

# UDAAN SERIES REFLECTS UPSC

## CSE M- 2025 GS-3

Q1. Terrorism is a global scourge. How has it manifested in India? Elaborate with contemporary examples. What are the counter measures adopted by the State? Explain.

### 2025 GS-3

## UDAAN SERIES- MIRROR OF MAINS

20. भारत में आतंकवाद तेज़ी से एक बहुआयामी खतरे के रूप में विकसित हो रहा है, जिसकी पहचान अंतरराष्ट्रीय संगठित अपराध गिरोहों के साथ इसके जुड़ाव और शत्रुतापूर्ण सरकारी तत्वों के रणनीतिक समर्थन से होती है। राष्ट्रीय सुरक्षा पर इन अंतर्संबंधों की प्रकृति और प्रभावों का विश्लेषण कीजिए, और इस गठजोड़ को प्रभावी ढंग से समाप्त करने के लिए एक एकीकृत, बहु-एजेंसी दृष्टिकोण सुझाइए। (250 शब्द)

Terrorism in India has increasingly evolved into a multifaceted threat, marked by its convergence with transnational organized crime syndicates and the strategic backing of hostile state actors. Analyze the nature and implications of these interconnections for national security, and suggest an integrated, multi-agency approach for dismantling this nexus effectively. (250 words)

 [@Csp23info](#)

[More information click here](#)

*The Robot 2.0*

Q2. The Government of India recently stated that Left Wing Extremism (LWE) will be eliminated by 2026. What do you understand by LWE and how are the people affected by it? What measures have been taken by the government to eliminate

LWE? **2025 GS-3**

## UDAMAN SERIES- MIRROR OF MAINS

Q9. . भारतीय संविधान का अनुच्छेद 244 अनुसूचित क्षेत्रों और जनजातीय क्षेत्रों के प्रशासन से संबंधित है। पाँचवीं अनुसूची के प्रावधानों के कार्यान्वयन न होने के वामपंथी उग्रवाद के विकास पर पड़ने वाले प्रभाव का विश्लेषण कीजिए।

Article 244 of the Indian Constitution relates to administration of scheduled area and tribal areas. Analyse the impact of non-implementation of the provisions of the Fifth schedule on the growth of Left-Wing extremism.

Q3. India aims to become a semiconductor manufacturing hub. What are the challenges faced by the semiconductor industry in India? Mention the salient

features of the India Semiconductor Mission. **2025 GS-3**

## UDAMAN SERIES-

18. Assess the challenges in implementing the India Semiconductor Mission, considering global supply chain dynamics and geopolitical factors. How can India position itself as a competitive semiconductor hub?

वैश्विक आपूर्ति श्रृंखला गतिशीलता और भू-राजनीतिक कारकों को ध्यान में रखते हुए भारत सेमीकंडक्टर मिशन को लागू करने में चुनौतियों का आकलन करें। भारत खुद को एक प्रतिस्पर्धी सेमीकंडक्टर हब के रूप में कैसे स्थापित कर सकता है?



@csp23info

[more information clicks here](#)

THE ROBOT 2.0

Q4. What are the challenges before the Indian economy when the world is moving away from free trade and multilateralism to protectionism and bilateralism? How can

these challenges be met? **2025 GS-3**

## UDAN SERIES- MIRROR OF MAINS

2. Looking at India's recent economic position, do you think that India is prepared to penetrate deeper into global markets? While outward economic integration presents new opportunities, it also demands internal structural resilience and policy coherence. What are the possible outcomes and constraints in doing so?

भारत की हालिया आर्थिक स्थिति को देखते हुए, क्या आपको लगता है कि भारत वैश्विक बाजारों में और गहराई से पैठ बनाने के लिए तैयार है? जबकि बाहरी आर्थिक एकीकरण नए अवसर प्रस्तुत करता है, इसके लिए आंतरिक संरचनात्मक लचीलापन और नीतिगत सुसंगतता की भी आवश्यकता होती है? ऐसा करने में संभावित परिणाम और बाधाएँ क्या हैं?

Q5. Elaborate the scope and significance of supply chain management of agricultural commodities in India. **2025 GS-3**

## UDAN SERIES- MIRROR OF MAINS

	buffaloes, 20% cattle), yet only 1% is value-added.
--	---

**Potential:**

Category	Key Facts
<b>Agro-Climatic Zones</b>	India has 15 Agro-Climatic Zones classified by the Planning Commission.
<b>Arable Land</b>	India has the second-largest arable land (~ 156 million hectares) in the world.
<b>Irrigated Area</b>	Net irrigated area is over 70 million hectares as per FAO 2023.
<b>Cultivable Land</b>	52% of India's land is cultivable compared to the global average of 11%.
<b>Climatic Diversity</b>	India hosts all 6 major climate types as per Köppen Classification.
<b>Soil Types</b>	India possesses 46 out of 60 global soil types (ICAR).
<b>Sunshine Availability</b>	Receives 2500–3000 hours of sunshine annually, ideal for multiple cropping.
<b>Livestock Population</b>	Largest livestock population globally (~525 million animals)

### Supply Chain Dynamics in the Food Processing Industry

**Introduction**  
The supply chain in food processing bridges the journey from farm to fork, encompassing all activities that bring raw produce from fields to consumer plates. It includes sourcing raw materials, processing them at various levels, and distributing finished products through organized retail or bulk buyers.

**Stages of Food Supply Chain**  
The food processing supply chain is multi-tiered, involving the following phases:  
 - Input Acquisition (e.g., seeds, water, fertilizers)  
 - Agricultural Production  
 - Procurement & Aggregation  
 - Primary Processing (cleaning, grading, milling)  
 - Secondary Processing (baking, packaging, value addition)  
 - Retail Distribution & Marketing

**Upstream and Downstream Flow**  
Upstream Segment

icus.

Q6. "कम्प्यूटेशन में कांटम छलांग एक औद्योगिक पुनर्जागरण का संकेत है।" परीक्षण कीजिए कि कैसे कांटम प्रौद्योगिकियाँ, उन्नत सिमुलेशन, अनुकूलन और क्रिप्टोग्राफिक अनुप्रयोगों के माध्यम से, उत्पादन प्रक्रियाओं में

[@Csp23info](#)

[More Information click here](#)

[The Robot 2.0](#)

2

क्रांति ला सकती हैं, आपूर्ति श्रृंखलाओं को सुव्यवस्थित कर सकती हैं, और भारत के विनिर्माण क्षेत्र में परिचालन दक्षता को तेज़ी से बढ़ा सकती हैं।

"Quantum leaps in computation herald an industrial renaissance." Examine how quantum technologies, through enhanced simulation, optimization, and cryptographic applications, can revolutionize production processes, streamline supply chains, and exponentially elevate operational efficiency in India's manufacturing sector.

Q6. How can India achieve energy independence through clean technology by 2047? How can biotechnology play a crucial role in this endeavour? **2025**

**GS-3**

## UDAN SERIES- MIRROR OF MAINS

Q7. "जैव ईंधन ऊर्जा स्वायत्तता और पर्यावरण संरक्षण के तालमेल का प्रतीक है।" आकलन कीजिए कि जैव ईंधन भारत की ऊर्जा सुरक्षा में किस प्रकार योगदान करते हैं। नीतिगत ढाँचों और मापनीयता संबंधी चुनौतियों का मूल्यांकन कीजिए। "Biofuels symbolize the synergy of energy autonomy and environmental stewardship." Assess how biofuels contribute to India's energy security. Evaluate policy frameworks and scalability challenges.

### Biotechnology

#### Question:

*Evaluate the applications of CRISPR and other gene-editing technologies in agriculture and human health. What are the associated bioethical, regulatory, and biosafety concerns for India?*

#### Introduction

CRISPR (Clustered Regularly Interspaced Short Palindromic Repeats) and other gene-editing technologies such as TALENs and ZFNs are at the forefront of genomic engineering.

These technologies allow site-specific alterations in DNA sequences, enabling targeted changes in genes for improving crop traits, curing genetic disorders, and developing advanced diagnostics.

India has seen a growing footprint in gene-editing applications across agriculture and medicine, driven by national missions and startup innovations.

crops. (e.g., Bt-free CRISPR mustard requiring less urea)

- CRISPR crops are considered non-GMO in India, allowing easier regulatory acceptance. (e.g., 2022 PIB note on CRISPR crops exempt from GMO Act)
- Export opportunities opened with CRISPR-edited seeds like India's GeneBridge exporting tomato hybrids. (e.g., GeneBridge startup exporting edited tomato seeds)

#### Applications in Human Health

- Treating genetic disorders such as sickle cell anemia and beta-thalassemia using CRISPR-based gene therapy. (e.g., RGCB's correction of beta-thalassemia in mouse models)
- Developing personalized cancer treatments through CRISPR-driven immunotherapy and targeted mutation correction. (e.g., CRISPR used in CAR-T cell therapy for blood cancers)
- Targeting drug-resistant bacteria by editing microbial resistance genes (e.g., Klebsiella). (e.g., CRISPR used to reverse AMR in Klebsiella strains)

17. महामारी के बाद, निजी क्षेत्र की बढ़ती भागीदारी के साथ, जैव प्रौद्योगिकी नवाचार के प्रति भारत का दृष्टिकोण विकसित हुआ है। भारत की जैव-अर्थव्यवस्था को बढ़ाने के लिए सार्वजनिक-निजी भागीदारी को कैसे अनुकूलित किया जा सकता है, इस पर आलोचनात्मक चर्चा कीजिए। (250 शब्द)

India's approach to biotechnology innovation has evolved post-pandemic with increased private sector participation. Critically discuss how public-private partnerships can be optimized to enhance India's bioeconomy. (250 words)

Q7. Seawater intrusion in the coastal aquifers is a major concern in India. What are the causes of seawater intrusion and the remedial measures to combat this hazard?

**2025 GS-3**

## **UDAN SERIES- MIRROR OF MAINS**

Q15. "भारत के तटवर्ती क्षेत्रों का क्षरण नीतियों की क्षमता से कहीं अधिक तेज़ी से हो रहा है।" तटीय क्षरण के प्राकृतिक और मानवजनित कारकों का समालोचनात्मक परीक्षण कीजिए। इसके पारिस्थितिक और सामाजिक-आर्थिक प्रभावों का मूल्यांकन कीजिए, और भारत की तटीय क्षेत्र प्रबंधन रणनीतियों और इंजीनियरिंग हस्तक्षेपों की प्रभावकारिता का आकलन कीजिए।

"India's coastlines are eroding faster than policies can respond." Critically examine the natural and anthropogenic drivers of coastal erosion. Evaluate its ecological and socio-economic impacts, and assess the efficacy of India's coastal zone management strategies and engineering interventions.

Q8. Explain how the Fiscal Health Index (FHI) can be used as a tool for assessing the fiscal performance of states in India. In what way would it encourage the states

to adopt prudent and sustainable fiscal policies? **2025 GS-3**

## UDĀAN SERIES- MIRROR OF MAINS

“Urbanization is not development if it fails the most vulnerable.” Why do India's urban poor face worse health outcomes than rural populations? Analyze key factors behind this “urban health penalty,” and suggest how policy must evolve to reduce urban health disparities.(15m)

Q9. Examine the factors responsible for depleting groundwater in India. What are the steps taken by the government to mitigate such depletion of groundwater?

**2025 GS-3**

## UDĀAN SERIES- MIRROR OF MAINS

Q8. भूजल संसाधनों में खतरनाक कमी के साथ-साथ, प्रदूषण का बढ़ता स्तर भारत में जल संकट को और भी गंभीर बना रहा है। इस कथन के आलोक में, देश में भूजल प्रदूषण के कारणों पर चर्चा कीजिए। उपचारात्मक उपाय सुझाएँ और इस संबंध में सरकार द्वारा उठाए गए कदमों का उल्लेख कीजिए।

Alongside the alarming depletion, rising pollution levels of groundwater resources are exacerbating the water crisis in India. In light of the statement, discuss the reasons for groundwater pollution in the country. Suggest remedial measures and mention the initiatives taken by the government in this regard

Q10. Examine the scope of the food processing industries in India. Elaborate the measures taken by the government in the food processing industries for generating

employment opportunities. **2025 GS-3**

## UDAN SERIES- MIRROR OF MAINS

### FOOD PROCESSING INDUSTRIES

#### Previous Year Questions (PYQs)

Year	Question
2020	What are the challenges and opportunities of the food processing sector in India? How can farmer income be significantly enhanced through food processing?
2019	Discuss the government initiatives to tackle challenges in the food processing sector.
2018	Evaluate the role of supermarkets in managing the supply chain for fruits, vegetables, and food items.

marketability, but also contributes significantly to nutrition, employment, and rural income.

#### Core Principles and Importance

##### Socio-economic Transformation

- Not just value addition to crops, but value addition to farmer lives.
- Drives rural employment, reduces post-harvest loss, and boosts income.

##### Farm-to-Fork Efficiency

- Ensures food security, reduces wastage, and ensures nutritional access to consumers.
- Facilitates better prices for farmers and affordable choices for consumers.

##### Sustainability and Rural Development

- Builds rural infrastructure, promotes entrepreneurship, and empowers women-led SHGs.

Q11. How does nanotechnology offer significant advancements in the field of agriculture?

How can this technology help to uplift the socio-economic status of farmers? **2025**

**GS-3**

## UDAAN SERIES- MIRROR OF MAINS

**Question:**  
*India's Nano-Mission and National Programme on Nano Science & Technology have set the foundation for nanoscale innovation. With over USD 236 million market size in 2024 growing at ~26% CAGR, evaluate policy and industry actions needed to boost sustainable nanoapplication in water purification, energy, and green manufacturing by 2030.*

**Introduction**  
Nanotechnology offers unique advantages in environmental sustainability through high surface area, reactivity, and functional tunability.

India's Nano Mission Phase III (2023–2027), National Nanotech Centres, and increasing startup involvement mark strong intent.

[@Csp23info](#) [More information click here](#) **THE ROBOT 2.0**

- 30% of nano-waste goes unregulated (FICCI 2023 Report). (e.g., IIT Bombay's nanoparticle sensor for arsenic detection).

**Water Purification**

- Deploy iron oxide, silver, and activated carbon nanomaterials for arsenic, lead, and bacterial contamination removal.
- Scale Thalappil Pradeep's nanofilter tech under Jal Jeevan Mission.
- Mandate nano-filtration in urban water schemes via Smart Cities Mission. (e.g., Pradeep's nanofilter used in Odisha's water pilot).
- Set up rural nanotech purification pilots in fluoride-affected zones.
- Promote indigenously developed nano-test kits for water quality. (e.g., Pradeep's nanofilter used in Odisha's water pilot).

Q12. Mineral resources are fundamental to the country's economy and these are exploited by mining. Why is mining considered an environmental hazard? Explain the remedial measures required to reduce the environmental hazard due to mining.

**2025 GS-3**

## UDAAN SERIES- MIRROR OF MAINS

**First Ever Auction of Minerals in Offshore Areas**

**First Ever Offshore Mineral Auction – UPSC Notes**

India recently conducted its first-ever auction of mineral blocks located in offshore areas under the Offshore Areas Mineral (Development and Regulation) Act, 2002. This marks a key milestone in tapping the untapped potential of seabed mineral wealth, including polymetallic nodules, cobalt, and other strategic resources.

- Held under the amended Offshore Areas Mineral (Development and Regulation) Act and MMDR framework.
- Blocks were identified in the Arabian Sea and Bay of Bengal through detailed seabed surveys.
- Focus on minerals critical for renewable energy technologies like cobalt, lithium, and nickel.
- Ensures scientific, environment-friendly extraction with support from National Centre for Earth Sciences and NIO.

foresight.

**National Critical Minerals Mission (NCMM)**

**National Critical Minerals Mission**

The National Critical Minerals Mission is a strategic initiative by the Indian government to ensure the availability, development, and efficient use of critical minerals. These minerals are vital for national security, clean energy transitions, and advanced manufacturing sectors such as electronics, defense, and electric mobility.

- Launched in 2023 under the Ministry of Mines to secure India's access to strategic mineral resources.
- Focuses on 30+ minerals such as lithium, cobalt, graphite, rare earth elements, nickel, and tin.

Q13. Write a review on India's climate commitments under the Paris Agreement (2015) and mention how these have been further strengthened in COP26 (2021). In this direction, how has the first Nationally Determined Contribution intended by India been updated in 2022? **2025 GS-3**

## UDAN SERIES- MIRROR OF MAINS

7

- **New Collective Quantified Goal (NCQG)** – Aims to replace the current \$100 billion per year target with a more ambitious finance mobilization framework.
- **Implementing the Global Stocktake** – To assess progress since COP 28 and guide future climate policies aligned with the Paris Agreement.
- **Just Energy Transition** – Focused on reducing reliance on fossil fuels and accelerating the shift to renewable energy.
- **Updated Nationally Determined Contributions (NDCs)** – Encourages countries to revise and enhance their emissions reduction targets under the Paris Agreement.
- **Carbon Markets** – Establishes rules and a UN registry framework for trading carbon credits among countries.
- **Cooperative Initiatives** – Promotes partnerships among countries and organizations to enhance global climate action through joint efforts and shared goals.

Q14. What are the major challenges to internal security and peace process in the North-Eastern States? Map the various peace accords and agreements initiated by the government in the past decade. **2025 GS-3**

## UDAN SERIES- MIRROR OF MAINS

Q20. "सीमाएँ केवल मानचित्रों पर रेखाएँ नहीं हैं; वे अवसर और भेद्यता के क्षेत्र हैं।" चर्चा कीजिए कि सीमा अवसंरचना का आधुनिकीकरण और एकीकृत सीमा प्रबंधन ढाँचे को अपनाकर राष्ट्रीय सुरक्षा उद्देश्यों को भारत के परिधीय और प्रायः उपेक्षित सीमांत समुदायों के समावेशी सामाजिक-आर्थिक विकास के साथ कैसे समन्वित किया जा सकता है।

"Borders are not just lines on maps; they are zones of opportunity and vulnerability." Discuss how modernizing border infrastructure and adopting integrated border management frameworks can reconcile national security objectives with inclusive socio-economic development of India's peripheral and often neglected frontier communities.



## North East Insurgency

### INTRODUCTION

Northeast India has long witnessed ethnic, separatist, and ideological insurgencies due to its complex geography, diverse ethnicities, and perceived alienation from the Indian state. With porous borders, historical neglect, and underdevelopment, the region became a hotspot for violent uprisings led by groups such as ULFA, NSCN, and others. Understanding the insurgency's causes, historical phases, security measures, and developmental strategies is essential for lasting peace and integration.

## CAUSES FOR NORTH EAST INSURGENCY

Cause	Specific Example
Ethnic Assertion	Nagas demand for Greater Nagalim encompassing parts of Manipur, Arunachal, Assam.
Perceived Alienation	ULFA's ideology emerged from Assam's identity crisis.
Delayed State Integration	Mizo Hills integrated as late as 1972.
Underdevelopment	Insurgent groups blame lack of infrastructure in Tripura and Arunachal.
Illegal Immigration	Rise in insurgency due to identity threats in Assam post-Bangladesh war.
Language and Cultural Imposition	Agitation in Manipur over Hindi imposition.
Political Exclusion	Tribal groups feel underrepresented in decision-making

Q15. Why is maritime security vital to protect India's sea trade? Discuss maritime and coastal security challenges and the way forward. **2025 GS-3**

## UDAN SERIES- MIRROR OF MAINS

Piracy Risk	Somali pirates occasionally target Indian vessels near Lakshadweep.
Climate Resilience	Ports like Visakhapatnam face cyclone threats; need sustainable design.

### Maritime Security

**Introduction: Maritime Security – Shielding the Blue Waters**

Maritime Security refers to the protection of India's maritime interests, resources, infrastructure, and strategic routes. It extends beyond naval defense to encompass blue economy protection, countering piracy, terrorism, and enforcing maritime laws. India's maritime doctrine and SAGAR vision aim to uphold maritime order in the Indo-Pacific.

**Jargons/Phrases:** Maritime deterrence, Coastal vigilance, Maritime domain awareness, Port security, Grey-zone threats, Sea lane of communication (SLOC) protection.

**Key Data and Facts: Maritime Security in India (2024)**

Aspect	2024 Estimate
Coastline Length	7,517 km
Exclusive Economic Zone	2.02 million sq. km
Number of Major Ports	12

**Way Forward**

- Enact a comprehensive Maritime Security Act to clarify agency responsibilities.
- Establish 'Unified Maritime Authority' under National Security Council Secretariat.
- Expand AIS coverage to <20m vessels using cost-effective GPS alternatives.
- Integrate all agencies under real-time data sharing framework (NMDA+).
- Ensure 100% coverage of coastal radar chain, especially in island territories.
- Strengthen community-based vigilance using mobile apps like 'Fisher-Friend'.
- Promote blue economy initiatives in sync with coastal security.
- Invest in port infrastructure resilience against climate threats.
- Fast-track Maritime Theatre Command for strategic synergy.

