

Topics - MINDS MAPS included (Daily current affairs)-- 19th september 2024

Committee On Simultaneous election

- All About Indus Water Treaty
- Pradhan Mantri Annadata Aay SanraksHan Abhiyan (PM-AASHA) Overview
- Space Program Initiatives
- → Understanding Spin Currents and the Mexican Wave Analogy
- Quad Leaders Summit 2024
- Mazar Hydroelectric Plant in Ecuador's Las Palmas
- Mains





Target Mains -2024/25 -

Q "One nation one election will dilute representative nature of indian democracy" Discuss

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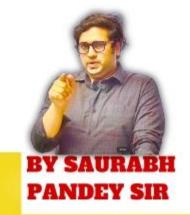


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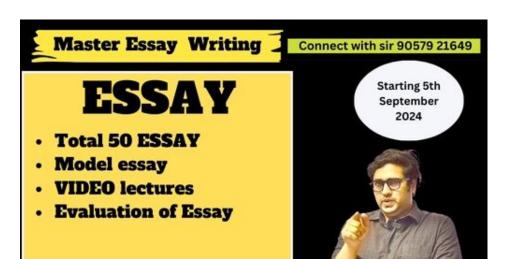
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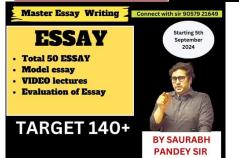
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Management and

Border management

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Society , Globalisation
Cyber security and disaster management affairs
Agriculture optional
Books series

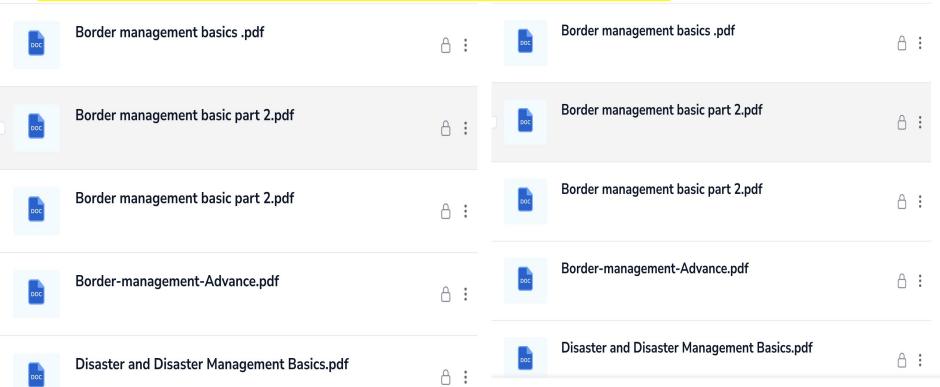
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Topic→ **Committee On Simultaneous election**

The Union Cabinet, chaired by the Prime Minister Shri Narendra Modi, has accepted the recommendations of the High-Level Committee on Simultaneous Elections under the chairmanship of former President Shri Ram Nath Kovind.

Simultaneous elections: recommendations of high-level committee

- 1. Elections have been held simultaneously between 1951 and 1967.
- 2. Law Commission: 170th report (1999): One election to Lok Sabha and all Legislative Assemblies in five years.
- 3. Parliamentary Committee 79th Report (2015): suggest methods for simultaneous elections in two phases.
- 4. High Level Committee chaired by Shri Ram Nath Kovind extensively consulted a broad spectrum of stakeholders including political parties and experts.



Recommendations and way forward

- 1. Implement in two phases.
- 2. In first phase: conduct Lok Sabha and Assembly elections simultaneously.
- 3. In second phase: Conduct local body elections (panchayat and municipalities) within 100 days of general elections.
- 4. Common electoral roll for all elections.
- 5. Will initiate detailed discussions throughout the country.
- **6.** Constitute an implementation group.

Topic →All About Indus Water Treaty



Overview

Definition: An agreement between India and Pakistan regarding water distribution from the Indus River system.

Established: 1960, brokered by the World Bank.

Key Rivers: Indus, Jhelum, Chenab (controlled by Pakistan); Beas, Ravi,

Sutlej (controlled by India).

Key Points

Purpose: To manage and share the river waters to avoid disputes.

Significance: Vital for agriculture, economy, and regional stability.

Current Situation

Recent tensions over treaty modifications and notices served by India to Pakistan for review.

Recent Developments

India serves notice to Pakistan seeking review of the treaty due to "changes in circumstances."

Key Articles under Review: Focus on potential modifications and implications for water sharing.

Key Issues



Disputes: Ongoing disagreements over water usage and rights.

Environmental Concerns: Impact of climate change and water scarcity.

Political Tensions: Influence on Indo-Pak relations.

Future of the Treaty

Potential renegotiation or modifications.

Role of international mediation and implications for regional politics.

_Topic →Pradhan Mantri Annadata Aay SanraksHan Abhiyan (PM-AASHA)



Overview

Key Aspects of PM-AASHA

Objective: Ensure remunerative prices for farmers and control price volatility for consumers V

Budget:

Total outgo: ₹35,000 crore (2025-26 cycle)

Nutrient Based Subsidy (NBS) for fertilizers: ₹24,475.53 crore <a>



Components:

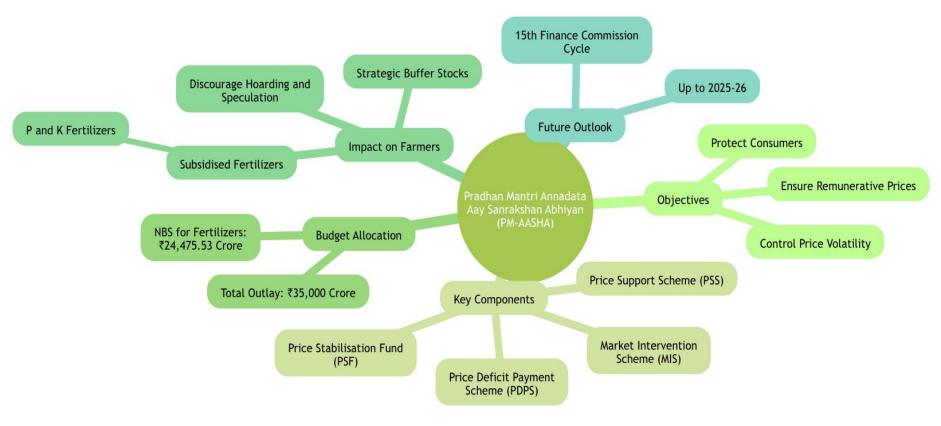
Price Support Scheme (PSS)

Price Stabilisation Fund (PSF)

Price Deficit Payment Scheme (PDPS)

Market Intervention Scheme (MIS)





Topic→ **Space Program Initiatives**-



Overview of Recent Space Initiatives

Chandrayaan-4 Mission 🚀

Aim: Bring moon rocks to Earth

Budget: ₹2,104 crore «\$

Launch Type: Multiple launches

Key Feature: Demonstrate lunar sample collection

Venus Orbiter Mission 🌌

Budget: ₹1,236 crore «

Launch Date: Expected in March 2028

Significance: Second interplanetary mission after Mars Orbiter





Expansion to build an Indian space station

Additional funding: ₹11,170 crore &



Goal: Self-sustained space station by 2035

Next-Generation Launch Vehicle X

Purpose: Place heavier payloads in orbit

Importance: Key to achieving future space station goals and

lunar missions

Strategic Goals

Long-term Goals @

Crewed lunar mission by 2040

Development of capabilities for space docking

Topic→ Understanding Spin Currents and the Mexican Wave Analogy



Concept Overview

Mexican Wave



Propagates through medium

Sequential displacement and restoration

Spin Current 🕸



Quantum spin: intrinsic property of electrons

Flow of spin states (up/down)

Similar propagation as Mexican wave

Key Points

Electron States:

Spin up and spin down

Represents binary data (0s and 1s)

Applications:

Spintronic drives: potential for faster data storage

Energy-efficient data manipulation



Key Points

Spin Currents: Flow of electron spin states (up and down).

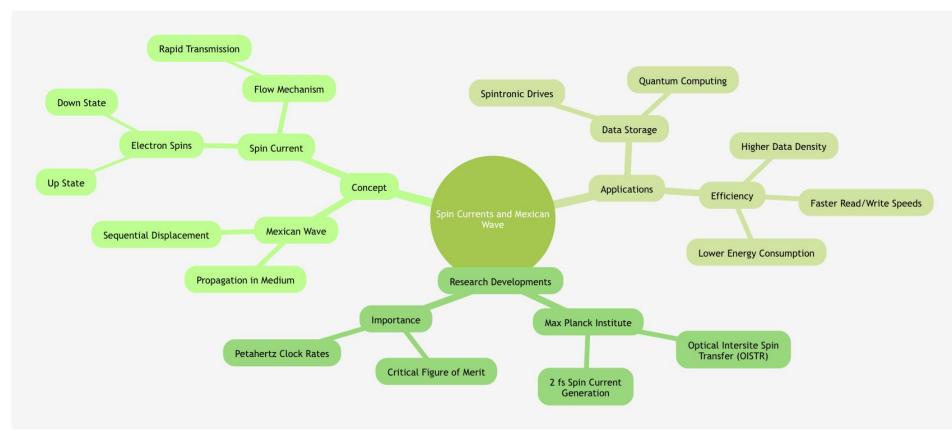
Mexican Wave Analogy: Propagation of spin states through a medium.

Applications in Spintronics: Data storage and manipulation using electron spins.

Future of Hard Drives: Enhanced storage, speed, and energy efficiency.

Research Advances: Techniques for rapid generation of spin currents.





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-Topic→Large Language Models (LLMs)—



Overview

Definition: Large language models (LLMs) are AI systems trained on vast amounts of text data.

Purpose: They are designed to understand and generate human-like text.

Key Concepts

Training Data: Utilizes large datasets for training.

Architecture: Often based on transformer architecture.

Applications: Used in chatbots, content generation, translation, etc.

Recent Developments

"Arrow of Time" Effect: LLMs excel at predicting future text rather than past text.

Quantum Computing: Enhancements in LLMs through quantum technologies.



Improvements

Long Context: Techniques that extend the attention span of LLMs for better performance in dialogues.

Embeddings: Understanding of word meanings through embeddings.

Collaboration & Efficiency

Enhanced Collaboration: Strategies for improving collaboration among LLMs for smarter solutions.

_ Market Trends



Commoditization: Big AI models are being commoditized; value lies in applications.

OpenAI's New Model: Recent advancements in OpenAI's offerings and their significance.

Learning Resources

YouTube Channels: Recommended channels to master LLMs.

Applications

Agent-Based Models: Harnessing LLMs for developing agent-based models.

Al Hallucination: Google's approach to addressing Al hallucination issues.

Topic→ **Quad Leaders Summit 2024**_



Overview

Event: Fourth Quad Leaders Summit

Date: September 21, 2024

Location: Wilmington, Delaware, U.S.

Participants: Australia, India, Japan, United States

The summit is significant amidst global challenges and leadership transitions in member nations.

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Key Topics

Leadership transitions
Strategic direction consolidation
Maritime domain awareness (MDA)
Indo-Pacific integration

Objectives



Reinforce Quad framework on MDA Discuss operationalisation of the South Asia programme Explore potential Quad Maritime Legal Dialogue

Challenges

Leadership changes of Biden and Kishida Past postponements of summits Need for unified strategic direction

Maritime Domain Awareness (MDA)



Goals:

Link regional security and infrastructure

Standardise regional laws

Promote a rules-based maritime order

Recent Initiatives:

Expansion of Indo-Pacific Partnership for Maritime Domain Awareness (IPMDA)

Legal Framework

Importance of UNCLOS for freedom of navigation

Consolidation of expertise in international maritime law

Serve as robust frameworks for Quad and regional nations



Information Fusion Centre - Indian Ocean Region (IFC-IOR)

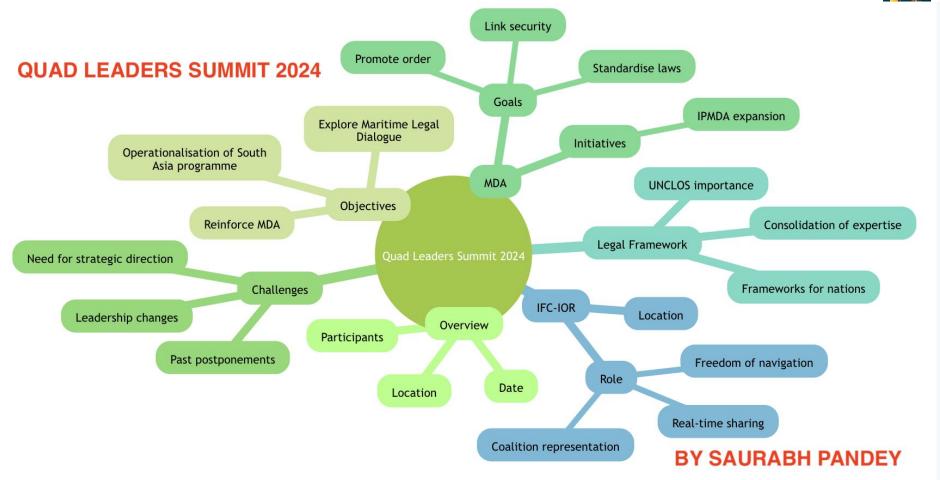
Location: India

Role:

Facilitates real-time information sharing

Upholds freedom of navigation

Represents coalition of nations committed to maritime order





→Quad Summit: Opportunities and Progress Tracking

Key Areas of Focus

Climate Change \(\forall^2\)

Emerging Technologies 🚀

Infrastructure & Connectivity 1

Health & Humanitarian Assistance

Disaster Relief 2

Maritime Security ئ

Counterterrorism 🔒



Summit Objectives

Assess Progress III



Commit to New Initiatives



Review Key Developments Q



Open-Radio Access Network (RAN) in Palau

Space-Based Climate Warning in Mauritius

Off-Grid Solar Projects in Indo-Pacific

Quad STEM Cohort Outcomes

Regional Security Dynamics



Geopolitical Landscape (



Increased Threats X



Conflicts in West Asia

Russia-Ukraine War

China's Assertiveness 🐉



Need for Unified Response 🤝



Resilience in Supply Chains &



.Economic Growth Opportunities_



Regional Economic Resilience



De-risking Strategies Q



Diversified Supply Chains [5]



Future Governance Aspirations

Inaugural Summit of the Future m



Sustainable Development (**)



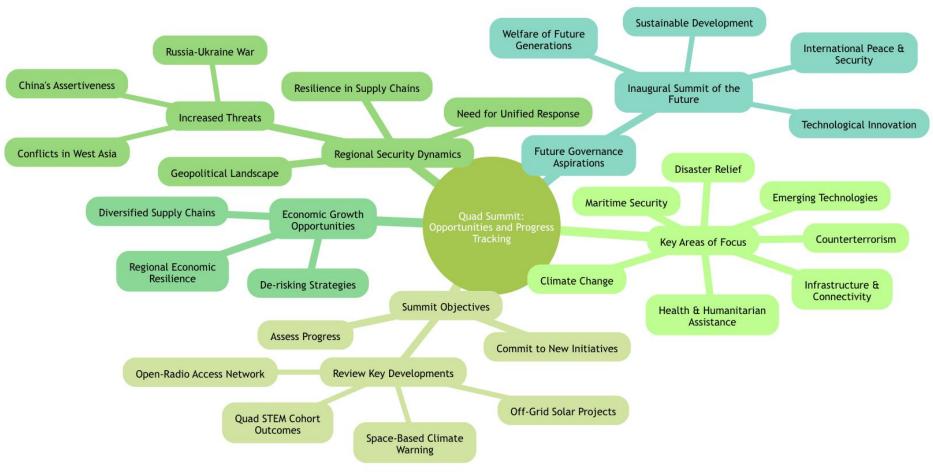
International Peace & Security ***



Technological Innovation



Welfare of Future Generations



Topic →Mazar Hydroelectric Plant in Ecuador's Las-



Overview of Mazar Hydroelectric Plant

Location: Las Palmas, Ecuador

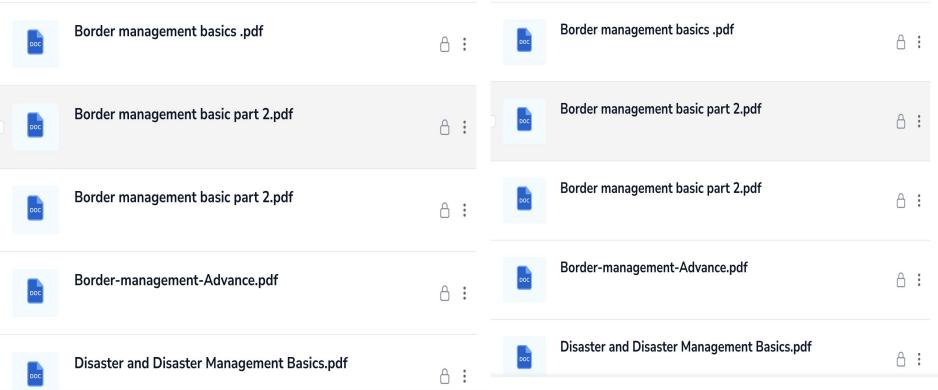
Significance: Key energy project in Ecuador

Functionality: Sustainable energy generation

The Mazar hydroelectric plant is crucial for addressing Ecuador's energy needs.

It plays a role in the ongoing energy crisis and sustainable development in the region.

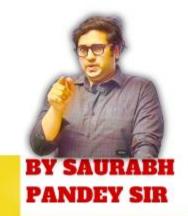
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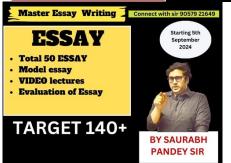
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