to 100 scale**, where 0 is complete exclusion and 100 full inclusion, published annually since 2021.

- It is built on three parameters with fixed weights: **Access (35 per cent), Usage (45 per cent) and Quality (20 per cent)**, together covering banking, investments, insurance, postal and pension services across dozens of indicators.
- It is constructed **without a base year**, so each year's value is a level rather than an index against a reference period.
- Its **value for March 2026 is 70.0**, against 67.0 in March 2025, a rise of about 4.5 per cent, and the RBI attributed the improvement mainly to the **Usage** parameter, which it read as evidence of deepening rather than merely widening inclusion.

Its usefulness, and its limits. The Index is genuinely useful for three reasons: it converts a diffuse policy goal into a single trackable number; the weighting of Usage above Access embeds the correct policy priority, that opening accounts is the easy part; and the Quality dimension brings in financial literacy, grievance redress and inequality of service, which account-based metrics ignore. Its limits are equally real. A single national number **conceals distribution**, so state, district, gender and social-group gaps disappear into the average. It is **supply-side and administrative**, drawing on data reported by providers rather than on household experience. And a composite is only as good as its weights, which are judgements, not measurements.

Conclusion. Financial inclusion is integral to social and economic inclusion because it changes who bears risk and who can act. The FI-Index is a good instrument for direction and a poor instrument for equity, and should be read alongside disaggregated survey evidence rather than in place of it.

VALUE ADDITION THAT EARNS MARKS

- Give the Index with its exact composition and date: 70.0 for March 2026 against 67.0 for March 2025, Access 35, Usage 45, Quality 20, no base year, annual since 2021.
- The point that Usage carries the highest weight is not trivia; it is the RBI's own statement that account-opening is not the goal, and it makes the answer analytical.
- PMJDY, the JAM trinity, PMJJBY, PMSBY, Atal Pension Yojana, MUDRA and the payments banks licensing round are the delivery instruments behind the numbers.
- The Unified Lending Interface is the current frontier, extending inclusion from payments into credit by using consented data rather than collateral.

WHERE ANSWERS LOST MARKS

- Describing financial inclusion for the whole answer and treating the FI-Index in one line. The second half is half the question.
- Quoting the Index without its date or its parameter weights.
- Ignoring the critique that account ownership overstates real inclusion, which is the strongest analytical point available.

SOURCES · EACH LABELLED PRIMARY OR SECONDARY

PRIMARY Reserve Bank of India — Financial Inclusion Index, annual press releases and methodology
<https://www.rbi.org.in/>

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<https://financialservices.gov.in/>

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REVISE THE CONCEPT ON BHARATNOTES

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Poverty measurement

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3

10 marks

150 words

Agriculture — technology missions

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

Syllabus: Major crops, cropping patterns; issues of buffer stocks and food security; e-technology in the aid of farmers

WHAT THE EXAMINER IS ASKING FOR

Describe the missions and then **examine their role in food security**, which means judging, not listing. The mission model has a specific logic, end-to-end coordination of a commodity chain under one authority, and an answer that explains that logic will beat one that recites acronyms.

- Explain what a technology mission is and why the model was adopted, using the oilseeds mission as the template.
- Group the missions chronologically or by commodity, with years, rather than listing them randomly.
- Assess against food security in its three dimensions, availability, access and utilisation, and be honest that the missions address the first well and the others less so.

MODEL ANSWER

461 words · paper allows 150

The mission model. A technology mission bundles research, seed supply, extension, credit, procurement and processing for one commodity under a single time-bound coordinating authority, on the reasoning that yield gains fail when any one link in the chain is missing. India adopted it after the Green Revolution had raised cereal output while pulses, oilseeds and horticulture stagnated.

The principal missions

- **Technology Mission on Oilseeds (1986)**, later extended to pulses, maize and oil palm. It is the template, and it cut edible-oil import dependence sharply within a decade, an achievement later reversed by trade liberalisation.
- **Technology Mission on Cotton (2000)**, covering research, seed, extension and market yards and ginning, which together with Bt hybrids underpinned India's shift from cotton importer to exporter.

- **Technology Mission for Integrated Development of Horticulture (2001-02)** and the **National Horticulture Mission (2005-06)**, later consolidated into the **Mission for Integrated Development of Horticulture (2014)**, which drove the expansion of horticulture output past foodgrain output.
- **Jute Technology Mission (2006)** and the **National Bamboo Mission**.
- **National Food Security Mission (2007-08)**, targeting rice, wheat, pulses, coarse cereals and nutri-cereals through district-level yield gaps.
- **National Mission on Edible Oils - Oil Palm (2021)** and the subsequent **National Mission on Edible Oils - Oilseeds (2024)**, responding to import dependence of roughly half of domestic edible-oil consumption.
- **National Mission on Natural Farming (2023)** and the **Digital Agriculture Mission (2024)**, the latter with an outlay of Rs 2,817 crore for AgriStack, Krishi-DSS and soil fertility mapping.

Their role in food security, examined

- **Availability.** This is where the missions have clearly delivered. Foodgrain production reached a record **376.56 million tonnes in 2025-26** on the Third Advance Estimates of 28 May 2026, with rice at about 154 million tonnes and wheat about 121 million tonnes. Horticulture output now exceeds foodgrain output, and cotton and maize show mission-linked step changes.
- **Diversification and nutrition.** The missions moved the system beyond rice and wheat towards pulses, coarse cereals and horticulture, which matters for protein and micronutrient availability, not just calories. Nutri-cereals returning to policy attention is a direct outcome.
- **Where they fall short.** Availability is not access: record production coexists with the malnutrition indicators recorded in NFHS-5. Gains have been regionally concentrated where irrigation and institutions already existed. Edible oils remain heavily import-dependent despite four decades of missions, which shows that a mission cannot outrun trade policy. Water and soil costs of yield-led growth are externalised. And missions are input and output focused, so post-harvest loss, market access and price realisation, the farmer's actual income problem, sit largely outside them.

Conclusion. Technology missions solved the production problem and were designed to. Food security in its fuller sense, stable access and nutritional adequacy, requires what the missions were never built to deliver: functioning markets, storage, income support and a public distribution system that works.

VALUE ADDITION THAT EARNS MARKS

- Date each mission. The chronology from 1986 oilseeds to 2024 digital agriculture is itself the story of shifting policy priorities from self-sufficiency to diversification to data.
- The record 2025-26 output of 376.56 million tonnes, from the Third Advance Estimates of 28 May 2026, is the freshest availability figure and it should carry its estimate stage.
- The edible-oil paradox, a successful 1986 mission whose gains were undone by import liberalisation, is the sharpest evidence that technology missions cannot substitute for trade and price policy.
- PM Dhan-Dhaanya Krishi Yojana, targeting low-productivity districts through convergence of existing schemes, is the current extension of the mission logic to a geography rather than a crop.

WHERE ANSWERS LOST MARKS

- Listing mission names with no dates and no assessment. The verb is *examine*.
- Equating record production with food security. The gap between the two is the analytical core of this answer.
- Confusing the National Food Security Mission (a production programme) with the National Food Security Act, 2013 (an entitlement statute).

SOURCES · EACH LABELLED PRIMARY OR SECONDARY

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<https://agriwelfare.gov.in/>

PRIMARY Department of Agriculture and Farmers Welfare — Agricultural Statistics at a Glance and Advance Estimates of production
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PRIMARY PIB — Cabinet approves the Digital Agriculture Mission, 2 September 2024
<https://www.pib.gov.in/PressReleaseDetailm.aspx?PRID=2050966®=3&lang=2>

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4

10 marks

150 words

Agriculture — marketing and e-commerce

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

Syllabus: Transport and marketing of agricultural produce and issues and related constraints; e-technology in the aid of farmers

WHAT THE EXAMINER IS ASKING FOR

Two parts, both explicit. First the **factors responsible for inefficiency**, which should be structural and not a complaint list. Second **how e-commerce reduces it**, which must map remedy to defect, and should include what e-commerce cannot fix.

- Organise the inefficiencies by where they arise: market structure, physical infrastructure, information, and regulation.
- For each major defect, name the e-commerce mechanism that addresses it, so the second half answers the first rather than restarting.
- Close with the limits, because an uncritical answer on e-NAM and ONDC will read as promotional.

MODEL ANSWER

472 words · paper allows 150

Why agri-produce marketing is inefficient

- **Market structure.** Regulated markets under state APMC laws created territorial monopolies. A small number of licensed traders and commission agents in a mandi, often bound by informal

understanding, gives the farmer a thin market and weak bargaining position.

- **Long intermediary chains.** Village trader, commission agent, wholesaler, semi-wholesaler, retailer: each margin is deducted from the farmer's share, which for many perishables ends below a third of the consumer rupee.
- **Interlocked credit and sale.** Where the commission agent is also the lender, the farmer is contractually obliged to sell through him, and the price is not really negotiated.
- **Physical infrastructure.** Inadequate cold chain, pack-houses, grading and storage force distress sale at harvest. ICAR's post-harvest loss estimates for perishables are large enough to be the single biggest efficiency loss in the system.
- **Absence of standards.** Without enforced grading and assaying, quality cannot be priced, so buyers discount for uncertainty and good produce subsidises bad.
- **Information asymmetry.** The farmer knows the local price on the day; the trader knows the price across markets over time.
- **Fragmentation.** Tiny marketable surpluses per holding make individual bargaining impossible and aggregation expensive.
- **Policy and taxation.** Multiple market fees and cesses, restrictions on movement, and periodic stock and export controls that depress prices exactly when farmers would gain.

How e-commerce reduces the inefficiency

- **It widens the market.** **e-NAM**, the electronic National Agriculture Market launched in 2016, links regulated mandis into a single online platform so a buyer in one state can bid on a lot in another. More bidders is the direct antidote to a thin market.
- **It shortens the chain.** Direct farm-to-processor, farm-to-retailer and farm-to-consumer models, and open-network commerce through **ONDC**, remove layers of margin rather than merely regulating them.
- **It creates price transparency.** Published bids, historical price series and portals such as Agmarknet give the farmer the information the trader used to monopolise.
- **It forces standardisation.** Online trade is impossible without assaying and grading, so the platform pulls quality standards, assaying labs and lot-level certification into the mandi.
- **It enables aggregation.** **Farmer Producer Organisations** transacting on platforms convert many small surpluses into a tradable lot, which is what makes small farmers relevant to a digital market at all.
- **It de-risks payment and logistics.** Escrow and digital settlement reduce payment default; platform-linked warehousing and warehouse receipt finance let a farmer store and sell later instead of selling at harvest.

Where e-commerce does not help. A digital bid cannot move a perishable crop that has no cold chain, no truck and no road. Digital literacy, smartphone access and bandwidth remain unequal. Assaying capacity, not software, is the binding constraint on inter-mandi trade. And platform concentration can reproduce the monopsony it was meant to break, only at national scale. E-commerce is a **coordination technology**; it multiplies the value of physical infrastructure and institutions that must exist first.

VALUE ADDITION THAT EARNS MARKS

- The farmer's share of the consumer rupee, low for perishables and higher for cereals, is the single number that captures marketing inefficiency, and it should be attributed to the survey or committee you draw it from.
- Name the reform instruments: e-NAM (2016), the Model Agricultural Produce and Livestock Marketing Act, 2017, the Model Contract Farming Act, 2018, the 10,000 FPO scheme, the Agriculture Infrastructure Fund and ONDC.
- Assaying is the real bottleneck in inter-mandi e-NAM trade, and saying so shows you understand why a platform launched in 2016 still sees mostly intra-mandi trade.
- The interlocked credit-and-sale relationship is the structural reason platforms alone do not free the farmer, and it is the point most answers miss.

WHERE ANSWERS LOST MARKS

- Turning this into an answer on the repealed farm laws. The question asks about inefficiency and about e-commerce.
- Presenting e-NAM as having solved the problem. Most of its trade has remained within the same mandi.
- Skipping the limitations, which is where the answer shows judgement.

SOURCES · EACH LABELLED PRIMARY OR SECONDARY

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REVISE THE CONCEPT ON BHARATNOTES

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5

10 marks

150 words

Science and technology — agricultural biotechnology

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

Syllabus: Achievements of Indians in science and technology; developments in biotechnology and their applications

WHAT THE EXAMINER IS ASKING FOR

The question is narrow and specific: **two examples**, of **processing**, of **perishable crops**, benefiting **Indian farmers**. A general essay on Bt cotton or GM mustard misses on three counts, since cotton is not perishable and neither answer is about processing. Choose examples that are actually deployed in India, and say so.

- Frame the problem first: perishables lose value between field and factory, and processing is what converts a glut into income.
- Give exactly two examples, developed in real depth, each with the biotechnology, the mechanism and the benefit to the farmer.
- Add a short honest note on what is still at research stage in India, so the answer does not overclaim.

MODEL ANSWER

427 words · paper allows 150

The problem being solved. Fruits, vegetables and potatoes lose a large share of their value between harvest and consumption; ICAR's post-harvest engineering institute has repeatedly put losses for perishables in double digits. Processing is the escape route, because it converts a short-lived glut into a storable, sellable product. Biotechnology helps at exactly this junction.

Example one: microbial enzymes in fruit and vegetable processing

Industrially produced enzymes, **pectinase, cellulase and amylase**, obtained by fermentation from fungi and bacteria, are used in Indian fruit-pulp and juice processing.

- **The mechanism.** Pectin holds plant cell walls together and makes crushed pulp viscous and cloudy. Pectinase depolymerises it, so juice yield per tonne of fruit rises and the juice clarifies without prolonged settling; cellulase releases further bound juice; amylase removes starch haze in some fruits.
- **The benefit to the farmer.** A higher extraction yield changes the processor's economics, which is what allows a processing unit to operate near the orchard and to pay for fruit that would otherwise be graded out. Mango, guava, grape and tomato growers in Maharashtra, Andhra Pradesh and Gujarat sell into exactly this demand.

Example two: potato varieties bred for processing, multiplied by tissue culture

The Indian Council of Agricultural Research's Central Potato Research Institute at Shimla developed the **Kufri Chipsona** series specifically for processing.

- **The mechanism.** Chipping quality depends on **high dry matter and low reducing sugars**; high reducing sugars caramelise on frying and produce dark, bitter chips. The Chipsona varieties were bred for those traits, and the seed is multiplied through **tissue culture and micropropagation**, now with aeroponic seed-potato production, which supplies disease-free planting material and shortens the multiplication chain from years to seasons.
- **The benefit to the farmer.** Processing-grade potato is bought on contract at a premium over table potato, and disease-free tissue-cultured seed raises yield and uniformity. Punjab, Gujarat, Uttar Pradesh and West Bengal growers supplying the chip and french-fry industry are the direct beneficiaries, and India moved from importing processing-grade potato to meeting most of that demand domestically.

What is still at the research stage, stated honestly. Indian public institutions have worked on **delayed-ripening** lines in tomato, banana and papaya, typically by suppressing the ethylene biosynthesis pathway through ACC synthase or ACC oxidase, or the cell-wall softening enzymes, so that fruit ripens slowly and travels firm. These would directly address perishability, but no such transgenic fruit is in commercial cultivation in India, and it would be wrong to present them as a delivered benefit. Genome editing under the 2022 exemption for SDN-1 and SDN-2 products is the likelier route to a deployed product.

VALUE ADDITION THAT EARNS MARKS

- Naming the actual biochemistry — pectin depolymerisation for yield and clarity, reducing sugars and dry matter for chipping quality — is what converts a generic biotech answer into a specific one.
- ICAR-CPRI Shimla and the Kufri Chipsona series is a genuinely Indian, genuinely deployed example, and far stronger than reaching for Bt brinjal or GM mustard, neither of which is in cultivation.
- Aeroponic seed potato production, developed with CPRI, is a current detail few answers will have.
- The 2022 regulatory exemption of genome-edited SDN-1 and SDN-2 plants from GM rules is the policy fact that explains why the next products will be edited rather than transgenic.

WHERE ANSWERS LOST MARKS

- Writing about Bt cotton. Cotton is not perishable and the question is about processing.
- Claiming a delayed-ripening transgenic fruit is commercially grown in India. It is not, and asserting it is exactly the sort of confident error that costs credibility.
- Giving more than two examples thinly instead of two examples properly. The question says two.

SOURCES · EACH LABELLED PRIMARY OR SECONDARY

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6

10 marks

150 words

Science and technology — nuclear energy

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?

Syllabus: Awareness in the field of nuclear technology; indigenization of technology

WHAT THE EXAMINER IS ASKING FOR

Three parts and a context. **Distinguish** FBR from a thermal reactor; **explain criticality** in the specific context of the Kalpakkam PFBR, and give the **implications for clean energy**. The examiner has anchored this to a 2026 event, so the date and the current status must be right.

- Do the distinction as a table on the axes that actually differ: neutron spectrum, moderator, fuel, coolant, breeding.
- Define criticality precisely as k -effective equal to one, and then say what first criticality signifies operationally.
- For implications, tie it to the three-stage programme and to thorium, then state the honest caveats.

MODEL ANSWER

510 words · paper allows 150

	Thermal reactor (e.g. PHWR)	Fast Breeder Reactor
Neutron energy	Fission sustained by slow, thermal neutrons	Sustained by fast, high-energy neutrons
Moderator	Essential: heavy water, light water or graphite slows neutrons	None , since slowing the neutrons would defeat the design
Fuel	Natural or low-enriched uranium; fissile U-235	Mixed oxide of plutonium and uranium (MOX), a much higher fissile concentration
Coolant	Water, which also moderates	Liquid sodium , an excellent heat-transfer medium that does not moderate; it is chemically reactive with air and water, which drives the safety design
Blanket	None	A depleted-uranium blanket surrounds the core; fast neutrons convert fertile U-238 into fissile Pu-239
Fuel balance	Consumes more fissile material than it produces	Breeds , producing more fissile material than it consumes, with a breeding ratio above one
Role in India	Stage I of the three-stage programme	Stage II

Criticality. A reactor's state is described by the effective multiplication factor **k-effective**, the ratio of neutrons in one generation to the preceding one. When k is below one the chain reaction dies out (subcritical); when k equals one it is exactly self-sustaining at a steady power level (**critical**); above one it grows (supercritical). **First criticality** is the moment a newly built reactor achieves a controlled, self-sustaining chain reaction for the first time. It is not full power. It marks the transition from construction

and commissioning to a phased ascent in power, with extensive physics testing and safety validation before the reactor is synchronised to the grid.

Kalpakkam. The 500 MWe **Prototype Fast Breeder Reactor**, designed indigenously by the Indira Gandhi Centre for Atomic Research and built by BHAVINI, attained **first criticality on 6 April 2026**. Core loading had begun in 2024. Power ascension, performance testing and grid connection follow.

Implications for a clean energy future

- **It opens Stage II.** India's three-stage programme, conceived by Homi Bhabha, was designed around a poor uranium endowment and the world's largest monazite thorium reserves. Stage I PHWRs produce plutonium; Stage II fast breeders multiply it; **Stage III** uses that plutonium to breed **U-233 from thorium**. Without an operating breeder, Stage III is unreachable, so PFBR is the hinge of the entire strategy.
- **Fuel multiplication.** Breeding extracts far more energy from the same mined uranium, which converts a limited domestic resource into a long-horizon one and reduces import dependence.
- **Firm, low-carbon capacity.** Nuclear provides despatchable generation that complements variable solar and wind, which matters as India adds renewables towards its 500 GW non-fossil target and pursues net zero by 2070.
- **Waste profile.** Fast reactors can, in principle, transmute long-lived minor actinides, shortening the radiotoxic life of high-level waste.
- **Indigenous capability.** Sodium technology, MOX fabrication and reactor-grade steels built under an export-control regime represent a genuine domestic technology base.

The honest caveats. PFBR is more than fifteen years behind its original schedule, and the capital cost per MW is high. Sodium's reactivity imposes demanding engineering, closing the fuel cycle requires reprocessing capacity at scale, and thorium utilisation remains at the research reactor stage. First criticality is a real and hard-won milestone; commercial thorium power remains a decade or more away.

VALUE ADDITION THAT EARNS MARKS

- State criticality mathematically as k -effective equal to one; it is the difference between a precise answer and an approximate one.
- Attribute correctly: designed by IGCAR, built and operated by BHAVINI, first criticality on 6 April 2026, with grid connection to follow after power ascension.
- The blanket converting U-238 to Pu-239 is the mechanism of breeding, and the breeding ratio above one is the defining number.
- Be candid about the delay; PFBR was originally expected in the late 2000s, and acknowledging that is more credible than celebrating uncritically.

WHERE ANSWERS LOST MARKS

- Saying first criticality means the reactor is generating electricity. It does not; commercial generation follows power ascension and grid synchronisation.
- Calling PFBR a thorium reactor. It is a Stage II plutonium breeder; thorium is Stage III.
- Describing sodium as a moderator. It is a coolant chosen precisely because it does not moderate.

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7

10 marks

150 words

Disaster management — infrastructure in fragile zones

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

Syllabus: Disaster and disaster management; conservation and environmental impact assessment

WHAT THE EXAMINER IS ASKING FOR

The word to notice is **contradiction**: the question presumes a genuine trade-off and asks how it can be *managed*, not resolved. So the answer must be a set of governance mechanisms, each illustrated, and it must avoid the easy positions that all infrastructure is bad or that development must simply proceed.

- State the trade-off honestly in both directions, since roads also save lives in the mountains.
- Give Indian examples of the contradiction materialising, with dates.
- Then structure management as a sequence: where to build, how to appraise, how to design, and how to govern afterwards.

MODEL ANSWER

530 words · paper allows 150

The contradiction is real, and runs both ways. Ecologically sensitive zones, the young Himalaya, the Western Ghats and the coast, are precisely where connectivity, power and tourism infrastructure are demanded, for strategic reasons on the northern border and for livelihoods elsewhere. Roads reduce isolation and speed evacuation. The same roads, cut with slope-destabilising methods, manufacture the landslide they will later have to be rebuilt after.

Where it has materialised

- **Joshimath**, Uttarakhand, where large-scale ground subsidence forced evacuation of hundreds of families from January 2023, in a town built on old landslide debris and surrounded by tunnelling and road widening.
- **Char Dham** road widening, on which the Supreme Court had to constitute a High Powered Committee after the project was split into segments below the threshold that would have required a single environmental clearance.
- **Wayanad**, Kerala, where landslides in July 2024 killed a large number of people in terrain the Gadgil and Kasturirangan reports had flagged as ecologically sensitive.
- **Sikkim**, where the South Lhonak glacial lake outburst flood of October 2023 destroyed the Teesta-III dam, showing that infrastructure in these zones is itself exposed, not merely a cause of exposure.

How the contradiction can be managed

1. **Decide location before design.** Zonation must precede project approval. Landslide susceptibility mapping by GSI, seismic zonation, the Coastal Regulation Zone framework and declared Eco-Sensitive Areas should be binding constraints on siting, not documents consulted after alignment is fixed.
2. **Appraise the project that is actually being built.** Salami-slicing a long highway into short stretches to avoid a cumulative assessment defeats appraisal. **Cumulative and carrying-capacity assessment at the basin or valley scale**, rather than project-by-project EIA, is the single most important reform, and it is what the Char Dham and Teesta cascade experiences argue for.
3. **Design for the terrain.** Slope stabilisation and bioengineering, tunnelling in place of hill-cutting where the slope is fragile, scientific muck disposal instead of side-casting into the river, and drainage design that assumes extreme rainfall rather than historical averages.
4. **Build risk into the numbers.** Disaster-risk cost should enter the cost-benefit calculation. A road that must be rebuilt every monsoon is not cheap. India's commitment through the **Coalition for Disaster Resilient Infrastructure**, launched in 2019, is the international expression of exactly this principle.
5. **Govern afterwards.** Early warning systems and glacial lake monitoring, enforcement of building by-laws and land-use zoning against post-project construction booms, and regulation of tourist load through carrying-capacity limits.
6. **Involve the people who live there.** Gram Sabha consultation under PESA, meaningful public hearings rather than formal ones, and traditional knowledge of slope and drainage behaviour, which local communities usually hold and engineers frequently ignore.
7. **Institutionalise the tension.** NDMA guidelines, State Disaster Management Authority sign-off on major projects in notified fragile zones, and the **Sendai Framework's** insistence that new risk creation, not just existing risk, is the target.

Conclusion. The contradiction is managed not by choosing between development and safety but by changing the unit of appraisal from the project to the landscape, and the time horizon from the construction period to the life of the asset. Where that has been done, the trade-off shrinks; where it has not, the disaster arrives as a subsidy claim.

VALUE ADDITION THAT EARNS MARKS

- Cumulative impact assessment at basin scale, rather than project-level EIA, is the reform with the most explanatory power, and it directly answers the Char Dham and Teesta cascade problems.
- The Gadgil Committee (2011) and Kasturirangan Committee (2013) on the Western Ghats are the correct references for the Wayanad example, and noting that neither was fully implemented is the honest point.
- CDRI, launched by India in 2019, gives the answer an international policy anchor and shows India is a norm-setter here.
- The Sikkim GLOF of October 2023 is the strongest example that infrastructure is a victim as well as a cause, which lifts the answer above one-sided environmentalism.

WHERE ANSWERS LOST MARKS

- Arguing simply that construction in the Himalaya should stop. The question asks how the contradiction is managed, and strategic border infrastructure is not optional.
- Listing disasters without connecting each to a governance failure.
- Offering remedies with no institution attached. Name the authority that would do it.

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8

10 marks

150 words

Environment — global biodiversity governance

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.

Syllabus: Conservation, environmental pollution and degradation

WHAT THE EXAMINER IS ASKING FOR

Discuss aim and goals, then India's commitments and initiatives, with suitable examples. This is a two-document question: the KM-GBF itself and India's updated NBSAP. An answer that knows only 30x30 will look thin.

- Give the framework's architecture correctly: the 2050 vision, four goals, and 23 targets for 2030, with the milestone targets named.
- Then India's response, centred on the updated NBSAP presented at COP16, with its cost estimate and its 23 national targets.
- Illustrate with real Indian programmes mapped to specific targets, and finish with the honest gaps.

MODEL ANSWER

559 words · paper allows 150

What the framework is. The **Kunming-Montreal Global Biodiversity Framework** was adopted at the fifteenth Conference of the Parties to the Convention on Biological Diversity at Montreal in December 2022, succeeding the Aichi Targets, all of which had been missed.

- **The mission** is to halt and reverse biodiversity loss by 2030, so as to put nature on a path to recovery, in service of the 2050 vision of "living in harmony with nature".
- It sets **four long-term goals for 2050** (A: ecosystem integrity and halting human-induced extinction; B: sustainable use and valuation of nature's contributions; C: fair and equitable sharing of benefits from genetic resources and digital sequence information; D: adequate means of implementation) and **23 action targets for 2030**.
- **The targets that matter most.** Target 2, restoration of at least 30 per cent of degraded ecosystems; **Target 3, the headline 30x30**, conserving at least 30 per cent of terrestrial, inland water, coastal and marine areas through protected areas and other effective area-based conservation measures, respecting the rights of indigenous peoples; Target 7, reducing pollution and halving excess nutrient loss and pesticide risk; Target 15, requiring large businesses to assess and disclose biodiversity impacts; Target 18, reforming or redirecting subsidies harmful to biodiversity by at least USD 500 billion a year; Target 19, mobilising USD 200 billion a year, including USD 30 billion a year to developing countries by 2030.

India's commitments. India released its **updated National Biodiversity Strategy and Action Plan** at COP16 in Cali, Colombia, on 30 October 2024. It adopts **23 National Biodiversity Targets** aligned to the global framework, commits to safeguarding 30 per cent of terrestrial, freshwater and marine ecosystems by 2030, and estimates the cost of implementation at an average of about **Rs 81,664 crore a year** between 2024-25 and 2029-30, spread across 23 ministries and departments.

Initiatives, mapped to targets

- **Area-based conservation (Target 3).** A protected area network of national parks, sanctuaries, conservation and community reserves; 18 biosphere reserves; and species programmes, Project Tiger from 1973, Project Elephant, Project Dolphin, and the Cheetah reintroduction at Kuno.
- **Restoration (Target 2).** The Green India Mission, the Nagar Van scheme for urban forests, the **Aravalli Green Wall Project (2023)**, and India's land degradation neutrality pledge to restore 26 million hectares by 2030.
- **Wetlands (Targets 2 and 3).** India has the largest network of **Ramsar sites in Asia**, and the Amrit Dharohar initiative for wetland conservation and livelihoods.
- **Coastal and marine (Target 3).** MISHTI for mangrove restoration along the coastline and the Coastal Regulation Zone framework.
- **Benefit sharing (Goal C, Target 13).** The **Biological Diversity Act, 2002**, as amended in 2023, with the National Biodiversity Authority, State Boards and Biodiversity Management Committees, and People's Biodiversity Registers, is India's access and benefit-sharing architecture.
- **Sustainable use and finance (Targets 10, 16, 19).** The National Mission on Natural Farming, Mission LiFE as a demand-side behavioural approach, and green finance instruments including sovereign green bonds.

Where India's position is hard. India, with other developing countries, has consistently pressed on **Target 19 finance and on digital sequence information benefit sharing**, arguing that domestic conservation cannot be financed out of domestic budgets alone while genetic resources are used freely elsewhere. Domestically, the binding constraints are the quality rather than the extent of protected areas, human-wildlife conflict, invasive species and the tension between the 2023 amendments to the forest and biodiversity statutes and conservation objectives.

VALUE ADDITION THAT EARNS MARKS

- Get the architecture right: four goals for 2050 and 23 targets for 2030, adopted at COP15 Montreal in December 2022. Answers that say Aichi or that give the wrong number of targets lose easy marks.
- The NBSAP date and cost are precise and checkable: released at COP16 Cali on 30 October 2024, with an average annual requirement of about Rs 81,664 crore to 2029-30.
- Digital sequence information is the negotiating issue India has pushed hardest on, and naming it signals genuine familiarity with the CBD process.
- Other effective area-based conservation measures, OECMs, are what allow India to count community and sacred groves towards 30x30, and few answers know the term.

WHERE ANSWERS LOST MARKS

- Confusing the KM-GBF with the Paris Agreement, or listing the Aichi Targets instead.
- Reducing the framework to 30x30. Targets 18 and 19 on subsidies and finance are where the negotiation actually is.
- Listing Indian schemes without mapping any of them to a target.

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REVISE THE CONCEPT ON BHARATNOTES

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9

10 marks

150 words

Internal security — information disorder

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.

Syllabus: Role of media and social networking sites in internal security challenges; basics of cyber security

WHAT THE EXAMINER IS ASKING FOR

Two parts. First, **how** fake news threatens internal security and public order in the Indian context, which needs Indian mechanisms and not a general lament. Second, the **salient features of the amendments** to the IT Rules 2021, and the examiner means the current ones, notified in 2026.

- Explain the threat through causal pathways — communal mobilisation, mob violence, panic, election integrity, security-force targeting — with Indian instances.
- Set out the 2026 amendment clearly, since that is the specific, dateable content the question rewards.
- Close with the balancing question, because a rules answer that ignores free speech will read as one-sided.

MODEL ANSWER

532 words · paper allows 150

How fake news becomes an internal security problem in India

- **Communal mobilisation.** Doctored images, out-of-context video and false attribution of crime to a community have preceded riots. The pattern is consistent: a rumour propagates on closed messaging

groups faster than police verification can travel.

- **Mob violence.** Child-lifting rumours circulated on messaging platforms produced a series of lynchings, and the Supreme Court in *Tehseen Poonawalla* (2018) issued preventive, remedial and punitive directions to states precisely because the trigger was viral misinformation.
- **Panic and displacement.** The 2012 exodus of north-eastern residents from southern cities after circulated threats showed that misinformation can move populations.
- **Insurgency and radicalisation.** Encrypted platforms are used for recruitment, glorification and coordination in Jammu and Kashmir and in left-wing extremism-affected districts.
- **Electoral integrity.** Synthetic audio and video of candidates, deployed close to polling, cannot be rebutted before the vote.
- **External information operations.** Coordinated inauthentic networks, some traced to hostile states, amplify domestic fault lines, which makes this a national-security and not merely a law-and-order matter.
- **Erosion of institutional trust.** The deeper harm is the **liar's dividend**: once synthetic media is common, genuine evidence can be dismissed as fabricated.

The regulatory response: the IT Amendment Rules, 2026

The Ministry of Electronics and Information Technology notified amendments to the **Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Rules, 2021**, which came into force on **20 February 2026**. Their salient features:

- **A defined category of synthetically generated information (SGI)**, covering media that realistically appears to depict a real person or a real-world event and is capable of deceiving a viewer. The definition is technology-neutral, so it is not confined to content made with artificial intelligence.
- **Mandatory labelling.** Confirmed SGI must carry a clear and prominent label identifying it as synthetically generated.
- **User declaration and verification.** Significant social media intermediaries must obtain a declaration from the uploader as to whether content is SGI, and deploy reasonable and appropriate technical measures to verify that declaration before publication.
- **Accelerated takedown.** A short deadline, of the order of three hours, for removal of specified categories of harmful synthetic content once flagged, against the longer periods in the earlier framework.
- **Traceability and due diligence obligations** on significant intermediaries, with loss of safe harbour under Section 79 of the Information Technology Act, 2000 as the consequence of non-compliance.

These sit on top of the existing architecture: the grievance officer and Grievance Appellate Committee mechanism, the Code of Ethics for digital news and OTT publishers, Section 69A blocking powers, and the general criminal law.

The balancing problem, which must be stated. Compressed takedown timelines push platforms towards over-removal, since the cost of leaving content up exceeds the cost of taking it down; that is a structural incentive against speech, not an incidental risk. Pre-publication verification of a user declaration edges towards general monitoring, which *Shreya Singhal* (2015) and the safe-harbour scheme were designed to avoid. And a technology-neutral definition of synthetic content is broad enough to capture satire, parody and legitimate creative work. The constitutional test remains Article 19(2): any restriction must be reasonable and proportionate, and the strongest long-run defences against information disorder,

provenance standards, prebunking, media literacy and rapid authoritative rebuttal, do not require restricting speech at all.

VALUE ADDITION THAT EARNS MARKS

- Date the amendment: notified by MeitY and in force from 20 February 2026, introducing synthetically generated information as a defined category.
- The point that the SGI definition is technology-neutral, and therefore wider than AI content, is a precise reading few answers will have.
- Tehseen Poonawalla v. Union of India (2018) is the correct authority on mob lynching and misinformation, and Shreya Singhal (2015) on intermediary liability and Section 66A.
- The liar's dividend, that ubiquitous synthetic media lets genuine evidence be dismissed as fake, is the second-order harm that distinguishes a thoughtful answer.

WHERE ANSWERS LOST MARKS

- Describing only the 2021 Rules or the 2023 fact-check unit amendment. The question is about the current amendments.
- Writing a purely censorship-focused answer with no free-speech balance, or a purely libertarian one with no security analysis.
- Confusing the IT Rules with the Digital Personal Data Protection Act, 2023 or with the Telecommunications Act, 2023.

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10

10 marks

150 words

Internal security — border areas and Ladakh

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.

Syllabus: Security challenges and their management in border areas; linkages of organized crime with terrorism

WHAT THE EXAMINER IS ASKING FOR

Three parts: **BADP, civic action by the Army, and the Sixth Schedule demand for Ladakh.** The first two are the hearts-and-minds instruments; the third is the political question they have not answered. Keep them distinct and give the current status of the demand, which is unresolved.

- Establish Ladakh's strategic setting in two lines, then move to the instruments.
- Treat BADP and its successor programme accurately, because the border development architecture has changed since 2023.
- On the Sixth Schedule, give both the demand and the government's alternative, and state plainly that talks remain inconclusive.

MODEL ANSWER

627 words · paper allows 150

The strategic setting. Ladakh abuts the Line of Actual Control with China and lies close to the Line of Control and the Siachen sector, with the Karakoram Pass and Dipsang plains on one side and Kargil on the other. Since the 2020 standoff in eastern Ladakh, its infrastructure and its population's alignment have both become security variables. The Union Territory, created on 31 October 2019, is thinly populated, ecologically fragile and largely tribal.

Border Area Development Programme. BADP, run by the Ministry of Home Affairs, funds development in villages within a defined distance of the international boundary, covering both the land borders and the strategic states, with works in roads, drinking water, health, education, sanitation, sports and small industry. Its logic is that a populated, serviced border village is itself a security asset: it provides eyes, logistics and legitimacy, and it stems out-migration that would leave the frontier empty. Its recognised weaknesses have been thin per-village allocation, works chosen by convenience rather than by strategic priority, and a definition of the border area that left out the highest and most remote settlements.

The Vibrant Villages Programme. The government has since layered a more targeted successor over BADP. The **Vibrant Villages Programme**, approved in 2023 for villages along the northern border, and **Vibrant Villages Programme-II**, approved as a Central Sector Scheme on 2 April 2025 for villages abutting the other international land borders, shift the unit from the block to the identified village and integrate connectivity, livelihood, tourism and communications with strategic requirements. The reframing of remote settlements as **first villages** rather than last villages is the intended change of posture.

Civic action by the Army. Under **Operation Sadbhavana**, the Army in Ladakh and Jammu and Kashmir runs Army Goodwill Schools, medical camps and veterinary care, scholarships and educational tours for students, skill and vocational training, women's empowerment centres, and infrastructure such as footbridges, water supply and micro-hydel. In a region where the Army is the largest organised

institution present, civic action is also the principal daily interface between the state and the citizen. Its limitation is structural: it builds goodwill towards the Army without necessarily transferring legitimacy to civil governance, and it can substitute for, rather than seed, functioning civil administration.

The Sixth Schedule demand

- **What is asked.** The Leh Apex Body and the Kargil Democratic Alliance have jointly demanded statehood for Ladakh, inclusion in the **Sixth Schedule** of the Constitution, a separate Public Service Commission and reservation in jobs, and two parliamentary seats.
- **Why.** Losing statehood in 2019 also meant losing a legislature. Ladakh's Scheduled Tribe population is very high, and the fear is of demographic change, loss of land and control over fragile pasture and water. The Sixth Schedule's Autonomous District Councils, with legislative and executive authority over land, forests, water and customary law, are seen as the durable protection; the existing Ladakh Autonomous Hill Development Councils are statutory and can be altered by ordinary law.
- **Where it stands.** A High Powered Committee under the Ministry of Home Affairs has met the Leh and Kargil leaderships repeatedly. The Centre's stated preference has been protections routed through **Article 240** regulations and administrative safeguards on land, employment and culture, rather than extension of the Sixth Schedule, which has historically applied to the north-eastern states. Talks have not produced agreement on the core demands, and public agitation in Leh and Kargil has continued into 2026.

Assessment. Development programmes and civic action address material grievance; they do not address the demand for **agency**. Ladakh's discontent is not principally about roads, which have improved markedly, but about who decides. A hearts-and-minds strategy in a border region that delivers services while withholding representation tends to buy quiet rather than allegiance, and in a strategically exposed territory that is a thin foundation.

VALUE ADDITION THAT EARNS MARKS

- Distinguish the Ladakh Autonomous Hill Development Councils, created by statute in 1995 and 2003, from Sixth Schedule Autonomous District Councils, which are constitutionally entrenched. That distinction is the entire legal argument.
- Article 240, which lets the President make regulations for specified Union Territories, is the route the Centre has preferred, and naming it shows you know what the alternative on the table actually is.
- Vibrant Villages Programme-II, approved on 2 April 2025 as a Central Sector Scheme, is the current border-development instrument and is more precise than referring only to BADP.
- Operation Sadbhavana is the correct name for the Army's civic action programme; Operation Sadbhavana in Ladakh includes Army Goodwill Schools, which are its most visible element.

WHERE ANSWERS LOST MARKS

- Saying Ladakh has been granted Sixth Schedule status. It has not, and as of August 2026 the talks remain inconclusive.
- Treating BADP as the only border development scheme, when the Vibrant Villages Programme has since become the targeted instrument.
- Answering only on development and ignoring the constitutional demand, which is the third part of the question.

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REVISE THE CONCEPT ON BHARATNOTES

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11

15 marks

250 words

Energy — security and transition

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

Syllabus: Infrastructure: energy, ports, roads; conservation and environmental degradation

WHAT THE EXAMINER IS ASKING FOR

Challenges first, then measures, and the second half must respect the two riders in the question: growth **and** sustainability. A measures list that ignores affordability, or one that ignores emissions, has only answered half.

- Define energy security by its four dimensions — availability, accessibility, affordability, acceptability — and use them to organise the challenges.
- Use current, dated figures for import dependence and for non-fossil capacity, since this is a data question.
- Give measures in tiers: supply diversification, demand efficiency, storage and grid, and institutional reform.

MODEL ANSWER

663 words · paper allows 250

The frame. Energy security is conventionally defined on four dimensions: **availability** of supply, **accessibility** through infrastructure, **affordability** for households and industry, and **acceptability** in environmental terms. India's difficulty is that it faces pressure on all four at once while demand grows faster than in any large economy.

The challenges

- **Import dependence in oil.** Crude import dependence has climbed to roughly **88 to 89 per cent** in 2025-26, up from about 85.5 per cent five years earlier. Most of it comes from a handful of suppliers, so the vulnerability is concentrated, not diffuse.
- **Chokepoint and geopolitical risk.** A large share of imports transits the Strait of Hormuz. Conflict in West Asia, sanctions regimes and freight and insurance shocks transmit to Indian inflation within weeks.
- **Gas and coal.** Natural gas import dependence is around half, and even coal, of which India has large reserves, is imported to the extent of roughly a fifth to a quarter, largely for quality and logistics reasons.
- **The coal transition dilemma.** Coal still supplies the bulk of generation and underpins railway cross-subsidy and the economies of several states. Decarbonising it is a fiscal and employment problem, not only a technical one.
- **Critical mineral dependence.** The clean transition substitutes oil dependence with dependence on lithium, cobalt, rare earths and, above all, on Chinese processing and battery supply chains.
- **Distribution finances.** Discom losses, aggregate technical and commercial losses and cross-subsidy remain the weakest link; a bankrupt distributor cannot buy clean power or invest in the grid.
- **Intermittency and land.** Solar and wind need storage, transmission and land, and evacuation capacity has repeatedly lagged generation capacity.
- **Access quality.** Universal connection has been achieved; reliable, adequate supply for productive use has not, particularly in rural areas.

Where India already stands. India crossed **50 per cent of installed electricity capacity from non-fossil sources in June 2025, five years ahead of its Paris commitment**, and non-fossil capacity was of the order of **270 GW in early 2026** against the 500 GW target for 2030. Renewable capacity additions reached a record of about **44.5 GW in calendar 2025**, nearly double the previous year.

Measures

1. **Diversify supply, not just increase it.** Widen the crude sourcing basket, expand **strategic petroleum reserves** beyond the present phase, secure long-term LNG contracts, and use rupee and local-currency settlement to reduce dollar-cycle exposure.
2. **Sustain the renewable build-out.** Continue solar, wind and hybrid tendering, PM Surya Ghar for rooftop solar, offshore wind, and domestic manufacturing under production-linked incentives so that energy independence is not traded for equipment dependence.
3. **Solve storage and the grid.** Battery storage and pumped hydro at scale, the green energy corridors, and a genuinely national market through market coupling, since surplus renewable power is worthless where it cannot be moved or held.
4. **Add firm low-carbon capacity.** Nuclear expansion, including small modular reactors and the fast breeder programme, whose Kalpakkam PFBR achieved first criticality on 6 April 2026, gives despatchable power that complements variable renewables.
5. **Green hydrogen** under the National Green Hydrogen Mission for the sectors electrification cannot reach: refining, fertiliser, steel and long-haul transport.
6. **Treat efficiency as a source of supply.** Perform, Achieve and Trade, appliance standards, the carbon credit trading scheme and building codes deliver more per rupee than most new generation.

7. **Secure the mineral base.** The National Critical Mineral Mission, overseas acquisitions through KABIL, recycling and substitution research.
8. **Fix distribution.** Enforce the revamped distribution sector reform framework, meter and separate agricultural feeders, and move subsidies to direct transfer so that price signals survive.
9. **Make the transition just.** Reskilling and revenue diversification for coal districts, without which the political economy will block the technical transition.

Conclusion. India's energy security cannot be achieved by reducing imports alone, because the growth path requires more energy every year. It is achieved by **shifting the composition of supply towards domestically produced electrons, holding buffers against shocks, and making the delivery system solvent**, which is where the transition and the security agendas converge rather than conflict.

VALUE ADDITION THAT EARNS MARKS

- Date the two headline numbers: crude import dependence at about 88 to 89 per cent in 2025-26, and 50 per cent non-fossil installed capacity crossed in June 2025, five years ahead of the NDC target.
- Distinguish installed capacity from generation. Non-fossil is half of capacity but a much smaller share of actual generation, and answers that blur this are marked down by informed examiners.
- The substitution of oil dependence by critical-mineral and battery supply-chain dependence is the strategic point that separates a current answer from a 2019-vintage one.
- Discom finances are the unglamorous binding constraint; naming the Revamped Distribution Sector Scheme shows you know where the reform actually sits.

WHERE ANSWERS LOST MARKS

- Treating energy security as only about oil imports. Electricity, minerals and distribution finance are equally part of it.
- Claiming India has met the 500 GW target. It has crossed 50 per cent of capacity from non-fossil sources; the 500 GW goal is for 2030.
- Offering measures with no attention to affordability, when the question explicitly couples security with economic growth.

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REVISE THE CONCEPT ON BHARATNOTES

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12

15 marks

250 words

Economy — startups and innovation

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.

Syllabus: Investment models; science and technology developments; employment

WHAT THE EXAMINER IS ASKING FOR

Three parts: **how** startups promote entrepreneurship, innovation and employment; the **global and domestic challenges**; and **measures**. Note that the question names three outcomes, so treat them separately rather than merging them into a general growth claim.

- Use official DPIIT numbers with dates, because this is a question where a verifiable figure immediately raises the answer.
- Split challenges properly into global and domestic, as the question does.
- Make measures specific and tied to the challenge they address.

MODEL ANSWER

664 words · paper allows 250

The scale, with dates. Under Startup India, launched in January 2016, the number of **DPIIT-recognised startups had crossed 2.4 lakh** by the close of 2025-26, with more than **55,000 recognised during 2025-26 alone**, the highest annual addition on record. Recognised startups reported over **23 lakh direct jobs** as of 31 March 2026. Startups are now present in a large majority of districts, not only in the metropolitan clusters.

How they promote the three named outcomes

- **Entrepreneurship.** The ecosystem has changed the default career expectation of a generation of graduates. Incubators in institutes of national importance, angel and seed capital, and a visible cohort of successful founders have lowered both the practical and the psychological cost of starting a firm. Recognition brings tax benefits, self-certification under labour and environmental laws, and faster exit under the Insolvency and Bankruptcy Code, which reduces the penalty for failure, and that is what makes risk-taking rational.
- **Innovation.** Startups have solved problems incumbents ignored: fintech built on UPI and account aggregators, agritech linking farm advisory to market access, healthtech in diagnostics and teleconsultation, edtech, spacetechnology after the 2020 opening of the sector through IN-SPACe, defence innovation through iDEX, and electric mobility. The most consequential Indian innovations of the last decade have been at the junction of a startup and a public digital rail.

- **Employment.** Beyond direct jobs, startups create indirect employment in logistics, delivery, services and manufacturing, and they raise the quality of demand for skills. The caveat is that a substantial part of platform-created work is gig work with income but limited security, which is why employment gains and employment quality must be discussed separately.

Global challenges

- **Funding cycles.** Indian startups depend heavily on foreign venture capital, so global interest rates and risk appetite transmit directly; a funding winter is imported, not domestic.
- **Competition and market access.** Global platforms with deeper capital can outspend Indian firms in their home market, and export markets carry data-localisation, privacy and standards barriers.
- **Supply-chain and geopolitical exposure.** Hardware, semiconductor and battery dependence, and restrictions on investment flows from certain jurisdictions, constrain deeptech and manufacturing startups.
- **Talent competition.** The global market for AI and deeptech talent bids up costs that early-stage Indian firms cannot match.

Domestic challenges

- **Capital composition.** Abundant early-stage and late-stage capital, thin domestic growth capital, and very little patient capital for hardware and deeptech, where time to revenue is long.
- **Regulatory friction and uncertainty.** Multiple compliances across states, and sudden regulatory change in sectors such as online gaming, crypto and lending, which repricing risk for the whole class.
- **Externalisation.** Firms domiciling abroad for regulatory certainty and easier listing, taking valuation and tax base with them, though reverse-flipping has begun.
- **Weak research-to-market pipeline.** Gross expenditure on research and development remains under 1 per cent of GDP, and university-industry technology transfer is thin, so deeptech lacks upstream supply.
- **Concentration.** Funding and founders remain skewed towards a few cities, a few institutions, and overwhelmingly towards male founders.
- **Path to profit.** Discount-funded growth without unit economics has produced a series of corrections and, in some cases, governance failures.

Measures

1. **Deepen domestic patient capital** through the Fund of Funds for Startups, insurance and pension participation in alternative investment funds, and a dedicated deeptech and manufacturing corpus with longer horizons.
2. **Simplify and stabilise regulation:** a single compliance window, sunset clauses on new restrictions, pre-legislative consultation, and a regulatory sandbox in every sector that has one for finance.
3. **Fund the upstream.** Raise public and private research spending, operationalise the Anusandhan National Research Foundation, and reform technology transfer so that university intellectual property reaches firms.
4. **Widen the base** by strengthening tier-two and tier-three incubation, women-founder funds, and procurement preference for startups on GeM and in defence through iDEX.

5. **Anchor demand.** Public procurement is the most reliable early customer a deeptech startup can have, particularly in defence, space and health.
6. **Protect workers.** Bring platform and gig work into social security, so that employment creation is not achieved by shifting risk entirely to the worker.

VALUE ADDITION THAT EARNS MARKS

- Use DPIIT's own figures with their as-of date: over 2.4 lakh recognised startups, more than 55,000 added in 2025-26, and over 23 lakh direct jobs as of 31 March 2026.
- The distinction between employment created and employment quality, given the gig share, is the analytical honesty that scores.
- IN-SPACe (2020) opening the space sector and iDEX in defence are the two clearest cases of policy creating a startup sector rather than merely supporting one.
- Reverse-flipping, firms redomiciling to India, is the current trend and few answers will have it.

WHERE ANSWERS LOST MARKS

- Quoting unicorn counts, which vary by source and definition, when official DPIIT recognition data is available and unambiguous.
- Merging the three outcomes the question names into a single paragraph on economic growth.
- Listing challenges without separating global from domestic, which the question explicitly asks you to do.

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Emerging technologies
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13

15 marks

250 words

Agriculture — from scarcity to surplus

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

Syllabus: Major crops and cropping patterns; issues of buffer stocks and food security; 農 subsidies and MSP

WHAT THE EXAMINER IS ASKING FOR

Two parts: **how** the transformation happened, and the **policies for diversification**. Note that the second part is not a repeat of the first. Diversification is a distinct, later policy agenda that exists precisely because the cereal-centred surplus created its own problems.

- Narrate the transformation through its instruments — technology, institutions, price policy, infrastructure — not as a story about the Green Revolution alone.
- Then pivot explicitly: the surplus created regional, ecological and nutritional distortions, which is what diversification policy responds to.
- Group diversification policies by direction: across crops, into horticulture and allied sectors, and towards natural resource sustainability.

MODEL ANSWER

584 words · paper allows 250

From ship-to-mouth to surplus. In the mid-1960s India was importing wheat under PL-480 and its food security was hostage to another country's harvest and diplomacy. In 2025-26 foodgrain production reached a record **376.56 million tonnes** on the Third Advance Estimates released on 28 May 2026, with rice at about 154 million tonnes and wheat about 121 million tonnes. The transformation had four legs.

- **Technology.** High-yielding semi-dwarf wheat and rice varieties from 1966-67, backed by fertiliser, assured irrigation and plant protection, and sustained afterwards by a public research system, the ICAR institutes and state agricultural universities, that kept releasing varieties as pests and climate shifted.
- **Institutions.** The Food Corporation of India and the Agricultural Prices Commission, now CACP, created in 1965, gave the farmer an assured buyer and the state a buffer stock. Cooperative and later commercial bank credit, and the Kisan Credit Card, financed the inputs.
- **Price policy.** Minimum support prices with procurement made the new technology financially safe to adopt. That, more than the seed itself, is what produced adoption at scale.
- **Infrastructure.** Irrigation expansion, rural electrification for tubewells, roads and warehousing converted potential yield into marketed surplus.

What the surplus cost. The gains were concentrated in irrigated wheat and rice tracts, chiefly Punjab, Haryana and western Uttar Pradesh. Groundwater there is now severely depleted, soil health has degraded, paddy stubble burning is an air-quality emergency for northern India each winter, and the country simultaneously holds surplus cereals and has among the world's highest rates of child stunting and anaemia. Pulses and edible oils remained deficit. **Diversification is the policy response to a success that had become lopsided.**

Policies for diversification

- **Across crops.** The **National Food Security Mission** extended yield-raising effort to pulses, coarse cereals and nutri-cereals; the **National Mission on Edible Oils** for oil palm (2021) and oilseeds (2024) targets the largest import gap; the **Crop Diversification Programme** in the original Green Revolution states pays for shifting area out of paddy.
- **Into horticulture.** The **Mission for Integrated Development of Horticulture (2014)**, consolidating earlier horticulture missions, supported the expansion that has taken horticultural output past foodgrain output, along with cold chain and food processing support under PMKSY and the PLI scheme for food processing.
- **Into allied sectors.** The **National Livestock Mission**, dairy development through the National Programme for Dairy Development and the Animal Husbandry Infrastructure Development Fund, and **PMMSY** for fisheries. Allied activities now contribute a large and rising share of agricultural gross value added, and they are less land-constrained and more income-stable than crop farming.
- **Towards sustainability.** The **National Mission on Natural Farming (2023)**, Per Drop More Crop micro-irrigation, soil health cards, and the promotion of millets, given international profile through the International Year of Millets in 2023.
- **Income and market instruments.** **PM-KISAN** income support decouples support from the crop grown, **PM-AASHA** and PMFBY reduce price and yield risk in non-cereal crops, and **e-NAM**, FPOs and the Agriculture Infrastructure Fund address the market access without which diversification is a losing bet for the farmer.
- **Geographic targeting.** **PM Dhan-Dhaanya Krishi Yojana** converges existing schemes on low-productivity districts, extending the mission logic from a crop to a place.

Assessment. India solved availability decisively. Diversification is proceeding faster on the supply side than the price and procurement system supports: as long as assured procurement is concentrated in rice and wheat, the rational farmer in the surplus states will keep growing rice and wheat. **Diversification will follow procurement and markets, not exhortation**, which is why the market and income instruments matter more than the crop missions.

VALUE ADDITION THAT EARNS MARKS

- The record 376.56 million tonnes for 2025-26, from the Third Advance Estimates of 28 May 2026, dated and with its estimate stage named.
- The strongest analytical line available: diversification fails wherever assured procurement remains concentrated in two cereals, because price policy, not agronomy, determines the cropping choice.
- Horticulture output exceeding foodgrain output is the single cleanest evidence that diversification is happening on the ground.
- The 1965 institutional package, FCI and the Agricultural Prices Commission, is often forgotten in favour of the seed story, and naming it shows a fuller understanding.

WHERE ANSWERS LOST MARKS

- Writing only about the Green Revolution and never reaching diversification, which is half the question.
- Presenting diversification schemes as a list without explaining why diversification became necessary.
- Ignoring the ecological cost of the surplus, which is what makes the second half of the question intelligible.

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14

15 marks

250 words

Agriculture — subsidies and the WTO

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).

Syllabus: Issues related to direct and indirect farm subsidies and minimum support prices; WTO

WHAT THE EXAMINER IS ASKING FOR

Two parts: **classify and describe** Indian farm support, then **examine the issues** it raises under the Agreement on Agriculture. The second half needs the AoA's actual architecture, boxes, de minimis, the 1986-88 reference price, and the public stockholding dispute, or it will be vague.

- Classify Indian support systematically: input, price, income, risk and infrastructure. A classified list beats an unclassified one.
- Set out the AoA's boxes and the specific provisions India runs up against, and explain the 1986-88 external reference price problem, which is the technical heart of the dispute.
- Bring it to the current state of negotiations, which is unresolved as of 2026.

MODEL ANSWER

660 words · paper allows 250

Types of support in India

- **Input subsidies.** Fertiliser, the largest single item, delivered to manufacturers under nutrient-based and urea subsidy schemes; power for agricultural pumping, borne by state discoms; canal irrigation priced below cost; subsidised seed, credit through interest subvention, and machinery.

- **Price support.** Minimum support prices announced for 22 mandated crops on CACP recommendation, made effective by **procurement**, overwhelmingly of rice and wheat by FCI and state agencies, with PM-AASHA covering price deficiency and procurement in other crops.
- **Income support.** **PM-KISAN** pays Rs 6,000 a year to eligible landholding farmer families, decoupled from what is grown, alongside state schemes such as Rythu Bandhu and KALIA.
- **Risk support.** **PMFBY** crop insurance with premium subsidy, and the restructured weather-based insurance.
- **Consumer-side support that acts on agriculture.** Food subsidy under the National Food Security Act, 2013, which finances the offtake side of procurement.
- **Infrastructure and marketing support.** Agriculture Infrastructure Fund, irrigation under PMKSY, e-NAM, and the FPO programme.

The AoA architecture

The Agreement on Agriculture, in force from 1995, disciplines domestic support through three categories:

- **Green Box:** minimally trade-distorting support, permitted without limit, covering research, extension, pest control, infrastructure, public stockholding at market prices, and decoupled income support.
- **Blue Box:** production-limiting programmes, permitted.
- **Amber Box:** trade-distorting support, measured as the **Aggregate Measurement of Support** and subject to reduction commitments. Developing countries may keep product-specific and non-product-specific support up to a **de minimis of 10 per cent** of the value of production, and Article 6.2 additionally exempts investment and input subsidies given to low-income or resource-poor farmers, a provision India relies on heavily.

The issues for India

1. **The 1986-88 reference price.** AMS is computed as the gap between the administered price and an **external reference price fixed at 1986-88 world prices**, multiplied by eligible production, and it is **not adjusted for inflation or for currency depreciation**. Four decades of price change mean that a modest real MSP can show up as a very large notional subsidy. This is the single largest technical grievance, and it is a design flaw, not an Indian evasion.
2. **Public stockholding.** India procures at MSP to run the world's largest food security programme. Because procurement is at an administered price, it is counted as Amber Box support rather than as Green Box stockholding. The **Bali Ministerial in 2013** produced a **peace clause**, an interim undertaking not to challenge developing-country PSH breaches for food security, later extended indefinitely until a permanent solution is agreed. India has invoked it for rice.
3. **The permanent solution has not arrived.** It was mandated at Bali and reaffirmed at successive ministerials. At **MC14 in Yaoundé in 2026**, members again failed to agree, agriculture found no place in the outcome, and the issue returned to Geneva without a timeline. India, with the African Group and the G-33, continues to press for it together with a **Special Safeguard Mechanism** allowing tariff action against import surges.
4. **Asymmetry in the rules.** Developed members shifted large support into the Green Box as decoupled payments, which face no ceiling, while developing members' support remains predominantly price-linked and therefore counted. Per-farmer support in India remains a small fraction of that in the OECD.

5. **Export measures.** Periodic export bans and duties, used to control domestic food prices, invite objections and, more importantly, damage India's reliability as a supplier, which reduces the price farmers can command.
6. **Fisheries.** The WTO's fisheries subsidies negotiation, where India has pressed for special and differential treatment for artisanal and small-scale fishers, is the parallel front on which the same asymmetry argument is being fought.

Conclusion. India's core position is defensible and consistent: the disciplines are calculated on a distorted historical baseline, and food security procurement for the poor should not be counted as trade distortion. Its own reform agenda, shifting support from price to income and from fertiliser to soil-appropriate nutrition, would also reduce its exposure, which is the argument for doing it on India's own terms rather than at the negotiating table.

VALUE ADDITION THAT EARNS MARKS

- The 1986-88 external reference price, unindexed for inflation, is the technical crux; an answer that explains it properly is immediately distinguishable from one that only mentions boxes.
- Distinguish the Bali peace clause (2013, interim) from a permanent solution (mandated, still not agreed as of MC14, Yaoundé, 2026).
- Article 6.2 of the AoA, exempting input and investment subsidies for low-income and resource-poor farmers, is the provision India actually relies on, and it is rarely cited in answers.
- The Special Safeguard Mechanism is the other half of India's ask, and pairing it with PSH shows you know the negotiating package.

WHERE ANSWERS LOST MARKS

- Saying India violates WTO rules by giving MSP. India's position is that the calculation method is flawed and that it is covered by the peace clause.
- Confusing the Green, Blue and Amber boxes, or attributing PM-KISAN to the Amber Box; decoupled income support is Green Box.
- Treating the peace clause as a permanent solution. It is not, and the distinction is precisely what MC14 failed to resolve.

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REVISE THE CONCEPT ON BHARATNOTES

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Food security schemes

bharatnotes.com/subjects/social-justice/welfare-social-sector/food-security-schemes/

15

15 marks

250 words

Space technology — Earth observation

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

Syllabus: Awareness in the field of space; indigenization of technology and developing new technology

WHAT THE EXAMINER IS ASKING FOR

Three parts, all technical: **salient features**, the **imaging techniques**, and **why it is a world first**. The third is the discriminating one, and the answer is not that it carries two sensors but that it captures both **simultaneously, of the same scene**.

- Give the mission facts precisely: who built it, when it launched, on what vehicle, and its mass.
- Explain the two imaging techniques separately, then the fusion, since the fusion is the point.
- Answer the world-first question directly and then give the applications that follow from it.

MODEL ANSWER

566 words · paper allows 250

The mission. Mission Drishti is the first satellite of a planned constellation from **GalaxEye Space**, a Bengaluru startup founded out of an IIT Madras student team. It was launched on **3 May 2026** aboard a **SpaceX Falcon 9** from Vandenberg, California. At about **190 kg** it is India's largest privately built Earth observation satellite, and ISRO publicly acknowledged the launch as a milestone for the country's private space ecosystem, which was opened to private participation through IN-SPACe from 2020.

Salient features

- A single platform carrying **both an active radar sensor and a passive optical sensor**, designed to observe the same scene at the same time.
- **All-weather, day-and-night** imaging capability, because the radar payload is unaffected by cloud, haze or darkness.
- Onboard processing that converts and compresses radar data rapidly, shortening the time from acquisition to a usable product.
- Designed as the first of a **constellation**, with the company targeting about ten satellites by 2030 for higher revisit frequency.

The imaging techniques

1. **Synthetic Aperture Radar.** SAR is an active sensor: it transmits microwave pulses and records the backscatter. Because the satellite moves along its orbit while transmitting, the returns from many

positions can be combined coherently to *synthesise* an aperture far larger than the physical antenna, which is what yields high spatial resolution from a small spacecraft. Drishti's SAR operates in the **X-band with VV polarisation** and supports **Stripmap** mode, for continuous swaths, and **Spotlight** mode, which dwells on a target to achieve finer resolution over a smaller area. SAR sees **structure, roughness and moisture**: it detects a ship, a vehicle, a building, a flooded field or soil water content regardless of illumination or cloud.

2. **Multispectral imaging.** The MSI payload is passive, recording reflected sunlight across about **seven spectral bands** including visible, a coastal band, red-edge and near-infrared. Multispectral data sees **composition and condition**: vegetation vigour through the red-edge and near-infrared response, water quality, crop type and stress, and burn or contamination signatures.
3. **The fusion.** The two are captured through a synchronised imaging system so that the radar and optical products are **co-registered in space and time**. That removes the standard problem of multi-sensor analysis, in which the radar pass and the optical pass are separated by hours or days and the scene has changed in between.

Why it is described as the world's first of its kind. Satellites carrying SAR exist in numbers, and so do multispectral imagers; constellations that combine data from *different* satellites are routine. What had not flown before is a **single satellite acquiring SAR and multispectral imagery of the same target simultaneously**, an architecture the company calls **OptoSAR**. The claim rests on simultaneity and co-registration, not on the presence of two instruments.

Why that matters. The two sensors are complementary in exactly the ways each is weak. Optical imagery is rich but blind through cloud, which in India means blind through the monsoon, precisely when flood mapping and kharif crop monitoring are needed. Radar penetrates cloud but is hard to interpret alone. Fused simultaneously, the pair supports **flood extent mapping during the event rather than after it, crop type and condition assessment through the growing season, disaster damage assessment, maritime surveillance including dark vessels, infrastructure monitoring and defence reconnaissance**. It also matters institutionally: high-value Earth observation capability built by a private Indian firm rather than by the national agency is what the 2020 space reforms were intended to produce.

VALUE ADDITION THAT EARNS MARKS

- The discriminating sentence: the world-first claim rests on simultaneous, co-registered SAR and multispectral acquisition from one platform, not on carrying two sensors.
- Technical specifics that show real reading: X-band, VV polarisation, Stripmap and Spotlight modes, about seven multispectral bands including coastal and red-edge.
- Explain why SAR resolution is possible from a small satellite, the synthesised aperture from platform motion, rather than asserting that SAR is high resolution.
- Situate it in policy: IN-SPACe and the 2020 opening of the space sector, and the Indian Space Policy 2023, which is why an Indian startup could build this at all.

WHERE ANSWERS LOST MARKS

- Attributing Mission Drishti to ISRO. It is a GalaxEye mission, launched on a SpaceX Falcon 9; ISRO congratulated it.
- Explaining SAR as simply radar imaging without the synthetic aperture principle, which is the whole point of the technique.
- Claiming it is the first satellite to carry SAR, or the first Indian EO satellite. Neither is true; the first is the simultaneity.

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REVISE THE CONCEPT ON BHARATNOTES

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Drones, UAVs and the new space economy
bharatnotes.com/subjects/science-tech/science-technology/drones-uav-new-space-economy/

16

15 marks

250 words

Science and technology — artificial intelligence

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.

Syllabus: Awareness in the fields of IT, computers and robotics; developments and their applications

WHAT THE EXAMINER IS ASKING FOR

Four parts and they must all appear: **what** agentic AI is, **how it works**, **applications with examples**, and **advantages, risks and challenges**. The definitional part is where most answers fail, because they describe generative AI instead.

- Define by contrast with generative AI: the difference is autonomy over a multi-step goal, not the ability to produce text.
- Describe the working loop concretely — goal, plan, tool use, observation, reflection, memory — since that is what makes it agentic.
- Give applications, then split advantages from risks, and end with governance, including the Indian position.

MODEL ANSWER

702 words · paper allows 250

What it is. A generative model responds to a prompt with an output. An **agentic AI system** is given a *goal* and pursues it over multiple steps with limited human intervention: it decomposes the goal into tasks, decides what to do next, **calls external tools** to act on the world, observes the result, and adjusts. The distinguishing property is **autonomy over a sequence of actions**, not the quality of any single output.

How it works

- **Goal intake.** The system receives an objective and constraints rather than an instruction for one output.
- **Planning.** A reasoning model, typically a large language model, decomposes the objective into an ordered set of sub-tasks and selects the first action.
- **Tool use.** The agent invokes external capabilities through interfaces: search, databases, code execution, spreadsheets, payment or booking APIs, robotic actuators. Tool use is what makes it consequential, because the system now changes state outside itself.
- **Observation and reflection.** It reads the result of each action, checks it against the goal, and revises the plan, retrying or changing approach on failure.
- **Memory.** Short-term context for the task and longer-term stores of prior interactions and learned preferences allow continuity across sessions.
- **Orchestration.** Complex systems use several specialised agents, a planner, a researcher, a verifier, coordinated by a controller, with human approval gates at defined checkpoints.

Applications

- **Software engineering:** agents that read an issue, write and test the change, and open the fix for review.
- **Customer operations:** an agent that verifies a claim against policy documents, checks the payment system and settles or escalates it.
- **Scientific and drug discovery:** proposing candidate molecules, running simulations and designing the next experiment iteratively.
- **Public administration:** grievance triage and routing, multilingual service access, and preliminary document verification, where India's DPI creates unusual scope.
- **Agriculture and health:** advisory agents that combine weather, soil and market data into an action recommendation, and triage agents in teleconsultation.
- **Finance and supply chain:** reconciliation, fraud investigation, procurement and dynamic inventory management.

Advantages. Automation of multi-step knowledge work rather than single tasks; round-the-clock operation at marginal cost; consistency in rule-application; scale in languages and hours that human staffing cannot match, which matters greatly for public service delivery in a country of India's size and linguistic range.

Risks and challenges

- **Error cascade.** An early mistake propagates through a chain of actions, and by the time it is visible the agent has acted on it repeatedly.
- **The accountability gap.** When an autonomous system causes loss, liability among developer, deployer and user is unsettled in Indian law. This is the central unresolved question.
- **Security.** Agents that read untrusted content and hold credentials are exposed to prompt injection and tool misuse, which turns a chatbot vulnerability into an actuator vulnerability.
- **Misalignment and specification gaming.** An agent optimising a literal objective may satisfy the metric and defeat the purpose.
- **Opacity.** Multi-step reasoning is hard to audit after the fact, which is a serious problem in any decision affecting rights or entitlements.

- **Bias at scale.** An agent applying a biased rule applies it uniformly and rapidly, which is worse than a biased human, not better.
- **Data protection.** Persistent memory and cross-system tool access sit awkwardly with purpose limitation and consent under the Digital Personal Data Protection Act, 2023.
- **Labour.** The exposure is to cognitive and entry-level white-collar work, which is precisely the segment India's services economy and its graduates depend on.
- **Concentration.** Compute, models and cloud are concentrated in a few firms and jurisdictions, raising a sovereignty question for a country building public services on them.

Governance, and India's position. India's approach has been to build capacity and then regulate function rather than technology: the **IndiaAI Mission**, approved in March 2024 with an outlay of about Rs 10,371 crore, funds compute, datasets, skilling and safe-and-trusted AI. India hosted the **AI Impact Summit at New Delhi from 16 to 21 February 2026**, which produced a New Delhi Declaration framed around people, progress and planet. On the restrictive side, the **IT Amendment Rules of February 2026** on synthetically generated information already regulate one output of these systems. The sensible design principles for agentic deployment are narrow and revocable permissions, mandatory human approval for consequential actions, complete action logging, sandboxed testing, and a named accountable person for every deployed agent.

VALUE ADDITION THAT EARNS MARKS

- The one-line definition that separates a good answer from an average one: generative AI produces content, agentic AI pursues goals by taking actions through tools.
- Prompt injection against a credentialled, tool-using agent is the specific security risk, and naming it demonstrates technical literacy rather than general caution.
- IndiaAI Mission, approved March 2024 with about Rs 10,371 crore, and the India AI Impact Summit at New Delhi, 16 to 21 February 2026, are the dated Indian anchors.
- The accountability gap is the correct legal framing: Indian law has no settled allocation of liability among developer, deployer and user for autonomous action.

WHERE ANSWERS LOST MARKS

- Describing ChatGPT-style generative AI and calling it agentic. Autonomy over a multi-step goal is the defining feature.
- Listing risks without any governance response, when the question asks for challenges, which implies what must be done about them.
- Omitting Indian context entirely and writing a generic technology answer.

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REVISE THE CONCEPT ON BHARATNOTES

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Emerging technologies

bharatnotes.com/subjects/science-tech/science-technology/emerging-technologies/

17

15 marks

250 words

Environment — solid waste management

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.

Syllabus: Conservation, environmental pollution and degradation, environmental impact assessment

WHAT THE EXAMINER IS ASKING FOR

Three parts: **challenges**, the **policy framework**, and a **comparison of Delhi and Indore** with their salient features. The comparison is the discriminating part, and it must explain *why* one worked, not merely note that it did.

- Keep the challenges structural: segregation, legacy waste, informal sector, finance, capacity, land.
- Give the policy framework accurately and currently, which now means the 2026 Rules, not the 2016 Rules.
- In the comparison, isolate the causal variable. Indore's result rests on source segregation enforced at the household, which is what makes every downstream step possible.

MODEL ANSWER

790 words · paper allows 250

The challenges

- **Segregation at source is the binding constraint.** Mixed waste cannot be composted, recycled or burned efficiently. Every downstream failure in Indian cities traces back to this one.
- **Legacy dumpsites.** Decades of unprocessed waste in unlined mounds cause leachate contamination of groundwater, methane emissions and repeated fires. Reclaiming them competes for the same municipal budget as running the daily system.
- **Collection and processing gaps.** Door-to-door collection is incomplete in many cities, transport fleets are inadequate, and processing capacity lags generation, so the residual goes to the dump by default.
- **Municipal finance and capacity.** Urban local bodies have the responsibility under the Twelfth Schedule without the revenue base; user charges are politically difficult and cost recovery is poor.

- **The informal sector.** Waste pickers perform much of India's actual recycling under hazardous conditions, outside any legal or social protection, and formalisation schemes have rarely integrated them successfully.
- **Land and siting.** Landfill and processing sites face acute local opposition, and peri-urban land values make new sites expensive.
- **Composition change.** Rising plastic, e-waste, sanitary and construction waste fractions need separate streams the system was not designed for.
- **Data and enforcement.** Self-reported municipal data is unreliable, and penalties are rarely imposed on bulk generators.

The policy framework

- **The Solid Waste Management Rules, 2026**, notified by the Ministry of Environment, Forest and Climate Change under the Environment (Protection) Act, 1986, superseded the 2016 Rules and came into force on **1 April 2026**. Their significant features are **four-stream segregation at source** into wet, dry, sanitary and special-care waste, in place of the earlier three; a **centralised online portal** for tracking generation, collection and disposal, replacing paper reporting; **extended responsibility for bulk waste generators**, requiring on-site processing of wet waste or a responsibility certificate; a mandated rise in **refuse-derived fuel** use by cement and waste-to-energy industry from 5 to 15 per cent over six years; **environmental compensation** on the polluter-pays principle for non-compliance; and time-bound mapping and remediation of all legacy dumpsites, with mapping and assessment required by **31 October 2026**.
- **Around it sit** the Plastic Waste Management Rules with extended producer responsibility and the ban on identified single-use plastics, the E-Waste Management Rules 2022, the Battery Waste Management Rules 2022, and the Construction and Demolition Waste Rules 2016.
- **The delivery vehicle** is the **Swachh Bharat Mission-Urban 2.0**, launched in 2021 with the goal of garbage-free cities, with **Swachh Survekshan** as the annual ranking that creates competitive pressure, and the Fifteenth Finance Commission's urban local body grants tied to solid waste and air quality performance.

Indore: what actually worked

Indore has ranked first in every edition of Swachh Survekshan since 2017, which is a sustained result rather than a single good year. The salient features:

- **Segregation enforced at the household**, with separate compartments in collection vehicles so that segregated waste is not remixed in transit, which is where most Indian cities lose it.
- **Complete door-to-door collection** with route monitoring, and the elimination of open street bins, which removes the option of dumping.
- **Processing matched to the streams collected.** A **550 tonnes-per-day bio-CNG plant at Devguradia**, built on public-private partnership on the corporation's old trenching ground, converts segregated wet waste into compressed biogas used to run city buses, with compost as a co-product. Dry waste goes to material recovery facilities, and construction waste to a separate plant.
- **Legacy remediation.** The old Devguradia dumpsite was bio-mined and the land reclaimed, which is what allowed the processing infrastructure to be built there.
- **Behaviour and enforcement together.** Sustained citizen campaigns, integration of waste pickers into the formal collection workforce, user charges, and consistent penalties, maintained across changes of

administration.

Delhi: where it has failed

- **Three legacy dumpsites**, Ghazipur commissioned in 1984, Bhalswa in 1994 and Okhla in 1996, long past capacity, several storeys high, subject to recurring fires and slope collapse, and the subject of repeated National Green Tribunal directions.
- **Continued fresh dumping** on sites already declared overfilled, because processing capacity has never matched generation.
- **Weak source segregation**, so waste-to-energy and composting plants receive high-moisture, low-calorific mixed feed and underperform.
- **Fragmented governance**. Municipal corporations, the NDMC, the Cantonment Board, the state government and the Union government share jurisdiction, and accountability diffuses across them.
- **Deadlines repeatedly reset**. Under the current action plan, Okhla is targeted for clearance by July 2026, Bhalswa by December 2026 and Ghazipur by December 2027, following earlier deadlines that were not met.

The lesson. The difference between the two cities is not technology or money; Delhi has more of both. It is that Indore solved **segregation at the household and kept the segregation intact through collection**, which made every subsequent step viable, and then sustained enforcement long enough for it to become habit. Waste management is a governance and behaviour problem with an engineering component, not the reverse.

VALUE ADDITION THAT EARNS MARKS

- The 2026 Rules are the freshest and most examinable content here: in force 1 April 2026, four-stream segregation, extended bulk waste generator responsibility, RDF from 5 to 15 per cent over six years, and dumpsite mapping by 31 October 2026.
- The Devguradia bio-CNG plant, 550 tonnes per day on a PPP on the corporation's own reclaimed trenching ground, with gas used for city buses, is the concrete detail that makes the Indore case persuasive.
- Delhi's three dumpsites with their commissioning years, 1984, 1994 and 1996, and the current clearance deadlines, give the failure case the same specificity as the success case.
- The causal claim, that segregation preserved through collection is the variable that explains the difference, is the analytical payoff most answers never reach.

WHERE ANSWERS LOST MARKS

- Citing the Solid Waste Management Rules, 2016 as current. They were superseded with effect from 1 April 2026.
- Praising Indore without explaining the mechanism, which reduces the answer to a rankings report.
- Treating waste-to-energy as the solution. Without segregation, Indian mixed waste has calorific value too low for efficient combustion, which is the reason several plants have underperformed.

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REVISE THE CONCEPT ON BHARATNOTES

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18

15 marks

250 words

Disaster management — community participation

“Community participation is the cornerstone of effective disaster management”. Analyse this statement with suitable examples from India. Also discuss the challenges to community participation and measures to strengthen it.

Syllabus: Disaster and disaster management

WHAT THE EXAMINER IS ASKING FOR

Analyse a strong claim, then give **challenges** and **measures**. Analysis means testing the claim, so the answer needs the phases of the disaster cycle in which community participation is decisive and the phases in which it is not sufficient by itself.

- Establish why the claim holds through the logic of the golden hour and local knowledge, not by assertion.
- Give Indian examples that are genuinely evidence, of which Odisha's cyclone record is the strongest.
- Then challenges and measures, keeping the measures institutional and specific.

MODEL ANSWER

742 words · paper allows 250

Why the claim holds. In the minutes and hours after an earthquake, a flash flood or a building collapse, the state has not yet arrived. Almost every life saved in that window is saved by a neighbour. Communities also hold information no external agency has: which lane floods first, which slope moves, who is bedridden, where the elderly live alone. And in the recovery phase, whether a rebuilt settlement

is used or abandoned depends on whether the people who will live in it were consulted. The Sendai Framework, 2015-2030, and India's own **Disaster Management Act, 2005**, both shift the emphasis from response to risk reduction, and risk reduction is by nature local.

The Indian evidence

- **Odisha and cyclones.** The 1999 super cyclone killed close to ten thousand people. By Phailin in 2013, the state evacuated around a million people in advance with a death toll in the tens, and the pattern has held through subsequent cyclones. The change was not better weather forecasting alone; it was multipurpose cyclone shelters with trained shelter management committees, village-level task forces for warning dissemination, search and rescue and first aid, and repeated mock drills, so that when the warning came the community knew what to do and where to go.
- **Kerala floods, 2018.** Fishermen took their boats inland and rescued thousands before formal machinery could reach the interior; a case of existing community capability being redirected.
- **Community-based early warning** in flood-prone Bihar and Assam, and in the Himalayan states for landslides and glacial lake outburst risk, where villagers operate the last mile of the warning chain.
- **Aapda Mitra**, the NDMA scheme training community volunteers in urban and flood-prone districts, and Civil Defence and NCC and NSS mobilisation, institutionalise this capacity.
- **Self-help group federations** under DAY-NRLM proved in the pandemic that an existing community network can be repurposed for relief, mask production and information dissemination faster than a new structure can be created.

Analysis: where the claim needs qualification. Community participation is decisive in **preparedness, early warning dissemination, immediate rescue and recovery**. It is not a substitute for the capabilities that only the state possesses: satellite and radar forecasting, NDRF specialist rescue, medical surge capacity, engineered infrastructure and financing. The cornerstone metaphor is apt precisely because a cornerstone is not the whole building. The most successful Indian cases, Odisha above all, are ones where **state investment and community organisation were built together**, not where one substituted for the other.

Challenges to community participation

- **Sustaining it between events.** Committees formed after a disaster decay in the years of quiet, which are most years.
- **Elite capture and exclusion.** Committees can be dominated by dominant castes or by men, so warnings and relief reach some households and not others; women, the elderly and persons with disabilities are the usual omissions.
- **Migration and urban anonymity.** Dense cities with transient populations lack the social density that rural community-based systems assume.
- **Funding and legal status.** Village disaster management committees often have no budget line and no statutory standing, so they cannot procure or maintain equipment.
- **Warning fatigue and trust.** False alarms erode compliance, and mistrust of official warnings is itself a risk factor.
- **Capacity and hazard change.** Volunteer skills lapse without refresher training, and climate change is producing hazards outside living memory, which is exactly where traditional knowledge fails.

Measures to strengthen it

1. **Institutionalise and fund.** Statutory village and ward disaster management committees with an assured budget line under the State Disaster Response Fund and municipal budgets, and a named local officer accountable for them.
2. **Plan locally and use it.** Village and ward disaster management plans with hazard maps, resource inventories and named responsibilities, updated and drilled annually rather than filed.
3. **Train continuously.** Scale Aapda Mitra, embed disaster preparedness in school curricula and NSS and NCC activity, and hold mandatory mock drills before each hazard season.
4. **Make inclusion a design requirement.** Mandate representation of women, persons with disabilities and the elderly, and design shelters, warnings and evacuation routes for them specifically.
5. **Close the last mile of warning** with multi-channel, multilingual dissemination through cell broadcast, sirens, community radio and trained runners, and explain the uncertainty rather than issuing binary alarms.
6. **Integrate the community into the formal chain,** giving committees a defined role in damage assessment and relief distribution, which also improves targeting and reduces leakage.
7. **Use existing networks** rather than creating parallel ones: self-help groups, panchayats, resident welfare associations and faith institutions already have reach and legitimacy.

VALUE ADDITION THAT EARNS MARKS

- The Odisha comparison, 1999 against Phailin in 2013 and after, is the single strongest piece of Indian evidence on this question, and it should be given with the mechanism, not just the death tolls.
- The qualification that community participation is a cornerstone rather than the whole structure is what turns a descriptive answer into an analytical one.
- Aapda Mitra, the Disaster Management Act, 2005 and the Sendai Framework's four priorities give the institutional scaffolding.
- Elite capture and the exclusion of women and persons with disabilities from committees is the equity critique that few answers raise and that examiners reward.

WHERE ANSWERS LOST MARKS

- Agreeing with the statement enthusiastically and never analysing it. The directive is *analyse*.
- Using examples without explaining the mechanism that made participation effective.
- Measures that amount to awareness campaigns. Name the institution, the budget line and the drill schedule.

SOURCES · EACH LABELLED PRIMARY OR SECONDARY

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REVISE THE CONCEPT ON BHARATNOTES

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Sendai Framework for DRR 2015-2030

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19

15 marks

250 words

Internal security — Jammu and Kashmir

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.

Syllabus: Linkages between development and spread of extremism; security challenges in border areas

WHAT THE EXAMINER IS ASKING FOR

Four parts: **actions taken** to mainstream J&K, the **pre-abrogation status**, the **post-abrogation status**, and the **positive impacts**. The question asks for positive impacts specifically, so give them, but an answer that presents an entirely untroubled picture will not be credible. State the security record accurately, including its setbacks.

- Do pre and post status as a clean comparison first, because the rest depends on it.
- Then actions, grouped as constitutional, political, security and developmental.
- Give positive impacts with evidence, and add a short paragraph on what remains unfinished, which strengthens rather than weakens the answer.

MODEL ANSWER

752 words · paper allows 250

Pre-abrogation status

- **Article 370** was placed in Part XXI as a *temporary provision*. Under it, Parliament's legislative competence over Jammu and Kashmir was confined to Defence, External Affairs and Communications, and the extension of any other central law required the State government's concurrence, given effect through Presidential Orders under Article 370(1)(d).
- **Article 35A**, introduced by the Constitution (Application to Jammu and Kashmir) Order, 1954, empowered the State legislature to define **permanent residents** and to confer on them special rights in state employment, acquisition of immovable property, settlement and scholarships, to the exclusion of others.
- The State had its **own Constitution**, adopted in 1957, its own flag, a six-year assembly term, and a body of central law that did not apply, including several fundamental rights provisions in their full form, the Right to Information Act, the Right to Education Act, and the SC/ST (Prevention of Atrocities) Act.
- Practically, women marrying non-permanent residents faced loss of property rights, refugees from West Pakistan and Valmiki and Gorkha communities long resident in the State were excluded from permanent-resident status, and reservation for Scheduled Tribes in the legislature did not exist.

Post-abrogation status

- On **5 August 2019**, through Constitutional Orders issued under Article 370 and a resolution of Parliament, the special status was made inoperative and Article 35A ceased to have effect. The **Jammu and Kashmir Reorganisation Act, 2019** bifurcated the State into two Union Territories, Jammu and Kashmir with a legislature and **Ladakh** without one, with effect from **31 October 2019**.
- The State Constitution and flag ceased to operate; the Indian Constitution applies in full, and central laws extend directly.
- In ***In re Article 370*** (December 2023) the Supreme Court **upheld the abrogation**, holding that Article 370 was a temporary provision and that the President had power to declare it inoperative. It directed that **elections to the Legislative Assembly be held by September 2024** and that **statehood be restored as soon as possible**.
- **Assembly elections were held in September and October 2024**, the first in a decade, with high turnout, and an elected government took office. **Statehood has not been restored as of August 2026**, and it remains the principal political demand across parties in the Union Territory.

Actions taken to bring J&K into the national mainstream

- **Constitutional and legal.** Extension of central laws in full, including the RTI Act, the RTE Act, the SC/ST (Prevention of Atrocities) Act and the anti-corruption framework; abolition of the permanent-resident regime.
- **Political and representative.** Panchayat, Block Development Council and District Development Council elections from 2018 to 2020, creating a three-tier local government where none had functioned; the **Delimitation Commission (2022)** raising Assembly seats to 90, with reservation of seats for Scheduled Tribes for the first time; the 2024 Assembly election.
- **Social inclusion.** Grant of Scheduled Tribe status to the Pahari-speaking people, Paddari, Koli and Gadda Brahmin communities, and grant of rights to West Pakistan refugees, Valmikis and Gorkhas.
- **Security.** Sustained counter-terrorism operations, action against terror financing networks by the NIA and the Enforcement Directorate, and a shift towards targeting overground workers and funding rather than only armed cadres.
- **Development and connectivity.** The Udhampur-Srinagar-Baramulla rail link, including the Chenab bridge; the Zojila and Z-Morh tunnels; new medical colleges and two AIIMS; industrial incentive packages and investment summits; and expansion of central scheme coverage.

Positive impacts

- **Restoration of representative government** at every tier, from panchayat to Assembly, after a long democratic vacuum, with participation levels that were themselves a political statement.
- **Equal rights for excluded groups**, particularly women who no longer lose property rights on marriage, refugee communities enfranchised after seven decades, and Scheduled Tribes given legislative representation.
- **Legal equalisation**, so that residents of J&K now hold the same statutory rights, to information, to education, to protection against atrocity, as other Indian citizens.
- **Investment and tourism**, which have risen substantially, and improved connectivity that reduces the physical isolation on which alienation partly fed.

- **Pressure on the terror-financing ecosystem**, with the separatist and hawala networks that sustained shutdowns and stone-pelting substantially disrupted.

What remains unfinished, stated plainly. Statehood has not been restored despite the Supreme Court's direction, and that is now the central grievance. The security improvement has not been linear: the **Pahalgam attack of April 2025** and continued incidents in the Jammu region show that the threat has changed shape rather than ended, shifting to the south of the Pir Panjal. Political normalisation requires that the elected government have real powers rather than nominal ones, and mainstreaming ultimately depends on the perception of agency, which no development package supplies by itself.

VALUE ADDITION THAT EARNS MARKS

- Get the constitutional mechanics right: Article 370 in Part XXI as a temporary provision, Article 35A inserted by the 1954 Presidential Order, and abrogation effected through Constitutional Orders plus the Reorganisation Act, 2019, with the UTs coming into being on 31 October 2019.
- The Supreme Court's December 2023 judgment upheld the abrogation *and* directed elections by September 2024 and restoration of statehood as soon as possible. Both halves matter.
- Delimitation in 2022 raised the Assembly to 90 seats and reserved seats for Scheduled Tribes for the first time, which is the specific mechanism of political inclusion.
- Naming the Pahalgam attack of April 2025 is what makes the answer credible rather than promotional, and it also connects to the Indus Waters Treaty abeyance in GS1.

WHERE ANSWERS LOST MARKS

- Saying Article 370 was repealed or deleted. It was rendered inoperative through Presidential Orders; the text remains in the Constitution.
- Claiming statehood has been restored. It has not, as of August 2026.
- Presenting an entirely positive picture with no acknowledgement of continuing security incidents, which reads as advocacy rather than analysis.

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India, Pakistan, Kashmir and cross-border terrorism

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Counterterrorism and intelligence

bharatnotes.com/subjects/security/internal-security/counterterrorism-intelligence/

20

15 marks

250 words

Internal security — terror financing

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.

Syllabus: Money laundering and its prevention; security challenges and their management

WHAT THE EXAMINER IS ASKING FOR

Four parts: **counterfeit currency and money laundering as terror funding, international action, the role of FATF, and compliance methods of member states.** The fourth is the one most answers skip, and it is asking about the actual machinery, reporting entities, KYC, beneficial ownership, FIUs.

- Treat FICN and money laundering as two distinct mechanisms with different logics, one an attack on the currency itself, the other a concealment technique.
- Give the international architecture beyond FATF: the UN conventions, the Security Council sanctions regimes, the Egmont Group.
- Explain FATF's leverage precisely, through mutual evaluation and listing, then the compliance toolkit member states deploy, and finish with India's current position.

MODEL ANSWER

825 words · paper allows 250

Counterfeit currency as a funding and warfare instrument. Fake Indian Currency Notes are not merely a fraud. High-quality FICN, printed with security features that require industrial capability, has historically been pushed across the border and through third countries, and it serves two purposes at once: it finances terrorist and separatist operations at zero real cost to the sponsor, and it attacks the integrity of the currency itself, which is why Indian agencies treat it as **economic warfare** rather than ordinary counterfeiting. Circulation runs through porous land borders, courier networks, and the interface with narcotics and gold smuggling. The institutional response includes the **Terror Funding and Fake Currency Cell** of the NIA, the FICN Coordination Group of central and state agencies, the offences inserted in the **Unlawful Activities (Prevention) Act, 1967** for high-quality counterfeit currency, and successive upgrades to the security features of the currency series.

Money laundering as the enabling mechanism. Terror finance is usually small in value and lethal in effect, which makes it hard to detect by size alone. Laundering supplies concealment through the familiar three stages, **placement, layering and integration**, using:

- **Hawala and informal value transfer**, which leaves no banking trail and settles by offsetting accounts;

- **Trade-based laundering** through over- and under-invoicing, which is the largest and least detected channel;
- **Shell companies and layered ownership**, particularly through opaque jurisdictions;
- **Misuse of non-profit organisations**, which FATF identified as an area where India needed to strengthen risk-based supervision;
- **Virtual digital assets and crypto**, now brought under the reporting regime, and increasingly the peer-to-peer and mixer segment;
- **Narco-terror convergence**, where drug proceeds fund the same networks.

India's domestic architecture is the **Prevention of Money Laundering Act, 2002** with attachment and confiscation powers, the Enforcement Directorate, the **Financial Intelligence Unit-India** receiving suspicious transaction and cash transaction reports, UAPA Chapters IV and VI for terrorist property, the NIA Act, and the Fugitive Economic Offenders Act, 2018.

International action

- **UN instruments.** The Vienna Convention (1988) on drug trafficking, the **International Convention for the Suppression of the Financing of Terrorism (1999)**, and the Palermo Convention (2000) on transnational organised crime.
- **Security Council regimes.** Resolution 1267 and its successors, creating the sanctions list and Monitoring Team, and **Resolution 1373 (2001)**, which obliges every state to criminalise terror financing and freeze assets. India has pursued listings of individuals and entities through this machinery, and the record of holds placed by permanent members is the standing frustration.
- **Financial intelligence cooperation.** The **Egmont Group** of financial intelligence units for information exchange, mutual legal assistance treaties, INTERPOL notices, and the Wolfsberg Group standards in private banking.
- **Regional bodies.** FATF-style regional bodies such as the Asia/Pacific Group on Money Laundering, of which India is a member and which conducts peer review in the region.

The role of FATF. The Financial Action Task Force, established in 1989 and based in Paris, sets the global standard through its **40 Recommendations** on anti-money laundering, counter-terrorist financing and counter-proliferation financing. Its power is not treaty-based; it is reputational and financial, and it works through two instruments:

- **Mutual evaluation**, a peer review assessing both *technical compliance* with the Recommendations and *effectiveness* of the system in practice, followed by a follow-up process.
- **Public listing.** The grey list of jurisdictions under increased monitoring and the black list of high-risk jurisdictions subject to a call for counter-measures. Listing raises the cost of cross-border transactions, affects credit ratings and multilateral lending, and is therefore a powerful lever, as Pakistan's period on the grey list demonstrated.

Methods of compliance by member states. Members give effect to the Recommendations through a standard toolkit: criminalising money laundering and terrorist financing as autonomous offences; **customer due diligence and KYC** obligations on banks, insurers, securities firms and designated non-financial businesses; **beneficial ownership** registers to pierce shell structures; mandatory **suspicious transaction and threshold reporting** to a financial intelligence unit; record-keeping obligations; **targeted financial sanctions** implementing UNSC listings without delay; a **risk-based approach** and periodic national risk assessment; regulation of virtual asset service providers; the **travel rule** requiring

originator and beneficiary information to accompany transfers; risk-based supervision of the non-profit sector; and international cooperation through mutual legal assistance and asset sharing.

India's position. India's **Mutual Evaluation Report, adopted at the FATF plenary in Singapore in June 2024**, placed India in the **regular follow-up** category, the best outcome available and one shared by only a small number of G20 members. The report commended the effectiveness of financial investigation by the NIA and the Enforcement Directorate in tracing terror-financing money trails, and the reduction of cash-economy risk through the JAM architecture and digital payments, while identifying prosecution of money laundering and terror financing, protection of the non-profit sector from abuse, and supervision of preventive measures as areas requiring improvement. India was subsequently **elected to the FATF Vice-Presidency for the term July 2026 to June 2027**, the first time it has held the office, which gives it agenda-setting influence on exactly the issues, state-sponsored terror financing and asset recovery, that it has pressed internationally.

VALUE ADDITION THAT EARNS MARKS

- Distinguish FICN as economic warfare from ordinary counterfeiting; that framing, and the UAPA provisions on high-quality counterfeit currency, is what makes this an internal security answer rather than a criminal law one.
- FATF's leverage is reputational and market-based, not treaty-based, and explaining that is the analytical core of the third part.
- The compliance toolkit — beneficial ownership, the travel rule, risk-based supervision, targeted financial sanctions — is the fourth part of the question and the part most answers omit entirely.
- India's June 2024 regular-follow-up placement and its FATF Vice-Presidency for July 2026 to June 2027 are the current, dated facts that make the answer contemporary.

WHERE ANSWERS LOST MARKS

- Quoting a breakdown of how many Recommendations India was rated compliant on. The figures circulating in secondary sources do not reconcile with the 40 Recommendations, so cite the follow-up category instead.
- Treating FATF as a UN body or as legally binding. It is an intergovernmental standard-setter whose power is reputational.
- Answering only on money laundering law and ignoring counterfeit currency, which the question names first.

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Organised crime and terrorism financing

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