



Current Affairs Reverse Engineering

CARE

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MAINS

QUESTION & ANSWERS

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International Relations

Q 1: India-U.K. Free Trade Agreement (FTA), signed in July 2025, is being hailed as a template for future FTAs. Discuss its key features, economic implications, and challenges. Also, evaluate its potential in enhancing India's MSME and export competitiveness. (250 words, 15 marks)

Topic – India-UK Free Trade Agreement

Source: The Hindu

<https://www.thehindu.com/news/national/india-and-uk-sign-the-free-trade-agreement/article69850072.ece>

Introduction	India and the United Kingdom signed a Comprehensive Economic and Trade Agreement (CETA) on July 24, 2025, during Prime Minister Modi's visit to the U.K. This landmark deal replaces the earlier Roadmap 2030 with the Vision 2035 framework, and marks the U.K.'s most significant post-Brexit trade pact. It aims to strengthen bilateral trade, investment, and strategic convergence while boosting India's export competitiveness.
Body	<ul style="list-style-type: none">• Key Features of the CETA• Boost to Agriculture and Processed Food Sector• Empowering MSMEs and Export Competitiveness• Strategic and Diplomatic Implications• Challenges and Political Economy Concerns
Conclusion	The India-U.K. CETA represents a new-age trade pact that blends economic liberalization with strategic diplomacy. It has the potential to serve as a template for FTAs with developed economies, enhancing India's global trade profile while empowering MSMEs and agri-exporters. However, for the deal to yield its full benefits, domestic readiness, institutional coordination, and sectoral safeguards must be prioritized. As India targets \$1 trillion in exports by 2030, such FTAs offer a critical pathway to achieve inclusive and globally integrated growth.

UPSC Syllabus	India-UK Free Trade Agreement
Why was this question asked?	Q. What are the key areas of reform if the WTO has to survive in the present context of 'Trade War', especially keeping in mind the interest of India? [2018]

Introduction

India and the United Kingdom signed a Comprehensive Economic and Trade Agreement (CETA) on July 24, 2025, during Prime Minister Modi's visit to the U.K. This landmark deal replaces the earlier Roadmap 2030 with the Vision 2035 framework, and marks the U.K.'s most significant post-Brexit trade pact. It aims to strengthen bilateral trade, investment, and strategic convergence while boosting India's export competitiveness.

Body

Key Features of the CETA

- **Tariff Elimination:** India to remove/reduce tariffs on **90% of tariff lines** covering 92% of U.K. exports. U.K. tariffs on Indian goods to be slashed across sectors.
- **Double Contributions Convention (DCC):** Ensures professionals posted cross-border for up to 3 years pay social security in only one country.
- **Vision 2035:** Introduces annual review at Foreign Minister level across pillars such as growth, tech, climate, and security.
- **U.K. Tariff Impact:** Average Indian tariff on U.K. goods to fall from **15% to 3%**; aerospace, auto, and electrical equipment to see up to **100 percentage point cuts**.

Boost to Agriculture and Processed Food Sector

- India's agri exports expected to **grow 20% in 3 years**, aided by near-zero tariffs on **99.7% of processed food lines** (earlier up to 70%).
- Gains in **grapes, sauces, shrimp, vegetables**, making India competitive vs. Brazil, China, and the U.S.
- U.K. imports \$37.5B in agri goods, but only \$811M from India—**massive scope for market penetration**.
- Sensitive items like **dairy, apples, edible oils** excluded, reflecting a **calibrated trade strategy** balancing food security and rural interests.

Empowering MSMEs and Export Competitiveness

India's **MSMEs**, contributing 40% of exports and employing over 11 crore people, stand to benefit significantly:

- **Textiles:** Tariff removal (from 12%) enhances India's competitiveness vis-à-vis **Bangladesh and Cambodia**. High-potential segments include garments, carpets, and home textiles.
- **Engineering Goods:** 1,659 tariff lines made duty-free. Exports projected to **double to \$7.5 billion by 2030**.
- **Chemicals & Leather:** Chemical exports to rise by **30–40%** in one year. Leather gains 5 percentage point market share in the U.K.

- **Handicrafts & Jewellery:** MSME-led sectors gain through enhanced duty-free access, aligning with **ODOP and Make in India** missions.

Strategic and Diplomatic Implications

The agreement extends beyond trade into **strategic and multilateral alignment:**

- **Global Governance Reform:** Joint push to reform **UNSC, WTO, WHO, IMF** to reflect emerging power dynamics. U.K. reiterates support for India's **UNSC permanent seat**.
- **Tech & Climate Synergy:** Builds on the **India-U.K. Technology Security Initiative (2024)**; aligns with **India's LiFE Mission** and U.K.'s Net Zero targets.
- **Security Cooperation:** Concerns on **Khalistani extremism and economic fugitives** addressed; renewed commitment on **extradition (FEO Act, 2018)**.
- **Indo-Pacific Dialogue:** Both sides emphasize stability in Ukraine, West Asia, and Indo-Pacific, resonating with India's **Act East Policy** and the U.K.'s **Indo-Pacific Tilt**.

Challenges to the India–U.K. Free Trade Agreement (FTA)

- **Tariff Imbalance:** India offers tariff removal on 90% lines; may widen trade deficit.
 - Limited liberalization in India's key services (IT, pharma).
- **Domestic Industry Concerns:** Alcohol sector opposes whiskey duty cuts without safeguards.
 - Sensitive agri sectors (dairy, apples) excluded, limiting rural gains.
- **Implementation Gaps:** Double Contributions Convention (DCC) not yet operational.
 - Non-tariff barriers, regulatory delays persist.
- **MSME Constraints:** Lack of export preparedness, finance, and compliance capacity.
- **Strategic and Political Risks**
 - Khalistani protests strain diplomatic ties.
 - Post-Brexit U.K. trade policy remains uncertain.
- **Social Security Disputes**
 - U.K. domestic opposition to long-term worker exemptions under DCC.
- **Policy Coherence Issues**
 - India's PLI and Atmanirbhar policies seen as

	<p>protectionist.</p> <ul style="list-style-type: none"> ○ Custom facilitation and dispute redress mechanisms underdeveloped.
Conclusion	<p>The India-U.K. CETA represents a new-age trade pact that blends economic liberalization with strategic diplomacy. It has the potential to serve as a template for FTAs with developed economies, enhancing India’s global trade profile while empowering MSMEs and agri-exporters. However, for the deal to yield its full benefits, domestic readiness, institutional coordination, and sectoral safeguards must be prioritized. As India targets \$1 trillion in exports by 2030, such FTAs offer a critical pathway to achieve inclusive and globally integrated growth.</p>

Q 2: “India practises Buddhist diplomacy; China practises Buddhist statecraft.” In light of this statement, critically examine how the succession of the Dalai Lama could become a geopolitical flashpoint in the Himalayan region. (250 words | 15 marks)

Topic – India–China relations

Source: The Hindu

<https://www.thehindu.com/opinion/lead/china-india-and-the-conflict-over-buddhism/article69843709.ece>

Introduction	<p>The Himalayan frontier is increasingly becoming a theatre for a spiritual and geopolitical rivalry between India and China, centred on Buddhist soft power. At the heart of this contest lies the looming succession of the 14th Dalai Lama. While India practices Buddhist diplomacy rooted in cultural outreach and spiritual respect, China adopts a more assertive Buddhist statecraft, leveraging religious institutions for strategic influence.</p>
Body	<ul style="list-style-type: none"> ● Dual Dalai Lamas and the Crisis of Legitimacy ● Geopolitical Contest Across the Himalayan Rim ● China’s Use of Internal Buddhist Divisions ● India’s Buddhist Diplomacy: Strengths and Constraints ● Strategic Stakes and International Fallout
Conclusion	<p>The succession of the Dalai Lama is no longer a purely religious question but a geopolitical flashpoint. India must proactively harness Buddhist diplomacy to consolidate spiritual influence, while also preparing to counter China’s assertive statecraft. As traditional battlefields shift, the contest may unfold not with troops or tanks, but with reincarnations, monasteries, and prayer beads — making the Himalayas the new spiritual frontier of Asian geopolitics.</p>

UPSC Syllabus	India–China relations
Why was this question asked?	Q. China is using its economic relations and positive trade surplus as tools to develop potential military power status in Asia’, In the light of this statement, discuss its impact on India as her neighbour. [2017]
Introduction	The Himalayan frontier is increasingly becoming a theatre for a spiritual and geopolitical rivalry between India and China, centred on Buddhist soft power. At the heart of this contest lies the looming succession of the 14th Dalai Lama. While India practices Buddhist diplomacy rooted in cultural outreach and spiritual respect, China adopts a more assertive Buddhist statecraft, leveraging religious institutions for strategic influence.
Body	<p>Dual Dalai Lamas and the Crisis of Legitimacy</p> <ul style="list-style-type: none"> • The current Dalai Lama has indicated that his reincarnation may occur outside China, most likely in India. • In response, China plans to select a rival Dalai Lama using the traditional “Golden Urn” method. • This will likely lead to two competing spiritual figures, splitting the Tibetan Buddhist world and forcing Himalayan communities to choose sides. • The schism could severely impact religious cohesion and regional stability in areas like Ladakh, Sikkim, Arunachal Pradesh, Nepal, and Bhutan. <p>Geopolitical Contest Across the Himalayan Rim</p> <ul style="list-style-type: none"> • In Arunachal Pradesh, China asserts territorial claims over Tawang, birthplace of the 6th Dalai Lama, using cultural justification alongside military posturing. • In Nepal, China has invested heavily in Buddhist infrastructure, particularly around Lumbini, to increase religious and strategic influence. • In Bhutan, China engages in covert monastic diplomacy, attempting to influence clergy while Bhutan tightly controls religious institutions. • These actions reflect a strategic use of Buddhism to expand China’s footprint in South Asia. <p>China’s Use of Internal Buddhist Divisions</p> <ul style="list-style-type: none"> • China has supported rival claimants in the Karma Kagyu sect, turning intra-religious splits into proxy contests. • The Dorje Shugden sect, disavowed by the Dalai Lama, has

received **Chinese patronage** to weaken the Tibetan exile structure.

- These moves highlight China's attempt to **fragment Tibetan Buddhism** and challenge India's moral and spiritual leadership.

India's Buddhist Diplomacy: Strengths and Constraints

- India hosts the **Tibetan Government-in-Exile** in **Dharamshala**, granting sanctuary and symbolic support to the Dalai Lama.
- India engages in **Buddhist cultural diplomacy** with **Mongolia, Sri Lanka, Thailand**, and **ASEAN nations** to promote shared civilisational bonds.
- However, India must ensure that **monasteries in border areas** such as Ladakh and Arunachal Pradesh **do not shift allegiance** under Chinese pressure.
- The challenge lies in **balancing spiritual freedom with strategic vigilance** in sensitive frontier regions.

Strategic Stakes and International Fallout

- The post-Dalai Lama period could see **international polarisation**, with Buddhist-majority nations compelled to **endorse one lineage**.
- A monastery's shift in loyalty may **alter the influence map of an entire valley or region** in the Himalayas.
- For India, **hosting the next Dalai Lama** would be a strategic opportunity to **assert cultural leadership**, but also a potential **trigger for Chinese aggression**.
- In the Himalayan terrain, **soft power functions as hard power**, especially where traditional infrastructure and presence are weak.

Conclusion

The succession of the Dalai Lama is no longer a purely religious question but a geopolitical flashpoint. India must proactively harness Buddhist diplomacy to consolidate spiritual influence, while also preparing to counter China's assertive statecraft. As traditional battlefields shift, the contest may unfold not with troops or tanks, but with reincarnations, monasteries, and prayer beads — making the Himalayas the new spiritual frontier of Asian geopolitics.

Q3. The first-ever 'QUAD at Sea Ship Observer Mission' marks a significant step in maritime security cooperation among India, the US, Japan, and Australia. Examine its significance in the context of India's SAGAR vision and the wider Indo-Pacific security architecture. Highlight its potential and challenges. (250 words, 15 marks)

Topic – Regional Groupings

Source: Indian Express

<https://indianexpress.com/article/world/quad-nations-first-ever-at-sea-observer-mission-maritime-safety-10099284/>

Introduction	The Quadrilateral Security Dialogue (QUAD) — comprising India, the US, Japan, and Australia — has emerged as a key strategic grouping for promoting a Free, Open, and Inclusive Indo-Pacific amid rising geopolitical tensions. The recent launch of the first-ever 'QUAD at Sea Ship Observer Mission' expands the scope of QUAD cooperation from high-end naval exercises to Coast Guard-level interoperability and domain awareness. This development aligns with India's maritime vision of SAGAR (Security and Growth for All in the Region) and the Indo-Pacific Oceans Initiative (IPOI).
Body	<ul style="list-style-type: none"> • Background: QUAD and India's SAGAR Vision • The QUAD at Sea Ship Observer Mission: Concept and Objectives • Significance for India's Maritime Security and SAGAR • Strategic Relevance for the Indo-Pacific • Challenges to Effective Implementation
Conclusion	The QUAD at Sea Ship Observer Mission represents an important step in institutionalising rules-based maritime cooperation among four major Indo-Pacific democracies. It complements India's SAGAR and IPOI visions by combining security with capacity-building and law enforcement at sea. As non-traditional maritime threats and strategic competition intensify, overcoming operational and geopolitical challenges will be critical to translating this observer mission into an enduring framework for collective maritime safety, trust, and regional resilience.

UPSC Syllabus	Regional Groupings
Why was this question asked?	Q. Quadrilateral Security Dialogue(Quad)' is transforming itself into a trade bloc from a military alliance, in present times–Discuss. [2020]
Introduction	The Quadrilateral Security Dialogue (QUAD) — comprising India, the US, Japan, and Australia — has emerged as a key strategic grouping for

promoting a Free, Open, and Inclusive Indo-Pacific amid rising geopolitical tensions. The recent launch of the first-ever 'QUAD at Sea Ship Observer Mission' expands the scope of QUAD cooperation from high-end naval exercises to Coast Guard-level interoperability and domain awareness. This development aligns with India's maritime vision of SAGAR (Security and Growth for All in the Region) and the Indo-Pacific Oceans Initiative (IPOI).

Body

Background: QUAD and India's SAGAR Vision

- The **QUAD** originated in 2007 as an informal strategic forum but gained momentum post-2017 in response to China's assertiveness in the Indo-Pacific.
- The grouping focuses on maritime security, infrastructure, resilient supply chains, critical technologies, and regional connectivity.
- **SAGAR**, articulated by India in 2015, aims to ensure maritime security, sustainable economic growth, and collective responsibility for regional peace.
- Under **IPOI** (2019), India advocates capacity-building, HADR (Humanitarian Assistance and Disaster Relief), and the rule of law at sea.

The QUAD at Sea Ship Observer Mission: Concept and Objectives

- Two officers, including women officers, from each QUAD nation embarked on the US Coast Guard Cutter **Stratton** for the mission.
- The mission's goals include improving **interoperability, operational coordination, and maritime domain awareness** among the four Coast Guards.
- It was conceived under the **Wilmington Declaration (2024)** to operationalise the QUAD Leaders' commitment to maritime safety.
- This step lays the foundation for a future '**QUAD Coast Guard Handshake**', complementing military cooperation with civilian maritime collaboration.

Significance for India's Maritime Security and SAGAR

- Reinforces India's leadership as a **net security provider** in the Indian Ocean Region (IOR).
- Supports India's initiatives for **capacity-building, maritime rule of law, and humanitarian outreach** under SAGAR and IPOI.
- Enhances India's ability to deter illegal activities like piracy, smuggling, and illegal fishing, which disproportionately affect

small island nations and vulnerable coastal states.

- Increases trust-building measures among QUAD members at operational and institutional levels.

Strategic Relevance for the Indo-Pacific

- Addresses non-traditional security threats through **joint Coast Guard coordination**, complementing naval exercises like **Malabar**.
- Expands QUAD's reach beyond military deterrence to **maritime governance, law enforcement, and HADR operations**.
- Serves as a signal of collective resilience amid growing concerns over unilateral actions and grey-zone tactics in the South and East China Seas.
- Upcoming events like the **QUAD Regional Ports and Transportation Conference** in Mumbai will further strengthen port security and connectivity frameworks.

Challenges to Effective Implementation

- **Operational Coordination:** Differing standard operating procedures, communication systems, and Coast Guard mandates could hinder seamless interoperability.
- **Resource Constraints:** Smaller Coast Guards like India's ICG may require additional funding, training, and technological upgrades to match capacity.
- **Geopolitical Sensitivities:** China perceives QUAD initiatives as containment; such perceptions could raise regional tensions.
- **Sustainability:** Ensuring sustained political will and regular exercises to move beyond symbolism remains essential.

Conclusion

The QUAD at Sea Ship Observer Mission represents an important step in institutionalising rules-based maritime cooperation among four major Indo-Pacific democracies. It complements India's SAGAR and IPOI visions by combining security with capacity-building and law enforcement at sea. As non-traditional maritime threats and strategic competition intensify, overcoming operational and geopolitical challenges will be critical to translating this observer mission into an enduring framework for collective maritime safety, trust, and regional resilience.

Q4: “The original idea of the two-state solution has been eroded by evolving ground realities in Israel-Palestine. Critically examine the historical context, current challenges, role of international organisations, and possible way forward for a just and sustainable peace.” (250 words, 15 marks)

Topic – Israel-Palestine conflict

Source: The Hindu

<https://www.thehindu.com/opinion/op-ed/the-two-state-reality-we-see-today/article69811344.ece>

Introduction	The Israel–Palestine conflict remains one of the longest and most intractable disputes in modern history. The two-state solution, rooted in UN General Assembly Resolution 181 (1947), proposed the coexistence of an independent Israel and Palestine. While Israel was established in 1948, the Palestinian state remains unrealised. Recent developments, including settlement expansions and shifting political narratives, raise serious concerns about the viability of the two-state vision today.
Body	<ul style="list-style-type: none"> • Historical Context: The Birth of the Two-State Idea • Current Ground Realities: The ‘Two-State’ Paradox • Role of International Law and Organisations • Challenges to Peace and Justice • Way Forward: Reviving the Two-State Vision
Conclusion	The two-state solution remains the only internationally legitimate framework for lasting peace but risks becoming obsolete due to ground realities like settlement entrenchment and a rising parallel settler state. This is not merely a geopolitical dilemma but a moral test of the global community’s commitment to international law, justice, and human rights. As the Palestinian envoy argues, accountability — not endless rhetoric — is the only path to a peace that ensures security for both Israelis and Palestinians and stability for the region and the world.

UPSC Syllabus	West Asia conflict
Why was this question asked?	Q. The question of India’s Energy Security constitutes the most important part of India’s economic progress. Analyze India’s energy policy cooperation with West Asian Countries. [2016]
Introduction	The Israel–Palestine conflict remains one of the longest and most intractable disputes in modern history. The two-state solution, rooted in UN General Assembly Resolution 181 (1947), proposed the coexistence of an independent Israel and Palestine. While Israel was established in 1948, the Palestinian state remains unrealised. Recent developments, including settlement expansions and shifting political narratives, raise

serious concerns about the viability of the two-state vision today.

Body

Historical Context: The Birth of the Two-State Idea

- **UN Partition Plan (Resolution 181):** Proposed two states — one Jewish, one Arab — dividing historic Palestine.
- **Creation of Israel (1948):** Resulted in the expulsion of many Palestinians; over 750,000 Palestinians became refugees.
- **Post-1967 Occupation:** Israel's occupation of the West Bank, Gaza, and East Jerusalem following the Six-Day War further complicated the territorial basis for the two-state solution.
- **Oslo Accords (1993):** Marked a breakthrough with mutual recognition and a roadmap for Palestinian self-governance on 22% of the historic homeland.
- However, repeated cycles of violence, settlements, and political stalemates have eroded trust.

Current Ground Realities: The 'Two-State' Paradox

- The Palestinian territories — especially the **West Bank and East Jerusalem** — now host expansive Israeli settlements.
- **Dual State Reality:** As argued by many observers, a de facto 'settler state' backed by armed militias and Israeli law coexists within occupied Palestinian territories.
- This creates what the Palestinian envoy terms a 'Halakha state' — a parallel settler-theocratic entity with legal and political scaffolding undermining Palestinian sovereignty.
- Genocidal rhetoric by some leaders and lack of meaningful deterrents perpetuate this status quo.

Role of International Law and Organisations

- **International Law:** UN resolutions, ICJ opinions, and the Fourth Geneva Convention prohibit settlement activities in occupied territories.
- Organisations like **UNRWA** and **UN Human Rights Council** have documented human rights violations.
- **Global Inaction:** Despite legal frameworks, the international community has failed to enforce compliance — in contrast, other conflicts have seen widespread sanctions (e.g., Russia-Ukraine).
- The **Quartet (UN, US, EU, Russia)** framework has stagnated, and US policy often shields Israel diplomatically.

Challenges to Peace and Justice

- **Expansion of Settlements:** Over 700,000 settlers now live in the West Bank and East Jerusalem.
- **Fragmentation of Palestinian Territories:** The physical

	<p>contiguity needed for a viable state is diminishing.</p> <ul style="list-style-type: none">• Lack of Political Will: Major powers continue unconditional military and economic support to Israel.• Humanitarian Crisis: Civilian casualties, blockades in Gaza, and refugee conditions exacerbate instability. <p>Way Forward: Reviving the Two-State Vision</p> <p>a) Reaffirm International Law:</p> <ul style="list-style-type: none">• Enforce existing UN resolutions; hold violators accountable through legal mechanisms like the ICC. <p>b) Sanctions and Conditionality:</p> <ul style="list-style-type: none">• Impose targeted economic and arms embargoes linked to settlement dismantling and halting annexation plans. <p>c) Empower Palestinian Institutions:</p> <ul style="list-style-type: none">• Support democratic governance, economic resilience, and civil society within Palestine. <p>d) Multi-Stakeholder Mediation:</p> <ul style="list-style-type: none">• Reinvigorate the Quartet with broader participation from neutral states and regional actors. <p>e) Moral and Political Consensus:</p> <ul style="list-style-type: none">• Mobilise global public opinion to pressure states for equitable rights, dignity, and self-determination for Palestinians.
<p>Conclusion</p>	<p>The two-state solution remains the only internationally legitimate framework for lasting peace but risks becoming obsolete due to ground realities like settlement entrenchment and a rising parallel settler state. This is not merely a geopolitical dilemma but a moral test of the global community's commitment to international law, justice, and human rights. As the Palestinian envoy argues, accountability — not endless rhetoric — is the only path to a peace that ensures security for both Israelis and Palestinians and stability for the region and the world.</p>

Q5. "Prime Minister Modi's landmark visit to Ghana, with the signing of new MoUs and the conferment of Ghana's highest civilian award, reflects India's renewed focus on Africa. Critically analyse its significance for India-Ghana relations and India's broader Africa policy." (250 words, 15 marks)

Topic – India-Ghana Relations

Source: The Hindustan Times

<https://www.hindustantimes.com/india-news/india-ghana-plan-to-boost-ties-in-defence-cooperation-food-security-vaccine-101751527730926.html>

Prime Minister Narendra Modi's first-ever visit to Ghana in over three decades (July 2–3, 2025) marked a pivotal moment in India-Ghana

Introduction	relations. Not only were four high-impact Memoranda of Understanding (MoUs) signed, but Ghana also honoured him with its top civilian award—the Officer of the Order of the Star of Ghana—reflecting deep recognition of India’s growing role in Africa.
Body	<ul style="list-style-type: none"> • Deep Historical Foundations: • Recent MoUs: Renewed Cooperation with Modern Priorities • Highest Civilian Honour: Symbol of Mutual Trust • Strategic and Economic Relevance • Challenges • Way Forward
Conclusion	PM Modi’s visit, the new MoUs, and the historic honour together mark a turning point for India–Ghana ties, rooted in a shared past but aimed at future-ready cooperation. By delivering tangible results on health, trade, digital public goods, and capacity building, India can show that its Africa partnership is truly inclusive and transformational—anchored in solidarity and sustainability.

UPSC Syllabus	India-Ghana Relations
Why was this question asked?	Q. “If the last few decades were of Asia’s growth story, the next few are expected to be Africa’s.” In the light of this statement, examine India’s influence in Africa in recent years. [2021]
Introduction	Prime Minister Narendra Modi’s first-ever visit to Ghana in over three decades (July 2–3, 2025) marked a pivotal moment in India–Ghana relations. Not only were four high-impact Memoranda of Understanding (MoUs) signed, but Ghana also honoured him with its top civilian award—the Officer of the Order of the Star of Ghana—reflecting deep recognition of India’s growing role in Africa.
Body	<p>Deep Historical Foundations: Non-Aligned and Decolonial Solidarity</p> <p>India and Ghana share a rich diplomatic legacy:</p> <ul style="list-style-type: none"> • India opened its representative office in Accra in 1953, formalising full relations in 1957—the same year Ghana became the first sub-Saharan African country to gain independence. • Both nations are founding members of the Non-Aligned Movement (NAM), advocating for decolonisation and Global South solidarity. • Institutional frameworks like the India–Ghana Joint Commission (1995) and Foreign Office Consultations have ensured sustained dialogue over the decades.

- Past high-level visits—from leaders like Kwame Nkrumah and Jerry Rawlings to Indian dignitaries like President Pranab Mukherjee—kept this partnership robust.

Recent MoUs: Renewed Cooperation with Modern Priorities

During PM Modi's 2025 visit, four new MoUs were signed:

- **Joint Commission Mechanism:** Reinforces structured annual dialogue to track and strengthen bilateral engagement.
- **Cultural Exchange Programme (2025–29):** Deepens people-to-people ties, a vital soft power link.
- **Traditional Medicine Collaboration:** Links India's **Institute of Teaching and Research in Ayurveda (ITRA)** with Ghana's Institute of Traditional and Alternative Medicine to mainstream holistic health care.
- **Standards Cooperation:** Partnership between **Bureau of Indian Standards (BIS)** and Ghana Standards Authority for quality harmonisation, easing trade.

Together, these pacts modernise ties with a focus on health, culture, standards, and institutional capacity—key to realising India's **Development Partnership Administration (DPA)** goals under its Africa policy.

Highest Civilian Honour: Symbol of Mutual Trust

- Ghana conferred its top civilian honour, **Officer of the Order of the Star of Ghana**, on PM Modi—recognising his role in strengthening bilateral ties and championing Global South issues. This award underscores Ghana's appreciation for India's consistent support: from capacity building through **ITEC**, to landmark projects like the Ghana–India Kofi Annan Centre of Excellence in ICT.

Strategic and Economic Relevance

- **Trade & Investment:** India is Ghana's top investor in agro-processing, mining, and ICT. Bilateral trade touched **USD 3 billion (2023–24)**; India imports gold and cocoa, and exports pharmaceuticals and machinery.
- Major India-backed projects—such as the **Tema–Mpakadan railway**, rural electrification, and sugar/fish-processing units—symbolise impactful partnership.
- **Digital Diplomacy:** The MoUs align with India's push to expand the **Pan-African e-Network**, telemedicine, and potentially UPI-based payment systems in Africa.
- PM Modi's visit sends a clear signal that India aims to counterbalance rising Chinese influence by offering alternatives

	<p>based on mutual benefit, transparency, and capacity building.</p> <p>Challenges:</p> <ul style="list-style-type: none">• Despite strong ties, bilateral trade remains modest compared to India's potential and China's larger footprint in Africa.• Bureaucratic delays in project execution and disbursement of LoCs affect India's development cooperation credibility.• Ghana's political and economic volatility, currency depreciation, and debt distress may pose risks to Indian investments.• India must compete with aggressive global players (China, EU) offering bigger investments and concessional finance. <p>Way Forward: Towards a Modern India–Africa Compact</p> <ul style="list-style-type: none">• Diversify trade: Move beyond commodities and promote new areas like renewable energy, digital public infrastructure, and fintech.• People-centric engagement: Increase scholarships, ITEC slots, and training in frontier areas like AI, health tech, and climate resilience.• Private sector push: Facilitate Indian MSMEs and startups to co-invest in Ghana's manufacturing and agro-processing sectors.• Blue economy cooperation: Explore joint ventures in fisheries, port infrastructure, and maritime security given Ghana's Atlantic coastline.• Multilateral synergy: Align bilateral projects with AU's Agenda 2063 and India's vision under India–Africa Forum Summit (IAFS) frameworks.
<p>Conclusion</p>	<p>PM Modi's visit, the new MoUs, and the historic honour together mark a turning point for India–Ghana ties, rooted in a shared past but aimed at future-ready cooperation. By delivering tangible results on health, trade, digital public goods, and capacity building, India can show that its Africa partnership is truly inclusive and transformational—anchored in solidarity and sustainability.</p>

Q6. Discuss the strategic significance of India's recent engagement with Trinidad and Tobago, highlighting its implications for India's Caribbean outreach, diaspora diplomacy, and development cooperation. (250 words, 15 marks)

Topic – India- Caribbean Relations

Source: The Hindu

<https://www.thehindu.com/news/national/india-trinidad-tobago-ink-six-pacts-to-expand-ties/article69775377.ece>

Introduction	India's recent diplomatic outreach to Trinidad and Tobago, marked by the signing of multiple agreements in sectors like pharmaceuticals, finance, culture, and capacity building, marks a renewed momentum in India's Caribbean engagement. This first Prime Ministerial-level visit in over two decades reflects how India leverages its deep historical ties and vibrant diaspora to strengthen development cooperation, economic presence, and South-South solidarity in the Americas.
Body	<ul style="list-style-type: none"> • Historical Linkages and Diaspora Diplomacy • Economic and Developmental Cooperation • Expanding Strategic and Economic Presence in the Caribbean • Cultural Diplomacy and Soft Power • Geopolitical Context and Solidarity in the Global South
Conclusion	India's engagement with Trinidad and Tobago illustrates how historical bonds, a vibrant diaspora, and a commitment to South-South development cooperation can translate into a modern, multi-dimensional partnership. This visit sets the tone for India's future outreach in the Caribbean, blending soft power, trade, climate resilience, and shared cultural heritage. As India aspires to expand its influence in the Global South, such relationships rooted in history and mutual respect will remain vital to building a resilient and inclusive world order.

UPSC Syllabus	India- Caribbean Relations
Why was this question asked?	Q. 'Indian diaspora has a decisive role to play in the politics and economy of America and European Countries'. Comment with examples. [2020]
Introduction	India's recent diplomatic outreach to Trinidad and Tobago, marked by the signing of multiple agreements in sectors like pharmaceuticals, finance, culture, and capacity building, marks a renewed momentum in India's Caribbean engagement. This first Prime Ministerial-level visit in over two decades reflects how India leverages its deep historical ties and vibrant diaspora to strengthen development cooperation, economic presence, and South-South solidarity in the Americas.
Body	<p>Historical Linkages and Diaspora Diplomacy</p> <ul style="list-style-type: none"> • India's ties with Trinidad and Tobago date back to 1845 when the <i>Fatel Razack</i> carried 225 Indian indentured labourers to work in sugar plantations. Over time, this migration shaped one of the largest and politically influential Indian diaspora communities in the Caribbean. • Today, descendants of these early migrants make up 40–45% of

Trinidad and Tobago's population — the largest ethnic group — and have achieved notable political integration, with President Christine Carla Kangaloo and Prime Minister Kamla Persad-Bissessar being of Indian origin.

- India's move to extend the OCI (Overseas Citizen of India) card facility to the 6th generation diaspora strengthens people-to-people connections and preserves cultural identity.
- Such diaspora-driven diplomacy acts as a bridge for India's engagement with the wider CARICOM region.

Economic and Developmental Cooperation

- **Broad Scope of MoUs:** India and Trinidad and Tobago signed at least six significant Memoranda of Understanding (MoUs) to deepen cooperation:
 1. **Pharmacopoeia Collaboration:** To harmonise standards and ensure access to affordable, quality Indian generic medicines, including provisions for medical treatment in India.
 2. **Finance and Quick Impact Projects (QIPs):** India will grant up to US\$50,000 each for five community development projects annually, focusing on sectors like health, education, and sanitation.
 3. **Sports Cooperation:** Promotes infrastructure development, capacity building, and youth exchanges to foster goodwill.
 4. **Bureaucratic Capacity Building:** Training for Trinidad and Tobago's diplomats and civil servants through the Indian Technical and Economic Cooperation (ITEC) programme.
 5. **Cultural and Academic Exchange:** Re-establishment of two ICCR Chairs in Hindi and Indian Studies at the University of the West Indies (UWI), deepening cultural and educational ties.
 6. **Health Support:** India will organise a prosthetic limb fitment camp for 800 people and provide 20 haemodialysis units and two sea ambulances, boosting the island nation's healthcare capacity.
- **Additional Development Support:** India pledged 2,000 laptops to support digital education, gifted US\$1 million worth of agromachinery to NAMDEVCO, and extended support for millet cultivation, seaweed fertilisers, and natural farming. This holistic approach showcases India's development cooperation model that blends capacity building, technology transfer, and

community empowerment.

Expanding Strategic and Economic Presence in the Caribbean

- Trinidad and Tobago's location at the southern tip of the Caribbean makes it a natural gateway for India's trade and diplomatic presence in the wider CARICOM bloc.
- The country's wealth in energy resources aligns well with India's strategy of diversifying energy imports. The growing interest in renewable energy technologies provides new avenues for collaboration.
- Preferential trade agreements within CARICOM make Trinidad and Tobago an ideal hub for Indian businesses in IT, pharma, biotech, and clean energy sectors.
- The bilateral Trade Agreement signed in 1997, which accorded Most Favoured Nation status, provides a strong framework to scale trade ties.

Cultural Diplomacy and Soft Power

- The thriving Indian diaspora has preserved cultural practices like Diwali, Holi, and Bhojpuri language, reinforcing India's soft power in the region.
- The revival of ICCR Chairs and community cultural events strengthen these living ties.
- India's training for Hindu priests in the Caribbean and the gift of sacred artefacts like holy water from the Mahakumbh and a replica of Ram Mandir symbolise India's spiritual and civilisational connect.
- Cultural diplomacy provides grassroots support for India's larger regional aspirations.

Geopolitical Context and Solidarity in the Global South

- Trinidad and Tobago's decision to join India's Coalition for Disaster Resilient Infrastructure (CDRI) and Global Biofuel Alliance (GBA) demonstrates shared global priorities, from climate resilience to sustainable energy.
- India appreciated Trinidad and Tobago's solidarity following the Pahalgam terror attack, with both nations reaffirming a joint commitment to fight terrorism in all its forms.
- Such engagements consolidate India's leadership role in the Global South, deepen South-South cooperation, and demonstrate India's commitment to inclusive development.
- This bilateral warmth contributes to India's aspiration to be a voice for the developing world in multilateral forums.

Conclusion

India's engagement with Trinidad and Tobago illustrates how historical

bonds, a vibrant diaspora, and a commitment to South-South development cooperation can translate into a modern, multi-dimensional partnership. This visit sets the tone for India's future outreach in the Caribbean, blending soft power, trade, climate resilience, and shared cultural heritage. As India aspires to expand its influence in the Global South, such relationships rooted in history and mutual respect will remain vital to building a resilient and inclusive world order.

Q7. Discuss how the evolution of India–Brazil relations reflects the interplay between economic interests, regional cooperation, and global power dynamics. (250 words, 15 marks)

Topic – India- Brazil Relations

Source: The Statesman

<https://www.thestatesman.com/world/strengthening-india-brazil-ties-pm-modi-and-president-lula-emphasise-cooperation-and-zero-tolerance-for-terrorism-1503455398.html>

Introduction	India and Brazil, the largest democracies and economies in Asia and Latin America respectively, are natural partners for promoting an inclusive multipolar order. Since formal diplomatic ties were established in 1948, their relationship has evolved from a basic political friendship to a comprehensive strategic partnership, strongly rooted in shared democratic values, pluralism, and commitment to equitable development. This partnership today represents a key pillar of South–South cooperation.
Body	<ul style="list-style-type: none"> • Historical Evolution • Trade and Economic Relations • India–MERCOSUR Ties • Recent Agreements and Sectoral Cooperation • Global South Coordination and the China Factor • Challenges • Recommendations
Conclusion	India–Brazil ties demonstrate the promise of South–South cooperation built on mutual trust, complementary strengths, and a shared vision for an inclusive global order. With trade approaching USD 15–16 billion and robust engagements in defence, energy, agriculture, and multilateral platforms, this partnership is well positioned to grow further. Realising its full potential will require overcoming structural barriers, strengthening institutional frameworks, and balancing geopolitical challenges. Sustained cooperation and smart diversification will help this relationship emerge as a true pillar of stability and equitable development in a rapidly changing world.

UPSC Syllabus	India- Brazil Relations
Why was this question asked?	Q. What do you know about North-South Dialogue. [2002]
Introduction	<p>India and Brazil, the largest democracies and economies in Asia and Latin America respectively, are natural partners for promoting an inclusive multipolar order. Since formal diplomatic ties were established in 1948, their relationship has evolved from a basic political friendship to a comprehensive strategic partnership, strongly rooted in shared democratic values, pluralism, and commitment to equitable development. This partnership today represents a key pillar of South–South cooperation.</p>
Body	<p>Historical Evolution</p> <ul style="list-style-type: none"> • Relations strengthened through the IBSA Dialogue Forum (India, Brazil, South Africa) launched in 2003. • Collaboration within BRICS added further depth to cooperation on global governance, sustainable development, and economic resilience. • Both countries are part of the G4 group advocating UN Security Council reforms. <p>Trade and Economic Relations</p> <ul style="list-style-type: none"> • Bilateral trade crossed around USD 15 billion in 2022, growing by about 30% year-on-year. • India’s main exports to Brazil: petroleum products, pharmaceuticals, chemicals, auto parts. • Brazil’s main exports to India: crude oil, gold, soya oil, sugar, pulses, agricultural commodities. • Despite growth, trade remains commodity-heavy and lacks diversification. • India has occasionally recorded a modest trade surplus with Brazil. <p>India–MERCOSUR Ties</p> <ul style="list-style-type: none"> • India signed a Preferential Trade Agreement (PTA) with MERCOSUR in 2004 (operational since 2009). • The PTA covers about 450 products with tariff concessions between 10% and 100%. • India’s total trade with Latin America reached nearly USD 36 billion in 2023–24, but MERCOSUR trade potential is underutilised. • Non-tariff barriers, complex rules, and logistical constraints limit full PTA benefits.

Recent Agreements and Sectoral Cooperation

- **Defence:** New discussions on co-development, technology transfer, and equipment procurement (e.g., coastal surveillance systems, artillery guns).
 - Brazil's decision to opt for a European air defence system over India's Akash system reflects global competition.
- **Energy & Climate:** Expanded cooperation in renewables, biofuels, and green technologies to align with climate goals.
- **Agriculture & Technology:** Longstanding cooperation now includes food processing, agricultural research, and new technologies.
- **Recognition:** Brazil's conferral of its highest civilian honour, *The Grand Collar of the National Order of the Southern Cross*, symbolises deep mutual respect and strategic trust.

Global South Coordination and the China Factor

- India and Brazil see themselves as voices for the Global South, pushing for fairer global trade, climate finance, and UN reforms.
- They work together in IBSA, BRICS, and G20 to amplify developing countries' concerns.
- China's growing presence in Latin America through the Belt and Road Initiative poses a challenge, highlighting the need for India and Brazil to coordinate to preserve strategic autonomy and balance.

Challenges

- Trade remains skewed towards low-value commodities.
- MERCOSUR PTA underutilised due to non-tariff barriers and complex regulations.
- Logistics and connectivity issues hinder trade expansion.
- Intense competition from established defence and technology suppliers.
- Limited people-to-people exchanges, which could build stronger cultural and educational linkages.

Recommendations

- Diversify trade into high-value sectors like digital services, clean tech, and space cooperation.
- Upgrade the MERCOSUR PTA into a broader free trade agreement and address non-tariff barriers.
- Strengthen institutional frameworks and regular follow-up mechanisms for signed MoUs.
- Deepen joint research and development in emerging

	<p>technologies and defence innovation.</p> <ul style="list-style-type: none"> • Promote student exchanges, tourism, and cultural partnerships to build durable ties. • Expand maritime and blue economy cooperation for shared ocean interests.
Conclusion	<p>India–Brazil ties demonstrate the promise of South–South cooperation built on mutual trust, complementary strengths, and a shared vision for an inclusive global order. With trade approaching USD 15–16 billion and robust engagements in defence, energy, agriculture, and multilateral platforms, this partnership is well positioned to grow further. Realising its full potential will require overcoming structural barriers, strengthening institutional frameworks, and balancing geopolitical challenges. Sustained cooperation and smart diversification will help this relationship emerge as a true pillar of stability and equitable development in a rapidly changing world.</p>

Q8. The recent deepening of India–Namibia relations — spanning conservation diplomacy, digital public goods, defence, critical minerals, and diplomatic recognition — illustrates India’s evolving engagement with Africa.” Critically analyse. (250 words, 15 marks)

Topic – India- Namibia Relations

Source: The Economic Times

<https://economictimes.indiatimes.com/news/india/india-namibia-relations-deepen-from-project-cheetah-to-defence-trade-and-beyond/videoshow/122356515.cms?from=mdr>

Introduction	<p>India’s partnership with Africa is rooted in shared struggles for decolonisation and has gradually matured into a strategic and development-focused engagement. The recent milestones in India–Namibia relations — from wildlife conservation to critical minerals and digital payments — demonstrate how India’s South–South cooperation framework is becoming multi-sectoral, balancing development priorities and strategic interests.</p>
Body	<ul style="list-style-type: none"> • Conservation Diplomacy: Reviving the Cheetah • Defence Collaboration and Security Cooperation • Digital Public Goods: UPI’s African Expansion • Economic and Mineral Cooperation • Diplomacy and Recognition: Strengthening South–South Solidarity
Conclusion	<p>The India–Namibia relationship demonstrates how conservation, digital innovation, defence, and economic cooperation can together strengthen South–South ties. Sustained momentum will depend on timely execution</p>

of projects, transparent governance of critical mineral partnerships, and sharing of digital public goods that build local capacity. By nurturing such balanced partnerships, India affirms its role as a credible, responsible stakeholder in Africa’s growth story — one rooted in mutual respect, sustainability, and shared prosperity.

UPSC Syllabus	India- Namibia Relations
Why was this question asked?	Q. “If the last few decades were of Asia’s growth story, the next few are expected to be Africa’s.” In the light of this statement, examine India’s influence in Africa in recent years. [2021]
Introduction	India’s partnership with Africa is rooted in shared struggles for decolonisation and has gradually matured into a strategic and development-focused engagement. The recent milestones in India–Namibia relations — from wildlife conservation to critical minerals and digital payments — demonstrate how India’s South–South cooperation framework is becoming multi-sectoral, balancing development priorities and strategic interests.
Body	<p>Conservation Diplomacy: Reviving the Cheetah</p> <ul style="list-style-type: none"> • The translocation of cheetahs from Namibia under Project Cheetah marks the first intercontinental large carnivore reintroduction, symbolising trust and scientific collaboration. • India has committed over ₹90 crore for cheetah habitat management, veterinary care, and community awareness in selected national parks. • This reflects India’s leadership in biodiversity restoration and showcases conservation as a soft power tool. <p>Defence Collaboration and Security Cooperation</p> <ul style="list-style-type: none"> • India has extended a defence line of credit to Namibia to facilitate procurement of equipment and joint training. • Joint patrols and skill-building exercises are being explored to enhance Namibia’s maritime and border security capabilities. • This expands India’s security footprint in Africa, supporting regional peace and capacity-building. <p>Digital Public Goods: UPI’s African Expansion</p> <ul style="list-style-type: none"> • Namibia is set to become the first African country to adopt India’s Unified Payments Interface (UPI) system. • This will enable faster and cheaper cross-border transactions, supporting small businesses and financial inclusion. • India’s experience with UPI shows that it processes over 12

billion transactions monthly, highlighting its scalability and relevance for Global South economies.

Economic and Mineral Cooperation

- Namibia's rich reserves of uranium, lithium, and rare earth elements make it strategically important for India's critical minerals security.
- Bilateral trade has seen a steady increase, with India's imports of Namibian uranium alone valued at over \$180 million last year.
- Both countries are exploring an India–Southern African Customs Union (SACU) Preferential Trade Agreement to boost market access for minerals, agricultural products, and pharmaceuticals.
- India has also offered technical assistance to help Namibia add local value to mineral exports, creating jobs and ensuring fair benefit-sharing.

Diplomacy and Recognition: Strengthening South–South Solidarity

- The Indian Prime Minister's address to Namibia's Parliament and the conferral of Namibia's highest civilian award underscore deepening people-to-people ties.
- This was the Prime Minister's 27th international honour, highlighting India's rising profile as a trusted development partner.
- Namibia has also joined India-led global initiatives like the Global Biofuels Alliance and the Coalition for Disaster Resilient Infrastructure.

Conclusion

The India–Namibia relationship demonstrates how conservation, digital innovation, defence, and economic cooperation can together strengthen South–South ties. Sustained momentum will depend on timely execution of projects, transparent governance of critical mineral partnerships, and sharing of digital public goods that build local capacity. By nurturing such balanced partnerships, India affirms its role as a credible, responsible stakeholder in Africa's growth story — one rooted in mutual respect, sustainability, and shared prosperity.

Q 9: “Critically analyse the significance of the 2025 BRICS Summit hosted by Brazil in the backdrop of US tariff threats, internal cohesion challenges, and its implications for India’s strategic and economic interests.” (250 words, 15 marks)

Topic – 2025 BRICS Summit

Source: The Hindu

<https://www.thehindu.com/news/international/brazil-hosts-brics-summit-eager-to-avoid-provoking-trumps-ire-on-tariffs/article69779334.ece>

Introduction	The BRICS grouping (Brazil, Russia, India, China, South Africa — now expanded to include Iran, Egypt, Ethiopia, Indonesia, UAE) represents a coalition of major emerging economies that seeks to reform global governance and offer an alternative to Western dominance. The 2025 BRICS Summit in Rio de Janeiro takes place amid renewed US protectionism under President Trump, threats of 100% tariffs if BRICS undermines the dollar, Middle East crises, and internal divides that challenge the bloc’s coherence. For India, this summit presents opportunities and constraints in navigating its strategic autonomy, economic diversification, and leadership among developing nations.
Body	<ul style="list-style-type: none"> • Evolution and Core Purpose of BRICS • US Tariff Threats and Dollar Dominance: An Unresolved Dilemma • Internal Divides and Leadership Gaps: BRICS’ Cohesion Crisis • Brazil’s Cautious Diplomacy: A Moderate, Technical Agenda • India’s Role and Impact: Balancing Autonomy and Cooperation
Conclusion	The 2025 BRICS Summit hosted by Brazil exemplifies the delicate balancing act emerging economies face: upholding the bloc’s foundational vision of multipolarity and institutional reform while avoiding the backlash of renewed US protectionism. Brazil’s moderate stance shows that economic pragmatism often tempers bold collective agendas, especially with internal divides and leadership absences.

UPSC Syllabus	BRICS Summit
Why was this question asked?	Q. With respect to the South China sea, maritime territorial disputes and rising tension affirm the need for safeguarding maritime security to ensure freedom of navigation and over flight throughout the region. In this context, discuss the bilateral issues between India and China. [2014]
Introduction	The BRICS grouping (Brazil, Russia, India, China, South Africa — now expanded to include Iran, Egypt, Ethiopia, Indonesia, UAE) represents a coalition of major emerging economies that seeks to reform global

governance and offer an alternative to Western dominance. The 2025 BRICS Summit in Rio de Janeiro takes place amid renewed US protectionism under President Trump, threats of 100% tariffs if BRICS undermines the dollar, Middle East crises, and internal divides that challenge the bloc's coherence. For India, this summit presents opportunities and constraints in navigating its strategic autonomy, economic diversification, and leadership among developing nations.

Body

Evolution and Core Purpose of BRICS

- **Background:** BRICS was formalised in 2009 to strengthen the voice of emerging economies in global institutions like the IMF, World Bank, and UN Security Council.
- **Key aims:** Democratise global governance, promote South-South cooperation, encourage multipolarity, and build collective economic resilience.
- **Expansion in 2024:** The bloc doubled its size by adding countries like Egypt, Iran, Ethiopia, Indonesia, and UAE, plus 10 strategic partner countries like Belarus and Vietnam — indicating its ambition to be a global alternative pole.
- **Institutions:** The New Development Bank (NDB), Contingent Reserve Arrangement (CRA), and BRICS Business Council are key bodies driving this agenda.

US Tariff Threats and Dollar Dominance: An Unresolved Dilemma

- **Trump's warning:** President Trump's explicit threat of 100% tariffs against BRICS if they move to undermine dollar dominance illustrates the geopolitical constraints faced by emerging economies.
- **Currency debate:** In contrast to Russia's push for de-dollarisation and alternate payment systems (e.g., Kazan 2023 Summit), Brazil clarified there will be no BRICS common currency — to avoid direct confrontation with the US.
- **Policy dilemma for India:** India, too, prefers gradual diversification of trade settlements in local currencies (e.g., rupee-dirham deals with UAE) rather than a sudden challenge to the dollar, balancing reform goals with safeguarding its export markets.

Internal Divides and Leadership Gaps: BRICS' Cohesion Crisis

- **Key absences:** Xi Jinping's absence (first time since 2012) and Putin's virtual presence reflect geopolitical frictions and legal constraints (e.g., Putin's ICC arrest warrant).
- **Middle East faultlines:** Crises like Israel's attack on Iran and Gaza's humanitarian crisis create competing positions; some

members want strong anti-Western statements, while Brazil and India prefer moderation.

- **Institutional development:** Brazil's agenda includes 'housekeeping' to integrate new members better — highlighting the challenge of aligning diverse interests within an expanded group.

Brazil's Cautious Diplomacy: A Moderate, Technical Agenda

- **Summit focus:** Brazil has outlined six strategic areas — healthcare cooperation, trade and finance, climate change, AI governance, peace and security, and institutional strengthening.
- **Why cautious?** With Trump back in office, Brazil seeks to avoid retaliatory tariffs that could hurt its economy — hence no radical statements or dollar alternatives.
- **Climate link:** The summit also helps Brazil build momentum towards COP 30 (to be hosted in Belem, Amazonia) and position itself as a climate leader among developing countries.

India's Role and Impact: Balancing Autonomy and Cooperation

- **India's position:** India has consistently advocated for non-alignment within BRICS, resisting overt anti-West alignments. It gains by shaping moderate positions that avoid harming its US trade ties.
- **Strategic advantage:** India can use BRICS to expand economic partnerships in energy, technology, and digital infrastructure — building alternatives to Western supply chains.
- **Voice of Global South:** PM Modi's presence reinforces India's credentials as a bridge between the developed and developing worlds — carrying forward its G20 Presidency legacy.
- **Risks:** If BRICS remains divided and symbolic, its credibility as an effective alternative pole is weakened — diluting India's capacity to leverage it for real global governance reforms

Conclusion

The 2025 BRICS Summit hosted by Brazil exemplifies the delicate balancing act emerging economies face: upholding the bloc's foundational vision of multipolarity and institutional reform while avoiding the backlash of renewed US protectionism. Brazil's moderate stance shows that economic pragmatism often tempers bold collective agendas, especially with internal divides and leadership absences.

Q10. The European Union’s sanctions on a Gujarat-based refinery mark a significant intersection of energy security, foreign policy, and geopolitical realignments. Discuss the implications of such extraterritorial sanctions for India’s strategic autonomy and energy policy. (250 words, 15 marks)

Topic – India-EU relations

Source: The Hindu

<https://www.thehindu.com/business/Industry/eu-imposes-sanctions-on-rosnefts-india-refinery-lowers-oil-price-cap/article69827002.ece>

Introduction	The European Union’s 18th sanctions package on Russia, announced in July 2025, includes for the first time sanctions on a refinery in India — Nayara Energy’s Vadinar refinery in Gujarat, in which Russia’s Rosneft owns a 49.13% stake. This move, part of a broader tightening of sanctions targeting Russia’s energy and military sectors, raises critical questions about extraterritorial sanctions, India's strategic autonomy, and the implications for its energy security and foreign policy posture amid the Ukraine conflict.
Body	<ul style="list-style-type: none"> • EU Sanctions Regime: Instruments and Scope • Why Nayara Energy Was Targeted • Implications for India’s Strategic Autonomy and Energy Policy • Challenges Arising from Extraterritorial Sanctions • Policy Options and Diplomatic Path Ahead for India
Conclusion	The EU’s sanction on an Indian refinery signals a new phase of geopolitical spillovers, where global sanctions increasingly affect third-party nations. While India must assert its strategic autonomy and energy sovereignty, it must also navigate the complexities of global finance, trade, and diplomacy in a multipolar world. A balanced, rules-based approach rooted in national interest and international dialogue is crucial for India to manage these evolving geopolitical challenges.

UPSC Syllabus	India-EU relations
Why was this question asked?	Q. ‘The expansion and strengthening of NATO and a stronger US-Europe strategic partnership works well for India’. What is your opinion about this statement? Give reasons and examples to support your answer. [2023]
Introduction	The European Union’s 18th sanctions package on Russia, announced in July 2025, includes for the first time sanctions on a refinery in India — Nayara Energy’s Vadinar refinery in Gujarat, in which Russia’s Rosneft

owns a 49.13% stake. This move, part of a broader tightening of sanctions targeting Russia's energy and military sectors, raises critical questions about extraterritorial sanctions, India's strategic autonomy, and the implications for its energy security and foreign policy posture amid the Ukraine conflict.

Body

EU Sanctions Regime: Instruments and Scope

- The EU's Common Foreign and Security Policy (CFSP) enables it to impose **restrictive measures** (travel bans, asset freezes, trade bans) on entities aiding hostile states.
- The 18th package includes:
 - **Full-fledged sanctions** on Nayara's Gujarat refinery (travel, financial, resource restrictions).
 - A **lower oil price cap** on Russian crude — now set at \$47.6/barrel.
 - Sanctions on **Russia's shadow fleet**, maritime services, and 444 ships.
 - Financial and cyber sanctions on **Russian GRU military units**.

This reflects **secondary sanctions** or **extraterritorial application of sanctions**, where **non-EU entities are penalized** for facilitating sanctioned country operations — a point of **international legal debate**.

Why Nayara Energy Was Targeted

- Nayara Energy (formerly Essar Oil) is India's **second-largest refinery**, with 400,000 barrels/day output and 6,300+ retail outlets.
- **Rosneft**, a Russian state-owned oil giant, owns 49.13% of the stake.
- The EU alleges Nayara may be **processing or distributing Russian crude**, thereby **undermining G7-led sanctions**.

Strategic Implication:

This marks the first time an **Indian energy asset has been sanctioned directly**, indicating a shift in the **global enforcement approach** toward third-party actors involved in Russia's oil ecosystem.

Implications for India's Strategic Autonomy and Energy Policy

- **Energy Security:** Russia has become a **top crude supplier to India** post-Ukraine war due to discounted oil. The sanctions may impact **supply chains, investment flows, and financing** for projects involving Russian entities.
- **Strategic Autonomy:** India has **not aligned with Western sanctions**, maintaining a **balanced diplomacy** with Russia

while engaging the West.

- **Legal Ambiguity:** The sanctions highlight the tension between **unilateral Western measures** and India's **sovereign economic decisions**.

Government Response:

India has **warned against "double standards"**, pointing out that Western countries continue energy ties with Russia while pressuring others to cut them.

Arising from Extraterritorial Sanctions

- **Legal Complexity:** India is not bound by EU or U.S. laws; however, **access to global financial systems, shipping, and insurance** can be indirectly affected.
- **Investment Risk:** Potential chill on FDI where companies fear indirect exposure to sanctioned entities.
- **Policy Confusion:** Lack of multilateral consensus on sanctions erodes their legitimacy and complicates **compliance environments** for Indian firms.
- **Strained Diplomacy:** Could trigger **friction in India–EU relations**, especially amid ongoing India–EU FTA negotiations.

Policy Options and Diplomatic Path Ahead for India

- **Legal Clarification:** India must seek clarification from the EU regarding the **scope, duration, and redress mechanisms** of the sanctions.
- **Diversification Strategy:** Continue diversifying energy imports from countries like UAE, U.S., Brazil to avoid overdependence.
- **Strategic Communication:** Use platforms like G20, BRICS, and IEA to **advocate for fair and multilateral energy governance**.
- **Protect Sovereign Interests:** India may strengthen **legal protections** and create **policy buffers** for companies exposed to sanctioned investments.
- **Engage on Multilateral Forums:** Work with like-minded countries to challenge **extraterritoriality of sanctions** under WTO or UN frameworks.

Conclusion

The EU's sanction on an Indian refinery signals a new phase of geopolitical spillovers, where global sanctions increasingly affect third-party nations. While India must assert its strategic autonomy and energy sovereignty, it must also navigate the complexities of global finance, trade, and diplomacy in a multipolar world. A balanced, rules-based approach rooted in national interest and international dialogue is crucial for India to manage these evolving geopolitical challenges.

Q11. China's construction of the world's largest hydropower dam on the Yarlung Tsangpo River raises serious environmental, geopolitical, and strategic concerns for India and other riparian states. Examine the implications of such transboundary infrastructure projects and the policy responses India must adopt. (250 words, 15 marks)

Topic – India-China relations

Source: BBC

<https://www.bbc.com/news/articles/c4gk1251w14o>

Introduction	China's recent initiation of construction on the Motuo Hydropower Station — set to become the world's largest dam — on the Yarlung Tsangpo River (which flows into India as the Siang/Brahmaputra) has sparked alarm in India and Bangladesh. This mega-dam, part of China's western energy strategy, raises concerns over ecological disruption, water security, and geostrategic leverage. The development also underscores the urgency for regional water-sharing cooperation, disaster mitigation, and diplomatic safeguards against unilateral upstream control.
Body	<ul style="list-style-type: none"> • Geographical and Geopolitical Significance • International Legal and Institutional Frameworks • Strategic and Environmental Concerns for India • India's Policy and Diplomatic Response • Policy Recommendations and Strategic Outlook
Conclusion	China's construction of the Motuo Hydropower Station not only redefines the global scale of river engineering but also signals a growing trend of infrastructure weaponization in transboundary river politics. For India, it is imperative to balance strategic deterrence, diplomatic engagement, and regional cooperation to safeguard ecological stability and national security. A proactive water diplomacy framework, rooted in equity, transparency, and sustainability, is essential to prevent future hydro-hegemonic crises.

UPSC Syllabus	India-China relations
Why was this question asked?	Q. With respect to the South China sea, maritime territorial disputes and rising tension affirm the need for safeguarding maritime security to ensure freedom of navigation and over flight throughout the region. In this context, discuss the bilateral issues between India and China. (2014)
Introduction	China's recent initiation of construction on the Motuo Hydropower Station — set to become the world's largest dam — on the Yarlung

Tsangpo River (which flows into India as the Siang/Brahmaputra) has sparked alarm in India and Bangladesh. This mega-dam, part of China's western energy strategy, raises concerns over ecological disruption, water security, and geostrategic leverage. The development also underscores the urgency for regional water-sharing cooperation, disaster mitigation, and diplomatic safeguards against unilateral upstream control.

Body

Geographical and Geopolitical Significance

- **Yarlung Tsangpo** originates in Tibet and enters India as the **Siang**, eventually becoming the **Brahmaputra** and **Jamuna** in Bangladesh.
- The dam site lies near the **Great Bend**, a geologically unstable and ecologically sensitive area, giving China a **chokehold** over vital water resources downstream.
- As per the **Lowy Institute (2020)**, China's control over Tibetan rivers grants it significant **geopolitical leverage**, especially over India's northeastern economy and population.
- The region is also strategically sensitive, located near **Arunachal Pradesh**, a territory claimed by China.

International Legal and Institutional Frameworks

- **No Binding Treaty** exists between China and India on transboundary rivers; cooperation is based on **MoUs for hydrological data sharing** during flood seasons.
- China is **not a signatory** to the **UN Convention on the Non-Navigational Uses of International Watercourses (1997)**, which obligates prior notification and equitable use of shared rivers.
- The **Helsinki Rules (1966)** and **Berlin Rules (2004)** advocate for sustainable and reasonable use of transboundary rivers — principles not legally enforced on China.

Strategic and Environmental Concerns for India

- **Water weaponization**: Sudden release or diversion of water could act as a **“water bomb”**, posing an existential threat to tribal populations in Arunachal Pradesh (e.g., Adi tribe).
- **Ecological degradation**: Altered flow may cause sediment imbalance, affecting agriculture, biodiversity, and delta formation in Assam and Bangladesh.
- **Livelihood impact**: Fishing, agriculture, and river-based communities face significant risks due to unpredictable flow regimes.
- **Strategic vulnerability**: The dam's proximity to India's border

makes it a potential **dual-use infrastructure** in case of conflict.

India's Policy and Diplomatic Response

- India has raised concerns through diplomatic channels, emphasizing **transparency, data-sharing, and prior consultation**.
- India plans to build its own **Siang dam** to act as a **buffer** against sudden Chinese releases and manage downstream flooding.
- India must pursue a **bilateral or multilateral water-sharing agreement**, possibly involving Bangladesh as a lower riparian partner.
- Strengthen cooperation under forums like **BIMSTEC, BBIN, and Ganga-Brahmaputra-Meghna (GBM) basin initiatives** for shared river governance.

Policy Recommendations and Strategic Outlook

- **Institutional Mechanism:** Establish a **joint river commission or treaty** with China, possibly involving third-party mediation via UNESCAP or ASEAN.
- **Disaster Preparedness:** Invest in **early warning systems, reservoir management, and river monitoring stations** in the northeast.
- **Hydropower and Water Security Strategy:** Accelerate **India's northeast hydropower capacity** and invest in river interlinking within Indian territory to reduce dependency.
- **Environmental Diplomacy:** Raise the issue in **global climate and water security forums** (e.g., UN Water Conference, COP meetings) to build global pressure.
- **Engage with Local Communities:** Involve tribal and regional stakeholders in disaster resilience planning, ecological restoration, and cultural preservation.

Conclusion

China's construction of the Motuo Hydropower Station not only redefines the global scale of river engineering but also signals a growing trend of infrastructure weaponization in transboundary river politics. For India, it is imperative to balance strategic deterrence, diplomatic engagement, and regional cooperation to safeguard ecological stability and national security. A proactive water diplomacy framework, rooted in equity, transparency, and sustainability, is essential to prevent future hydro-hegemonic crises.

Q12. Sectarian tensions have re-emerged as a key driver of instability in West Asia, particularly in Syria under Islamist rule. Discuss how sectarianism affects political stability and state-building efforts. What lessons does this hold for India's foreign policy and regional engagement in West Asia? (250 words, 15 marks)

Topic – Instability in West Asia

Source: The Hindu

<https://www.thehindu.com/opinion/editorial/sectarian-wounds-on-the-violence-in-syria/article69846860.ece>

Introduction	Sectarianism — the conflict between different sects within a religion — has long plagued West Asia. In Syria, the re-emergence of such tensions under Hayat Tahrir al-Sham's (HTS) Sunni Islamist leadership has triggered massacres of minorities like the Druze and Alawites, risking the country's fragmentation and regional destabilisation. This reflects the broader challenges of governance, identity politics, and pluralism in conflict-ridden states.
Body	<ul style="list-style-type: none"> • Sectarianism and Political Instability in Syria • External Intervention and Regional Fallout • Challenges to Pluralism and State-Building • Lessons for India's Foreign Policy • International Frameworks and India's Role
Conclusion	Syria's renewed sectarian violence under HTS rule is a cautionary tale of how majoritarianism and theocracy can destroy fragile post-war societies . Only a pluralistic, rights-based order can prevent further disintegration. For India, which values strategic autonomy, regional peace, and protection of minorities , the Syrian crisis reaffirms the importance of advocating for inclusive, secular governance structures in conflict zones while safeguarding its own geopolitical interests.

UPSC Syllabus	Instability in West Asia
Why was this question asked?	Q. The question of India's Energy Security constitutes the most important part of India's economic progress. Analyze India's energy policy cooperation with West Asian Countries. [2016]
Introduction	Sectarianism — the conflict between different sects within a religion — has long plagued West Asia. In Syria, the re-emergence of such tensions under Hayat Tahrir al-Sham's (HTS) Sunni Islamist leadership has triggered massacres of minorities like the Druze and Alawites, risking the country's fragmentation and regional destabilisation. This reflects the broader challenges of governance, identity politics, and pluralism in conflict-ridden states.

Body

Sectarianism and Political Instability in Syria

- **Dismantling secular governance:** The Baathist regime, despite its authoritarian nature, maintained a **secular and multi-ethnic structure**. HTS's Islamist regime has reversed this legacy.
- **Violence against minorities:** Targeted killings in **Sweida (Druze majority)** and earlier attacks on Alawites erode trust between communities and further weaken state legitimacy.
- **Rise of sectarian militias:** Competing militias based on religious identity, supported by regional powers (Iran–Shia, Saudi–Sunni), **fuel proxy wars and internal displacement**.

External Intervention and Regional Fallout

- **Israeli strikes in Syria:** Ostensibly humanitarian, Israeli bombings target military infrastructure to prevent a **hostile consolidated regime** near its borders, worsening the humanitarian situation.
- **Geopolitical entanglements:** Syria is a battleground for **Iranian, Turkish, Israeli, and American interests**, all amplifying sectarian dimensions for strategic gains.
- **Spillover effects:** Sectarian violence has destabilised neighbouring states like Iraq and Lebanon, and **pushed millions into refugee crises**.

Challenges to Pluralism and State-Building

- **Collapse of social contract:** The **HTS leadership failed to build inclusive governance**, alienating groups like Kurds, Christians, and Druze.
- **Centralised Islamist rule:** Push for a theocratic model undermines **multi-sectarian unity**, increasing the risk of insurgency, separatism, and international isolation.
- **Legacy of civil war:** A decade-long war left Syria's **institutions, infrastructure, and economy shattered**, limiting any meaningful post-war reconstruction.

Lessons for India's Foreign Policy

- **Support pluralism and secularism:** India must advocate for inclusive political processes in Syria and support **UN-led reconciliation** efforts rather than sectarian alignments.
- **Strategic autonomy:** India's balanced approach — **maintaining ties with Iran, Israel, and Gulf states** — offers diplomatic leverage in crises like Syria's.
- **Humanitarian diplomacy:** India can increase **non-aligned humanitarian aid** and back regional peace initiatives without military involvement.

	<ul style="list-style-type: none"> • Security concerns: Radicalisation in West Asia could spill over via diaspora networks, cyberspace, and refugee flows, necessitating vigilance. <p>International Frameworks and India’s Role</p> <ul style="list-style-type: none"> • UNSC Resolutions on Syria (e.g., Resolution 2254): India, as a non-permanent member (until 2022), has consistently called for a Syrian-led, Syrian-owned peace process. • India’s historical stance: Consistently opposing regime change through force, India respects Syria’s sovereignty while calling for protection of minorities.
Conclusion	<p>Syria’s renewed sectarian violence under HTS rule is a cautionary tale of how majoritarianism and theocracy can destroy fragile post-war societies. Only a pluralistic, rights-based order can prevent further disintegration. For India, which values strategic autonomy, regional peace, and protection of minorities, the Syrian crisis reaffirms the importance of advocating for inclusive, secular governance structures in conflict zones while safeguarding its own geopolitical interests.</p>

Q13. India-Maldives relations have undergone a significant reset in 2025, marked by Prime Minister Narendra Modi’s landmark visit. Discuss the multidimensional outcomes of the visit and assess its implications for regional diplomacy and maritime strategy. (250 words, 15 marks)

Topic – India-Maldives Relations

Source: The Hindu

<https://www.thehindu.com/news/national/prime-minister-narendra-modi-in-maldives-july-26-2025/article69857797.ece>

Introduction	<p>Prime Minister Narendra Modi’s participation as Chief Guest at the Maldives’ 60th Independence Day in July 2025 marked a pivotal moment in bilateral ties, resetting relations after tensions under President Muizzu’s “India Out” campaign. The visit reaffirmed India’s commitment to its Neighbourhood First and SAGAR (Security and Growth for All in the Region) doctrines.</p>
Body	<ul style="list-style-type: none"> • Political Reset and Strategic Outreach • Economic and Trade Cooperation • Development Partnership • Defence and Maritime Security • Green Diplomacy and Climate Partnership • People-to-People and Technological Cooperation
Conclusion	<p>PM Modi’s 2025 visit to the Maldives was both symbolic and strategic, reflecting a bold reset in bilateral relations. The multidimensional</p>

agreements — from trade and defence to green diplomacy — demonstrate India’s evolving role as a partner of choice in the Indian Ocean Region. Going forward, sustained engagement, mutual respect, and climate cooperation will be critical to maintaining this renewed momentum.

UPSC Syllabus	India-Maldives Relations
Why was this question asked?	Q. Discuss the political developments in Maldives in the last two years. Should they be of any cause of concern to India? [2013]
Introduction	Prime Minister Narendra Modi’s participation as Chief Guest at the Maldives’ 60th Independence Day in July 2025 marked a pivotal moment in bilateral ties, resetting relations after tensions under President Muizzu’s “India Out” campaign. The visit reaffirmed India’s commitment to its Neighbourhood First and SAGAR (Security and Growth for All in the Region) doctrines.
Body	<p>Political Reset and Strategic Outreach</p> <ul style="list-style-type: none"> • The visit represented the first time an Indian PM attended Maldives’ I-Day, symbolising high-level trust. • PM Modi met the full political spectrum including Speaker Abdulla and former President Nasheed. • Maldives reaffirmed India as a “crucial partner”, reflecting a sharp turnaround in relations. <p>Economic and Trade Cooperation</p> <ul style="list-style-type: none"> • India extended a ₹4,850 crore Line of Credit, reduced annual debt repayments by 40%, and committed to a Bilateral Investment Treaty (BIT). • Launch of India–Maldives Free Trade Agreement (IMFTA) negotiations to boost trade, tourism, renewable energy, and digital services. • FTA aims to enhance market access, supply chains, and e-commerce integration. <p>Development Partnership</p> <ul style="list-style-type: none"> • India handed over 3,300 housing units, inaugurated Addu City roads and drainage, and launched 6 HICDPs in health, education, and sanitation. • Focus on regionally balanced development and urban resilience. <p>Defence and Maritime Security</p> <ul style="list-style-type: none"> • India handed over 72 defence vehicles and pledged continued

	<p>support for coastal surveillance.</p> <ul style="list-style-type: none">• Strengthening of maritime cooperation aligns with the SAGAR vision, reinforcing India’s role as the net security provider in the Indian Ocean Region. <p>Green Diplomacy and Climate Partnership</p> <ul style="list-style-type: none">• Joint tree plantation drive: India’s <i>Ek Ped Maa Ke Naam</i> and Maldives’ 5 million tree pledge.• Cooperation in climate adaptation, coral reef protection, and early warning systems.• Reflects India’s role in climate-sensitive diplomacy with vulnerable island states. <p>People-to-People and Technological Cooperation</p> <ul style="list-style-type: none">• PM Modi engaged with the Indian diaspora, acknowledging their social and economic contributions.• MoUs signed in digital public infrastructure, cybersecurity, fintech, and e-governance, aiding Maldives’ digital transition.• Launch of India–Maldives Parliamentary Friendship Group to deepen democratic linkages.
<p>Conclusion</p>	<p>PM Modi’s 2025 visit to the Maldives was both symbolic and strategic, reflecting a bold reset in bilateral relations. The multidimensional agreements — from trade and defence to green diplomacy — demonstrate India’s evolving role as a partner of choice in the Indian Ocean Region. Going forward, sustained engagement, mutual respect, and climate cooperation will be critical to maintaining this renewed momentum.</p>

Economy

Q14. The Prime Minister Dhan-Dhaanya Krishi Yojana (PMDDKY), modelled on the Aspirational Districts Programme, seeks to uplift underperforming agricultural districts through convergence and competitiveness. Critically examine the objectives, implementation framework, and expected impact of the scheme. What challenges may impede its success? (250 words, 15 marks)

Topic – Agricultural growth and rural development

Source: The Indian Express

<https://indianexpress.com/article/explained/dhan-dhaanya-krisi-yojana-100-agri-districts-pmddky-10130466/>

Introduction	The Prime Minister Dhan-Dhaanya Krishi Yojana (PMDDKY), launched in 2025-26 with an annual outlay of ₹24,000 crore, aims to transform 100 low-performing agricultural districts through the convergence of 36 schemes across 11 ministries. Inspired by the Aspirational Districts Programme (ADP), it focuses on increasing productivity, promoting sustainable farming, and enhancing credit access in lagging regions. The initiative is pivotal to achieving inclusive agricultural growth and rural development.
Body	<ul style="list-style-type: none"> • Objectives and Design of PMDDKY • Implementation Framework and Governance • Monitoring and Evaluation: Ranking and Dashboard System • Expected Outcomes and Impact • Challenges and Limitations
Conclusion	PMDDKY is a transformative initiative that addresses persistent agricultural disparities through targeted interventions. By leveraging convergence, data-driven monitoring, and participatory planning, the scheme can replicate the success of the Aspirational Districts Programme in the agrarian sector. However, its success depends on strong institutional coordination, inclusive governance, and transparent monitoring systems. If implemented effectively, PMDDKY can become a key pillar in India's journey toward agricultural modernization and rural empowerment.

UPSC Syllabus	Agricultural growth and rural development
Why was this question asked?	Q. Establish the relationship between land reform, agriculture productivity and elimination of poverty in Indian Economy. Discussion the difficulty in designing and implementation of the agriculture friendly land reforms in India. (2013)
Introduction	The Prime Minister Dhan-Dhaanya Krishi Yojana (PMDDKY), launched in 2025-26 with an annual outlay of ₹24,000 crore, aims to transform 100 low-performing agricultural districts through the convergence of 36 schemes across 11 ministries. Inspired by the Aspirational Districts Programme (ADP), it focuses on increasing productivity, promoting sustainable farming, and enhancing credit access in lagging regions. The initiative is pivotal to achieving inclusive agricultural growth and rural development.
Body	Objectives and Design of PMDDKY <ul style="list-style-type: none"> • The scheme aims to enhance agricultural productivity in selected underperforming districts.

- It focuses on crop diversification and the promotion of sustainable and organic farming practices.
- The scheme seeks to improve post-harvest infrastructure such as storage facilities at the panchayat and block levels.
- It aims to strengthen irrigation infrastructure to ensure better water availability.
- The scheme intends to increase access to both long-term and short-term agricultural credit for farmers.
- Districts are selected based on three core parameters: low productivity, moderate cropping intensity, and below-average agricultural credit.
- At least one district from each state or union territory will be included in the scheme based on net cropped area and operational landholdings.

Implementation Framework and Governance

- Each selected district will have a District Agriculture and Allied Activities Plan tailored to its agro-climatic conditions.
- The district-level plan will be prepared by the Dhan Dhaanya Samiti, headed by the District Collector and including progressive farmers.
- Committees will be constituted at the district, state, and national levels to oversee planning, execution, and monitoring.
- Central Nodal Officers (CNOs) will be deployed to conduct regular field visits, review progress, and support implementation.
- Central and State Agricultural Universities will serve as knowledge partners to provide technical guidance and capacity building.
- The scheme will converge 36 schemes from 11 different ministries for better integration and effective outcomes.

Monitoring and Evaluation: Ranking and Dashboard System

- The progress of districts will be monitored monthly using 117 Key Performance Indicators (KPIs).
- Districts will be ranked based on their incremental progress, promoting healthy competition among them.
- A dedicated digital dashboard will be created to track the scheme's performance in real time.
- NITI Aayog will play a key role in providing policy guidance, capacity building, and evaluation support.

Expected Outcomes and Impact

- The scheme is expected to result in higher agricultural

productivity and improved land-use efficiency.

- It will facilitate value addition through better post-harvest management and processing facilities.
- The initiative will promote local livelihood generation through increased agricultural and allied activities.
- It will help reduce regional imbalances in agricultural development across India.
- Improved access to credit and infrastructure is expected to support the goals of self-reliance (Atmanirbhar Bharat).
- The performance improvement in these 100 districts will uplift national agricultural indicators as a whole.

Challenges and Limitations

- Variations in administrative capacity at the district level may hinder uniform implementation.
- Coordination among multiple departments and ministries may face bureaucratic delays and conflicts.
- Effective data collection and real-time updates from remote areas may be difficult to achieve consistently.
- There is a risk of prioritizing performance metrics over actual ground-level impact ("data gaming").
- Socio-economic barriers may prevent true representation of small and marginal farmers in district-level committees.
- Dependence on sustained central funding over the scheme's six-year duration poses a financial risk.
- Environmental sustainability may be compromised if emphasis shifts excessively towards infrastructure over ecological balance.

Conclusion

PMDDKY is a transformative initiative that addresses persistent agricultural disparities through targeted interventions. By leveraging convergence, data-driven monitoring, and participatory planning, the scheme can replicate the success of the Aspirational Districts Programme in the agrarian sector. However, its success depends on strong institutional coordination, inclusive governance, and transparent monitoring systems. If implemented effectively, PMDDKY can become a key pillar in India's journey toward agricultural modernization and rural empowerment.

Q 15: GST was introduced as a landmark reform to create a unified national market and improve economic efficiency. However, its design has significant gaps in addressing public health priorities such as tobacco control. Examine the shortcomings in tobacco taxation under GST and suggest a balanced approach to align fiscal and public health objectives. (250 words, 15 marks)

Topic – Goods and Services Tax (GST)

Source: The Hindu

<https://www.thehindu.com/opinion/op-ed/gst-reform-and-unfinished-business-in-tobacco-control/article69756459.ece>

Introduction	The Goods and Services Tax (GST), introduced on July 1, 2017, replaced multiple indirect taxes, aiming to simplify tax administration and create a “One Nation, One Tax” framework. It has improved logistics efficiency, reduced cascading taxes, and boosted revenue collections — with gross GST revenue for 2024–25 reaching ₹22.08 lakh crore. However, GST’s structure has fallen short in adequately taxing harmful products like tobacco, risking both revenue mobilisation and India’s public health targets.
Body	<ul style="list-style-type: none"> • Tobacco Use in India: An Economic and Health Challenge • Design Flaws in Tobacco Taxation under GST • Affordability and Stagnation of Tax Rates • The Illicit Trade Argument: Myths vs. Facts • Way Forward: Aligning GST with Public Health Goals
Conclusion	The evolution of GST is incomplete without addressing structural gaps in taxing harmful goods like tobacco. A balanced taxation strategy that combines ad valorem and specific components can reduce the affordability of tobacco products, discourage use, and generate resources to offset their public health burden. As India continues its GST rate rationalisation, strengthening tobacco taxation would align fiscal policy with national health goals and reaffirm the transformative promise of GST as more than just a revenue tool.

UPSC Syllabus	Goods and Services Tax (GST)
Why was this question asked?	Q. Enumerate the indirect taxes which have been subsumed in the goods and services tax (GST) in India. Also, comment on the revenue implications of the GST introduced in India since July 2017. (2019)
Introduction	The Goods and Services Tax (GST), introduced on July 1, 2017,

replaced multiple indirect taxes, aiming to simplify tax administration and create a “One Nation, One Tax” framework. It has improved logistics efficiency, reduced cascading taxes, and boosted revenue collections — with gross GST revenue for 2024–25 reaching ₹22.08 lakh crore. However, GST’s structure has fallen short in adequately taxing harmful products like tobacco, risking both revenue mobilisation and India’s public health targets.

Body

Tobacco Use in India: An Economic and Health Challenge

- India is the second-largest consumer of tobacco worldwide, with 28.6% of adults and 8.5% of students aged 13–15 years using tobacco in some form.
- Tobacco causes around 3,500 deaths daily and an annual economic burden of approximately ₹2,340 billion (1.4% of GDP in 2017).
- Despite this, average GST revenue from tobacco has been about ₹551 billion per year, insufficient when compared to its health costs.

Design Flaws in Tobacco Taxation under GST

- Post-GST, reliance shifted heavily towards **ad valorem taxes**, with a significant drop in specific excise duties, which are proven more effective in reducing consumption.
- For cigarettes, the share of excise duty in total tax fell from 54% to 8%; for bidis, from 17% to 1%.
- Bidis, consumed mainly by low-income groups, remain **exempt from the GST compensation cess**, despite being equally harmful.

Affordability and Stagnation of Tax Rates

- No significant tax hikes on tobacco products since GST was introduced in 2017, unlike the pre-GST period where regular VAT and excise hikes contributed to a 17% decline in tobacco use prevalence.
- Overall tax burden remains below the **WHO-recommended 75% of retail price**: currently, only 54% for cigarettes, 22% for bidis, and 65% for smokeless tobacco.
- The likely expiration of the GST compensation cess in March 2026 further threatens to lower the tax burden.

The Illicit Trade Argument: Myths vs. Facts

- The tobacco industry claims that higher taxes would boost illicit trade, but independent studies estimate that illicit cigarettes constitute only 2.7% to 6.6% of India’s market — far lower than the industry’s claim of 25%.

	<ul style="list-style-type: none"> • Research shows governance, regulatory enforcement, and border control matter more than tax levels in tackling smuggling. • India has ratified the WHO Protocol to Eliminate Illicit Trade in Tobacco Products but needs stronger implementation. <p>Way Forward: Aligning GST with Public Health Goals</p> <ul style="list-style-type: none"> • Raise GST rates on tobacco products to the statutory peak of 40% where feasible. • Reinforce specific excise duties alongside ad valorem GST — a mixed structure is globally proven to reduce consumption. • Remove anomalies: include bidis under the compensation cess and extend the cess beyond March 2026. • Strengthen enforcement to curb illicit trade and fully operationalise the WHO protocol. • Increase public awareness and compliance monitoring for better health and fiscal outcomes.
Conclusion	<p>The evolution of GST is incomplete without addressing structural gaps in taxing harmful goods like tobacco. A balanced taxation strategy that combines ad valorem and specific components can reduce the affordability of tobacco products, discourage use, and generate resources to offset their public health burden. As India continues its GST rate rationalisation, strengthening tobacco taxation would align fiscal policy with national health goals and reaffirm the transformative promise of GST as more than just a revenue tool.</p>

Q16. The recent slowdown in the Index of Industrial Production (IIP) highlights weakening demand in the Indian economy. Critically analyse its implications, sectoral trends, key challenges, relevant policy measures, and suggest steps to revive domestic demand. (250 words, 15 marks)

Topic – Index of Industrial Production (IIP)

Source: The Hindu

<https://www.thehindu.com/opinion/editorial/demand-distress-on-slowdown-in-the-overall-iip/article69760107.ece>

Introduction	<p>The Index of Industrial Production (IIP) is an important short-term indicator that measures changes in the volume of production in three broad sectors: manufacturing, mining, and electricity. It helps gauge the level of industrial activity and, by extension, the health of the economy. The recent data showing IIP growth slumping to a nine-month low of 1.2% in May 2025 is worrying, as it points to broad-based demand weakness in both rural and urban segments.</p>
Body	<ul style="list-style-type: none"> • Understanding the IIP and Its Significance

	<ul style="list-style-type: none"> • Sectoral Trends Behind the Slowdown • What the Sub-Sector Data Tells Us • Challenges in Reviving Demand • Recent Measures and Way Forward
Conclusion	<p>A sluggish IIP highlights the risk of demand fatigue in the economy. While supportive fiscal and monetary policies have been introduced, their benefits must reach households and businesses quickly. A balance of short-term income support, rural resilience, and sustained infrastructure and manufacturing push will be critical to ensuring India's industrial growth remains inclusive, stable, and resilient in 2025–26.</p>

UPSC Syllabus	Index of Industrial Production (IIP)
Why was this question asked?	<p>Q. “Industrial growth rate has lagged behind in the overall growth of Gross-Domestic-Product (GDP) in the post-reform period” Give reasons. How far the recent changes in Industrial Policy are capable of increasing the industrial growth rate? (2017)</p>
Introduction	<p>The Index of Industrial Production (IIP) is an important short-term indicator that measures changes in the volume of production in three broad sectors: manufacturing, mining, and electricity. It helps gauge the level of industrial activity and, by extension, the health of the economy. The recent data showing IIP growth slumping to a nine-month low of 1.2% in May 2025 is worrying, as it points to broad-based demand weakness in both rural and urban segments.</p>
Body	<p>Understanding the IIP and Its Significance</p> <ul style="list-style-type: none"> • The IIP reflects the pace of industrial expansion, capacity utilisation, and employment generation. • It is divided into use-based classifications: primary goods, capital goods, intermediate goods, infrastructure goods, consumer durables, and consumer non-durables. • Declines in consumer durables (like electronics, appliances) or non-durables (like food and beverages) indicate weak household consumption. • A healthy IIP growth trend suggests robust domestic demand, higher incomes, and greater investor confidence. <p>Sectoral Trends Behind the Slowdown</p> <ul style="list-style-type: none"> • The electricity sector contracted by 5.8%, partly due to cooler weather reducing power demand but also indicating lower industrial offtake. • The manufacturing sector, which forms nearly 78% of the IIP

weight, grew only 2.6% in May, compared to over 5% a year ago.

- Sub-sectors like textiles, leather, chemicals, pharmaceuticals, and furniture either contracted or slowed significantly.
- The fact that both **consumer durables and non-durables contracted simultaneously** for the first time since 2023 shows households are cutting back on both discretionary and essential spending.

What the Sub-Sector Data Tells Us

- Items like air-conditioners, computers, phones, stainless steel utensils, and footwear saw significant output declines — all products linked to discretionary spending.
- Non-durables like meat, honey, fruit juice, jams, sugar, and bottled water also saw output fall, showing that households are being cautious even about routine items.
- The **Purchasing Managers' Index (PMI)** for manufacturing shows that intermediate goods production is steady, but demand for capital goods (linked to investment) and consumer goods remains subdued.

Challenges in Reviving Demand

- **Weak urban demand:** Despite tax cuts announced in Budget 2025, urban middle-class spending is recovering slowly.
- **Rural dependence on monsoon:** Rural purchasing power is tied to agriculture. A good monsoon can boost farm income and rural consumption, but weather uncertainties persist.
- **External headwinds:** Global trade remains volatile, limiting exports as an alternative driver for industrial growth.
- **MSME constraints:** Small manufacturers face high input costs, limited credit, and slow PLI scheme uptake, affecting supply chains and job creation.

Recent Measures and Way Forward

- **Union Budget 2025-26** included higher income tax exemption limits to boost disposable income.
- Increased **capital expenditure allocation** aims to stimulate job creation through infrastructure spending.
- Schemes like the **Production Linked Incentive (PLI)** aim to promote domestic manufacturing in sectors like electronics and pharma.
- To revive demand:
 - Fast-track implementation of tax relief measures.
 - Strengthen rural infrastructure and employment schemes to

	<p>raise rural incomes.</p> <ul style="list-style-type: none"> ○ Ensure timely credit to MSMEs and ease of doing business. ○ Promote skill upgradation for workers in sectors facing job losses. ○ Monitor power supply, logistics, and supply chains for efficient industrial production.
Conclusion	<p>A sluggish IIP highlights the risk of demand fatigue in the economy. While supportive fiscal and monetary policies have been introduced, their benefits must reach households and businesses quickly. A balance of short-term income support, rural resilience, and sustained infrastructure and manufacturing push will be critical to ensuring India’s industrial growth remains inclusive, stable, and resilient in 2025–26.</p>

Q17: Industrial safety remains a neglected aspect of India’s otherwise booming pharmaceutical sector. In the light of the recent Hyderabad pharma unit blast, critically examine the challenges to industrial safety in India’s pharma industry. Discuss key concepts, recent reports, committees, and suggest measures to prevent such costly lapses. (250 words, 15 marks)

Topic – Industrial safety

Source: The Hindu

<https://www.thehindu.com/opinion/editorial/costly-lapses-on-the-hyderabad-pharma-unit-blast/article69760401.ece>

Introduction	<p>India’s pharmaceutical sector, known as the ‘pharmacy of the world’, contributes significantly to exports and public health. However, recurring industrial accidents, like the recent blast at Sigachi Industries in Hyderabad (July 2025), expose deep-rooted weaknesses in industrial safety culture and regulatory oversight. The incident, which killed 36 workers, underscores the urgent need for robust process safety management.</p>
Body	<ul style="list-style-type: none"> ● Key Concepts in Industrial Safety ● Challenges in Ensuring Industrial Safety ● Reports and Committees Highlighting Concerns ● Recent Government Initiatives ● Recommendations for Safer Pharma Manufacturing
Conclusion	<p>The Hyderabad pharma blast is a grim reminder that economic gains must not come at the cost of worker safety. A robust safety culture, stringent regulatory oversight, and adoption of global best practices are essential to prevent such costly lapses and sustain India’s credibility as a safe, reliable pharmaceutical hub.</p>

UPSC Syllabus	Industrial safety
Why was this question asked?	Q. Discuss the recent measures initiated in disaster management by the Government of India departing from the earlier reactive approach. [2020]
Introduction	India's pharmaceutical sector, known as the 'pharmacy of the world', contributes significantly to exports and public health. However, recurring industrial accidents, like the recent blast at Sigachi Industries in Hyderabad (July 2025), expose deep-rooted weaknesses in industrial safety culture and regulatory oversight. The incident, which killed 36 workers, underscores the urgent need for robust process safety management.
Body	<p>Key Concepts in Industrial Safety</p> <p>Modern industrial safety relies on three pillars:</p> <ul style="list-style-type: none"> • Process Hazard Analysis (PHA) and HAZOP (Hazard and Operability Study) are globally recognized frameworks for identifying and mitigating risks in chemical and pharma plants. • Safety Culture implies collective commitment by management and workers to safety norms beyond mere compliance. • The Occupational Safety, Health and Working Conditions Code, 2020 aims to consolidate India's fragmented industrial safety framework but faces gaps in implementation. <p>Challenges in Ensuring Industrial Safety</p> <ul style="list-style-type: none"> • Poor Maintenance and Equipment Malfunction: As suspected in the Hyderabad blast, inadequate preventive maintenance causes unsafe conditions. • Lack of Skilled Manpower: Migrant and contractual workers often lack training in handling hazardous processes. • Regulatory Gaps: Weak enforcement by State Factories Inspectorates leads to routine safety audits becoming mere formalities. • Fragmented Data Integration: Poor real-time monitoring of process parameters prevents early detection of anomalies. • Low Awareness and Compliance: MSME pharma units especially lag behind in adopting best practices due to cost concerns. <p>Reports and Committees Highlighting Concerns</p> <ul style="list-style-type: none"> • The Second National Commission on Labour (2002) stressed strengthening workplace safety in industrial units. • The National Disaster Management Authority (NDMA)

guidelines on chemical disaster management remain under-implemented.

- Periodic reports by the **Comptroller and Auditor General (CAG)** have highlighted deficiencies in industrial safety audits.

Recent Government Initiatives

- The **Digital Inspection Platform** under the Ease of Doing Business initiative aims to make inspections more transparent and data-driven.
- The **BIS Quality Control Orders (QCOs)** for chemicals and APIs now mandate minimum safety standards.
- The **Atmanirbhar Bharat Mission** encourages pharma clusters to modernize with common effluent plants and better hazard management.

However, these measures need better ground-level execution.

Recommendations for Safer Pharma Manufacturing

- **Strengthen HAZOP and PHA compliance** with periodic third-party safety audits.
- **Capacity Building:** Upskill operators through regular training and certifications.
- **Technology Integration:** Use IoT-enabled sensors and AI-based predictive maintenance to detect anomalies.
- **Regulatory Reform:** Strengthen inspection and penalties for non-compliance.
- **Worker Welfare:** Ensure social security and legal aid for migrant workers, who are most vulnerable during industrial mishaps.

Conclusion

The Hyderabad pharma blast is a grim reminder that economic gains must not come at the cost of worker safety. A robust safety culture, stringent regulatory oversight, and adoption of global best practices are essential to prevent such costly lapses and sustain India's credibility as a safe, reliable pharmaceutical hub.

Q18. "Discuss how transforming agrifood systems can address global youth unemployment and food insecurity, in light of FAO's 2025 report. Highlight India's challenges and opportunities in this regard." (250 words, 15 marks)

Topic – India's youth unemployment

Source: Down to Earth

<https://www.downtoearth.org.in/agriculture/agriculture-can-provide-employment-to-millions-of-youth-boost-global-gdp-by-14-fao>

Introduction

The Food and Agriculture Organization (FAO), in its Status of Youth in

	<p>Agrifood Systems 2025 report, warns that global youth unemployment — with over 20% of young people not in employment, education, or training (NEET) — is a major concern. The report projects that increasing youth participation in agrifood systems could boost global GDP by 1.4% and mitigate looming labour shortages in agriculture. For countries like India, where a large youth population coexists with significant agrarian distress, transforming agrifood systems offers a pathway to employment, food security, and climate resilience.</p>
Body	<ul style="list-style-type: none"> • Understanding Agrifood Systems and Their Importance • Global Youth Unemployment: A Growing Challenge • Climate Risks and Rural Labour Shortages • India’s Challenges and Opportunities • FAO’s Policy Recommendations and Global Best Practices
Conclusion	<p>The FAO’s report is a timely reminder that transforming agrifood systems is critical to tackling youth unemployment, food insecurity, and climate risks simultaneously. For India, with its large demographic dividend and rural workforce, the challenge is to make agriculture remunerative, technology-driven, and climate-resilient — so that millions of young people see farming not as a last resort but as a viable, dignified livelihood.</p>

UPSC Syllabus	India’s youth unemployment
Why was this question asked?	Q. Livestock rearing has a big potential for providing non-farm employment and income in rural areas. Discuss suggesting suitable measures to promote this sector in India. (2015)
Introduction	<p>The Food and Agriculture Organization (FAO), in its Status of Youth in Agrifood Systems 2025 report, warns that global youth unemployment — with over 20% of young people not in employment, education, or training (NEET) — is a major concern. The report projects that increasing youth participation in agrifood systems could boost global GDP by 1.4% and mitigate looming labour shortages in agriculture. For countries like India, where a large youth population coexists with significant agrarian distress, transforming agrifood systems offers a pathway to employment, food security, and climate resilience.</p>
Body	<p>Understanding Agrifood Systems and Their Importance</p> <ul style="list-style-type: none"> • Definition: Agrifood systems encompass all stages from farm production, processing, distribution, retail, to waste management — forming a major employment source in low- and middle-income countries.

- **Key trends:** The share of working youth in agrifood systems has declined globally from 54% in 2005 to 44% today, partly due to rural-to-urban migration and lack of attractiveness of agriculture.
- **Significance:** Despite this, agrifood systems remain vital for the livelihoods of 44% of working youth, especially in Africa and Asia

Global Youth Unemployment: A Growing Challenge

- **Current status:** Over 1 in 5 young people globally are NEETs, disproportionately affecting those aged 20-24.
- **GDP impact:** The FAO report estimates that addressing NEETs through agrifood jobs could raise global GDP by 1.4%, with nearly half of this gain driven by more youth working in agriculture and food systems.
- **Food insecurity:** Youth food insecurity rose to 24.4% globally, reflecting vulnerability to unemployment and climate shocks.

Climate Risks and Rural Labour Shortages

- **Rural-urban migration:** Over 54% of youth now live in urban areas. In industrial agrifood systems, rural youth form just 5% of the population — risking labour shortages for food production.
- **Climate change impact:** Around 395 million rural youth live in regions projected to see declining productivity due to extreme weather events, especially in sub-Saharan Africa and Asia.
- **Need for resilience:** Youth engagement is crucial for adopting climate-smart practices and innovative farming methods.

India's Challenges and Opportunities

- **Youth bulge:** India has one of the world's largest youth populations (~27% aged 15-29). Agriculture still employs about 42% of the workforce but contributes just ~15% of GDP — indicating low productivity.
- **Structural issues:** Fragmented landholdings, low profitability, migration to urban informal jobs, and lack of modernisation discourage youth from farming.
- **Potential solutions:**
 - **Skill development:** National Skill Development Mission, PM Kaushal Vikas Yojana (PMKVY) can promote agri-entrepreneurship.
 - **Start-ups and tech:** Supporting agritech start-ups, digital marketplaces (eNAM), and precision farming can make agriculture attractive.
 - **Climate action:** Expanding sustainable farming schemes

	<p>(like Paramparagat Krishi Vikas Yojana) and climate-resilient crops.</p> <ul style="list-style-type: none"> ○ Policy push: The National Youth Policy (2024) must integrate rural livelihoods and farm-based jobs with modern skilling and credit access. <p>FAO’s Policy Recommendations and Global Best Practices</p> <ul style="list-style-type: none"> • Key message: The FAO emphasises that empowered youth can catalyse broader transformation — by driving sustainable practices, adopting innovations, and revitalising rural economies. • Government role: Policies must make rural areas livable: better rural infrastructure, education, health, and internet access. • Examples: Africa’s youth agripreneurs programmes, EU’s Common Agricultural Policy incentives for young farmers, and India’s FPO (Farmer Producer Organisation) promotion show how youth can be integrated meaningfully.
Conclusion	<p>The FAO’s report is a timely reminder that transforming agrifood systems is critical to tackling youth unemployment, food insecurity, and climate risks simultaneously. For India, with its large demographic dividend and rural workforce, the challenge is to make agriculture remunerative, technology-driven, and climate-resilient — so that millions of young people see farming not as a last resort but as a viable, dignified livelihood.</p>

Q 19: The frequent accidents at railway level crossings highlight systemic negligence in India’s rail safety management. Critically examine, suggesting immediate and long-term measures. (250 words, 15 marks)

Topic – Railway Infrastructure in India

Source: The Hindu

<https://www.thehindu.com/opinion/editorial/death-by-negligence-on-the-railway-gate-accident-in-cuddalore/article69792259.ece>

Introduction	<p>Indian Railways, the lifeline of the nation, operates the world’s fourth-largest rail network, carrying millions daily across urban and rural India. Despite its scale, railway safety — especially at level crossings — remains a serious concern. Accidents at these crossings expose gaps in infrastructure, accountability, and implementation of recommended safety measures.</p>
Body	<ul style="list-style-type: none"> • Background: Railways and Level Crossing Safety • Systemic Negligence and Human Error

	<ul style="list-style-type: none"> • Barrier-Free Crossings: Funding and Policy Gaps • Recommendations of Committees and Expert Bodies • Way Forward
Conclusion	<p>Frequent mishaps at railway level crossings serve as grim reminders that policy pronouncements must translate into ground-level action. India’s vision for a safe, modern, and efficient railway system must prioritise the elimination of high-risk crossings, supported by sustained funding, technological innovation, and strict protocol adherence. Safe crossings are not a luxury — they are a basic right for all citizens.</p>

UPSC Syllabus	Railway Infrastructure in India
Why was this question asked?	Why is Public Private Partnership (PPP) required in infrastructural projects? Examine the role of PPP model in the redevelopment of Railway Stations in India. (2022)
Introduction	<p>Indian Railways, the lifeline of the nation, operates the world’s fourth-largest rail network, carrying millions daily across urban and rural India. Despite its scale, railway safety — especially at level crossings — remains a serious concern. Accidents at these crossings expose gaps in infrastructure, accountability, and implementation of recommended safety measures.</p>
Body	<p>Background: Railways and Level Crossing Safety</p> <ul style="list-style-type: none"> • India has over 1,20,000 km of railway track and thousands of level crossings. • Level crossings alone account for around 35% of total railway accidents, as noted in safety audits. • Of the manned level crossings, a significant number remain non-interlocked, relying solely on gatekeepers’ judgment. <p>Systemic Negligence and Human Error</p> <ul style="list-style-type: none"> • Non-interlocked crossings create an inherent risk, especially under pressure from impatient road users. • Fatigue, lack of supervision, and protocol violations often lead to tragic mishaps. • The Indian Railways Permanent Way Manual clearly mandates that gates remain closed until trains pass — yet, implementation gaps persist. <p>Barrier-Free Crossings: Funding and Policy Gaps</p> <ul style="list-style-type: none"> • The Railways has long committed to eliminating level crossings and constructing Road Over Bridges (ROBs) and Road Under Bridges (RUBs) under various safety funds.

- In recent Union Budgets, significant allocations have been made for safety upgrades, yet land acquisition delays and coordination failures slow progress.
- The Railways Safety Fund and Rashtriya Rail Sanraksha Kosh (RRSK) were set up to address these gaps, but utilisation remains sub-optimal.

Recommendations of Committees and Expert Bodies

- **Kakodkar Committee on Railway Safety (2012):** Recommended eliminating all level crossings in a phased manner within 5 years and setting up a ₹1 lakh crore safety fund.
- **Anil Kakodkar High-Level Safety Review Committee:** Emphasised automatic signaling, interlocking, and robust training of staff.
- **Bibek Debroy Committee (2015):** Stressed infrastructure modernisation, including safety upgrades at crossings and separation of operational and regulatory functions.
- **Sam Pitroda Committee on Modernisation of Indian Railways (2012):** Highlighted investment in grade separation (ROBs/RUBs) as a top priority for accident prevention.

Way Forward: Specific Institutional and Technological Steps

- **Short-Term Measures:**
 - Convert all manned non-interlocked crossings to interlocked gates on a mission mode.
 - Install **Automatic Boom Barriers, flashing lights, and audible warning alarms** at crossings.
 - Implement CCTV monitoring linked to central control rooms for real-time oversight.
- **Medium-Term Measures:**
 - Complete pending ROB and RUB projects; fast-track land acquisition using simplified procedures.
 - Allocate dedicated funds under the **Rashtriya Rail Sanraksha Kosh (RRSK)** and ensure full utilisation.
 - Train gatekeepers on updated Standard Operating Procedures (SOPs) and create a rotation system to prevent fatigue.
- **Long-Term Measures:**
 - Move towards full **grade separation** of roads and rail lines where feasible, eliminating crossings altogether.
 - Strengthen community awareness campaigns on level crossing safety.
 - Adopt best global practices, including **remote-**

	<p>controlled gate operations, and integrate crossings with train tracking systems for automated gate closure.</p> <ul style="list-style-type: none"> ○ Establish accountability through regular third-party safety audits.
Conclusion	<p>Frequent mishaps at railway level crossings serve as grim reminders that policy pronouncements must translate into ground-level action. India’s vision for a safe, modern, and efficient railway system must prioritise the elimination of high-risk crossings, supported by sustained funding, technological innovation, and strict protocol adherence. Safe crossings are not a luxury — they are a basic right for all citizens.</p>

Q20. India has been ranked among the world’s most equal societies by the Gini Index, yet ground realities reflect widespread inequality. Critically evaluate the limitations of the Gini Index in assessing inequality in India. Also, suggest ways to comprehensively address multi-dimensional inequality. (250 words, 15 marks)

Topic – Gini Index and assessing inequality in India

Source: The Hindu

<https://www.thehindu.com/opinion/op-ed/why-the-gini-index-is-wrong-about-india/article69869263.ece>

Introduction	<p>The Gini Index, developed by Italian statistician Corrado Gini, is a commonly used measure of income inequality. It assigns a score between 0 (perfect equality) and 100 (perfect inequality). Recently, India received a score of 25.5, placing it among the world’s most equal countries. However, this statistical representation sharply contrasts with India’s lived reality, where wealth, gender, educational, digital, and social inequalities are deeply entrenched. This disconnect exposes the limitations of the Gini framework in the Indian context.</p>
Body	<ul style="list-style-type: none"> ● Structural Gaps in the Gini Index for India ● Wealth Concentration and Economic Inequality ● Gender Inequality and Disparities in Opportunity ● Digital and Educational Divide: A New Inequality Frontier ● Towards a Holistic Framework to Address Inequality
Conclusion	<p>India’s low Gini Index score provides a statistical illusion of equality, which contradicts the realities of widespread economic, digital, gender, and educational disparities. Inequality in one sphere—such as digital access—often spills into others, reinforcing structural exclusion. To become a truly equitable society, India must move beyond one-dimensional metrics and adopt holistic, inclusive, and disaggregated measures of inequality, supported by targeted policy interventions and participatory governance frameworks.</p>

UPSC Syllabus	Inequality in India
Why was this question asked?	Q. Is inclusive growth possible under market economy? State the significance of financial inclusion in achieving economic growth in India. (2022)
Introduction	The Gini Index, developed by Italian statistician Corrado Gini, is a commonly used measure of income inequality. It assigns a score between 0 (perfect equality) and 100 (perfect inequality). Recently, India received a score of 25.5, placing it among the world's most equal countries. However, this statistical representation sharply contrasts with India's lived reality, where wealth, gender, educational, digital, and social inequalities are deeply entrenched. This disconnect exposes the limitations of the Gini framework in the Indian context.
Body	<p>Structural Gaps in the Gini Index for India</p> <ul style="list-style-type: none"> • Measures only income inequality, not wealth, access to services, or social mobility. • Ignores informal sector, which employs over 90% of India's workforce, making income data unreliable. • Less than 10% of adults file income tax returns, limiting the data used in calculating income distribution. • Does not capture inter-generational or spatial inequalities, especially rural–urban and caste-based disparities. <p>Wealth Concentration and Economic Inequality</p> <ul style="list-style-type: none"> • As per <i>Income and Wealth Inequality in India, 1922–2023</i>, the top 1% earned 22.6% of national income in 2022–23. • A majority of Indians survive on low-paying informal jobs, with little job security or benefits. • Luxury consumption by the elite contrasts starkly with mass underemployment and poverty, reflecting high wealth inequality. <p>Gender Inequality and Disparities in Opportunity</p> <ul style="list-style-type: none"> • The Worker Population Ratio (WPR) for women is 35.9%, indicating poor female participation in the workforce. • Only 12.7% of senior/middle management roles are held by women (2024). • Among India's startups, just 7.5% are women-led, despite India having the third-largest startup ecosystem globally. • Social norms hinder women's access to inheritance, education funding, and career growth, especially in rural areas.

Digital and Educational Divide: A New Inequality Frontier

- Only **52.7%** of schools have working computers; **53.9%** have internet access.
- **Broadband penetration** at the household level is only **41.8%**, severely limiting online education and work.
- In rural India, **only 25% of women** have internet access compared to **49% of men**—a sharp **gender-digital divide**.
- Lack of digital infrastructure impairs students' learning, particularly when schools shift to online modes during events like **air pollution closures in Delhi**.

Towards a Holistic Framework to Address Inequality

- The **Gini Index** lacks **multi-dimensionality**; India should adopt tools like the **United Nations Development Programme's (UNDP) Multidimensional Poverty Index (MPI)**.
- Use complementary data from **National Family Health Survey (NFHS)** and **Periodic Labour Force Survey (PLFS)** to assess real deprivation.
- Strengthen welfare schemes such as:
 - **Digital India** – for equitable access to technology.
 - **Samagra Shiksha Abhiyan** – to bridge school-level disparities.
 - **Beti Bachao Beti Padhao** – to promote gender equity in education and health.
- Promote **gender-responsive budgeting, disaggregated data usage, and digital literacy campaigns**.

Conclusion

India's low Gini Index score provides a statistical illusion of equality, which contradicts the realities of widespread economic, digital, gender, and educational disparities. Inequality in one sphere—such as digital access—often spills into others, reinforcing structural exclusion. To become a truly equitable society, India must move beyond one-dimensional metrics and adopt holistic, inclusive, and disaggregated measures of inequality, supported by targeted policy interventions and participatory governance frameworks.

Polity and Governance

Q21. The Legal Services Authorities Act provides a framework for ensuring free legal aid to the majority of Indians, yet the system is struggling with low budgets, inadequate personnel and poor outreach. Examine the reasons for the modest reach of legal aid services in India and suggest a comprehensive roadmap for strengthening legal aid capacity. (250 words, 15 marks)

Topic – Legal aid capacity and access to justice in India

Source: The Hindu

<https://www.thehindu.com/opinion/op-ed/boost-the-capacity-of-legal-aid-systems/article69874191.ece>

Introduction	Legal services institutions under the Legal Services Authorities Act, 1987 are mandated to offer free legal aid to nearly 80% of India's population. Yet their actual reach remains limited: between April 2023 and March 2024, only 15.50 lakh people received legal aid, and the allocation for legal aid constitutes less than 1% of the total justice budget. Budgets and staffing constraints undermine the ability to deliver quality justice and erode faith in the system.
Body	<ul style="list-style-type: none">• Chronic underfunding and budget restrictions• Declining human resources and infrastructure• Policy design and implementation issues• Emerging schemes and opportunities• Roadmap to strengthen legal aid
Conclusion	Access to legal aid is an essential component of the right to justice under Article 39A. Chronic underfunding, shrinking human resources and rigid guidelines have hamstrung India's legal aid institutions. Enhancing budgets, improving staffing and adopting flexible, technology enabled models can transform legal aid from a token commitment into a robust pillar of social justice.

UPSC Syllabus	Directive Principles (Article 39A) – Access to justice; Social empowerment and welfare schemes
Why was this question asked?	Who are entitled to receive free legal aid in India? Assess the role of the National Legal Services Authority in rendering free legal aid to the poor and vulnerable. (2018)
Introduction	Legal services institutions under the Legal Services Authorities Act, 1987 are mandated to offer free legal aid to nearly 80% of India's

population. Yet their actual reach remains limited: between April 2023 and March 2024, only 15.50 lakh people received legal aid, and the allocation for legal aid constitutes less than 1% of the total justice budget. Budgets and staffing constraints undermine the ability to deliver quality justice and erode faith in the system.

Body

Chronic underfunding and budget restrictions

- **Legal aid budgets make up less than 1% of the justice budget;** though states' allocations doubled from ₹601 crore in 2017-18 to ₹1,086 crore in 2022-23, NALSA's grants fell from ₹207 crore to ₹169 crore and utilisation dropped from 75% to 59%.
- **The NALSA manual restricts spending** on hiring staff, vehicles and other necessities, resulting in rigid spending ceilings such as earmarking 50% for legal aid and advice and 25% each for awareness and mediation.
- Per capita spending on legal aid is around ₹3–₹7; many states such as Jharkhand, Assam, Uttar Pradesh, Bihar and West Bengal spend less than ₹6 per person.

Declining human resources and infrastructure

- **Para-legal volunteers**, who create awareness and bridge communities, **declined** by almost 38% between 2019 and 2024; volunteers per lakh population fell from 5.7 to 3.1.
- In some states such as West Bengal and Uttar Pradesh there is only one volunteer per lakh population. Legal clinics exist in rural areas but there is only one clinic for every 163 villages.
- Honorariums for para-legal volunteers remain low; most states pay ₹500 per day or less, with Kerala being the exception at ₹750.

Policy design and implementation issues

- NALSA guidelines bar spending on crucial items without prior approval, limiting flexibility.
- There is inconsistent service quality, poor accountability and a lack of trust, which discourages those entitled to legal aid from approaching the system.

Emerging schemes and opportunities

- **The Legal Aid Defence Counsel (LADC) scheme** launched in 2022 provides dedicated lawyers for accused persons and is operational in 610 districts; funds of ₹200 crore were fully utilised in 2023-24 but **allocations dropped** to ₹147.9 crore in 2024-25.
- Several states have increased their legal aid budgets, signalling

	<p>political will; digital platforms could enable tele-law services and remote counselling.</p> <p>Roadmap to strengthen legal aid</p> <ul style="list-style-type: none"> • Increase financial allocations and allow flexible use of funds to hire staff, purchase equipment and support victims. • Recruit and train more para-legal volunteers, particularly in rural and remote areas; revise honorariums to attract talent. • Expand legal aid clinics and integrate them with Panchayat offices; use technology for online legal advice and awareness. • Strengthen monitoring and accountability mechanisms within NALSA and SLSAs; engage civil society and law schools for outreach.
Conclusion	<p>Access to legal aid is an essential component of the right to justice under Article 39A. Chronic underfunding, shrinking human resources and rigid guidelines have hamstrung India's legal aid institutions. Enhancing budgets, improving staffing and adopting flexible, technology enabled models can transform legal aid from a token commitment into a robust pillar of social justice.</p>

Q22. How did different constitutional drafts between 1895 and 1948 imagine India? Examine how these drafts reflected divergent ideologies of governance, rights, and state structure. (250 words, 15 marks)

Topic – Indian Constitution

Source: The Hindu

<https://www.thehindu.com/news/national/how-different-constitutional-drafts-imagined-india/article69842188.ece>

Introduction	<p>Between 1895 and 1948, before the adoption of the final Constitution in 1950, several constitutional drafts envisioned India's political future. These ranged from liberal to socialist to Gandhian paradigms and reflected divergent views on state structure, individual rights, economic justice, and cultural identity. Each draft offered a unique interpretation of sovereignty, democracy, and nationhood, capturing the contest of ideas in India's constitutional journey.</p>
Body	<ul style="list-style-type: none"> • The Liberal Vision: Constitution of India Bill, 1895 • Radical Democracy: M.N. Roy's Draft (1944) • Cultural Nationalism with Secular Guarantees: • Gandhian Decentralism: Constitution for Free India (1946) • Socialist Democracy: Draft by the Socialist Party (1948)
Conclusion	<p>These constitutional drafts reflected India's plural constitutional imagination, shaped by competing ideologies — liberalism, socialism,</p>

	<p>Gandhian ethics, and cultural nationalism. Though none were adopted wholesale, each left a lasting imprint:</p> <ul style="list-style-type: none"> • 1895 Bill: Rule of law and civil liberties • Roy: Grassroots democracy and enforceable rights • Hindusthan Act: Formal secularism within majoritarian thought • Gandhian Draft: Decentralised, self-sustaining republic • Socialist Draft: Economic justice and redistribution <p>Their greatest contribution lies in enriching India's democratic discourse, showcasing that the Indian Constitution was not merely a legal document, but a synthesis of diverse visions of justice, governance, and freedom.</p>
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UPSC Syllabus	Indian Constitution
Why was this question asked?	Q. 'Constitutional Morality' is rooted in the Constitution itself and is founded on its essential facets. Explain the doctrine of 'Constitutional Morality' with the help of relevant judicial decisions. (2021)
Introduction	Between 1895 and 1948, before the adoption of the final Constitution in 1950, several constitutional drafts envisioned India's political future. These ranged from liberal to socialist to Gandhian paradigms and reflected divergent views on state structure, individual rights, economic justice, and cultural identity. Each draft offered a unique interpretation of sovereignty, democracy, and nationhood, capturing the contest of ideas in India's constitutional journey.
Body	<p>The Liberal Vision: Constitution of India Bill, 1895</p> <ul style="list-style-type: none"> • Proposed by early nationalists (likely Bal Gangadhar Tilak). • Advocated representative government within British dominion, civil liberties (speech, property), and legal equality. • Modeled on British constitutionalism, focusing on separation of powers. • Emphasized dominion status and rule of law, but lacked radical socio-economic restructuring. • Legacy: Precursor to liberal constitutional thinking in India. <p>Radical Democracy: M.N. Roy's Draft (1944)</p> <ul style="list-style-type: none"> • Proposed a federal, secular, participatory republic. • Introduced citizens' committees, right to revolt, enforceable socio-economic rights. • Rejected parliamentary supremacy, advocating direct democracy and decentralisation.

- Anticipated **Fundamental Rights and Directive Principles**, but with binding guarantees.
- **Legacy**: Inspired decentralised planning and citizen-centric governance mechanisms.

Cultural Nationalism with Secular Guarantees: Hindusthan Free State Act (1944)

- Proposed by **Hindu Mahasabha-aligned thinkers**.
- Emphasized **unitary structure**, cultural unity (one language, law, nation).
- **Surprisingly secular** in provisions: guaranteed **religious freedom**, no state religion.
- Included **emergency powers**, citizen duties, and **right to secession** under conditions.
- **Legacy**: Showcased the tension between cultural nationalism and formal constitutional liberalism.

Gandhian Decentralism: Constitution for Free India (1946)

- Drafted by Shriman Narayan with Gandhi's blessings.
- Envisioned **Gram Swaraj: village republics**, self-rule, moral leadership.
- Rejected **Western legalism and industrial capitalism**.
- Advocated **trusteeship, cottage industries**, and even paradoxically, **right to bear arms**.
- **Legacy**: Foundations for **Panchayati Raj**, moral economy, and sustainable development principles.

Socialist Democracy: Draft by the Socialist Party (1948)

- Led by **Jayaprakash Narayan**, rooted in **democratic socialism and Marxist thought**.
- Advocated **nationalisation, land reforms, class-based legislature** (workers, peasants).
- Focused on **economic equality** over procedural rights; weak on institutional architecture.
- Recognised **gender equality**, banned **caste discrimination**.
- **Legacy**: Influenced **DPSPs**, planning commission, and future socialist policy framework.

Conclusion

These constitutional drafts reflected India's **plural constitutional imagination**, shaped by competing ideologies — liberalism, socialism, Gandhian ethics, and cultural nationalism. Though none were adopted wholesale, **each left a lasting imprint**:

- **1895 Bill**: Rule of law and civil liberties
- **Roy**: Grassroots democracy and enforceable rights

	<ul style="list-style-type: none"> • Hindusthan Act: Formal secularism within majoritarian thought • Gandhian Draft: Decentralised, self-sustaining republic • Socialist Draft: Economic justice and redistribution <p>Their greatest contribution lies in enriching India’s democratic discourse, showcasing that the Indian Constitution was not merely a legal document, but a synthesis of diverse visions of justice, governance, and freedom.</p>
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Q23. Critically examine the constitutional provisions, legal reforms, and landmark cases relevant to custodial torture and deaths, using the recent case of Ajith Kumar's death in Tamil Nadu as a reference. Discuss the reforms necessary to address systemic issues in law enforcement. (250 words, 15 marks)

Topic – India’s law enforcement system reforms

Source: The Hindu

<https://www.thehindu.com/opinion/editorial/murder-most-foul-on-custodial-torture-and-deaths/article69768533.ece>

Introduction	<p>Custodial torture and deaths are deeply ingrained issues within India’s law enforcement system, despite constitutional safeguards. The case of Ajith Kumar’s death in Tamil Nadu, where he was allegedly tortured by the police, highlights the continuation of police brutality, especially against marginalized individuals. Despite legal safeguards under the Indian Constitution and judicial intervention, the impunity with which such acts occur calls for a critical examination of constitutional provisions, landmark legal cases, and necessary reforms.</p>
Body	<ul style="list-style-type: none"> • Constitutional Provisions Against Custodial Torture • Landmark Cases Addressing Custodial Torture • Legal Reforms and International Human Rights Commitments • The Role of Political Will and Public Accountability • Addressing Systemic Issues and Closing the Justice Gap
Conclusion	<p>Despite constitutional safeguards, custodial torture and deaths persist in India, often due to impunity within law enforcement. The legal framework, including constitutional provisions, landmark cases, and the D.K. Basu guidelines, provide an essential foundation to tackle this issue. However, comprehensive anti-torture laws, full implementation of judicial guidelines, police reforms, and political accountability are necessary to eradicate this systemic problem. Only through sustained efforts and genuine reforms can India hope to protect its citizens' fundamental rights and uphold the rule of law.</p>

UPSC Syllabus	India's law enforcement system reforms
Why was this question asked?	Q. What are the major changes brought in the Arbitration and Conciliation Act, 1990 through the recent Ordinance promulgated by the President? How far will it improve India's dispute resolution mechanism? Discuss. (2014)
Introduction	Custodial torture and deaths are deeply ingrained issues within India's law enforcement system, despite constitutional safeguards. The case of Ajith Kumar's death in Tamil Nadu, where he was allegedly tortured by the police, highlights the continuation of police brutality, especially against marginalized individuals. Despite legal safeguards under the Indian Constitution and judicial intervention, the impunity with which such acts occur calls for a critical examination of constitutional provisions, landmark legal cases, and necessary reforms.
Body	<p>Constitutional Provisions Against Custodial Torture</p> <ul style="list-style-type: none">• Article 21 (Right to Life and Personal Liberty): Guarantees protection against any form of torture or inhuman treatment. Any form of custodial torture is a direct violation of this article.• Article 22 (Protection Against Arrest and Detention): Provides safeguards against arbitrary detention, ensuring that detained individuals are informed of their rights, including the right to consult a legal practitioner. Violations of this can result in custodial abuse.• Article 14 (Right to Equality): Ensures equality before the law. Targeting marginalized individuals for custodial abuse violates this fundamental right, as seen in the case of Ajith Kumar, where he was tortured based on suspicion without formal charges.• These provisions are integral in protecting the dignity of individuals, but enforcement remains weak in practice. <p>Landmark Cases Addressing Custodial Torture</p> <ul style="list-style-type: none">• D.K. Basu v. State of West Bengal (1997):<ul style="list-style-type: none">○ The Supreme Court laid down guidelines to prevent custodial torture, including informing detainees of their right to legal counsel, ensuring prompt medical examination, and maintaining records of arrests.○ These guidelines were aimed at preventing illegal torture and ensuring accountability in custody.• Nilabati Behera v. State of Orissa (1993):<ul style="list-style-type: none">○ The Court ruled that custodial deaths are a violation of human rights and ordered compensation for the family of the deceased.

- This case set a precedent that victims of custodial torture or deaths are entitled to compensation, demonstrating the judiciary's role in protecting human rights.
- **Rekha Kumari v. State of Bihar (2020):**
 - The Supreme Court emphasized accountability for police officers involved in custodial deaths and ordered compensation for victims' families.
 - Reinforced that custodial violence is an infringement of constitutional rights, demanding higher standards of accountability and legal consequences.
- These cases highlight the need for strict enforcement of constitutional rights and the judiciary's role in curbing custodial abuse.

Legal Reforms and International Human Rights Commitments

- **Anti-Torture Legislation:**
 - India has not yet ratified the **United Nations Convention Against Torture (UNCAT)**. Enacting comprehensive anti-torture legislation is crucial to criminalize custodial violence and ensure proper legal recourse for victims.
 - Such a law would provide clear definitions, penalties, and standards for detention to avoid abuse.
- **D.K. Basu Guidelines:**
 - Full implementation of the guidelines laid down by the Supreme Court in D.K. Basu is critical. These include registering every arrest, notifying family members, providing immediate medical attention, and ensuring detainees' access to legal counsel.
 - Training law enforcement officials to follow these standards should be made mandatory.
- **Police Reforms:**
 - Reforming police forces is crucial for curbing violence and ensuring accountability. This includes mandatory psychological screening, improved training on human rights, and establishing independent bodies for investigating complaints of police brutality.

The Role of Political Will and Public Accountability

- **Political Leadership and Accountability:**
 - Political leaders must ensure that police officers involved in custodial violence are held accountable, as evidenced by the suspension and arrest of officers involved in Ajith

	<p>Kumar's case. However, political will must be sustained and not limited to damage control during high-profile incidents.</p> <ul style="list-style-type: none">• Civil Society and Media Pressure:<ul style="list-style-type: none">○ Public awareness and media involvement are essential for holding law enforcement agencies accountable. Protests, advocacy, and pressure from human rights groups help ensure justice and force reforms. <p>Addressing Systemic Issues and Closing the Justice Gap</p> <ul style="list-style-type: none">• Fast-Track Trials:<ul style="list-style-type: none">○ Custodial deaths must be addressed with a fast-track justice system, ensuring quick trials for those involved in police torture and abuse.○ Delays in justice only embolden perpetrators and leave victims' families without closure.• Independent Investigations:<ul style="list-style-type: none">○ Independent, external investigations, such as those by the CBI or specialized police oversight bodies, are crucial to avoid internal cover-ups and ensure impartiality in handling custodial violence cases.
Conclusion	<p>Despite constitutional safeguards, custodial torture and deaths persist in India, often due to impunity within law enforcement. The legal framework, including constitutional provisions, landmark cases, and the D.K. Basu guidelines, provide an essential foundation to tackle this issue. However, comprehensive anti-torture laws, full implementation of judicial guidelines, police reforms, and political accountability are necessary to eradicate this systemic problem. Only through sustained efforts and genuine reforms can India hope to protect its citizens' fundamental rights and uphold the rule of law.</p>

Q 24: "Can the Supreme Court intervene to halt an Act passed by a State Legislature, and under what circumstances? Critically analyze this issue with reference to the Nandini Sundar case, and elucidate the constitutional principles of judicial review, legislative competence, and separation of powers that underpin such a decision." (250 words, 15 marks)

Topic - Separation of powers

Source: The Hindu

<https://www.thehindu.com/news/national/can-the-supreme-court-halt-an-act-passed-by-a-state-explained/article69769874.ece>

Introduction	In a constitutional democracy like India, the relationship between the Legislature, Executive, and Judiciary is governed by the doctrine of separation of powers. This principle ensures that each organ of the government functions within its defined domain, preventing any one organ from overstepping its limits. One important question that arises within this framework is whether the Supreme Court can halt an Act passed by a State Legislature. The answer to this question touches on key constitutional principles such as legislative competence, the scope of judicial review, and the balance of power between the branches of government.
Body	<ul style="list-style-type: none"> • Background of the Nandini Sundar Case • Contempt Petition and Legislative Response • Doctrine of Separation of Powers • Grounds for Judicial Review • Implications and Limits of Judicial Power
Conclusion	In conclusion, the Supreme Court cannot halt an Act passed by a State Legislature merely due to disagreement with a prior judicial order. However, if a law is beyond the legislature's competence or violates constitutional provisions, the Court can strike it down. The Nandini Sundar case exemplifies the balance between the legislature's power to legislate and the judiciary's role in ensuring laws comply with the Constitution. This balance is vital for maintaining the rule of law and the doctrine of separation of powers in India's constitutional democracy.

UPSC Syllabus	Separation of powers
Why was this question asked?	Q. Do you think that constitution of India does not accept principle of strict separation of powers rather it is based on the principle of 'checks and balance'? Explain. (2019)
Introduction	In a constitutional democracy like India, the relationship between the Legislature, Executive, and Judiciary is governed by the doctrine of separation of powers. This principle ensures that each organ of the government functions within its defined domain, preventing any one organ from overstepping its limits. One important question that arises within this framework is whether the Supreme Court can halt an Act passed by a State Legislature. The answer to this question touches on key constitutional principles such as legislative competence, the scope of judicial review, and the balance of power between the branches of government.

Body

Background of the Nandini Sundar Case

- The case arose from the State of Chhattisgarh's use of Special Police Officers (SPOs) in anti-Maoist operations, which the Supreme Court found unconstitutional in 2011.
- The Court ruled that the recruitment of SPOs violated **Articles 14 (Right to Equality)** and **21 (Right to Life)**, as it was abusive and unregulated. It specifically directed the State to cease using SPOs for such operations and ordered the Union Government to stop funding these activities.
- In response, the State Legislature enacted the **Chhattisgarh Auxiliary Armed Police Forces Act, 2011**, creating a new auxiliary police force with proper supervision and restrictions.
- **Court's Examination:** The Court had to decide whether this new legislation violated its previous order or whether it was a lawful legislative response.

Contempt Petition and Legislative Response

- A contempt petition was filed, arguing that the enactment of a new law after the Court's directive violated its orders. The petitioners contended that the law was a bypass of the Supreme Court's order.
- **Supreme Court's Ruling:** The Court rejected the claim of contempt, clarifying that the State Legislature had the authority to pass new laws, provided those laws adhered to the Constitution.
- The ruling emphasized that the legislature can respond to judicial orders by passing new laws, but those laws must not contravene constitutional principles.

Doctrine of Separation of Powers

- **Separation of Powers:** The case highlights the separation of powers among the **Legislature, Executive, and Judiciary**, ensuring that each organ of the state functions within its own domain, with checks and balances.
- **Judiciary's Role:** While the Judiciary has the power of judicial review, it cannot outright prevent the legislature from passing laws unless those laws are unconstitutional. The Court can only scrutinize laws for their constitutionality, not for their content or political implications.
- **Legislature's Competence:** The legislature possesses plenary power to legislate within the framework of the Constitution. However, this power is not absolute and must be exercised within the constitutional limits, including respect for

	<p>fundamental rights.</p> <p>Grounds for Judicial Review</p> <ul style="list-style-type: none">• Legislative Competence: Judicial review can be invoked to examine whether a law falls within the legislative competence allotted to the State Legislature under the Seventh Schedule of the Constitution.• Constitutional Validity: The Court can strike down a law if it is found to be unconstitutional, particularly if it violates fundamental rights or other constitutional provisions.• The Court's power is confined to reviewing the constitutionality of the law, not to obstructing legislative action outright. <p>Implications and Limits of Judicial Power</p> <ul style="list-style-type: none">• Legislature's Authority: The case affirms the principle that the legislature can enact laws in response to judicial decisions, but these laws must comply with constitutional boundaries.• Judicial Review: While the judiciary ensures that laws adhere to constitutional principles, it does not have the power to inhibit lawmaking by the legislature unless the law exceeds constitutional limits.• This approach ensures that governance remains dynamic, with legislative actions being scrutinized for constitutionality while maintaining respect for the separation of powers.
<p>Conclusion</p>	<p>In conclusion, the Supreme Court cannot halt an Act passed by a State Legislature merely due to disagreement with a prior judicial order. However, if a law is beyond the legislature's competence or violates constitutional provisions, the Court can strike it down. The Nandini Sundar case exemplifies the balance between the legislature's power to legislate and the judiciary's role in ensuring laws comply with the Constitution. This balance is vital for maintaining the rule of law and the doctrine of separation of powers in India's constitutional democracy.</p>

Q 25: "The Bhopal gas tragedy remains a cautionary tale of industrial negligence and regulatory gaps in India's environmental governance. Critically analyse the recent disposal of toxic waste from the Bhopal plant in light of the national challenges of hazardous waste management, victims' rights, and long-term environmental remediation." (250 words, 15 marks)

Topic – Toxic waste management

Source: The Hindu

<https://www.thehindu.com/opinion/editorial/away-from-the-edge-on-waste-disposal-from-the-1984-bhopal-plant-accident/article69764501.ece>

Introduction	The 1984 Bhopal gas tragedy is etched in India’s collective memory as the world’s worst industrial disaster, with an estimated 15,000–20,000 deaths over the years and over half a million people affected. The recent incineration of 337 tonnes of toxic waste from the defunct Union Carbide facility — 40 years after the accident — highlights persistent weaknesses not just at the local or state level but across India’s hazardous waste governance, industrial safety enforcement, and survivor rehabilitation systems.
Body	<ul style="list-style-type: none"> • Context: Bhopal and India’s Hazardous Waste Problem • Regulatory Framework • Key Challenges: National-Level Insights • Government Steps: What Has Been Done Nationally • Way Ahead
Conclusion	The recent incineration of toxic waste at Bhopal is a milestone — but also a stark reminder that industrial negligence and weak enforcement still threaten India’s environment and communities. A victim-first approach, strong institutional capacity, and enforceable corporate liability are essential to ensure that India never repeats a Bhopal-like disaster — and that every community can move away from the edge of industrial neglect.

UPSC Syllabus	Toxic waste management
Why was this question asked?	Q. What are the impediments in disposing of the huge quantities of discarded solid waste which are continuously being generated? How do we remove safely the toxic wastes that have been accumulating in our habitable environment. (2016)
Introduction	The 1984 Bhopal gas tragedy is etched in India’s collective memory as the world’s worst industrial disaster, with an estimated 15,000–20,000 deaths over the years and over half a million people affected. The recent incineration of 337 tonnes of toxic waste from the defunct Union Carbide facility — 40 years after the accident — highlights persistent weaknesses not just at the local or state level but across India’s hazardous waste governance, industrial safety enforcement, and survivor rehabilitation systems.
Body	<p>Context: Bhopal and India’s Hazardous Waste Problem</p> <ul style="list-style-type: none"> • India generates over 70 lakh metric tonnes of hazardous waste annually (CPCB Hazardous Waste Status Report, 2021–22). • Bhopal stands as a grim example of what happens when hazardous waste is not disposed of promptly — chemical

residues contaminate soil and groundwater, harming generations.

- The long-delayed incineration shows that technical solutions often exist, but **political will, accountability, and public trust** are crucial to implement them.
- Many industrial sites in India — abandoned mines, chemical factories, e-waste dumps — face similar risks.

Regulatory Framework: Laws, Bodies, and National Shortcomings

- India's main framework is the **Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016**, under the **Environment (Protection) Act, 1986**.
- The **Central Pollution Control Board (CPCB)** coordinates with **State Pollution Control Boards (SPCBs)** to enforce rules, but the **Comptroller and Auditor General (CAG)** and the **National Green Tribunal (NGT)** have repeatedly flagged under-capacity and compliance gaps.
- The **Public Liability Insurance Act, 1991**, and the **National Disaster Management Authority (NDMA)** guidelines mandate safe handling of hazardous substances — yet the Bhopal site shows that regulatory enforcement remains patchy.
- The Bhopal case also shows how survivors' groups, rather than institutions, often push for accountability, underlining gaps in institutional proactivity.

Key Challenges: National-Level Insights

- **Legacy waste sites:** India has multiple “toxic hotspots” (CPCB inventory lists over 170 contaminated sites) that require remediation, often stalled by disputes over funding and responsibility.
- **Accountability deficit:** The Bhopal case shows how transnational companies can evade liability — The Dow Chemical Company remains a proclaimed offender but has never appeared in Indian courts.
- **Underfunded surveillance:** Long-term health monitoring of affected communities is weak — a problem not just in Bhopal but in industrial belts like Kanpur (tanneries), Vapi (chemical clusters), and Korba (thermal power fly ash).
- **Public anxiety and trust deficit:** Fear of improper disposal (e.g., incineration emissions) is common, revealing India's need for transparent risk communication.

Government Steps: What Has Been Done Nationally

- **CPCB** guidelines have been updated for co-processing

hazardous waste in cement kilns and incinerators to reduce environmental impact.

- The **National Green Tribunal (NGT)** has passed multiple orders for scientific remediation — for example, in the Sterlite Copper plant in Tamil Nadu and the Unnao chromium waste site.
- **National Action Plan for Hazardous Waste Management** aims for better tracking, scientific landfilling, and capacity-building for SPCBs.
- The Supreme Court's push in the Bhopal case shows how the **judiciary fills enforcement gaps**, but reliance on litigation is not sustainable.

Way Ahead: A National Blueprint for Safe Industrial Waste Management

- **Robust monitoring:** Use **real-time tracking and GIS mapping** for all hazardous waste generators, as CPCB's guidelines recommend.
- **Strengthen institutions:** Upgrade manpower, training, and digital tools for CPCB and SPCBs; implement recommendations of the **NITI Aayog's report on Chemical Industrial Disasters (2021)**.
- **Victim-centric justice:** Enact a statutory mechanism for **inflation-adjusted compensation**, periodic medical review, and counselling for survivors nationwide.
- **Corporate accountability:** Tighten the legal framework to pursue transnational offenders and push for treaties under the **Basel Convention** for hazardous waste liability.
- **Community trust:** Regular public hearings, transparent reporting, and local stakeholder committees can ensure better risk communication and acceptance.
- **Knowledge-sharing:** Use Bhopal's lessons to develop a **National Registry of Toxic Legacy Sites**, with clear timelines for safe remediation.

Conclusion

The recent incineration of toxic waste at Bhopal is a milestone — but also a stark reminder that industrial negligence and weak enforcement still threaten India's environment and communities. A victim-first approach, strong institutional capacity, and enforceable corporate liability are essential to ensure that India never repeats a Bhopal-like disaster — and that every community can move away from the edge of industrial neglect.

Q26. “Are existing institutional mechanisms effective in preventing custodial violence in India?” Critically examine with reference to policy framework, institutional culture, challenges, judicial and constitutional safeguards, and suggested reforms. (250 words, 15 marks)

Topic – Modernisation of law-and-order administration

Source: The Hindu

<https://www.thehindu.com/opinion/op-ed/are-existing-mechanisms-effective-in-preventing-custodial-violence/article69799105.ece>

Introduction	Custodial violence remains a dark stain on India’s rule of law despite constitutional protections, statutory safeguards, and repeated judicial pronouncements. Recent deaths, such as the Sivaganga custodial death case, expose deep-rooted flaws in India’s policing culture, legal processes, and accountability structures. While India has pledged zero tolerance for torture under various human rights frameworks, the persistence of custodial deaths suggests a disconnect between principle and practice.
Body	<ul style="list-style-type: none"> • Policy and Legal Framework: Existing Provisions • Institutional Culture and Organisational Challenges • Effectiveness of Oversight Mechanisms: Mixed Record • Constitutional Safeguards and Human Rights Dimension • Committees’ Recommendations and Way Forward
Conclusion	While India has evolved a robust constitutional and legal framework to prevent custodial violence, the gap lies in poor enforcement, weak institutional accountability, and an outdated policing mindset. Effective deterrence demands holistic reform: police modernisation, strict oversight of arrests and detentions, community vigilance, and political will to protect the human rights of every citizen — especially the vulnerable. Ending custodial violence is not just about punishing the guilty, but about transforming the very culture of policing in a constitutional democracy.

UPSC Syllabus	Modernisation of law-and-order administration
Why was this question asked?	Q. "The most significant achievement of modern law in India is the constitutionalization of environmental problems by the Supreme Court." Discuss this statement with the help of relevant case laws. [2022]
Introduction	Custodial violence remains a dark stain on India’s rule of law despite constitutional protections, statutory safeguards, and repeated judicial pronouncements. Recent deaths, such as the Sivaganga custodial death case, expose deep-rooted flaws in India’s policing culture, legal

processes, and accountability structures. While India has pledged zero tolerance for torture under various human rights frameworks, the persistence of custodial deaths suggests a disconnect between principle and practice.

Body

Policy and Legal Framework: Existing Provisions

- **Statutory Safeguards:** The **Indian Evidence Act (Sections 24–27)** and the **Code of Criminal Procedure (Sections 41, 46, 49, 50A)** mandate procedural checks against illegal detention and confessions under duress.
- **Supreme Court Directives:** Guidelines in *D.K. Basu vs State of West Bengal (1997)* laid down detailed arrest and detention procedures.
- **International Commitments:** India signed but has yet to ratify the **UN Convention Against Torture**. The absence of a stand-alone domestic anti-torture law highlights a policy gap.
- **Recent Reforms:** The *Bharatiya Nagarik Suraksha Sanhita*, replacing the CrPC, includes time-bound sanction provisions for prosecuting public officials — but extends police custody duration, raising concerns.

Institutional Culture and Organisational Challenges

- An entrenched colonial mindset sees the public, especially marginalised communities, as subjects to be controlled.
- Police hierarchies often valorise aggression; custodial violence is viewed as a “necessary evil” due to slow formal investigations.
- Lack of training in modern, scientific investigation techniques perpetuates reliance on torture to extract confessions.
- Popular culture sometimes glorifies vigilante justice, reinforcing impunity.

Effectiveness of Oversight Mechanisms: Mixed Record

- The *Prakash Singh vs Union of India (2006)* judgment mandated Police Complaints Authorities led by retired judges — most States have failed to constitute these bodies properly.
- *Paramvir Singh Saini vs Baljit Singh (2020)* required CCTV in all police stations; but compliance is patchy, footage is often unavailable, and torture often occurs outside lockups.
- Judicial oversight during remand has become perfunctory — magistrates rarely scrutinise arrest records or check for physical abuse.
- Victims face barriers in navigating the legal system, with low conviction rates for custodial torture and deaths.

Constitutional Safeguards and Human Rights Dimension

- **Article 21 (Right to Life)** guarantees protection from torture and inhuman treatment.
- **Article 22** mandates that detainees must be produced before a magistrate within 24 hours.
- The Supreme Court has expanded these rights through landmark cases (*D.K. Basu, Joginder Kumar*).
- However, loopholes like **Section 27 of the Evidence Act**, which allows recovery evidence based on coerced confessions, weaken protection.
- NHRC, as the statutory body under the **Protection of Human Rights Act**, monitors custodial violence but lacks enforcement teeth.

Committees' Recommendations and Way Forward

- **Law Commission:** Proposed a reversal of the burden of proof in custodial death cases to strengthen accountability.
- **Judicial Commissions:** Emphasise better training in scientific interrogation, decriminalising petty offences, and forensic upgrades.
- Community policing and civil society monitoring have been recommended to increase transparency and empower victims.
- Institutional culture must shift through regular sensitisation and zero-tolerance enforcement from the top.
- India must enact a comprehensive anti-torture law to align with its international obligations.

Conclusion

While India has evolved a robust constitutional and legal framework to prevent custodial violence, the gap lies in poor enforcement, weak institutional accountability, and an outdated policing mindset. Effective deterrence demands holistic reform: police modernisation, strict oversight of arrests and detentions, community vigilance, and political will to protect the human rights of every citizen — especially the vulnerable. Ending custodial violence is not just about punishing the guilty, but about transforming the very culture of policing in a constitutional democracy.

Q 27: “India’s demographic dividend will remain unrealised unless its youth, especially young women, are empowered with choice, control, and capital.” Examine in the context of population policy, organisational initiatives, challenges, constitutional provisions, and expert recommendations. (250 words, 15 marks)

Topic – India’s demographic dividend

Source: The Hindu

<https://www.thehindu.com/opinion/lead/aiding-indias-progress-with-choice-control-and-capital/article69797240.ece>

Introduction	India, home to the world’s largest youth population — about 371 million aged 15–29 — stands at a critical juncture where it can reap a demographic dividend or risk demographic distress. The true potential of this dividend lies not merely in numbers but in enabling every young individual to exercise informed choice and agency over health, education, and economic participation — a vision enshrined in the 1994 International Conference on Population and Development (ICPD) and reflected in India’s policies and constitutional principles.
Body	<ul style="list-style-type: none"> • Policy Framework and Rights-Based Approach • Organisational and Programmatic Initiatives • Key Challenges and Structural Barriers • Committees’ Recommendations and Global Best Practices • Constitutional and Institutional Dimensions
Conclusion	India’s demographic dividend is not automatic; it hinges on ensuring that choice, control, and capital reach the country’s youth, especially young women. Realising this potential requires scaling up integrated programmes like Udaan, Advika, and Manzil; removing structural barriers; investing in universal education, skill-building, and reproductive health; and fostering enabling social norms. True empowerment is when every young citizen — girl or boy — can shape their family, career, and life on their own terms, as guaranteed by India’s Constitution and global commitments.

UPSC Syllabus	India’s demographic dividend
Why was this question asked?	Q. “Demographic Dividend in India will remain only theoretical unless our manpower becomes more educated, aware, skilled and creative.” What measures have been taken by the government to enhance the capacity of our population to be more productive and employable? (2016)
Introduction	India, home to the world’s largest youth population — about 371 million aged 15–29 — stands at a critical juncture where it can reap a

demographic dividend or risk demographic distress. The true potential of this dividend lies not merely in numbers but in enabling every young individual to exercise informed choice and agency over health, education, and economic participation — a vision enshrined in the 1994 International Conference on Population and Development (ICPD) and reflected in India's policies and constitutional principles.

Body

Policy Framework and Rights-Based Approach

- India's population policy and related schemes focus on ensuring universal access to **sexual and reproductive health (SRH)**, safe contraception, maternal care, and family planning.
- Initiatives like the **National Adolescent Health Programme**, **Beti Bachao Beti Padhao**, and the **Population Policy 2000** emphasise lowering fertility rates, child marriage, and adolescent pregnancies.
- The **State of World Population 2025 Report** reaffirms a rights-based, multi-sectoral approach — combining SRH, education, nutrition, and skills for true empowerment.

Organisational and Programmatic Initiatives

- **Project Udaan (Rajasthan)** kept girls in secondary school, prevented ~30,000 child marriages and 15,000 teenage pregnancies, and improved reproductive agency.
- **Advika Programme (Odisha)** empowered adolescents through education, skills, and community mobilisation — ~11,000 villages declared child marriage-free.
- **Project Manzil** combines skill training with behaviour change, helping 28,000 young women become first-generation skilled professionals — linking economic empowerment with delayed marriage and informed family choices.

Key Challenges and Structural Barriers

- **Child marriage persists** at 23.3% (NFHS-5), with teenage childbearing at 7% nationally but higher in some States.
- Gender norms and limited reproductive autonomy mean over 30% of adults face unmet reproductive goals.
- Regional disparities, lack of SRH awareness, unsafe abortions, and gaps in contraception access hinder progress.
- Low **female labour force participation (~24% as per PLFS)** restricts women's negotiation power within families and communities.

Committees' Recommendations and Global Best Practices

- The **Kasturirangan Committee on NEP 2020** emphasises life-skills, gender inclusion, and adolescent health education.

	<ul style="list-style-type: none">• National Population Policy Task Forces recommend universal access to modern contraception, conditional cash transfers to keep girls in school, and adolescent-friendly health clinics.• Global examples show integrating SRH services, mental health, and skill-building within schools and community platforms works best. <p>Constitutional and Institutional Dimensions</p> <ul style="list-style-type: none">• Article 21 (Right to Life) includes the right to health, dignity, and bodily autonomy.• Directive Principles (Articles 39(e), 42, 47) urge the State to protect maternal health, nutrition, and family welfare.• National Human Rights Institutions, like the NHRC, highlight reproductive rights as integral to gender equality.• India's commitment to SDG 3 (Good Health) and SDG 5 (Gender Equality) reinforces the constitutional mandate for informed choice and control.
Conclusion	India's demographic dividend is not automatic; it hinges on ensuring that choice, control, and capital reach the country's youth, especially young women. Realising this potential requires scaling up integrated programmes like Udaan, Advika, and Manzil; removing structural barriers; investing in universal education, skill-building, and reproductive health; and fostering enabling social norms. True empowerment is when every young citizen — girl or boy — can shape their family, career, and life on their own terms, as guaranteed by India's Constitution and global commitments.

Social Justice

Q 28: The recent Supreme Court ruling affirming ancestral property rights of Adivasi women marks a significant step toward gender justice in tribal communities. Critically examine the interplay between customary law and constitutional guarantees in this context. (250 words | 15 marks)

Topic – Gender justice in tribal communities

Source: The Indian Express

<https://indianexpress.com/article/opinion/editorials/ancestral-property-rights-for-adviasi-women-constitutions-promise-over-customary-law-10140969/>

Introduction	In a landmark judgment on July 17, 2025, the Supreme Court of India upheld the right of tribal women to ancestral property, emphasizing that customary laws cannot override the Constitution's commitment to gender equality. The Court overruled a 2022 Chhattisgarh High Court verdict that denied a tribal woman her inheritance in the absence of a written custom. The ruling reaffirms the primacy of Article 14 (Right to Equality) and the “collective constitutional ethos”, which prohibits discrimination, even when cloaked in custom or tradition.
Body	<ul style="list-style-type: none"> • Constitutional Principles vs. Customary Law • Legal Landscape: Personal Laws, Exemptions, and Tribal Status • Gender Justice in Tribal Societies: Court Interventions • Balancing Tribal Autonomy and Constitutional Values • Policy and Legislative Challenges Ahead
Conclusion	The Supreme Court’s assertion of tribal women’s property rights marks a milestone in aligning customary law with constitutional values. While customs safeguard cultural identity, they must not perpetuate gender injustice. Ensuring equity within diversity is the core challenge ahead. Legal reform, sensitive policymaking, and community-led change are essential to realize the constitutional promise of dignity and equality for Adivasi women.

UPSC Syllabus	Gender justice in tribal communities
Why was this question asked?	Q. Which steps are required for constitutionalization of a commission? Do you think imparting constitutionality to the National Commission for Women would ensure greater gender justice and empowerment in India? Give reasons. [2020]
Introduction	In a landmark judgment on July 17, 2025, the Supreme Court of India upheld the right of tribal women to ancestral property, emphasizing that customary laws cannot override the Constitution's commitment to gender equality. The Court overruled a 2022 Chhattisgarh High Court verdict that denied a tribal woman her inheritance in the absence of a written custom. The ruling reaffirms the primacy of Article 14 (Right to Equality) and the “collective constitutional ethos”, which prohibits discrimination, even when cloaked in custom or tradition.
Body	<p>Constitutional Principles vs. Customary Law</p> <ul style="list-style-type: none"> • Article 14: Guarantees equality before the law and equal protection of the laws. • Article 15(3): Permits the State to make special provisions for

women and children.

- The Court asserted that “**customs, like laws, cannot remain stuck in time**”, especially if they violate constitutional values.
- While **customary laws protect tribal autonomy**, they **must evolve** to reflect contemporary standards of justice and equity.

Legal Landscape: Personal Laws, Exemptions, and Tribal Status

- **Hindu Succession Act (HSA), 1956**: Ensures equal inheritance for daughters but **excludes Scheduled Tribes** under Section 2(2).
- **Indian Succession Act, 1925**: Allows state governments to **exclude tribal communities** from its purview.
- **Santhal Pargana Tenancy Act, 1949**: Allows inheritance to daughters only if the groom becomes a **ghara-jamai** (resident son-in-law) — a condition seen as restrictive and outdated.
- Lack of a **uniform civil code** or codified tribal inheritance law leads to **judicial inconsistency** and rights denial.

Gender Justice in Tribal Societies: Court Interventions

- **Dhaiya v. Others (2025)**: SC ruled that denial of inheritance based on tribal custom is **unconstitutional and discriminatory**.
- **Odisha Case (2022)**: SC observed that tribal daughters are equally entitled to property, and urged the **Centre to consider amending the HSA** or evolving a suitable legislative alternative.
- These rulings build upon past judgments like **Shayara Bano (Triple Talaq, 2017)**, showing judiciary’s role in **progressive reinterpretation** of personal laws.

Balancing Tribal Autonomy and Constitutional Values

- **Fifth Schedule (Art. 244)**: Empowers states to recognize tribal customs and self-governance via **Tribal Advisory Councils**.
- However, **tribal identity cannot justify patriarchal exclusion**.
- The SC maintained that **tribal identity must coexist with constitutional morality**, ensuring that **diversity does not become a cover for discrimination**.

Policy and Legislative Challenges Ahead

- **Codification of tribal personal laws** remains a challenge due to **regional variations** and lack of consensus.
- Need for **community consultations**, especially with tribal women, to create **inclusive legal reforms**.
- **Data gap** on how inheritance denial impacts **tribal livelihoods, poverty, and gender disparities**.
- Possibility of a **model gender justice code for Scheduled**

	<p>Tribes, balancing autonomy and equity.</p> <ul style="list-style-type: none"> Capacity building of local judiciary and panchayats to ensure rights enforcement.
Conclusion	<p>The Supreme Court’s assertion of tribal women’s property rights marks a milestone in aligning customary law with constitutional values. While customs safeguard cultural identity, they must not perpetuate gender injustice. Ensuring equity within diversity is the core challenge ahead. Legal reform, sensitive policymaking, and community-led change are essential to realize the constitutional promise of dignity and equality for Adivasi women.</p>

Q29. Despite legal prohibitions and schemes, manual scavenging continues in India. Examine the factors behind the persistence of hazardous septic tank cleaning, and suggest a comprehensive policy framework for its eradication. (250 words, 15 marks)

Topic – Manual scavenging issue

Source: The Hindu

<https://www.thehindu.com/opinion/editorial/clean-house-on-indias-septic-tank-desludging/article69850996.ece>

Introduction	<p>Manual scavenging, despite being legally banned, continues in various forms across India. Between 2022 and 2023, 150 sanitation workers died while cleaning septic tanks and sewers. This persistent issue highlights systemic failures in enforcement, poor implementation of welfare schemes, and deep-rooted caste-based occupational hierarchies.</p>
Body	<ul style="list-style-type: none"> Legal and Policy Framework: Gaps in Enforcement Flawed Operational Model and Informality Innovative State-Level Practices Persistent Social Exclusion and Inequities Way Forward: Comprehensive Reforms
Conclusion	<p>The continued existence of manual scavenging is a blot on India’s constitutional promise of dignity and equality. Through robust enforcement, technology integration, and inclusive rehabilitation, the State can replace this inhumane practice with dignity-based livelihoods, upholding Article 21 (Right to Life with dignity) for every sanitation worker.</p>

UPSC Syllabus	Manual scavenging issue
Why was this question asked?	Q. Do government’s schemes for up-lifting vulnerable and backward communities by protecting required social resources for

	<p>them, lead to their exclusion in establishing businesses in urban economics? [2014]</p>
Introduction	<p>Manual scavenging, despite being legally banned, continues in various forms across India. Between 2022 and 2023, 150 sanitation workers died while cleaning septic tanks and sewers. This persistent issue highlights systemic failures in enforcement, poor implementation of welfare schemes, and deep-rooted caste-based occupational hierarchies.</p>
Body	<p>Legal and Policy Framework: Gaps in Enforcement</p> <ul style="list-style-type: none">• The Prohibition of Employment as Manual Scavengers and their Rehabilitation Act, 2013 prohibits hazardous cleaning of septic tanks and ensures rehabilitation.• The Supreme Court (2014) mandated compensation and institutional accountability for sewer deaths.• Yet, in practice, rules are poorly notified at the local level and rarely enforced.• NAMASTE Scheme (2023): Aims to mechanise sanitation work and formalise sanitation workers through skilling, health coverage, and equipment provision. However, only ₹14 crore has been disbursed so far—grossly insufficient. <p>Flawed Operational Model and Informality</p> <ul style="list-style-type: none">• A 2024 Social Justice Ministry audit showed most deaths occurred under informal contracts.• Workers were either hired by private contractors or 'loaned' from public sector units, diluting employer liability.• Many urban local bodies continue to float manual cleaning tenders, ignoring mechanisation directives under SBM and NAMASTE. <p>Innovative State-Level Practices</p> <ul style="list-style-type: none">• Odisha: Ensures PPE kits and mechanised desludging vehicles for septic tank workers.• Tamil Nadu: Piloted sewer robots in Chennai, cleaning over 5,000 manholes without manual entry.• These examples demonstrate that political will and technology can eliminate hazardous cleaning. <p>Persistent Social Exclusion and Inequities</p> <ul style="list-style-type: none">• Over two-thirds of sanitation workers are Dalits. Yet, rehabilitation packages rarely include housing or education support.• Women manual scavengers, who still clean dry latrines, remain invisible in policy discourse.

	<ul style="list-style-type: none"> Despite the Swachh Bharat Mission (Urban and Gramin) aiming for safe sanitation, rural sanitation workers are largely excluded from formal protections. <p>Way Forward: Comprehensive Reforms</p> <ul style="list-style-type: none"> Make mechanisation mandatory; sewer-cleaning should be a licensed trade, with violations made cognisable offences. Expand capital subsidies and operator training, especially under NAMASTE. Link worker loans to municipal service contracts to ensure livelihood continuity. Extend Swachh Bharat funding and NAMASTE profiling to gram panchayats, covering rural sanitation workers.
Conclusion	<p>The continued existence of manual scavenging is a blot on India's constitutional promise of dignity and equality. Through robust enforcement, technology integration, and inclusive rehabilitation, the State can replace this inhumane practice with dignity-based livelihoods, upholding Article 21 (Right to Life with dignity) for every sanitation worker.</p>

Q 30: The Protection of Children from Sexual Offences (POCSO) Act was enacted with the intent to safeguard minors from sexual exploitation. However, the criminalisation of consensual adolescent relationships under the Act has raised concerns of misuse. Critically examine this dilemma and suggest measures to balance protection with autonomy. (250 words, 15 marks)

Topic – Issues relating to children and women

Source: The Hindu

<https://www.thehindu.com/opinion/editorial/protection-against-misuse-on-pocso-act-adolescent-sex/article69861932.ece>

Introduction	<p>The Protection of Children from Sexual Offences (POCSO) Act, 2012, was enacted to provide a robust legal framework for the protection of children (under 18) from sexual offences. However, in recent years, concerns have been raised regarding its application in consensual relationships between adolescents aged 16–18. This legal dilemma underscores the need to reconcile the objectives of child protection with the evolving understanding of adolescent autonomy and sexual maturity.</p>
Body	<ul style="list-style-type: none"> Objectives and Key Provisions of the POCSO Act Conflict with Adolescent Autonomy and Reality

	<ul style="list-style-type: none"> • Legal and Judicial Responses • Concerns of Misuse and Overreach • Way Forward: Balancing Protection and Proportionality
Conclusion	<p>The POCSO Act must retain its core protective purpose while evolving to reflect social realities of adolescent development. Decriminalising consensual adolescent relationships within carefully defined parameters, as recommended by jurists and courts, can ensure the law is not wielded as a tool of control or moral policing but as a means of genuine protection.</p>

UPSC Syllabus	Issues relating to children and women
Why was this question asked?	Q. Examine the main provisions of the National Child Policy and throw light on the status of its implementation. [2016]
Introduction	<p>The Protection of Children from Sexual Offences (POCSO) Act, 2012, was enacted to provide a robust legal framework for the protection of children (under 18) from sexual offences. However, in recent years, concerns have been raised regarding its application in consensual relationships between adolescents aged 16–18. This legal dilemma underscores the need to reconcile the objectives of child protection with the evolving understanding of adolescent autonomy and sexual maturity.</p>
Body	<p>Objectives and Key Provisions of the POCSO Act</p> <ul style="list-style-type: none"> • The Act criminalises all forms of sexual offences against children below 18 years, including penetrative and non-penetrative assault, harassment, and pornography. • Under Section 2(d), anyone below 18 is considered a child, making any sexual activity with them — even consensual — a punishable offence. • Section 6 provides for stringent punishment in cases of penetrative sexual assault. <p>Conflict with Adolescent Autonomy and Reality</p> <ul style="list-style-type: none"> • Many adolescents between 16–18 years engage in consensual relationships driven by emotional maturity and bodily autonomy. • Courts have increasingly recognised that prosecuting such relationships under POCSO often leads to harsh outcomes — especially for boys — in cases where no exploitation is involved. • Indira Jaising, as <i>amicus curiae</i>, argued before the Supreme Court that such relationships should be exempted from

prosecution under POCSO and Section 63 of the **Bharatiya Nyaya Sanhita (BNS)**.

Legal and Judicial Responses

- The **2023 Law Commission** report opposed lowering the age of consent but recommended **guided judicial discretion** during sentencing.
- In *Vijayalakshmi vs State Rep.* (2021), the Madras High Court suggested that **age difference should not exceed five years** to prevent misuse by older adults.
- Despite judicial sympathy, current laws continue to criminalise consensual adolescent sex due to statutory interpretation.

Concerns of Misuse and Overreach

- The law, when misapplied, can:
 - Criminalise **normal adolescent behaviour**.
 - Disrupt education and future of both parties involved.
 - Be misused by families to target inter-caste or inter-religious relationships.
- It risks diluting the intent of POCSO, which is to **protect against exploitation**, not punish youthful intimacy.

Way Forward: Balancing Protection and Proportionality

- Introduce an **exception clause** for consensual sex between adolescents aged 16–18 with narrow safeguards (e.g., age gap, absence of coercion).
- Promote **legal literacy** among adolescents about the implications of POCSO.
- Empower courts with **discretionary powers** and mandatory **psychosocial assessments** before prosecution.
- Use **counselling and reformative approaches** over punitive actions in consensual cases.

Conclusion

The POCSO Act must retain its core protective purpose while evolving to reflect social realities of adolescent development. Decriminalising consensual adolescent relationships within carefully defined parameters, as recommended by jurists and courts, can ensure the law is not wielded as a tool of control or moral policing but as a means of genuine protection.

Ecology and Environment

Q31. Why must India recognise its open ecosystems? Discuss the ecological, social, and policy significance of India's so-called 'wastelands' and the way forward for sustainable management. (250 words, 15 marks)

Topic – Conservation of ecosystems

Source: The Hindu

<https://www.thehindu.com/sci-tech/energy-and-environment/why-must-india-recognise-its-open-ecosystems-explained/article69808268.ece>

Introduction	Open ecosystems such as grasslands, savannas, scrublands, and deserts are often misclassified in India as 'wastelands,' a colonial legacy that equates openness with ecological inferiority. However, these landscapes are ancient, biodiverse biomes that play vital roles in sustaining endemic species, pastoral livelihoods, and soil carbon storage. Recognising and restoring these open ecosystems is crucial to ensure ecological balance and social sustainability.
Body	<ul style="list-style-type: none"> • Ancient and Resilient Biomes • Ecological Services and Carbon Storage • Livelihoods of Pastoral Communities • Flaws in Current Land Use Policy • Sustainable Roadmap for Open Ecosystems
Conclusion	India's open ecosystems are not wastelands but living, resilient landscapes that support biodiversity, store carbon, and sustain pastoral communities. Acknowledging their true value calls for moving beyond a tree-centric conservation approach to one that embraces the diversity and functionality of open habitats. Sustainable management grounded in local knowledge and ecological realities can ensure that these biomes continue to thrive for generations to come.

UPSC Syllabus	Conservation of ecosystems
Why was this question asked?	Q. Should the pursuit of carbon credits and clean development mechanisms set up under UNFCCC be maintained even though there has been a massive slide in the value of a carbon credit? Discuss with respect to India's energy needs for economic growth. [2014]
Introduction	Open ecosystems such as grasslands, savannas, scrublands, and deserts are often misclassified in India as 'wastelands,' a colonial legacy that

	<p>equates openness with ecological inferiority. However, these landscapes are ancient, biodiverse biomes that play vital roles in sustaining endemic species, pastoral livelihoods, and soil carbon storage. Recognising and restoring these open ecosystems is crucial to ensure ecological balance and social sustainability.</p>
Body	<p>Ancient and Resilient Biomes</p> <ul style="list-style-type: none">• Deserts and open ecosystems occupy nearly one-third of Earth's land surface and have evolved to thrive in harsh, arid conditions.• Historical civilisations such as Mesopotamia, Egypt, and the Indus Valley flourished in desert climates, demonstrating their importance in human development.• These ecosystems host species uniquely adapted to extremes, e.g., the Great Indian Bustard, caracal, and Indian wolf. <p>Ecological Services and Carbon Storage</p> <ul style="list-style-type: none">• Open ecosystems store significant carbon stocks underground in their soils rather than in trees.• They support intricate food webs, seasonal rhythms, and natural regrowth.• Misguided afforestation or “greening” projects often damage these natural carbon stores by disrupting native vegetation and soil balance. <p>Livelihoods of Pastoral Communities</p> <ul style="list-style-type: none">• Millions of pastoralists like the Dhangar, Rabari, and Kuruba communities depend on open ecosystems for grazing.• These communities play a vital role in maintaining biodiversity through rotational grazing and traditional knowledge systems.• Encroachment by industrial projects or forced afforestation undermines their mobility, livelihoods, and cultural identity. <p>Flaws in Current Land Use Policy</p> <ul style="list-style-type: none">• India's official maps still classify vast tracts as ‘wastelands’—land seen as idle and waiting for “fixing.”• This colonial mindset persists in policies that promote converting open spaces to plantations, agriculture, or industry.• As a result, ecological diversity and traditional pastoral practices are overlooked in development planning. <p>Sustainable Roadmap for Open Ecosystems</p> <ul style="list-style-type: none">• Restoration must prioritise native vegetation, soil moisture conservation, and indigenous management practices.• Low-tech solutions like water harvesting, protecting natural regrowth, and rotational grazing are more effective than

	<p>monoculture plantations.</p> <ul style="list-style-type: none"> • Policy frameworks should reward soil carbon storage, legally protect grasslands and deserts, and integrate pastoralists as custodians. • Renaming initiatives such as the ‘World Day to Combat Desertification’ to focus on land degradation more broadly can shift perceptions.
Conclusion	<p>India’s open ecosystems are not wastelands but living, resilient landscapes that support biodiversity, store carbon, and sustain pastoral communities. Acknowledging their true value calls for moving beyond a tree-centric conservation approach to one that embraces the diversity and functionality of open habitats. Sustainable management grounded in local knowledge and ecological realities can ensure that these biomes continue to thrive for generations to come.</p>

Q32. “Global shipping is under pressure to decarbonise by mid-century. Examine how green fuels can help achieve this goal, why the transition is challenging, and how India can position itself as a green fuel hub for the maritime sector.” (250 words, 15 marks)

Topic – Alternate energy sources

Source: The Hindu

<https://www.thehindu.com/business/Industry/how-is-global-shipping-trying-to-decarbonise-explained/article69816234.ece>

Introduction	<p>Global shipping accounts for nearly 3% of global greenhouse gas (GHG) emissions. In line with the International Maritime Organization (IMO) revised strategy to achieve net zero emissions by 2050, the industry is now exploring alternative green fuels to replace fossil-based marine fuels. This transition holds strategic economic and environmental significance for India.</p>
Body	<ul style="list-style-type: none"> • Goal of Decarbonising Global Shipping • About Green Fuels • Challenges to Implementing Changes in Shipping • India’s Strategy and Potential • Why India is Encouraging Green Ammonia and Shipbuilding
Conclusion	<p>While global shipping’s journey towards decarbonisation is full of technical and financial hurdles, the shift to green fuels like green methanol and ammonia is inevitable for meeting climate goals. India’s robust solar power base, supportive policies, and investment in electrolyser capacity can position it as a key global hub for marine green fuels. Proactive policy frameworks, innovative financing, and</p>

international collaboration will be crucial for India to seize this decarbonisation opportunity and anchor its maritime and energy transition leadership.

UPSC Syllabus	Alternate energy sources
Why was this question asked?	Q. Write a note on India's green energy corridor to alleviate the problems of conventional energy. (2013)
Introduction	Global shipping accounts for nearly 3% of global greenhouse gas (GHG) emissions. In line with the International Maritime Organization (IMO) revised strategy to achieve net zero emissions by 2050, the industry is now exploring alternative green fuels to replace fossil-based marine fuels. This transition holds strategic economic and environmental significance for India.
Body	<p>Goal of Decarbonising Global Shipping</p> <ul style="list-style-type: none"> • The global goal is to phase out traditional fuels like Very Low Sulphur Fuel Oil (VLSFO), diesel, and Liquefied Natural Gas (LNG) by mid-century. • The IMO's strategy seeks at least a 50% reduction in GHG emissions by 2050 compared to 2008 levels. • This aligns with broader climate targets under the Paris Agreement to limit global warming to below 2°C. <p>About Green Fuels</p> <ul style="list-style-type: none"> • Green Hydrogen: Produced by electrolysis of water using renewable energy. • Green Ammonia: Synthesised from green hydrogen and nitrogen; stable for storage and shipping use. • Green Methanol (E-Methanol): Made from green hydrogen and carbon dioxide captured from industrial emissions. • Biofuels and sustainable e-fuels reduce lifecycle emissions. • Unlike hydrogen, ammonia and methanol are easier to store and handle. <p>Challenges to Implementing Changes in Shipping</p> <ul style="list-style-type: none"> • The shipping sector is conservative with slow adoption of new technologies. • Ammonia engines are not widespread and need new safety protocols, crew training, and retrofitting. • Green fuels like e-methanol are costly: in February 2025, e-methanol cost ~\$1,950/tonne, while VLSFO averaged only ~\$560/tonne.

- Production bottlenecks: Demand for green methanol is expected to reach 14 million tonnes by 2028, but supply lags behind.
- Heavy upfront investments are needed for renewable power, electrolyzers, and carbon capture, utilisation, and storage (CCUS) infrastructure.

India's Strategy and Potential

- India plans to decarbonise its domestic shipping fleet and develop green fuel bunkering points at major ports like **V.O. Chidambaranar Port (Tuticorin)** and **Kandla**.
- By leveraging its abundant solar power capacity (grown from 2.8 GW in 2014 to 105 GW in 2025), India can produce cost-effective green hydrogen.
- The government is pushing for **Production-Linked Incentive (PLI)** schemes for electrolyser manufacturing and CCUS to secure raw material supply chains.
- India aims to supply green fuels to major bunkering hubs like Singapore, which refuels about 25% of the world's shipping.
- Sovereign guarantees and multilateral funding can de-risk investments and lower capital costs.

Why India is Encouraging Green Ammonia and Shipbuilding

- Green ammonia can reduce dependence on costly LNG imports for fertiliser production, creating dual benefits for agriculture and shipping.
- By producing and exporting green fuels, India can attract global shipbuilders, boost domestic shipowning, and create new employment.
- The government has pledged \$10 billion to purchase 110 ships, encouraging 10-20% of these to be green fuel-capable and built in Indian shipyards.
- Collaborations with South Korea and Japan aim to build technological capacity for retrofitting and new builds.

Conclusion

While global shipping's journey towards decarbonisation is full of technical and financial hurdles, the shift to green fuels like green methanol and ammonia is inevitable for meeting climate goals. India's robust solar power base, supportive policies, and investment in electrolyser capacity can position it as a key global hub for marine green fuels. Proactive policy frameworks, innovative financing, and international collaboration will be crucial for India to seize this decarbonisation opportunity and anchor its maritime and energy transition leadership.

Q 33: Industrial production in India continues to be vulnerable to climate-related disruptions. Critically examine the limitations of current macroeconomic data frameworks in addressing climate attribution. Suggest a policy roadmap to integrate climate risk into industrial and economic planning. (250 words, 15 marks)

Topic – Climate change and Industrial Production

Source: The Hindu

<https://www.thehindu.com/opinion/editorial/interrupted-growth-on-economic-activity-climate-related-events/article69869972.ece>

Introduction	India’s industrial sector, a key pillar of economic growth, is increasingly vulnerable to climate-related disruptions such as erratic monsoons, floods, and extreme heat. In June 2025, the Index of Industrial Production (IIP)—a monthly indicator that measures the volume of production of goods—registered a 10-month low growth of 1.5%, largely due to heavy rainfall and flooding in mining regions. However, India's macroeconomic data frameworks such as the IIP and Gross Domestic Product (GDP) reports rarely reflect these climate-induced shocks, revealing a significant gap in economic policymaking.
Body	<ul style="list-style-type: none"> • Climate-Linked Industrial Disruptions: Recent Trends • Absence of Climate Attribution in Macroeconomic Reporting • Structural and Methodological Constraints • International Models and Lessons for India • Towards a Climate-Inclusive Economic Framework
Conclusion	India’s economic growth narrative can no longer remain detached from climate realities. The increasing frequency of floods, cyclones, and irregular monsoons is already disrupting mining, power, and manufacturing sectors. Integrating climate attribution—the scientific process of linking specific events to climate change—into economic policy and data reporting is essential. A reformed framework that explicitly connects environmental shocks with industrial performance will not only strengthen climate-resilient planning but also support India’s goals under the National Action Plan on Climate Change (NAPCC) and the Sustainable Development Goals (SDGs).

UPSC Syllabus	Climate change and Industrial Production
Why was this question asked?	Q. Normally countries shift from agriculture to industry and then later to services, but India shifted directly from agriculture to services. What are the reasons for the huge growth of services vis-a-vis industry in the country? Can India become a developed

	country without a strong industrial base? [20134]
Introduction	<p>India's industrial sector, a key pillar of economic growth, is increasingly vulnerable to climate-related disruptions such as erratic monsoons, floods, and extreme heat. In June 2025, the Index of Industrial Production (IIP)—a monthly indicator that measures the volume of production of goods—registered a 10-month low growth of 1.5%, largely due to heavy rainfall and flooding in mining regions. However, India's macroeconomic data frameworks such as the IIP and Gross Domestic Product (GDP) reports rarely reflect these climate-induced shocks, revealing a significant gap in economic policymaking.</p>
Body	<p>Climate-Linked Industrial Disruptions: Recent Trends</p> <ul style="list-style-type: none">• The early and erratic onset of the southwest monsoon led to waterlogging in major mining states like Odisha, Jharkhand, and West Bengal.• Mining output contracted by 8.7% and electricity generation fell by 2.6%, as damaged infrastructure and blocked supply chains reduced production capacity.• While capital goods (such as machinery), intermediate goods (inputs for further production), and infrastructure goods (used in construction) saw moderate growth (3.5%, 5.5%, and 7.2% respectively), this was largely driven by government expenditure, not private sector resilience. <p>Absence of Climate Attribution in Macroeconomic Reporting</p> <ul style="list-style-type: none">• Institutions like the Ministry of Statistics and Programme Implementation (MoSPI) and the Reserve Bank of India (RBI) often attribute industrial slowdown to factors such as a high base effect, input cost fluctuations, or weak consumer demand.• Climate events—despite being frequent and disruptive—are almost never cited in official IIP or GDP data commentary.• This omission limits the government's ability to make informed decisions about climate adaptation and industrial resilience. <p>Structural and Methodological Constraints</p> <ul style="list-style-type: none">• India lacks a formal climate attribution framework, which would scientifically establish the extent to which specific weather events (e.g., floods, droughts) affect economic output.• Agencies like the India Meteorological Department (IMD) and the Ministry of Earth Sciences generate weather data, but it is not yet systematically linked with production statistics.• Policymakers often avoid climate linkage due to its probabilistic nature and the potential politicization of

economic underperformance.

International Models and Lessons for India

- The **European Central Bank (ECB)** has integrated climate risk into economic stress testing, linking environmental disruptions with financial and output metrics.
- The **Bank of England** uses scenario modelling to assess how climate change could affect long-term productivity and macroeconomic stability.
- These institutions use **climate stress tests**, satellite data, and probabilistic models to simulate the impact of extreme weather events.

Towards a Climate-Inclusive Economic Framework

- India must integrate **climate risk indicators** into economic datasets like the IIP and GDP.
- Coordination is needed between MoSPI, IMD, the **National Institution for Transforming India (NITI Aayog)**, and financial regulators.
- The **RBI's Financial Stability Report**, which now includes climate risks, should expand its scope to include **production-linked climate vulnerabilities**.
- Adoption of **AI-driven data analytics, remote sensing, and geo-spatial mapping** can help link specific weather anomalies to regional industrial output.

Conclusion

India's economic growth narrative can no longer remain detached from climate realities. The increasing frequency of floods, cyclones, and irregular monsoons is already disrupting mining, power, and manufacturing sectors. Integrating climate attribution—the scientific process of linking specific events to climate change—into economic policy and data reporting is essential. A reformed framework that explicitly connects environmental shocks with industrial performance will not only strengthen climate-resilient planning but also support India's goals under the National Action Plan on Climate Change (NAPCC) and the Sustainable Development Goals (SDGs).

Public Health

Q 34: India continues to face recurrent outbreaks of the deadly Nipah virus. Discuss the causes and challenges of Nipah outbreaks in India. Also, suggest a robust prevention strategy focusing on the 'One Health' approach. (250 words, 15 marks)

Topic – Viral infections

Source: The Hindu

<https://www.thehindu.com/opinion/editorial/batting-for-prevention-on-nipah-cases-in-kerala/article69783840.ece>

Introduction	The recent detection of Nipah virus cases in Kerala, including a tragic fatality, highlights India's continued vulnerability to high-fatality zoonotic diseases. With a mortality rate ranging between 40% and 75%, the Nipah virus is a stark reminder that India needs robust disease surveillance, awareness, and an integrated One Health approach to prevent future outbreaks.
Body	<ul style="list-style-type: none"> • Understanding the Nipah Virus Threat • Causes Behind Recurring Outbreaks in India • Challenges in Containment and Management • What is the One Health Approach and Why is it Needed? • Pathways for Prevention and Preparedness
Conclusion	Nipah virus outbreaks show how deeply human health is intertwined with animals and ecosystems. Prevention, not panic, must guide our response. India must adopt and strengthen a One Health approach — integrating wildlife surveillance, environmental safeguards, healthcare readiness, and community education — to minimise the risk of zoonotic diseases and ensure resilient public health systems.

UPSC Syllabus	Viral infections
Why was this question asked?	Q. COVID-19 pandemic has caused unprecedented devastation worldwide. However, technological advancements are being availed readily to win over the crisis. Give an account of how technology was sought to aid management of the pandemic. [2020]
Introduction	The recent detection of Nipah virus cases in Kerala, including a tragic fatality, highlights India's continued vulnerability to high-fatality zoonotic diseases. With a mortality rate ranging between 40% and 75%, the Nipah virus is a stark reminder that India needs robust disease

surveillance, awareness, and an integrated One Health approach to prevent future outbreaks.

Body

Understanding the Nipah Virus Threat

- **About Nipah virus:** Nipah virus (*NiV*) is a highly contagious, zoonotic virus that first emerged in Malaysia in 1998 and in India in 2001 (West Bengal).
- Its natural reservoir hosts are fruit bats (flying foxes) of the *Pteropus* genus.
- It spreads through contact with infected bats, consumption of fruits or raw palm sap contaminated by bats, contact with infected animals like pigs, or close human-to-human transmission, especially in hospitals.
- **Symptoms and risk:** Nipah infection can cause fever, headache, respiratory distress, and encephalitis (brain inflammation). It has no approved vaccine or treatment, and supportive care is the only option. Its high mortality rate makes even isolated cases a major public health concern.

Causes Behind Recurring Outbreaks in India

- **Ecological Disruption:** Rapid deforestation and habitat loss force fruit bats closer to human settlements.
- **Risky Agricultural Practices:** Orchards near homes attract bats that drop partially eaten fruits.
- **Climate Change:** Alters bat habitats and migration patterns, increasing spillover risk.
- **Community Behaviour:** Low awareness leads to risky practices like drinking raw date palm sap.
- **Insufficient Veterinary-Wildlife Surveillance:** Limited tracking of virus circulation in bat populations.

Challenges in Containment and Management

- **High Case Fatality:** Makes even one infection a serious threat needing emergency action.
- **No Vaccine or Specific Treatment:** Research is ongoing but preventive strategies remain key.
- **Contact Tracing Complexity:** Large numbers of people may need to be traced and isolated.
- **Health Worker Safety:** Health personnel are highly exposed and must follow strict protocols.
- **Social Panic:** Outbreaks cause widespread fear, affecting livelihoods and movement.

What is the One Health Approach and Why is it Needed?

- *One Health* is an integrated strategy that recognises that human health is closely linked to the health of animals and the environment.
- Over 60% of new infectious diseases in humans are zoonotic — they spill over from animals. For Nipah, fruit bats are the natural reservoir. Destruction of their habitat, climate shifts, and changing human behaviour increase spillover chances.
- **Key One Health actions:**
 - **Animal Surveillance:** Monitor bat colonies to detect the virus early.
 - **Environmental Safeguards:** Preserve bat habitats away from human dwellings.
 - **Cross-sector Collaboration:** Integrate efforts across health, veterinary, wildlife, and agriculture departments.
 - **Community Awareness:** Educate people on safe food practices and hygiene.

Pathways for Prevention and Preparedness

- **Strengthen Surveillance:** Develop early warning systems and robust diagnostic labs.
- **Build Healthcare Capacity:** Train health workers in infection control and provide PPE.
- **Public Awareness Campaigns:** Educate rural communities about avoiding risky practices like eating fallen or partially eaten fruits.
- **Research and Innovation:** Accelerate work on vaccines and treatment protocols.
- **Climate Action:** Address habitat loss and environmental degradation to reduce human-wildlife conflict.

Conclusion

Nipah virus outbreaks show how deeply human health is intertwined with animals and ecosystems. Prevention, not panic, must guide our response. India must adopt and strengthen a One Health approach — integrating wildlife surveillance, environmental safeguards, healthcare readiness, and community education — to minimise the risk of zoonotic diseases and ensure resilient public health systems.

Q 35: “Measures to build awareness without strong legislative backing to curb unhealthy food intake will not be more than symbolic.” Discuss in the context of India’s public health challenges and the need for regulatory reforms. (250 words, 15 marks)

Topic – Lifestyle diseases in India

Source: The Hindu

<https://www.thehindu.com/opinion/editorial/more-than-symbolic-on-curbing-unhealthy-food-intake/article69815472.ece>

Introduction	India is facing a worrying surge in lifestyle diseases such as obesity, diabetes, and cardiovascular ailments, largely driven by the increased intake of High Fat, Sugar, and Salt (HFSS) foods. While recent initiatives like displaying oil and sugar content in everyday snacks and introducing ‘sugar boards’ in schools are commendable awareness measures, multiple expert committees and reports highlight that without robust legislative frameworks, such moves may remain largely symbolic.
Body	<ul style="list-style-type: none"> • India’s Growing Burden of Lifestyle Diseases • Recent Awareness Initiatives and Their Limitations • Best Practices and Committee Recommendations • Gaps in India’s Existing Legal and Regulatory Framework • The Way Forward
Conclusion	A future-ready India depends on unlocking the full potential of its women, especially in high-growth sectors like STEM. While policies like the NEP 2020, Skill India, and expanding gender budgets set the foundation, the missing link remains industry and societal support. As World Youth Skills Day reminds us, skills development must translate into decent work. Equipping women for STEM careers, and ensuring workplaces are welcoming and inclusive, is not just about gender equity — it is an economic imperative. When women’s voices echo across shop floors, boardrooms, and policy halls, they become catalysts for a truly Viksit Bharat.

UPSC Syllabus	Lifestyle diseases in India
Why was this question asked?	Q. COVID-19 pandemic has caused unprecedented devastation worldwide. However, technological advancements are being availed readily to win over the crisis. Give an account of how technology was sought to aid management of the pandemic. [2020]
Introduction	India is facing a worrying surge in lifestyle diseases such as obesity, diabetes, and cardiovascular ailments, largely driven by the increased intake of High Fat, Sugar, and Salt (HFSS) foods. While recent

initiatives like displaying oil and sugar content in everyday snacks and introducing ‘sugar boards’ in schools are commendable awareness measures, multiple expert committees and reports highlight that without robust legislative frameworks, such moves may remain largely symbolic.

Body

India’s Growing Burden of Lifestyle Diseases

- As per **National Family Health Survey (NFHS-5)** data, obesity among men increased from 15% to 24% and among women from 12% to 23% between 2005–06 and 2019–21.
- **Non-Communicable Diseases (NCDs)** contribute to over 60% of total deaths in India.
- Reports like the **ICMR-INDIAB Study** and the **Global Burden of Disease (GBD) Report 2019** emphasise that dietary risks, particularly excess sugar, fat, and salt intake, are major contributors to this burden.

Recent Awareness Initiatives and Their Limitations

- The Health Ministry’s directive to display oil, sugar, and trans-fat content is a behavioural nudge, as recommended by the **Eat Right India Movement** under the **Food Safety and Standards Authority of India (FSSAI)**.
- The **Central Board of Secondary Education (CBSE)** establishing ‘sugar boards’ is aligned with the **School Health Programme** under the **Ayushman Bharat Initiative**.
- However, the **National Multisectoral Action Plan for Prevention and Control of Common Non-Communicable Diseases (2017–22)** notes that without legislative backing, awareness alone will not yield significant behaviour change.

Global Best Practices and Committee Recommendations

- The **WHO Global Action Plan for NCDs (2013–2020)** advocates ‘best buy’ interventions like front-of-package warning labels and fiscal measures.
- The **FSSAI’s Food Labelling and Display Regulations, 2020**, were drafted based on the recommendations of the **Food Labelling and Claims/Advertisements Regulation Committee**.
- The **NITI Aayog Task Force on Elimination of Trans Fats in India (2018)** also recommended regulatory limits and better labelling to curb trans-fat intake.

Gaps in India’s Existing Legal and Regulatory Framework

- The **Parliamentary Standing Committee on Health and Family Welfare (110th Report, 2015)** highlighted delays in

finalising the thresholds for sugar, salt, and fat.

- The **Supreme Court of India**, in recent orders, directed the **Food Safety and Standards Authority of India (FSSAI)** to implement front-of-package labelling on packaged foods — a pending requirement under the National Nutrition Strategy of **NITI Aayog (2017)**.
- Studies by the **Indian Council of Medical Research – National Institute of Nutrition (ICMR–NIN)** have shown that warning labels and Nutri-Star ratings are more effective than voluntary labelling.

The Way Forward: From Symbolism to Structural Change

- Expedite finalisation and enforcement of front-of-pack labelling norms by the **Food Safety and Standards Authority of India (FSSAI)**, as advised by its Scientific Panel on Labelling.
- Impose fiscal measures like a sugar tax on sugar-sweetened beverages, as recommended by the **NITI Aayog's 2021 Report on Non-Communicable Diseases**.
- Strict regulation of misleading food advertisements, especially targeting children — aligning with the **Consumer Protection Act, 2019** and the **Central Consumer Protection Authority (CCPA)** guidelines.
- Strengthen monitoring mechanisms and periodic review by bodies like the **National Nutrition Monitoring Bureau (NNMB)** and **ICMR–NIN**.

Conclusion

In conclusion, India's fight against Non-Communicable Diseases (NCDs) demands that behavioural nudges be backed by strong, evidence-based legislative measures. Multiple expert committees, Supreme Court directives, and global best practices show that without enforceable labelling, marketing restrictions, and fiscal policies, awareness initiatives will remain only symbolic. A comprehensive regulatory framework, aligned with the Eat Right India Movement, can transform India's food environment towards healthier, more informed choices.

Science and technology

Q 36: Budgetary allowances alone will not solve India's R&D and innovation deficit." Critically examine the recently announced Research Development and Innovation (RDI) scheme and the role of the Anusandhan National Research Foundation (ANRF). Suggest measures to address persistent challenges in India's research ecosystem. (250 words, 15 marks)

Topic – India's expenditure on research and development

Source: The Hindu

<https://www.thehindu.com/opinion/editorial/quick-fix-on-indias-research-development-and-innovation-scheme/article69787992.ece>

Introduction	India's gross expenditure on research and development (GERD) remains stagnant at around 0.7% of GDP, far below the global average of ~2.2%. To address this gap, the Union Cabinet has approved a ₹1-lakh crore Research Development and Innovation (RDI) scheme anchored by the Anusandhan National Research Foundation (ANRF). The policy aims to reverse the skewed public-private funding ratio in India's R&D landscape. However, structural and institutional bottlenecks raise concerns about the scheme's transformative potential.
Body	<ul style="list-style-type: none">• Key Features of the RDI Scheme and ANRF• Critical Concepts and Global Comparisons• Institutional and Policy Challenges• Data and Organisational Landscape• Way Forward and Recommendations
Conclusion	The RDI scheme and the ANRF represent an important policy shift toward catalysing private investment in India's research ecosystem. However, addressing India's chronic innovation deficit requires more than budgetary allocations — it demands a robust policy framework, risk-taking culture, high-end manufacturing capacity, and strong institutional capacity to translate research into scalable solutions. Learning from global best practices while tailoring them to India's unique socio-economic context will be key to realising the vision of an innovation-led economy.

UPSC Syllabus	Research and development in India
Why was this question asked?	Scientific research in Indian universities is declining, because a career in science is not as attractive as our business operations, engineering or administration, and the universities are becoming

	consumer oriented. Critically comment. (2014)
Introduction	<p>India's gross expenditure on research and development (GERD) remains stagnant at around 0.7% of GDP, far below the global average of ~2.2%. To address this gap, the Union Cabinet has approved a ₹1-lakh crore Research Development and Innovation (RDI) scheme anchored by the Anusandhan National Research Foundation (ANRF). The policy aims to reverse the skewed public-private funding ratio in India's R&D landscape. However, structural and institutional bottlenecks raise concerns about the scheme's transformative potential.</p>
Body	<p>Key Features of the RDI Scheme and ANRF</p> <ul style="list-style-type: none">• Special Purpose Fund: ₹1-lakh crore corpus for low-interest loans to incentivise private investments in basic research.• ANRF as Institutional Anchor: A single-window mechanism under the Science Ministry to disburse funds and streamline R&D governance.• Private Sector Participation: Aims for 70% of funding from private sources, shifting the current 70:30 public-private ratio.• Technology Readiness Level (TRL) Criteria: Funding eligibility restricted to projects that reach TRL-4, implying intermediate development stage. <p>Critical Concepts and Global Comparisons</p> <ul style="list-style-type: none">• Technology Readiness Levels (TRL): Originating from NASA, TRL is a benchmark for the maturity of technology. TRL-4 represents lab validation, while TRL-9 means system-proven in operational environment.• Global Best Practices: Countries like the U.S. and South Korea have strong military-industrial linkages and sustained early-stage public research investments.• Brain Drain: India loses scientific talent due to a lack of advanced research infrastructure and competitive salaries. <p>Institutional and Policy Challenges</p> <ul style="list-style-type: none">• Over-Conservatism in Eligibility: Restricting funds to TRL-4 projects may stifle truly novel ideas in nascent stages (TRL-1 to TRL-3).• Weak Manufacturing Ecosystem: India's limited capacity in high-end manufacturing constrains the translation of research into scalable products.• Underdeveloped Innovation Culture: A risk-averse private sector and low venture capital flow into fundamental science limit breakthrough innovations.

Data and Organisational Landscape

- **Current GERD:** India's R&D spending has hovered at 0.7% of GDP for over a decade compared to China's 2.4% and Israel's 4.9%.
- **Key Organisations:** Council of Scientific and Industrial Research (CSIR), Department of Science and Technology (DST), Defence Research and Development Organisation (DRDO) — all primarily public-funded.
- **Start-up Ecosystem:** While India is a top start-up hub, only a fraction focus on deep-tech or high-risk science-based innovations.

Way Forward and Recommendations

- **Expand Early-Stage Funding:** Broaden eligibility to cover TRL-1 to TRL-3; support blue-sky research to foster genuine breakthroughs.
- **Strengthen Industry-Academia Linkages:** Incentivise collaborative R&D through joint IP ownership, shared labs, and incubators.
- **Build Domestic Manufacturing Strength:** Invest in skilled workforce, advanced tooling, and supply chains for high-tech manufacturing.
- **Leverage Military-Industrial Synergies:** Encourage dual-use technologies with potential civilian spin-offs, drawing lessons from the U.S. DARPA model.
- **Attract and Retain Talent:** Offer competitive research grants, global fellowships, and world-class infrastructure to reverse brain drain.

Conclusion

The RDI scheme and the ANRF represent an important policy shift toward catalysing private investment in India's research ecosystem. However, addressing India's chronic innovation deficit requires more than budgetary allocations — it demands a robust policy framework, risk-taking culture, high-end manufacturing capacity, and strong institutional capacity to translate research into scalable solutions. Learning from global best practices while tailoring them to India's unique socio-economic context will be key to realising the vision of an innovation-led economy.

Q 37: “India’s paradox of high female STEM graduates but low STEM workforce participation reflects deeper structural barriers.” Examine the role of government policy, industry, and societal mindsets in addressing this gap. Suggest measures for building a more gender-inclusive STEM ecosystem. (250 words, 15 marks)

Topic – Science and Technology policy in India

Source: The Hindu

<https://www.thehindu.com/opinion/op-ed/women-stem-careers-and-a-more-receptive-industry/article69811907.ece>

Introduction	India stands at a critical juncture where demographic dividends can translate into robust economic growth, yet gender disparities persist, especially in Science, Technology, Engineering, and Mathematics (STEM) careers. While 43% of India’s STEM graduates are women, only 27% enter the STEM workforce. This paradox not only restricts women’s economic mobility but also undermines India’s potential GDP gains. Bridging this gap requires a holistic approach integrating policies, industry initiatives, and societal transformation.
Body	<ul style="list-style-type: none"> • Understanding the Gender Paradox in STEM • Government Policy Framework and Initiatives • Enabling role of Industry • Challenges: Societal Mindsets and Workplace Ecosystems • Way Forward
Conclusion	A future-ready India depends on unlocking the full potential of its women, especially in high-growth sectors like STEM. While policies like the NEP 2020, Skill India, and expanding gender budgets set the foundation, the missing link remains industry and societal support. As World Youth Skills Day reminds us, skills development must translate into decent work. Equipping women for STEM careers, and ensuring workplaces are welcoming and inclusive, is not just about gender equity — it is an economic imperative. When women’s voices echo across shop floors, boardrooms, and policy halls, they become catalysts for a truly Viksit Bharat.

UPSC Syllabus	Science and Technology policy in India
Why was this question asked?	Q. Scientific research in Indian universities is declining, because a career in science is not as attractive as our business operations, engineering or administration, and the universities are becoming consumer oriented. Critically comment. [2014]
Introduction	India stands at a critical juncture where demographic dividends can translate into robust economic growth, yet gender disparities persist, especially in Science, Technology, Engineering, and Mathematics

(STEM) careers. While 43% of India's STEM graduates are women, only 27% enter the STEM workforce. This paradox not only restricts women's economic mobility but also undermines India's potential GDP gains. Bridging this gap requires a holistic approach integrating policies, industry initiatives, and societal transformation.

Body

Understanding the Gender Paradox in STEM

- India's **Periodic Labour Force Survey (PLFS) 2023-24** shows an encouraging rise in overall Female Labour Force Participation Rate (FLFPR) to 41.7%, yet urban women and STEM careers lag behind.
- Global data (UNESCO Institute for Statistics, 2021) shows women comprise only **31.5% of researchers worldwide**, reflecting systemic issues like stereotypes, workplace safety concerns, and lack of supportive ecosystems.
- According to the **McKinsey Global Institute**, closing gender gaps could add **\$700 billion to India's GDP by 2025**.

Government Policy Framework and Initiatives

- The **New Education Policy (NEP) 2020** emphasises integrating STEM education with life skills and employability.
- Flagship schemes like **Skill India Mission, Beti Bachao, Beti Padhao, Digital India**, and **PM Vishwakarma Yojana** aim to create pathways for women.
- **Gender Budgeting**: The share has risen from 6.8% (2024-25) to 8.8% (2025-26), amounting to **₹4.49 lakh crore** for gender-specific programmes.
- Schemes like term loans for women entrepreneurs and new **National Skill Training Institutes** bring technical training closer to rural women.

Enabling role of Industry

- Persistent stereotypes — e.g., “mechanical means masculine” — prevent capable women from entering or staying in STEM.
- Industry-linked training, safe workplace norms, and **structured mentoring** help address these barriers.
- Examples like **UN Women's WeSTEM programme**, in partnership with Madhya Pradesh and Gujarat governments and Micron Foundation, combine skills training with mindset change by involving families and communities.

Challenges: Societal Mindsets and Workplace Ecosystems

- Family expectations and social norms often restrict women's mobility for technical jobs.
- **Workplace challenges**: Safety, unequal pay, lack of maternity

	<p>support, and limited re-entry pathways post career breaks.</p> <ul style="list-style-type: none">• Studies show women don't leave STEM due to a lack of skill but due to unwelcoming work environments. <p>Way Forward: A Blueprint for a Gender-Inclusive STEM Ecosystem</p> <p>a) Strengthen School-to-Work Linkages:</p> <ul style="list-style-type: none">• Partnerships between industry and academia to ensure real-world exposure, internships, and apprenticeships. <p>b) Safe and Flexible Workplaces:</p> <ul style="list-style-type: none">• Gender-sensitive infrastructure, flexible work arrangements, re-skilling for re-entry after caregiving breaks. <p>c) Mentorship and Role Models:</p> <ul style="list-style-type: none">• Networks linking students with industry professionals; showcasing successful women in STEM to inspire communities. <p>d) Community Engagement:</p> <ul style="list-style-type: none">• Programmes that sensitise families and communities about women's STEM careers to dismantle deep-rooted stereotypes. <p>e) Multi-Stakeholder Coordination:</p> <ul style="list-style-type: none">• Government, private sector, international organisations like UN Women, and civil society must collaborate to mainstream gender inclusion.
<p>Conclusion</p>	<p>A future-ready India depends on unlocking the full potential of its women, especially in high-growth sectors like STEM. While policies like the NEP 2020, Skill India, and expanding gender budgets set the foundation, the missing link remains industry and societal support. As World Youth Skills Day reminds us, skills development must translate into decent work. Equipping women for STEM careers, and ensuring workplaces are welcoming and inclusive, is not just about gender equity — it is an economic imperative. When women's voices echo across shop floors, boardrooms, and policy halls, they become catalysts for a truly Viksit Bharat.</p>

Q38. "India's first tribal genome sequencing project is a milestone in the intersection of science, health equity, and inclusive governance. Examine the need for such an initiative, and suggest policy and institutional measures to ensure its success and ethical implementation." (250 words, 15 marks)

Topic – Genome Sequencing

Source: The Hindu

<https://www.thehindu.com/sci-tech/science/gujarat-launches-indias-first-tribal-genome-project-to-tackle-inherited-diseases/article69819673.ece>

Introduction	India's first Tribal Genome Sequencing Project, launched in Gujarat in 2025, marks a significant move to integrate precision medicine and genomic science into public health for marginalised tribal communities. By sequencing the genomes of 2,000 tribal individuals across 17 districts, the project aims to address inherited diseases, support early diagnostics, and promote equity in healthcare access.
Body	<ul style="list-style-type: none"> • Concept and Objectives of the Tribal Genome Project • Relevance and Urgency of the Initiative • Institutional and Policy Framework • Ethical, Legal, and Social Implications (ELSI) • Recommendations and Way Forward
Conclusion	The Tribal Genome Sequencing Project is a transformative public health initiative that integrates frontier science with inclusive development. For long-term success, it must be anchored in ethics, transparency, capacity-building, and trust-building with tribal communities. This model can inform India's genomic policy for vulnerable populations, ensuring genetic justice and health equity in the age of precision medicine.

UPSC Syllabus	Genome Sequencing
Why was this question asked?	Q. Stem cell therapy is gaining popularity in India to treat a wide variety of medical conditions including Leukaemia, Thallessemia, damaged cornea and several burns. Describe briefly what stem cell therapy is and what advantages it has over other treatments? (2017)
Introduction	India's first Tribal Genome Sequencing Project, launched in Gujarat in 2025, marks a significant move to integrate precision medicine and genomic science into public health for marginalised tribal communities. By sequencing the genomes of 2,000 tribal individuals across 17 districts, the project aims to address inherited diseases, support early diagnostics, and promote equity in healthcare access.
Body	<p>Concept and Objectives of the Tribal Genome Project</p> <ul style="list-style-type: none"> • Genomic sequencing involves decoding the DNA to identify genetic variants responsible for diseases. • The Gujarat initiative, led by the Gujarat Biotechnology Research Centre (GBRC), seeks to: <ul style="list-style-type: none"> ○ Detect heritable disorders like sickle cell anaemia, thalassemia, and hereditary cancers. ○ Identify genetic markers of natural immunity. ○ Enable personalised and preventive healthcare tailored to tribal genetic profiles.

- The project bridges **traditional knowledge** and **modern science**, empowering **Adivasi communities** with health security.

Relevance and Urgency of the Initiative

- **Tribal populations** (8.6% of India's population) face **higher incidence** of genetic disorders, malnutrition, and lack of access to modern healthcare.
- **Sickle cell anaemia**, a major cause of morbidity among tribals, remains underdiagnosed due to lack of screening.
- Genome-based profiling can:
 - Predict **genetic predispositions**.
 - Reduce healthcare costs through **early interventions**.
 - Help formulate **community-specific medical guidelines**.

Institutional and Policy Framework

- The initiative aligns with:
 - **National Health Policy (2017)**: which emphasizes preventive and personalized care.
 - **National Genomics Grid (NGG)** and **Genome India Project (GIP)** by DBT.
 - Tribal-specific schemes like the **Sickle Cell Elimination Mission**.
- The integration of **biotech infrastructure** into tribal welfare policies showcases a **multi-sectoral approach**.

Ethical, Legal, and Social Implications (ELSI)

- **Informed consent** and **community engagement** are vital to avoid bioethical violations.
- **Data privacy** under the **Digital Personal Data Protection Act (2023)** must be ensured.
- There is a need for **ethical review boards**, **indigenous data governance protocols**, and **benefit-sharing frameworks** to avoid exploitation or misuse.
- Cultural sensitivity is key to avoiding **genetic essentialism** and reinforcing stigma.

Recommendations and Way Forward

- **Policy Recommendations**:
 - Expand genome projects under a **National Tribal Genomic Mission**.
 - Integrate findings into **Ayushman Bharat Health Account (ABHA)** and **health registries**.

	<ul style="list-style-type: none"> ○ Train local health workers in genomics-based awareness and screening. ○ Collaborate with global agencies (e.g., WHO's Genomic Surveillance Guidelines) for ethical best practices. ● Institutional Suggestions: <ul style="list-style-type: none"> ○ Strengthen bioinformatics infrastructure at the state and national level. ○ Foster tribal research fellowships to promote community-led health science. ○ Develop genetic counselling centres in tribal districts.
Conclusion	<p>The Tribal Genome Sequencing Project is a transformative public health initiative that integrates frontier science with inclusive development. For long-term success, it must be anchored in ethics, transparency, capacity-building, and trust-building with tribal communities. This model can inform India's genomic policy for vulnerable populations, ensuring genetic justice and health equity in the age of precision medicine.</p>

Q 39: "The NASA-Axiom-ISRO collaboration marks a significant stepping stone in India's human spaceflight ambitions. Critically examine its strategic relevance, challenges, and the importance of public engagement in such scientific missions." (250 words | 15 marks)

Topic – Space scientific missions

Source: The Hindu

<https://www.thehindu.com/opinion/editorial/stepping-stone-on-shubhanshu-shukla-nasa-axiom-isro-tie-up/article69823643.ece>

Introduction	<p>The NASA-Axiom-ISRO tie-up, involving Indian astronaut Shubhanshu Shukla's participation in a two-week mission to the International Space Station (ISS), represents a significant milestone for India's Gaganyaan mission. It highlights India's entry into elite human spaceflight capabilities and the importance of strategic international collaborations in space technology development.</p>
Body	<ul style="list-style-type: none"> ● Strategic Relevance of the NASA-Axiom-ISRO Collaboration ● Boost to India's Human Spaceflight Programme ● Policy and Institutional Lessons ● Challenges and Concerns ● Importance of Public Engagement and Soft Power

	Diplomacy
Conclusion	<p>The NASA-Axiom-ISRO tie-up is more than just a training exercise—it is a strategic investment in India’s future as a space-faring nation. To fully capitalize on this, ISRO must institutionalize transparency, improve outreach, and build a robust ecosystem for human spaceflight. As India prepares for Gaganyaan, it must balance technological self-reliance with global cooperation to secure its place in the next era of space exploration.</p>

UPSC Syllabus	Space scientific missions
Why was this question asked?	Q. What is India’s plan to have its own space station and how will it benefit our space programme? [2019]
Introduction	<p>The NASA-Axiom-ISRO tie-up, involving Indian astronaut Shubhanshu Shukla’s participation in a two-week mission to the International Space Station (ISS), represents a significant milestone for India’s Gaganyaan mission. It highlights India’s entry into elite human spaceflight capabilities and the importance of strategic international collaborations in space technology development.</p>
Body	<p>Strategic Relevance of the NASA-Axiom-ISRO Collaboration</p> <ul style="list-style-type: none"> • This mission allowed Indian astronauts to gain hands-on experience in microgravity, emergency protocols, reentry procedures, and spacecraft operations. • Training on European and Japanese ISS modules enabled multi-national technological familiarization. • It provided cost-effective astronaut training (~₹500 crore) compared to building indigenous simulators or modules. <p>Boost to India’s Human Spaceflight Programme</p> <ul style="list-style-type: none"> • Gaganyaan, India’s first manned mission (slated for 2027), will benefit from operational exposure and risk preparedness gained through this mission. • Skills in manual docking, anomaly handling, and survival in space are critical for crew autonomy. • Enhances ISRO’s confidence in managing life-support systems and atmospheric re-entry. <p>Policy and Institutional Lessons</p> <ul style="list-style-type: none"> • The collaboration aligns with the goals of the Draft Indian Space Policy 2023, which promotes international partnerships and private sector involvement. • It supports India’s ambitions under IN-SPACe (Indian National

	<p>Space Promotion and Authorization Centre) and the Space Activities Bill (pending).</p> <ul style="list-style-type: none">• It strengthens India's case for future participation in international missions and low-Earth orbit commercialization. <p>Challenges and Concerns</p> <ul style="list-style-type: none">• Lack of official communication by ISRO and the Department of Space raises transparency and accountability concerns, especially given Gaganyaan's ₹20,000 crore public funding.• Earlier apprehensions about U.S. ITAR (International Traffic in Arms Regulations) potentially limiting knowledge transfer were proven unfounded but highlight regulatory sensitivities.• Strategic technology restrictions still constrain full tech access in critical space systems. <p>Importance of Public Engagement and Soft Power Diplomacy</p> <ul style="list-style-type: none">• Astronauts are public icons who inspire youth and foster scientific temper — a resource underutilized in India's space communication strategy.• Better storytelling and visibility could amplify India's soft power, similar to NASA's "Artemis" or ESA's astronaut campaigns.• Platforms like Digital India, National Education Policy (NEP) 2020, and Vigyan Jyoti can integrate such missions for broader outreach.
<p>Conclusion</p>	<p>The NASA-Axiom-ISRO tie-up is more than just a training exercise— it is a strategic investment in India's future as a space-faring nation. To fully capitalize on this, ISRO must institutionalize transparency, improve outreach, and build a robust ecosystem for human spaceflight. As India prepares for Gaganyaan, it must balance technological self-reliance with global cooperation to secure its place in the next era of space exploration.</p>

Q 40: With advancements in regenerative medicine and tissue engineering, is it time for India to shift from live animal testing to bioartificial models? Discuss the ethical, scientific, legal, and policy dimensions of this transition. Also suggest reforms to the existing legal framework to facilitate this shift. (250 words, 15 marks)

Topic – Biomedical research

Source: The Hindu

<https://www.thehindu.com/opinion/op-ed/spare-live-animals-move-to-biological-models/article69847488>.

Introduction	Animal testing has long been a cornerstone of biomedical research, yet it raises significant ethical concerns. Technological advances in regenerative medicine, tissue engineering, and in-silico models now offer alternatives. As India aspires to be a global bio-innovation hub, a policy shift from animal-based to biological models is both ethically imperative and scientifically viable.
Body	<ul style="list-style-type: none"> • Ethical and Philosophical Dimensions • Scientific Limitations of Animal Testing • Technological Alternatives and Emerging Trends • Legal and Policy Framework • Recommendations and Way Forward
Conclusion	India stands at the cusp of a humane scientific revolution. Shifting from live animal testing to bioartificial and regenerative models is not merely a technological or legal choice — it is a civilisational and ethical necessity. Integrating policy, innovation, and compassion, this transition will reaffirm India’s leadership in responsible science, protect biodiversity, and advance the cause of animal dignity and scientific excellence.

UPSC Syllabus	Biomedical research
Why was this question asked?	Q. Why is there so much activity in the field of biotechnology in our country? How has this activity benefitted the field of biopharma? [2018]
Introduction	Animal testing has long been a cornerstone of biomedical research, yet it raises significant ethical concerns. Technological advances in regenerative medicine, tissue engineering, and in-silico models now offer alternatives. As India aspires to be a global bio-innovation hub, a policy shift from animal-based to biological models is both ethically imperative and scientifically viable.
Body	<p>Ethical and Philosophical Dimensions</p> <ul style="list-style-type: none"> • Moral responsibility: Animals, as sentient beings capable of suffering, deserve compassion and humane treatment. • Moral indifferentism: The normalization of animal cruelty for human gain fosters a dangerous culture of insensitivity that may extend to vulnerable human populations. • Gandhian principle of Ahimsa: Aligns with Indian philosophical traditions that advocate non-violence toward all living beings. <p>Scientific Limitations of Animal Testing</p>

- **Poor predictability:** Animal trials often fail to accurately replicate human biological responses (approx. 90% of drugs successful in animal trials fail in human clinical trials).
- **Species differences:** Metabolic, genetic, and immunological differences make extrapolation to humans unreliable.
- **Innovation barriers:** Continued reliance on outdated models hampers innovation in precision medicine.

Technological Alternatives and Emerging Trends

- **Bioartificial organs:** Lab-grown tissues like artificial skin, pancreas, and blood vessels are viable for testing drugs and toxicology.
- **In-vitro methods:** Use of human-derived cells and organ-on-chip models.
- **In-silico simulation:** AI and 3D visual modelling of organs now aid anatomical and physiological education without animal dissection.

Legal and Policy Framework

- **Current regime:** Prevention of Cruelty to Animals Act (PCA), 1960, specifically Chapter IV, governs animal testing.
- **Institutional oversight:** Committee for the Purpose of Control and Supervision of Experiments on Animals (CPCSEA) regulates animal testing in India.
- **Policy gaps:**
 - Lack of binding alternatives-first principle.
 - Exemptions for educational dissection still exist.
 - Poor enforcement and outdated ethics protocols.

Recommendations and Way Forward

- **Legal Reforms:**
 - Amend PCA Act to mandate use of lab-grown biological models “*wherever possible*”.
 - Introduce a **National Alternative Testing Framework (NATF)** modeled on OECD guidelines.
- **Institutional Support:**
 - Fund tissue-engineering research via **Department of Biotechnology (DBT)** and **ICMR**.
 - Establish bio-repositories for validated alternative models.
- **Capacity Building:**
 - Train regulatory authorities and researchers on 3Rs (Replace, Reduce, Refine).

	<ul style="list-style-type: none"> ○ Promote 3D visual and computer-based dissection models in schools. ● Global models to emulate: European Union’s <i>REACH</i> policy, and U.S. FDA’s Modernization Act 2.0 (2022) which allows non-animal testing for drug approval.
Conclusion	India stands at the cusp of a humane scientific revolution. Shifting from live animal testing to bioartificial and regenerative models is not merely a technological or legal choice — it is a civilisational and ethical necessity. Integrating policy, innovation, and compassion, this transition will reaffirm India’s leadership in responsible science, protect biodiversity, and advance the cause of animal dignity and scientific excellence.

Art and Culture

Q 41: Highlight the significance of the inscription of the Maratha Military Landscapes of India in the UNESCO World Heritage List. What does this mean for India’s heritage conservation and global cultural identity? (250 words, 15 marks)

Topic – UNESCO World Heritage Site Framework

Source: The PIB

<https://www.pib.gov.in/PressReleasePage.aspx?PRID=2144154>

Introduction	India’s inscription of the Maratha Military Landscapes as its 44th UNESCO World Heritage Site marks a landmark recognition of the strategic military vision, architectural ingenuity, and regional legacy of the Maratha Empire. The inclusion underlines India’s commitment to preserving and promoting its diverse and living cultural traditions at a global level.
Body	<ul style="list-style-type: none"> ● Significance of the Maratha Military Landscapes ● Cultural and Community Relevance ● Understanding UNESCO’s Mandate ● The World Heritage Site Framework ● Conservation, Sustainable Tourism, and Policy Implications
Conclusion	The Maratha Military Landscapes remind us that heritage is not just about monuments but living landscapes with deep-rooted histories and communities. UNESCO’s World Heritage framework gives India both recognition and responsibility. Going forward, a holistic approach combining scientific conservation, local involvement, and sustainable tourism can ensure these symbols of India’s resilience endure for

generations.

UPSC Syllabus	UNESCO World Heritage Site Framework
Why was this question asked?	Q. Safeguarding the Indian art heritage is the need of the moment. Discuss. [2018]
Introduction	India's inscription of the Maratha Military Landscapes as its 44th UNESCO World Heritage Site marks a landmark recognition of the strategic military vision, architectural ingenuity, and regional legacy of the Maratha Empire. The inclusion underlines India's commitment to preserving and promoting its diverse and living cultural traditions at a global level.
Body	<p>Significance of the Maratha Military Landscapes</p> <ul style="list-style-type: none"> Spanning the 17th to 19th centuries, these twelve forts demonstrate the Maratha Empire's advanced military strategy and understanding of diverse terrains. They range from coastal outposts (Vijaydurg, Sindhudurg) to island forts (Suvarnadurg) and hill forts (Raigad, Shivneri). The forts reflect not just architectural brilliance but a deep integration of local geography into defence planning. <p>Cultural and Community Relevance</p> <ul style="list-style-type: none"> These forts are living symbols of regional identity, valor, and historical continuity for communities in Maharashtra and Tamil Nadu. Local folklore, rituals, and oral traditions tied to these sites represent the intangible heritage that UNESCO also seeks to protect. By involving local communities and the Archaeological Survey of India, their conservation sustains livelihoods and local pride. <p>Understanding UNESCO's Mandate</p> <ul style="list-style-type: none"> UNESCO (<i>United Nations Educational, Scientific and Cultural Organization</i>) was established in 1945 to promote peace and international cooperation through education, science, culture, and communication. It aims to safeguard cultural and natural heritage of outstanding universal value (OUV) through instruments like the <i>World Heritage Convention</i> (1972). India has been an active member of UNESCO and a State Party to the Convention, reflecting its commitment to global cultural stewardship.

The World Heritage Site Framework

- A **World Heritage Site** is a landmark recognized by UNESCO for its unique cultural, natural, or mixed significance.
- To qualify, sites must **meet at least one of the ten criteria** laid out by the World Heritage Committee; the Maratha forts qualified under criteria (iv) — architectural significance — and (vi) — association with living traditions.
- The objective is to ensure these sites are protected and passed on to future generations while promoting sustainable development.

Conservation, Sustainable Tourism, and Policy Implications

- The inscription brings global visibility and funding opportunities for site management and conservation.
- Responsible tourism based on the Outstanding Universal Value principle can boost the regional economy while protecting cultural and ecological balance.
- India must strengthen community stewardship, maintain structural integrity, and ensure that development projects do not threaten these sites.
- This milestone also supports India's broader goal under *Azadi Ka Amrit Mahotsav* to revive and celebrate Bharat's civilizational heritage.

Conclusion

The Maratha Military Landscapes remind us that heritage is not just about monuments but living landscapes with deep-rooted histories and communities. UNESCO's World Heritage framework gives India both recognition and responsibility. Going forward, a holistic approach combining scientific conservation, local involvement, and sustainable tourism can ensure these symbols of India's resilience endure for generations.

Q 42: Drawing lessons from the Chola dynasty, critically examine how ancient Indian governance models can inspire reforms in contemporary administration, especially in infrastructure, water management, and local self-government. (250 words, 15 marks)

Topic – Chola dynasty

Source: The Hindu

<https://www.thehindu.com/opinion/editorial/lessons-from-the-past-on-the-chola-legacy/article69865560.ece>

Introduction

The Chola dynasty, particularly under rulers like Rajaraja Chola I and Rajendra Chola I, is renowned not only for its monumental temples and military expeditions but also for its pioneering achievements in

	governance, decentralization, water management, and infrastructure. The recent commemoration of 1,000 years of Rajendra Chola's maritime expedition and the celebration at Gangaikonda Cholapuram offers a valuable opportunity to revisit these legacies in the context of contemporary governance challenges in India.
Body	<ul style="list-style-type: none"> • Water Management: Lessons from the Chola System • Civic Infrastructure and Structural Resilience • Taxation and Revenue Collection Mechanisms • Democratic Decentralization and Local Self-Government • Maritime Expansion and Trade Diplomacy
Conclusion	The Chola legacy is not confined to stone temples and cultural pride—it embodies a timeless model of governance, community participation, sustainable infrastructure, and global vision. In an era where India seeks to balance heritage with innovation and centralization with grassroots empowerment, revisiting Chola administration offers enduring insights. Commemorations should go beyond symbolism and serve as a blueprint for reforming water management, infrastructure planning, and local governance in 21st-century India.

UPSC Syllabus	Chola Dynasty
Why was this question asked?	Q. Chola architecture represents a high watermark in the evolution of temple architecture. Discuss. [2013]
Introduction	The Chola dynasty, particularly under rulers like Rajaraja Chola I and Rajendra Chola I, is renowned not only for its monumental temples and military expeditions but also for its pioneering achievements in governance, decentralization, water management, and infrastructure. The recent commemoration of 1,000 years of Rajendra Chola's maritime expedition and the celebration at Gangaikonda Cholapuram offers a valuable opportunity to revisit these legacies in the context of contemporary governance challenges in India.
Body	<p>Water Management: Lessons from the Chola System</p> <ul style="list-style-type: none"> • The Cholas established well-engineered irrigation systems, including tanks, canals, and sluices that supported agriculture in the Cauvery delta. • Tank irrigation systems, such as the Grand Anicut (Kallanai), are still functional, indicating sustainable planning. • In contrast, modern-day mismanagement of river basins, such as the underutilization of Cauvery floodwaters, points to the need for reviving traditional wisdom alongside modern

hydrological techniques.

- Government initiatives like the **Jal Shakti Abhiyan** and **Atal Bhujal Yojana** can benefit from integrating localized traditional water management practices.

Civic Infrastructure and Structural Resilience

- Temples like **Brihadisvara** and **Gangaikonda Cholapuram**, which have withstood earthquakes and centuries of wear, showcase the **Cholas' advanced knowledge in civil engineering and materials**.
- Contemporary India's frequent civic infrastructure failures (e.g., bridge collapses, waterlogging) highlight a **gap in quality control and architectural durability**.
- There is scope for integrating **Indigenous Knowledge Systems (IKS)** into present-day urban planning and structural engineering norms under the **National Building Code (NBC)** and **Smart Cities Mission**.

Taxation and Revenue Collection Mechanisms

- The Cholas had **efficient land revenue systems**, well-documented in temple inscriptions and copper plate grants, which categorized land by fertility and productivity.
- The presence of local assemblies ensured **transparency and participatory tax assessments**.
- Modern India's move towards **Property Tax Reforms, GIS-based surveys**, and **direct benefit transfers** can draw inspiration from such early models of decentralization and accountability.

Democratic Decentralization and Local Self-Government

- The Chola empire fostered **grassroots democracy** through *Ur*, *Sabha*, and *Nattar*—local village assemblies responsible for administration, justice, and revenue collection.
- These bodies functioned through **elections by lot** and strict eligibility norms for participation.
- While India adopted the **73rd and 74th Constitutional Amendments** to empower Panchayati Raj Institutions and Urban Local Bodies, many units remain **defunct or unelected**, undermining democratic decentralization.
- Reinvigorating local bodies with adequate funding, trained staff, and autonomy can help emulate Chola-era efficiency.

Maritime Expansion and Trade Diplomacy

- Rajendra Chola's naval expedition to Southeast Asia exemplified early **maritime diplomacy, soft power, and**

	<p>assertion of trade routes.</p> <ul style="list-style-type: none">• The Cholas maintained commercial ties with Srivijaya, China, and Arabia, boosting prosperity.• India's modern foreign policy tools like Project SAGAR, Maritime India Vision 2030, and the Act East Policy can be seen as a continuation of this strategic maritime orientation.
Conclusion	<p>The Chola legacy is not confined to stone temples and cultural pride—it embodies a timeless model of governance, community participation, sustainable infrastructure, and global vision. In an era where India seeks to balance heritage with innovation and centralization with grassroots empowerment, revisiting Chola administration offers enduring insights. Commemorations should go beyond symbolism and serve as a blueprint for reforming water management, infrastructure planning, and local governance in 21st-century India.</p>

Disaster Management

Q 43: India's vulnerability to seismic risks is exacerbated by rapid urbanisation and poor enforcement of building codes. In this context, examine India's seismic risk profile and suggest comprehensive measures to build long-term seismic resilience. (250 words, 15 marks)

Topic – Vulnerability of India to earthquake related hazards

Source: The Hindu

<https://www.thehindu.com/opinion/op-ed/a-tectonic-shift-in-thinking-to-build-seismic-resilience/article69820061.ece>

Introduction	<p>Recent tremors across India have once again highlighted the country's high vulnerability to seismic activity, especially in urban areas with ageing infrastructure and poor enforcement of safety norms. India lies at the junction of the Indian and Eurasian tectonic plates, making it prone to frequent and high-magnitude earthquakes. Despite past disasters such as the Bhuj (2001) and Nepal (2015) earthquakes, the country continues to face challenges in implementing seismic safety measures.</p>
Body	<ul style="list-style-type: none">• India's Seismic Risk Profile• Structural and Administrative Gaps in Seismic Preparedness• Measures for Building Seismic Resilience

	<ul style="list-style-type: none"> • Global Best Practices and India’s Lessons • Policy, Investment, and Community Engagement
Conclusion	<p>India’s growing urban footprint in seismically active regions, combined with fragile infrastructure, makes earthquake resilience a national imperative. Mere legislation is not enough—what is needed is rigorous enforcement, mass awareness, and targeted investment in resilient infrastructure. A shift from reactive to proactive disaster risk reduction will ensure India is better prepared to protect lives and livelihoods when the next major earthquake strikes.</p>

UPSC Syllabus	Vulnerability of India to earthquake related hazards
Why was this question asked?	Q. Discuss about the vulnerability of India to earthquake related hazards. Give examples including the salient features of major disasters caused by earthquakes in different parts of India during the last three decades. [2021]
Introduction	<p>Recent tremors across India have once again highlighted the country's high vulnerability to seismic activity, especially in urban areas with ageing infrastructure and poor enforcement of safety norms. India lies at the junction of the Indian and Eurasian tectonic plates, making it prone to frequent and high-magnitude earthquakes. Despite past disasters such as the Bhuj (2001) and Nepal (2015) earthquakes, the country continues to face challenges in implementing seismic safety measures.</p>
Body	<p>India’s Seismic Risk Profile</p> <ul style="list-style-type: none"> • India is divided into four seismic zones (II–V): <ul style="list-style-type: none"> ○ Zone V (Very High Risk) includes the Northeast, parts of Jammu & Kashmir, Bihar, and the Andaman & Nicobar Islands. ○ Zone IV (High Risk) includes parts of northern and northeastern states. • The Indian Plate’s collision with the Eurasian Plate builds pressure along the Himalayan seismic gap, which is overdue for a major earthquake of magnitude 8 or higher. • Urban areas with large populations and unregulated growth are especially at risk due to non-engineered constructions and lack of retrofitting. <p>Structural and Administrative Gaps in Seismic Preparedness</p> <ul style="list-style-type: none"> • A significant proportion of buildings, especially those constructed before the 2000s, do not comply with BIS seismic

codes such as IS 1893:2016 and IS 4326.

- Construction on **liquefaction-prone soils** in many cities increases the risk of structural collapse during earthquakes.
- There is a **lack of trained structural engineers**, inadequate inspections, and weak municipal enforcement mechanisms.
- **Building code violations** and poor awareness among both builders and citizens contribute to unpreparedness.

Measures for Building Seismic Resilience

- **Enforce Bureau of Indian Standards (BIS) codes** such as IS 1893 (seismic design), IS 4326 (earthquake-resistant construction), and IS 13920 (ductile detailing) at both urban and rural levels.
- Implement a national program for **retrofitting vulnerable structures**, including public buildings, hospitals, and schools, using **steel jacketing, base isolation, and shear wall insertion**.
- Mandate **deep pile foundations** and restrict construction on **unstable or floodplain soils** in Zone IV and V regions.
- Expand **real-time early warning systems** such as the IndiaQuake app and extend NCS monitoring to remote and high-risk rural areas.
- Train local authorities and builders through **National Disaster Management Authority (NDMA)** programs and promote community-led **disaster preparedness drills**.

Global Best Practices and India's Lessons

- Countries like **Japan and New Zealand** mandate **base isolation systems** and regular seismic audits of infrastructure.
- **Bangkok** has introduced high-strength concrete (30–40 MPa) and updated seismic codes since 2007, reducing quake-related damage.
- The **Bhuj earthquake** showed how lack of preparedness and poor construction standards can multiply casualties.
- The **Myanmar quake (2025)** highlighted the dangers of unreinforced masonry and non-enforcement of codes.

Policy, Investment, and Community Engagement

- A dedicated **National Earthquake Resilience Mission** should be launched with annual funding (~₹50,000 crore as estimated by experts) for retrofitting and public awareness.
- Establish a **National Seismic Risk Index**, mapping zones of vulnerability and compliance for public access.
- Incorporate **earthquake safety in school curricula**, and promote family-level emergency preparedness with **emergency**

	<p>kits and evacuation plans.</p> <ul style="list-style-type: none"> Encourage state-level regulatory bodies to conduct regular audits and mandate disclosure of seismic compliance for buildings.
Conclusion	<p>India's growing urban footprint in seismically active regions, combined with fragile infrastructure, makes earthquake resilience a national imperative. Mere legislation is not enough—what is needed is rigorous enforcement, mass awareness, and targeted investment in resilient infrastructure. A shift from reactive to proactive disaster risk reduction will ensure India is better prepared to protect lives and livelihoods when the next major earthquake strikes.</p>

Q44. India has the world's largest number of slum clusters in flood-prone areas. Discuss the factors leading to this phenomenon and suggest measures to build resilience among vulnerable communities. (250 words, 15 marks)

Topic – Flood control

Source: The Hindu

<https://www.thehindu.com/sci-tech/science/india-has-worlds-highest-number-of-slum-clusters-in-flood-prone-areas/article69864803.ece>

Introduction	<p>A 2025 study in Nature Cities revealed that over 158 million slum dwellers in India live in flood-prone areas, especially along the Ganga river delta. This makes India the most flood-vulnerable informal settlement country in the world. The issue reflects a breakdown in urban planning, housing policy, environmental conservation, and social equity, with direct implications for India's commitments under the 2030 Sustainable Development Goals (SDGs).</p>
Body	<ul style="list-style-type: none"> Structural Causes of Slum Growth in Floodplains Infrastructure Gaps and Environmental Degradation Legal and Institutional Weaknesses Impact on Human Development and SDGs Policy and Planning Solutions
Conclusion	<p>India's slum dwellers are 32% more likely to settle in floodplains, due to poverty, exclusion, and lack of planning. Addressing this requires a rights-based, risk-sensitive urban governance framework, rooted in constitutional morality, judicial pronouncements, and empirical data. Empowering vulnerable communities and enforcing environmental laws must go hand-in-hand with flood adaptation and inclusive urban growth if India is to meet its constitutional promises and SDG goals.</p>

UPSC Syllabus	Flood control
Why was this question asked?	Q. The frequency of urban floods due to high intensity rainfall is increasing over the years. Discussing the reasons for urban floods, highlight the mechanisms for preparedness to reduce the risk during such events. [2016]
Introduction	A 2025 study in Nature Cities revealed that over 158 million slum dwellers in India live in flood-prone areas, especially along the Ganga river delta. This makes India the most flood-vulnerable informal settlement country in the world. The issue reflects a breakdown in urban planning, housing policy, environmental conservation, and social equity, with direct implications for India's commitments under the 2030 Sustainable Development Goals (SDGs).
Body	<p>Structural Causes of Slum Growth in Floodplains</p> <ul style="list-style-type: none">• Inadequate Affordable Housing: The Task Force on Housing Requirements in Urban Areas (2012) estimated a housing shortage of over 18 million units, mostly for EWS/LIG groups.• Economic Compulsion: Informal workers seek cheap housing close to urban livelihoods.• Urban Sprawl and Real Estate: The High-Level Committee on Urban Infrastructure (2011) noted how unregulated real estate expansion forces the poor into ecologically sensitive zones. <p>Infrastructure Gaps and Environmental Degradation</p> <ul style="list-style-type: none">• Drainage and Wetland Encroachment: The Comptroller and Auditor General (CAG) Report on Urban Flooding in Chennai (2017) blamed encroachment of water bodies for aggravating floods.• Failure of Stormwater Systems: The NIUA Urban Flooding Report (2016) pointed to weak maintenance of urban drainage systems. <p>Legal and Institutional Weaknesses</p> <ul style="list-style-type: none">• Disaster Management Act, 2005 focuses on reactive, not proactive, measures.• Lack of Implementation of CRZ and Urban Planning Laws.• The Supreme Court in <i>Almitra Patel v. Union of India</i> (2000) criticized urban authorities for failing to provide basic amenities to slum dwellers.• In <i>Olga Tellis v. Bombay Municipal Corporation</i> (1985), the SC recognized the Right to Livelihood of pavement dwellers and ordered humane rehabilitation before eviction.

	<p>Impact on Human Development and SDGs</p> <ul style="list-style-type: none">• SDG 1 & 11: Poor urban dwellers face higher flood exposure, aggravating poverty and undermining safe cities.• SDG 6 & 13: Inadequate water, sanitation, and climate resilience threaten health and adaptive capacity.• The MoHUA's Ease of Living Index (2020) ranks cities, but does not account adequately for flood-vulnerable slum metrics. <p>Policy and Planning Solutions</p> <ul style="list-style-type: none">• National Urban Flood Management Policy (proposed 2020): Should be adopted with a slum-specific focus.• Implementation of PM Awas Yojana (Urban): Must be expanded to include flood-resilient housing and in-situ redevelopment.• Strengthening NDMA Guidelines (2010) on urban flooding with community participation and mapping.• Smart Cities Mission should integrate Nature-based Solutions (e.g., rain gardens, sponge cities) to reduce vulnerability.• Promote parametric insurance models and slum-specific disaster mitigation funds (as suggested by the Rangarajan Committee on Financial Inclusion).
<p>Conclusion</p>	<p>India's slum dwellers are 32% more likely to settle in floodplains, due to poverty, exclusion, and lack of planning. Addressing this requires a rights-based, risk-sensitive urban governance framework, rooted in constitutional morality, judicial pronouncements, and empirical data. Empowering vulnerable communities and enforcing environmental laws must go hand-in-hand with flood adaptation and inclusive urban growth if India is to meet its constitutional promises and SDG goals.</p>

Q 45: A massive earthquake with a high magnitude struck the Kamchatka Peninsula of the Russian Far East recently, barely nine months after UNESCO unveiled a global map and roadmap for tsunami preparedness. Discuss the importance of tsunami preparedness in reducing disaster risk, outline the key elements of UNESCO's tsunami initiative and assess India's readiness and lessons for the country. (250 words, 15 marks)

Topic – Tsunami preparedness and disaster management

Source: The Down To Earth

<https://www.downtoearth.org.in/natural-disasters/as-kamchatka-records-one-of-historys-strongest-quakes-unesco-had-unveiled-global-map-on-tsunami-preparedness-just-9-months-ago>

Introduction

The 8.8 M earthquake that struck Kamchatka on July 30 2025

	underscores the vulnerability of coastal communities to tsunamis. Nine months earlier UNESCO called on governments to bolster tsunami preparedness and launched a roadmap at Banda Aceh aiming to make at least 100 coastal communities tsunami ready by 2030. The initiative, adopted twenty years after the 2004 Indian Ocean tsunami, urges accelerated investments in warning and mitigation systems.
Body	<ul style="list-style-type: none"> • Global tsunami risk and recent quake • UNESCO's tsunami preparedness initiative • Achievements and drills • India's vulnerability and lessons • Roadmap to strengthen preparedness
Conclusion	The Kamchatka earthquake and UNESCO's tsunami roadmap highlight that tsunamis are not rare but recurrent threats. Building a culture of preparedness through robust warning systems, community empowerment, resilient infrastructure and international cooperation is essential for India and the world to minimise casualties and economic losses.

UPSC Syllabus	Disaster Management – Tsunami; Role of International Organisations; Disaster risk reduction.
Why was this question asked?	Q. India's coastline is vulnerable to tsunamis and cyclones. Discuss the measures taken by India to improve its tsunami early warning systems and community preparedness. (2020)
Introduction	The 8.8 M earthquake that struck Kamchatka on July 30 2025 underscores the vulnerability of coastal communities to tsunamis. Nine months earlier UNESCO called on governments to bolster tsunami preparedness and launched a roadmap at Banda Aceh aiming to make at least 100 coastal communities tsunami ready by 2030. The initiative, adopted twenty years after the 2004 Indian Ocean tsunami, urges accelerated investments in warning and mitigation systems.
Body	<p>Global tsunami risk and recent quake</p> <ul style="list-style-type: none"> • Around 700 million people live in tsunami-prone coastal areas; this number could reach 1 billion by 2050. • Locally damaging tsunamis strike the Pacific every one to two years and UNESCO warns of a near 100 per cent chance of a tsunami in the Mediterranean within 30 years. • The Kamchatka quake, one of history's strongest, reaffirms the need for early warning and community preparedness. <p>UNESCO's tsunami preparedness initiative</p>

- At a conference in Banda Aceh marking 20 years since the 2004 tsunami, UNESCO unveiled a global map and roadmap to create 100 tsunami-ready coastal communities by 2030.
- **The Banda Aceh Statement** calls on states and civil society to invest in improved warning and mitigation systems.
- UNESCO aims to provide tsunami confirmation within 10 minutes or less for high-risk coastlines by 2030.

Achievements and drills

- Twenty-six communities in India and 12 in Indonesia have been recognised as tsunami-ready; real-time drills near Banda Aceh tested community preparedness.
- These drills validate alert systems, evacuation routes and public awareness programmes.

India's vulnerability and lessons

- **India has a 7,500 km coastline** and experienced devastating loss during the 2004 tsunami; although some communities are now tsunami-ready, millions remain exposed.
- Lessons include the need for robust early-warning infrastructure, last-mile connectivity, community education, periodic drills and coastal zoning.
- Disaster management must integrate tsunami risk into land-use planning, resilient housing and ecosystem-based defences such as mangroves.

Roadmap to strengthen preparedness

- Expand the tsunami-ready programme to more coastal districts and build capacity in local disaster management authorities.
- Invest in real-time seismic and ocean-monitoring networks and ensure warnings reach fisherfolk and coastal villages quickly through multiple communication channels.
- Collaborate with international bodies for technology transfer and share best practices; promote school-level disaster education and community-led evacuation drills.

Conclusion

The Kamchatka earthquake and UNESCO's tsunami roadmap highlight that tsunamis are not rare but recurrent threats. Building a culture of preparedness through robust warning systems, community empowerment, resilient infrastructure and international cooperation is essential for India and the world to minimise casualties and economic losses.

Internal Security

Q 46: The U.S. designation of The Resistance Front (TRF) as a terrorist organization marks a shift in international response to cross-border terrorism in South Asia. Examine the significance of this designation, its implications for India's counterterrorism strategy, and the challenges that persist in holding state sponsors accountable. (250 words | 15 marks)

Topic – India's counterterrorism strategy

Source: The Hindu

<https://www.thehindu.com/opinion/editorial/a-long-list-on-the-us-designation-of-the-resistance-front-group/article69834257.ece>

Introduction	The United States recently designated The Resistance Front (TRF)—the group that claimed responsibility for the Pahalgam terror attack (April 2025)—as a Foreign Terrorist Organization (FTO) and Specially Designated Global Terrorist (SDGT) under the U.S. legal framework. This move is seen as a significant diplomatic success for India, especially as the TRF is widely regarded as a proxy of Lashkar-e-Taiba (LeT), a Pakistan-based group responsible for numerous attacks in India. However, this designation also highlights continued inconsistencies in global counterterrorism efforts, particularly in holding state sponsors of terrorism accountable.
Body	<ul style="list-style-type: none">• Understanding the U.S. Designation System• TRF and its Link to Lashkar-e-Taiba (LeT)• Impact on India's Counterterrorism and Diplomatic Strategy• Key Challenges and Limitations• Way Forward for India
Conclusion	The U.S. designation of TRF marks an important symbolic and legal step in acknowledging the evolving nature of cross-border terrorism and its proxies. While it strengthens India's diplomatic and legal position, the broader challenge remains: ensuring consistent international pressure on state sponsors like Pakistan and reforming global institutions to act decisively against terrorism. India must remain proactive, combining hard power and diplomatic engagement to ensure justice, deterrence, and global consensus on counterterrorism.

UPSC Syllabus	India's counterterrorism strategy
Why was this	Q. The scourge of terrorism is a grave challenge to national security.

question asked?	What solutions do you suggest to curb this growing menace? What are the major sources of terrorist funding? [2017]
Introduction	<p>The United States recently designated The Resistance Front (TRF)—the group that claimed responsibility for the Pahalgam terror attack (April 2025)—as a Foreign Terrorist Organization (FTO) and Specially Designated Global Terrorist (SDGT) under the U.S. legal framework. This move is seen as a significant diplomatic success for India, especially as the TRF is widely regarded as a proxy of Lashkar-e-Taiba (LeT), a Pakistan-based group responsible for numerous attacks in India. However, this designation also highlights continued inconsistencies in global counterterrorism efforts, particularly in holding state sponsors of terrorism accountable.</p>
Body	<p>Understanding the U.S. Designation System</p> <ul style="list-style-type: none">• Foreign Terrorist Organization (FTO): Designation by the U.S. Secretary of State under Section 219 of the Immigration and Nationality Act. It criminalizes support to the group, blocks assets, and bars entry into the U.S.• Specially Designated Global Terrorist (SDGT): Designation under Executive Order 13224, targeting individuals and entities linked to terrorism globally.• These designations enhance legal and financial pressure on terror networks by freezing assets and restricting international movement. <p>TRF and its Link to Lashkar-e-Taiba (LeT)</p> <ul style="list-style-type: none">• TRF emerged post-2019 as a front for LeT, likely to circumvent global sanctions and present a local insurgent façade.• Despite LeT's designation in 2001, it has continued attacks, indicating ineffective enforcement mechanisms.• The U.S. action now explicitly acknowledges TRF as a proxy for banned outfits, exposing Pakistan's claim of LeT being "defunct". <p>Impact on India's Counterterrorism and Diplomatic Strategy</p> <ul style="list-style-type: none">• Strengthens India's effort to list TRF under UNSC 1267 Sanctions Committee, thereby invoking multilateral sanctions.• Supports India's narrative that Pakistan continues to sponsor terrorism, contrary to its international commitments.• May lead to faster extradition processes, as seen with Tahawwur Rana's extradition efforts for the 2008 Mumbai attacks.• Reinforces India's Operation Sindoor and related security

measures taken after the Pahalgam attack.

Key Challenges and Limitations

- **Selective application** of counterterrorism norms by global powers undermines consistency. Example: TRF was left unnamed in UNSC statements due to political compromise.
- U.S. equivocation — such as **praising Pakistan's military leadership** and claiming credit for the ceasefire — weakens India's case.
- Pakistan continues to provide **safe havens, training, and funding** to terror groups, protected by its strategic utility to Western powers.
- The **geopolitics of UNSC P-5 dynamics** (vetoes, strategic interests) often block India's moves at multilateral forums.

Way Forward for India

- Intensify **diplomatic efforts** to get TRF listed under **UNSC 1267 Committee**.
- Build stronger coalitions with **like-minded countries (France, Australia, UAE)** on global counterterrorism norms.
- Push for reforms in **UN counterterrorism procedures** to ensure transparency and depoliticization of sanction processes.
- Continue legal and intelligence efforts for **prosecution and extradition of global terrorists**.
- Raise the issue in **global forums like G20, FATF, SCO**, linking terrorism with state sponsorship and regional instability.

Conclusion

The U.S. designation of TRF marks an important symbolic and legal step in acknowledging the evolving nature of cross-border terrorism and its proxies. While it strengthens India's diplomatic and legal position, the broader challenge remains: ensuring consistent international pressure on state sponsors like Pakistan and reforming global institutions to act decisively against terrorism. India must remain proactive, combining hard power and diplomatic engagement to ensure justice, deterrence, and global consensus on counterterrorism.

