

# Weekly-Current-Affairs-9-15-sep-2024

## CONTENTS

1. “India-ASEAN Partnership: Advancing Cooperation and Shared Futures.....	1
2. India, EU Strengthen Defence Ties in Indo-Pacific Initiative.....	4
3. Researchers Discover New ‘Dancing Girls’ Ginger Species in India .....	7
4. ICA General Assembly and the Global Cooperative Conference 2024 .....	11
5. Transforming Rural India: The Crucial Role of Cooperatives .....	13
6. India’s National Green Hydrogen Mission: Pioneering Clean Energy Leadership and Self-Reliance .....	17
7. PRELIMS BITS: EXERCISES IN NEWS .....	21
8. Chandrayaan-3 Detects Historic 250 Seismic Signatures on Moon.....	24
9. Fortifying India’s Digital Frontier: Navigating the Landscape of Cybersecurity Challenges and Solutions....	27
10. Prelims Bits: Schemes and Awards .....	31
11. The National Hindi Diwas .....	34
12. Prelims Bits: Organizations in the news.....	38

## "India-ASEAN Partnership: Advancing Cooperation and Shared Futures"

### For Mains:

How did the India Look East Policy transform into the Act East Policy? What are the major driving areas of the India- ASEAN relationship, Issues of divergence, and suggestions for future engagement?



### Why in the News?

India's Prime Minister recently made headlines with two landmark visits to ASEAN countries: Brunei and Singapore. His trip to Brunei was historic, marking the first visit by an Indian Prime Minister in over 40 years, reflecting a renewed commitment to strengthening ties with this key Southeast Asian nation. Meanwhile, the visit to Singapore heralded a new chapter in bilateral relations, elevating them to a Strategic Comprehensive Partnership.



## INDIA- ASEAN RELATIONSHIP

### Historical Context and Policy Evolution:

#### Look East Policy (1992):

**Origins:** Initiated by Prime Minister Narasimha Rao, focusing on strengthening ties with Southeast Asia. Later extended to East Asia and Oceania.

#### Act East Policy (2011-2014):

**Revised Focus:** Encouraged by U.S. Secretary of State Hillary Clinton to transition from "Look East" to "Act East."

**Adoption:** Formalized by External Affairs Minister Sushma Swaraj and Prime Minister Narendra Modi, emphasizing proactive engagement in the Asia-Pacific region.

### India - ASEAN Engagement:

**Early Engagement:** India became a Sectoral Dialogue Partner of ASEAN in 1992, a Full Dialogue Partner in 1996, and achieved Summit Partnership status in 2002.

**East Asia Summit (2005):** India became a founder member of the East Asia Summit, broadening its engagement with ASEAN and other regional powers.

**ADMM Plus (2010):** India joined the ASEAN Defense Ministers' Meeting Plus, including key regional and global players.

**BIMSTEC:** India promotes sub-regional groups like BIMSTEC, encompassing Bangladesh, India, Myanmar, Sri Lanka, and Thailand, with Nepal and Bhutan joining later.

**Ganga-Mekong Cooperation:** Focuses on connectivity and cooperation with countries like Thailand, Cambodia, Laos, Vietnam, and Myanmar.

### **History of ASEAN:**

**Formation (1967):** ASEAN was founded by Indonesia, Malaysia, the Philippines, Singapore, and Thailand to foster regional peace and economic cooperation.

**Expansion:** Brunei (1984), Vietnam (1995), Laos, Myanmar (1997) and Cambodia (1999).

### **Forum Expansions:**

**ASEAN Plus Three (1997):** Expanded to include China, South Korea, and Japan. **East Asia Summit (2005):** Further expanded to include India, Australia, New Zealand, Russia, and the United States.

**ASEAN Charter (2008):** Adopted on December 15, this Charter granted ASEAN a formal legal identity and enhanced its role in regional community-building.

**ADMM Plus (2010):** India joined the ASEAN Defense Ministers' Meeting Plus, including key regional and global players.



### **Key Areas of Cooperation**

1. **Political and Security Cooperation:** India actively participates in key regional forums such as the ASEAN Regional Forum (ARF). These engagements reinforce collaborative efforts on security issues and contribute to regional stability.
2. **Economic Cooperation:** ASEAN, India's fourth-largest trading partner, saw trade rise from \$65 billion in 2015-16 to \$70 billion in 2016-17. The ASEAN-India Free Trade Area agreements, operational since July 2015, have

significantly boosted trade and investment.

3. **Socio-Cultural Cooperation:** People-to-people initiatives, including Youth summits and cultural programs, further deepen socio-cultural ties between the regions.
4. **Connectivity Projects:** Infrastructure projects like the India-Myanmar-Thailand Trilateral Highway and the Kaladan Multimodal Project aim to enhance regional connectivity. The 2017 Connectivity Summit highlighted the importance of improving both physical and digital infrastructure.
5. **Environment and climate change:** The ASEAN-India S&T Development Fund and the ASEAN-India Green Fund provide vital resources for science, technology, and environmental initiatives.
6. **Functional Areas:** This includes establishing space tracking stations and upgrading facilities for space collaboration. Educational initiatives, such as the Centers of Excellence and the e-Network for telemedicine, underscore ongoing cooperation in research and development.
7. **1.5 Track diplomacy:** The Delhi Dialogue is an annual Track 1.5 event that facilitates discussions on politico-security and economic issues between ASEAN and India.
8. **Institutional Mechanism:** Established in 2013, the ASEAN-India Centre (AIC) supports the implementation of connectivity initiatives and organizes events and workshops to foster deeper engagement between ASEAN and India.

### **Areas of Differences**

1. **Geopolitical Tensions:** India's strategic alliances and regional rivalries, particularly with China, can create friction with ASEAN countries that may have different geopolitical concerns or alignments.
2. **Economic Imbalances:** Discrepancies in trade balances and investment flows, such as In-

dia's withdrawal from the RCEP, can strain economic relations and hinder deeper economic integration.

3. **Different Human Rights Standards:** Divergent approaches to human rights and democratic values between India and ASEAN countries can lead to diplomatic tensions, especially in multilateral forums.
4. **Resource Management Conflicts:** Differences in energy policies, such as India's reliance on coal versus ASEAN's shift toward renewables, can create conflicts in environmental and energy cooperation.
5. ASEAN pursuing immediate carbon reduction and India aiming for net zero by 2070, can complicate collaborative environmental efforts.
6. **Digital Trade Barriers:** India's data localization laws and digital trade regulations may conflict with ASEAN countries' tech operations, creating barriers to seamless digital trade and technology transfer.
7. **Strategic Priorities Misalignment:** India's focus on Indo-Pacific security frameworks and alliances, like the Quad, can sometimes clash with ASEAN's preference for a neutral, inclusive security approach.
8. **Border security:** The recent clashes in Manipur are mainly attributed to the supply of weapons from the groups in Myanmar, complicating the ASEAN engagement with India.

***The future course of action to enhance the India-ASEAN relationship:***

1. **Enhance Geopolitical Coordination:** Foster better alignment on geopolitical issues and navigate the complexities of regional security dynamics, especially concerning China.
2. **Accelerate Connectivity Projects:** Expedite infrastructure projects and connectivity initiatives to fully integrate Northeast India with Southeast Asia.
3. **Promote Digital and Technological Partner-**

**ships:** Leverage technological advancements and digital growth to enhance bilateral economic ties and innovation.

4. **Strengthen Human Security Cooperation:** Address human security challenges through collaborative efforts to manage cross-border crises and natural disasters.
5. **Synergies in Indo-Pacific Visions:** Emphasized the alignment of Indo-Pacific visions between India and ASEAN, with ASEAN as the focal point of the Quad's vision.
6. **Climate Change and Sustainability:** Joint efforts in renewable energy, waste management, and disaster mitigation can address pressing climate challenges. Promote cooperation on the Mission LiFE (Lifestyle for Environment) initiative.
7. **Reassess Trade Agreements:** Revisit trade agreements like RCEP to address concerns and explore avenues for deeper economic integration.
8. **Global South Issues:** Advocate for collective action on issues faced by the Global South in multilateral forums.
9. **Counter-Terrorism:** Strengthen collective efforts against terrorism, terror financing, and cyber-disinformation.
10. **Maritime Safety and Security:** Focus on improving maritime safety, security, and domain awareness.





## Conclusion

India's historical connections with Southeast Asia and the evolution of its relationship with ASEAN reflect significant progress, but there is ample room for enhancement. By addressing existing challenges and capitalizing on opportunities for growth and cooperation, both India and ASEAN can unlock the full potential of their partnership. Continued engagement and proactive strategies will be essential in shaping a robust and dynamic future for India-ASEAN relations.

### PRELIMS QUESTION:

**Q. Consider the following countries:**

1. India
2. Bangladesh
3. Nepal
4. Cambodia
5. Singapore
6. Thailand
7. Myanmar

**How many of the given above countries are members of the Ganga Suvarnabhumi Programme (GSP)?**

- A. Only Two**
- B. Only Three**
- C. Only Four**
- D. Only five**

**ANSWER: C**

### MAINS QUESTION:

Analyze how India's 'Act East' policy can be adapted to better align with ASEAN's strategic interests and geopolitical concerns, particularly in the con-

text of regional security dynamics and the influence of external powers like the US and China?



### India, EU Strengthen Defence Ties in Indo-Pacific Initiative

#### RECENT CONTEXT:

The Indo-Pacific region, a pivotal arena for global trade and geopolitical maneuvering, has seen a notable shift in strategic alliances and defense partnerships in recent years. Among the key developments is the strengthening of defense ties between India and the European Union (EU). This emerging alliance reflects broader geopolitical trends and addresses specific regional challenges. This article delves into the recent context of this strategic partnership, exploring its implications, challenges, and potential benefits for both India and the EU.

#### OBJECTIVES OF THE VISIT

The EU delegation to India helped arrange this visit. It included officials from India's Defence Ministry and the Ministry of External Affairs (MEA). The purpose was to understand the EU's security and defence systems, particularly its Common Security and Defence Policy (CSDP). The CSDP focuses on the EU's missions, including in important regions like the Indo-Pacific, where both India and the EU have shared interests.

#### THE STRATEGIC IMPORTANCE OF THE INDO-PA-

## CIFIC

The Indo-Pacific region, encompassing the Indian Ocean and the Pacific Ocean, is pivotal to global trade and security. It is home to vital sea lanes of communication, through which a substantial portion of global trade transits. The region also hosts several key maritime chokepoints and is central to global energy supplies. Its strategic significance is further amplified by the presence of major economies and emerging powers, contributing to a complex and competitive geopolitical environment.

As the region grows in importance, India and the EU have identified it as a focal point for enhancing their strategic and defense collaboration. Both parties recognize the need to address challenges such as maritime security, territorial disputes, and the rise of regional powers like China.

### RECENT DEVELOPMENTS IN INDIA-EU DEFENSE COOPERATION

- 1. Joint Statements and Strategic Frameworks:** In recent months, India and the EU have made significant strides in formalizing their defense cooperation through joint statements and strategic frameworks. A key development came in July 2024, when Indian Prime Minister Narendra Modi and European Commission President Ursula von der Leyen issued a joint declaration reaffirming their commitment to a rules-based international order in the Indo-Pacific. This declaration emphasized their shared objectives of promoting maritime security, countering illegal activities at sea, and fostering regional stability.
- 2. Enhanced Maritime Security Collaboration:** A significant aspect of the India-EU defense partnership is the enhancement of maritime security cooperation. This includes joint naval exercises designed to improve interoperability and strategic coordination. In August 2024, India and the EU conducted their largest joint naval exercise to date, involving complex maneuvers and tactical operations aimed at

addressing maritime threats such as piracy, trafficking, and territorial disputes. This exercise was a testament to their commitment to maintaining a secure and open maritime domain.

- 3. Capacity Building and Technological Exchange:** The EU has also committed to supporting India's maritime capabilities through capacity-building initiatives. This includes providing technical assistance, training, and resources to enhance India's ability to secure its maritime borders and contribute to regional stability. The EU's involvement in technological exchange aims to modernize India's naval assets and improve its maritime surveillance capabilities.
- 4. Strategic Dialogues and High-Level Meetings:** High-level strategic dialogues between India and the EU have been instrumental in deepening their defense ties. These dialogues, held on various occasions, have addressed key issues such as regional security dynamics, intelligence sharing, and strategic cooperation. Notable recent meetings include the India-EU Strategic Partnership Summit in June 2024, where leaders from both sides discussed the evolving security landscape and outlined future cooperation areas.

### GEOPOLITICAL CONTEXT AND MOTIVATIONS

- 1. China's Expanding Influence:** One of the primary motivations behind the enhanced India-EU defense partnership is the growing influence of China in the Indo-Pacific. China's assertive policies in the South China Sea, coupled with its Belt and Road Initiative (BRI), have raised concerns among regional and global players. The EU and India view their collaboration as a strategic counterbalance to China's expanding footprint and a way to uphold international maritime norms.
- 2. Regional Rivalries and Security Concerns:** The Indo-Pacific region is characterized by a complex web of regional rivalries and security concerns. Issues such as territorial disputes, maritime boundary conflicts, and

the presence of non-state actors contribute to a volatile security environment. India and the EU's defense partnership aims to address these challenges through joint efforts, including maritime patrols, surveillance, and collaborative security measures.

3. **Alignment with the Quad and Broader Partnerships:** The Quad, comprising the United States, India, Japan, and Australia, represents a significant security framework in the Indo-Pacific. India's enhanced defense collaboration with the EU aligns with the Quad's objectives of promoting a rules-based order and ensuring freedom of navigation. Additionally, India and the EU are engaging with other regional partners, such as ASEAN countries, to strengthen collective security arrangements.

## CHALLENGES AND OPPORTUNITIES

1. **Navigating Regional Complexities:** The Indo-Pacific is a region with diverse and often conflicting interests. Balancing defense cooperation with the need to maintain diplomatic relations with other major players, including China and ASEAN countries, poses a significant challenge. India and the EU must navigate these complexities while ensuring that their collaboration does not exacerbate regional tensions.
2. **Maritime Security Threats:** Addressing maritime security threats such as piracy, terrorism, and illegal fishing requires effective collaboration and coordination. The India-EU partnership aims to enhance their ability to respond to these threats through joint initiatives and capacity-building efforts. However, managing these threats while respecting international laws and norms remains a critical challenge.
3. **Interoperability and Integration:** Achieving seamless interoperability between Indian and EU forces is essential for effective collaboration. While joint naval exercises and strategic dialogues are important steps, there is a need for continued efforts to integrate

their operational capabilities and ensure smooth coordination during joint operations.

4. **Balancing Economic and Strategic Interests:** The EU's engagement in the Indo-Pacific is driven by both economic and strategic considerations. While the EU seeks to protect its economic interests and ensure the security of maritime trade routes, it must also navigate its relationship with China, a major trading partner. Balancing these interests while pursuing strategic goals is a complex task.

## RECENT NEWS HIGHLIGHTS

1. **EU Naval Presence and Deployments:** In July 2024, the EU announced plans to increase its naval presence in the Indo-Pacific, with deployments aimed at ensuring maritime security and supporting regional stability. This decision reflects the EU's commitment to enhancing its strategic role in the region and aligns with its defense cooperation goals with India.
2. **India-EU Maritime Forum:** The inaugural India-EU Maritime Forum, held in August 2024, was a key platform for discussing collaborative strategies to address maritime security challenges. The forum highlighted the need for greater coordination and joint initiatives to tackle issues such as piracy, illegal fishing, and maritime boundary disputes.
3. **Strategic Partnership Agreements:** Recent agreements between India and the EU have focused on enhancing maritime surveillance and intelligence-sharing capabilities. These agreements are designed to bolster both parties' ability to monitor and respond to security threats in the Indo-Pacific.
4. **Joint Exercises and Training Programs:** The joint naval exercises conducted in August 2024 marked a significant milestone in the India-EU defense collaboration. The exercises involved complex maneuvers and tactical operations, demonstrating the growing interoperability between Indian and EU naval forces. Additionally, training programs aimed at

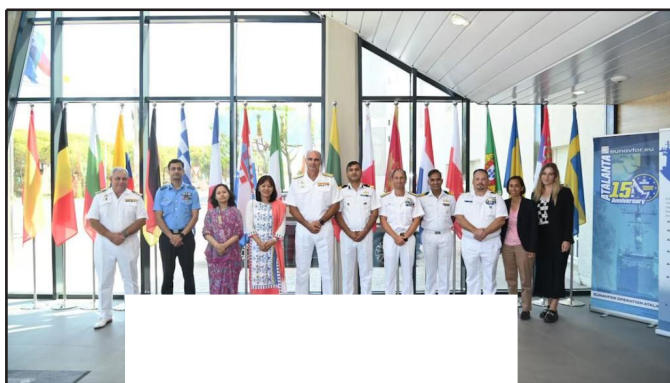
improving maritime security capabilities have been launched as part of this collaboration.

## FUTURE PROSPECTS

Looking ahead, the future of India-EU defense ties in the Indo-Pacific appears promising but will require ongoing efforts to address regional challenges and adapt to evolving security dynamics. Both parties are likely to continue strengthening their collaboration through joint initiatives, strategic dialogues, and capacity-building efforts. As the geopolitical landscape evolves, the India-EU partnership will play a crucial role in shaping the security dynamics of the Indo-Pacific region.

## CONCLUSION

The recent strengthening of defense ties between India and the EU represents a significant development in the Indo-Pacific's strategic landscape. Their collaborative efforts reflect a shared commitment to promoting a free, open, and inclusive Indo-Pacific while addressing regional security challenges. Despite the complexities and challenges involved, the partnership between India and the EU offers a promising path forward in navigating the evolving dynamics of the Indo-Pacific region.



## PRELIM QUESTION:

**Q. Which of the following statements best describes the recent strengthening of defense ties between India and the European Union (EU) in the Indo-Pacific region?**

- (a) The primary goal of the India-EU defense cooperation is to counter the influence of the United States in the Indo-Pacific region.
- (b) The India-EU defense partnership focuses on enhancing maritime security, conducting joint naval exercises, and promoting a rules-based international order in the Indo-Pacific.
- (c) India and the EU have primarily strengthened their defense ties in response to regional tensions in the Mediterranean Sea.
- (d) The recent India-EU defense initiatives are solely focused on providing economic aid and trade benefits to the participating countries.

**Answer Key: (b)**

## MAINS QUESTION:

**Q. Analyze how the enhanced defense cooperation between India and the EU reflects their strategic interests in the Indo-Pacific. What are the major drivers behind this collaboration?**

**(150words)**

## Researchers Discover New 'Dancing Girls' Ginger Species in India

### RECENT CONTEXT:

Researchers from the Indian Institute of Science Education and Research (IISER) Bhopal have made an exciting discovery by uncovering three new species of ginger in the Eastern parts of India, particularly in the states of Mizoram and Meghalaya. These new types of ginger are special because of their unique flower shapes, and together, they are called the "dancing girls" ginger species.

In a remarkable development in the field of botany,



researchers have recently unveiled a new species of ginger in India, intriguingly named the ‘Dancing Girls’ ginger. This discovery not only adds to the rich tapestry of India’s plant biodiversity but also highlights the critical importance of preserving our natural heritage.

## THE DISCOVERY

The ‘Dancing Girls’ ginger was discovered in the lush and biodiverse forests of Meghalaya, a state renowned for its rich flora and fauna. The discovery was made by a team of botanists from IISER during an exploratory survey aimed at documenting the plant diversity in the region. Meghalaya, part of the Eastern Himalayas, is known for its high level of plant endemism and ecological richness, making it an ideal location for such discoveries.

The team’s find has been described as both surprising and exhilarating due to the plant’s striking appearance. The name ‘Dancing Girls’ ginger refers to the unique formation of its bright red flowers, which resemble dancers in mid-twirl, showcasing nature’s artistic flair. This discovery adds to the growing list of new plant species being identified in this biodiversity hotspot.

## THE NEWLY DISCOVERED GINGER SPECIES

- **Globba tyrnaensis:** This species was discovered near the famous Double Decker Living Root Bridge in Meghalaya. It grows in the lower part of the forest, called the under-story, at an elevation of 731 meters. Many bees are attracted to its flowers, helping with pollination.
- **Globba janakiae:** This species is named in honor of Dr. E.K. Janaki Ammal, a famous Indian botanist. It was found in the same area in Meghalaya as *Globba tyrnaensis*.
- **Globba yadviana:** This species was discovered along Reiek Tlang Road in Mizoram. It is named after Rajesh Yadav,

who is the father of scientist Ritu Yadav.



## BOTANICAL CHARACTERISTICS

*Zingiber rubens* belongs to the Zingiberaceae family, which includes well-known species such as turmeric and cardamom. The new species is characterized by its vibrant red flowers that appear in dense spikes. Each flower has a tubular shape and an intricate structure, giving it a distinct, visually appealing form. The plant grows up to 1.2 meters in height, with broad, glossy leaves that enhance its ornamental value.

The species is terrestrial, growing in the shaded un-

derstory of forests. The region's unique climate and high rainfall create the perfect moist environment for *Globba tyrnaensis* to thrive. Its flowers attract bees, contributing to the local ecosystem.

However, with only two known populations covering approximately 400 square meters, the species has been informally classified as endangered, according to International Union for Conservation of Nature (IUCN) guidelines.

*Globba yadaviana* and *Globba paschimbengalensis* were found in Mizoram's Mamit district and West Bengal's Darjeeling district.

The two researchers said the Eastern Himalayas and the Northeast India – the two biodiversity-rich regions – have been constantly threatened by rapid development projects in the past few decades.

## ECOLOGICAL SIGNIFICANCE

The discovery of *Zingiber rubens* is a testament to the ecological richness of Meghalaya. The state's diverse ecosystems, ranging from subtropical forests to montane grasslands, provide a habitat for a myriad of plant and animal species. The identification of this new ginger species underscores the importance of preserving these habitats, as they support unique and often endemic species.

The ecological role of *Zingiber rubens* within its habitat is still being studied, but like many other ginger species, it is expected to play a role in soil health and local food webs. The plant may contribute to the health of its ecosystem by supporting local pollinators and interacting with other plant species.

## CONSERVATION IMPLICATIONS

The discovery of a new species in a region like Meghalaya, which faces various environmental pressures, highlights the urgent need for effective conservation strategies. Meghalaya's forests are under

threat from deforestation, mining, and climate change. The identification of *Zingiber rubens* brings attention to the need for protecting these critical habitats to prevent the loss of both known and unknown species.

Conservationists advocate for several measures to protect newly discovered species and their habitats. These include establishing protected areas, implementing sustainable land management practices, and conducting further research to understand the specific needs and threats to new species. Public awareness and involvement in conservation efforts are also crucial for ensuring the preservation of biodiversity.

## SCIENTIFIC RESEARCH AND DISCOVERY

The discovery of *Zingiber rubens* enriches our understanding of the Zingiberaceae family and adds to the knowledge of plant diversity in India. It provides new insights into plant taxonomy, evolutionary biology, and biogeography. The research team from IISER will continue to study the plant's characteristics, including its genetic makeup and potential medicinal properties.

Botanical discoveries like this one highlight the importance of field research and exploration. India's rich and diverse flora remains underexplored, with many species yet to be documented. The discovery of *Zingiber rubens* serves as a reminder of the vast potential for new discoveries and the need to support and fund botanical research.

## INDIGENOUS KNOWLEDGE AND COMMUNITY INVOLVEMENT

In regions like Meghalaya, local communities often possess valuable knowledge about the flora and fauna of their surroundings. This indigenous knowledge can provide crucial insights into the uses, distribution, and ecological roles of plant species. Engaging with local communities and incorporating their knowledge into scientific research can enhance the understanding of newly discovered species and support conservation efforts.

The researchers from IISER have acknowledged the importance of local expertise in their work. Collaboration with indigenous communities can help in the documentation of traditional uses of plants and in the development of conservation strategies that respect local practices and knowledge.

## BROADER IMPLICATIONS

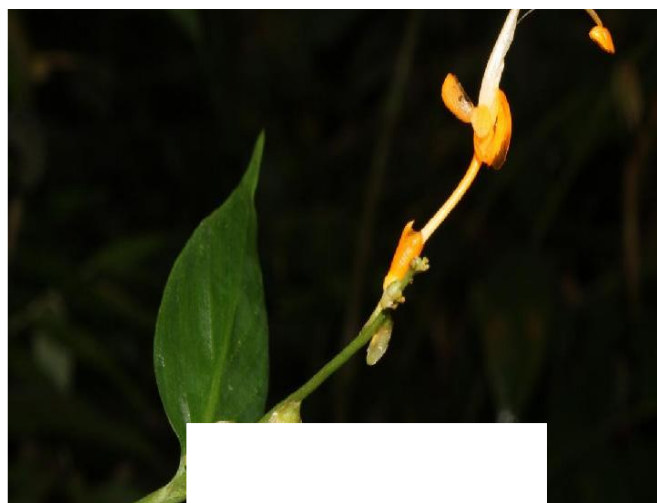
The discovery of the 'Dancing Girls' ginger has broader implications beyond botany. It underscores the need for continued exploration and documentation of biodiversity in India and globally. As environmental changes accelerate, understanding and protecting biodiversity becomes increasingly critical.

The excitement generated by such discoveries also contributes to a broader public interest in science and nature. It encourages support for conservation initiatives and fosters a greater appreciation for the natural world. By showcasing the beauty and complexity of nature, discoveries like *Zingiber rubens* inspire curiosity and engagement with environmental issues.

## CONCLUSION

The discovery of *Zingiber rubens*, or the 'Dancing Girls' ginger, by IISER researchers in Meghalaya is a significant addition to the world's botanical knowledge. It highlights the ecological richness of the region and the importance of preserving its unique habitats. The new species not only adds to our understanding of plant diversity but also serves as a reminder of the need for ongoing research and conservation efforts.

As we celebrate this discovery, it is essential to continue supporting scientific exploration and conservation initiatives. Each new species, like the 'Dancing Girls' ginger, enriches our understanding of the natural world and underscores the importance of protecting our planet's incredible biodiversity.



### PRELIM QUESTION:

**Q.Researchers from the Indian Institute of Science Education and Research (IISER) recently discovered a new species of ginger in Meghalaya, India. What is the scientific name of this newly discovered species, and what is its common name?**

- A) *Zingiber rubens* – Dancing Girls Ginger
- B) *Zingiber sinense* – Dancing Girls Ginger
- C) *Zingiber elegans* – Dancing Girls Ginger
- D) *Zingiber indicum* – Dancing Girls Ginger

**Answer:A**

### MAINS QUESTION:

**Q.Discuss the significance of the recent discovery of the 'Dancing Girls' ginger (*Zingiber rubens*) in Meghalaya by researchers from the Indian Institute of Science Education and Research (IISER)?(150words)**

## ICA General Assembly and the Global Cooperative Conference 2024

### RECENT CONTEXT:

The International Cooperative Alliance (ICA) is set to hold its General Assembly and Global Cooperative Conference in India for the first time in 130 years, from November 25-30, 2024. The event theme, “Cooperatives Build Prosperity for All,” aligns with Prime Minister Narendra Modi’s vision of “Sahkar se Samriddhi,” which translates to prosperity through cooperation. This important event will also mark the beginning of the UN International Year of Cooperatives in 2025.

### SIGNIFICANCE OF THE EVENT

This conference is a big deal for India because it will help boost its position in the global cooperative movement. Cooperatives in India will showcase their products and services in a special marketplace called a ‘Haat,’ designed to look like traditional Indian villages. To commemorate the event, a special stamp will also be released for the International Year of Cooperatives.

### LEADERSHIP AND VISION

Under Prime Minister Modi’s leadership and Home Minister Amit Shah’s guidance, India has made great strides in the cooperative sector. A special Ministry of Cooperation was created to help cooperative businesses grow and succeed. So far, 54 new initiatives have been launched, highlighting that India is home to one-quarter of the world’s cooperatives.

### CURRENT CONTEXT AND DEVELOPMENTS

#### Economic Uncertainty and Its Impact on Cooperatives

The global economy is experiencing significant turbulence due to a combination of factors including inflation, supply chain disruptions, and geopolitical tensions. Recent reports from the International

Monetary Fund (IMF) and World Bank highlight a slowdown in economic growth, which is affecting various sectors, including cooperatives. In response, many cooperatives are focusing on resilience and adaptation strategies. For instance, in Europe, cooperatives are implementing measures to stabilize supply chains and ensure the continuity of essential services. Similarly, in Latin America, cooperatives are exploring digital solutions to improve financial stability and member engagement.

The ICA General Assembly will address these economic challenges by discussing strategies for enhancing cooperative resilience and sustainability. Key sessions are expected to cover topics such as financial management in times of crisis, innovative business models, and the role of cooperatives in economic recovery.

#### Climate Change and Sustainability

Climate change remains a critical issue, with recent extreme weather events underscoring the urgent need for action. The latest IPCC report highlights the increasing frequency and severity of climate-related disasters, which have profound implications for all sectors, including cooperatives.

In response, many cooperatives are leading initiatives to combat climate change. For example, agricultural cooperatives in Africa are adopting sustainable farming practices to improve soil health and reduce carbon emissions. Energy cooperatives in Scandinavia are investing in renewable energy projects to reduce reliance on fossil fuels. The Global Cooperative Conference 2024 will focus heavily on sustainability and climate action. Sessions will cover topics such as the transition to renewable energy, sustainable agriculture, and strategies for enhancing climate resilience. The conference aims to showcase successful cooperative initiatives and develop actionable recommendations for scaling up climate-friendly practices.

#### Social Inequality and Inclusive Growth

Social inequality remains a significant challenge globally, exacerbated by economic and social disruptions. The COVID-19 pandemic has highlighted



disparities in access to healthcare, education, and economic opportunities. Cooperatives are increasingly recognized for their role in promoting inclusive growth and social equity. In the United States, worker cooperatives are gaining attention as a means to provide fair wages and working conditions. Similarly, in India, women's cooperatives are empowering women by providing access to financial resources and business opportunities.

The ICA General Assembly will address issues of social equity and inclusion by exploring how cooperatives can contribute to reducing inequalities. Discussions will focus on best practices for promoting diversity within cooperative governance and operations, and strategies for supporting marginalized communities.

## KEY THEMES AND AGENDAS FOR 2024

### 1. Enhancing Cooperative Resilience

**Financial Resilience:** Strategies for managing financial risks, diversifying income streams, and accessing emergency funding.

- **Operational Adaptation:** Innovations in supply chain management, digital transformation, and business continuity planning.
- **Member Engagement:** Enhancing member participation and support through effective communication and engagement strategies.

### 2. Promoting Sustainability and Climate Action

**Renewable Energy:** Expanding the role of cooperatives in renewable energy production and consumption.

- **Sustainable Practices:** Implementing eco-friendly practices in agriculture, manufacturing, and other sectors.
- **Climate Resilience:** Developing strategies for adapting to and mitigating the impacts of climate change.

### 3. Advancing Social Equity and Inclusion

**Diversity and Inclusion:** Promoting

diverse representation within cooperative leadership and decision-making.

- **Economic Empowerment:** Supporting initiatives that provide economic opportunities to underrepresented groups.
  - **Community Development:** Strengthening the role of cooperatives in local community development and social services.
- ### 4. Leveraging Technology and Innovation
- Digital Tools:** Utilizing digital platforms for member engagement, operational efficiency, and market expansion.
- **Innovation:** Showcasing innovative cooperative models and practices that address contemporary challenges.
  - **Cybersecurity:** Ensuring the security and privacy of digital operations and member data.

## ANTICIPATED OUTCOMES AND IMPACT

- **Strategic Resolutions:** The General Assembly's resolutions will outline strategic priorities for the cooperative movement, guiding future initiatives and policies.
- **Innovative Practices:** The Conference will highlight successful cooperative innovations and provide a platform for sharing best practices.
- **Policy Recommendations:** Discussions are likely to result in actionable recommendations for policymakers, aimed at creating a supportive environment for cooperatives.
- **Strengthened Networks:** The events will foster stronger networks and collaborations among cooperatives, enhancing their collective impact.

## CONCLUSION

The ICA General Assembly and the Global Cooper-

ative Conference 2024 represent a critical opportunity for the cooperative movement to address current global challenges and chart a course for the future. With a focus on resilience, sustainability, social equity, and innovation, these events will play a crucial role in shaping the cooperative sector's response to the economic, environmental, and social issues of our time. As cooperatives from around the world converge in [Location], they will engage in meaningful dialogue, share innovative solutions, and forge partnerships to advance the global cooperative agenda. The outcomes of these events will undoubtedly influence the future direction of cooperatives, contributing to a more resilient, equitable, and sustainable world.



#### PRELIM QUESTION:

**Q.Which of the following is a key theme expected to be discussed at the Global Cooperative Conference 2024?**

- A) Advancements in space technology
- B) Climate resilience and sustainability
- C) Advances in traditional manufacturing techniques
- D) The future of luxury goods markets

**Answer: B**

#### MAINS QUESTION:

**Q.Analyze the strategic priorities set by the ICA General Assembly for the cooperative movement in 2024. How do these priorities address the current global challenges faced by cooperatives? (150words)**

#### Transforming Rural India: The Crucial Role of Cooperatives

#### WHY IN THE NEWS?

India will host the inaugural Global Cooperative Conference in New Delhi. This will be the first time in the last 130 years history of the International Cooperative Alliance, India will host the Conference.



#### WHAT ARE COOPERATIVES?

A cooperative is an autonomous association of persons united voluntarily to meet their common economic, social, and cultural needs and aspirations through a jointly owned and democratically controlled enterprise. **Cooperative principles: Self-Help, Self-Responsibility, Democracy, Equality, Equity, and, Solidarity.**

## CONSTITUTIONAL PROVISIONS:

### Constitution (Ninety-Seventh Amendment) Act, 2011:

**Fundamental Right:** Article 19(1)(c): Amended to include the right to form cooperative societies as a Fundamental Right

**Directive Principles:** Article 43B: Inserted to promote the growth and development of cooperative societies, guiding state policies to support cooperative principles.

**Incorporation of Part IXB:** Added to the Constitution, detailing the incorporation, regulation, and winding up of cooperative societies, providing a constitutional framework for their governance and legal structure.

### Governance of Cooperative Societies

**Single state:** Cooperative Societies limited within one state are regulated by the respective state laws. The Maharashtra State Cooperative Societies Act, 1960.

**Multi-State:** Cooperative societies beyond a single state are governed by Entry 44 of the Union List in the Seventh Schedule and regulated under the Multi-State Cooperative Societies Act, of 2002. They are administered by the Central Registrar of Cooperative Societies (CRCS).

**The Multi-State Cooperative Societies (Amendment) Bill, 2023:** Aims to incorporate the provisions of the Ninety-Seventh Constitutional Amendment. Seeks to enhance governance, transparency, accountability, and reform the electoral process in multi-state cooperative societies.

## The International Cooperative Alliance (1895):



**Type:** One of the oldest non-governmental organizations (NGOs)

**Global Reach:** Represents around 3 million cooperatives

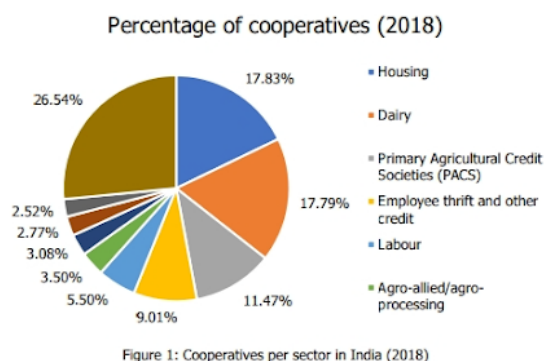
**Membership:** Approximately 1 billion cooperative members worldwide

**Role:** Apex body for cooperatives, providing a global voice, knowledge-sharing, and coordinated action

**India and the ICA:** The National Cooperative Union of India (NCUI) is the primary body representing Indian cooperatives within the ICA.

### Cooperatives scenario India:

#### Percentage of cooperatives per sector



## SIGNIFICANCE OF THE COOPERATIVES:

**1. Economic Empowerment:** As of 2023, over 8.6 lakh cooperative societies are active in the country, engaging around 29 crore members, with a substantial impact on economic empowerment.



**2. Access to Credit:** The National Bank for Agriculture and Rural Development (NABARD) reports that cooperative banks provide approximately 30% of the total rural credit in India.

**3. Improved Agricultural Productivity:** According to a study by the Indian Council of Agricultural Research (ICAR), agricultural cooperatives have contributed to a 20-25% increase in productivity among member farmers compared to non-members.

**4. Market Access and Fair Pricing:** The Food and Agriculture Organization (FAO) indicates that Indian agricultural cooperatives improve market access and pricing for their members, with price benefits estimated at 10-15% above local market rates.

**5. Infrastructure Development:** the Ministry of Agriculture and Farmers Welfare reports over 50,000 cooperative societies have been involved in building irrigation facilities, storage units, and processing plants.

**6. Employment Generation:** The National Cooperative Union of India estimates that cooperatives create over 5 million jobs directly and indirectly across various sectors in rural areas

**7. Social and Community Services:** According to the National Cooperative Development Corporation (NCDC), cooperatives in India invest around ₹2,000 crore annually in community development projects, including education, healthcare, and infrastructure (source: NCDC Annual Report).

**8. Skill Development and Capacity Building:** The Ministry of Rural Development indicates that cooperatives provide training to over 2 lakh individuals annually, focusing on improving skills in agriculture, management, and technology

**9. Mitigation of Rural Poverty:** A study by the Indian Institute of Management Ahmedabad (IIMA) suggests that cooperatives have helped reduce poverty in rural areas by increasing household incomes by up to 25% and providing economic stability

**10. Strengthening Community Bonds:** Research

from the Indian Institute of Public Administration (IIPA) highlights that cooperatives enhance community cohesion, with 60% of cooperative members reporting stronger social ties and a sense of collective responsibility



## CRITICAL ISSUES IMPACTING COOPERATIVE SOCIETIES:

**1. Internal Disputes:** According to a survey by the National Cooperative Union of India (NCUI), about 30% of cooperatives face significant internal conflicts that adversely impact their operational efficiency and governance.

**2. Lack of Management Expertise:** Many cooperatives struggle with inadequate management expertise due to limited financial resources. This shortfall in skilled management can result in poor financial performance, mismanagement, and missed opportunities.

**3. Government Interference:** Large cooperatives often encounter bureaucratic hurdles and political interference, which can hinder their growth and operational efficiency.

**4. Resource Limitations:** Data from the Reserve Bank of India (RBI) shows that approximately 35% of rural cooperatives face severe funding shortages, particularly in their initial stages.



**5. Limited Market Access and Competition:** According to the NABARD report 25% of Cooperatives in rural areas often face difficulties in accessing broader markets due to inadequate infrastructure and competition from larger businesses.

**6. Technological Lag:** Many cooperatives, especially in rural areas, lag in adopting modern technologies and digital tools. This technological gap leads to inefficiencies in operations and limits their market connectivity.

**7. Inadequate Training and Capacity Building:** The National Cooperative Development Corporation (NCDC) found that around 50% of cooperatives lack access to comprehensive training programs, affecting their overall performance

**8. Weak Governance Structures:** Reports suggest that about 35% of cooperatives suffer from weak governance practices, impacting their transparency and effectiveness

**9. Resistance to Change:** Research by the ICAR highlights that resistance to change is a significant challenge for 30% of agricultural cooperatives, affecting their ability to innovate

**10. Dependency on External Funding:** Many cooperatives around 25% are heavily dependent on external funding from government grants, subsidies, or donor support. This dependency creates financial instability if such funding sources are reduced or discontinued.

## STRATEGIES FOR ENHANCING COOPERATIVES IN INDIA

**Improving Access to Capital:** Strengthen the Rural Infrastructure Development Fund (RIDF) to support cooperative enterprises in rural areas with essential infrastructure investments.

**Developing Infrastructure:** The government can take the lead in developing infrastructure such as The Karnataka State Cooperative Agricultural and Rural Development Bank (KSCARB) funds cold storage and transport facilities.

**Leadership Training:** Provides training through The Cooperative Development Foundation (CDF) to improve governance, strategic planning, and management skills for cooperative leaders.

**Market Linkages:** Adopt Amul's model of connecting dairy farmers to broader markets for other sectors, leveraging its extensive network and marketing strategies.

**Product Diversification:** Apply successful dairy models to other sectors, as demonstrated by the Maharashtra State Cooperative Cotton Growers Marketing Federation (MSCCGMF) expanding into cotton processing and value-added products.

**Leveraging Technology and Innovation:** Enhance the Digital Green platform's reach to provide agricultural cooperatives with digital tools for training and market information.

**Inclusive Membership:** The wider membership like the Kudumbashree program in Kerala which promotes women's cooperatives, empowering women

**Policy Support:** Recent initiatives like Sahkar se Samridhi (Prosperity through Cooperatives) need consistent policy support for the healthy growth of cooperatives.

**Social Projects:** the cooperatives should take projects with high social impacts, such as the Rural Development Cooperative Society (RDSCS) in Andhra Pradesh engages in community projects like building schools and health clinics to address local needs.

**Performance Metrics:** The Cooperative Auditors Association of India (CAA) provides tools and guidelines for evaluating cooperative performance, ensuring transparency and accountability.

## CONCLUSION:

Cooperatives are crucial to the vitality of India's rural economy and agricultural development. While recent government initiatives, such as hosting the first-ever conference of the International Cooperatives Alliance, are commendable, significant chal-

lenges remain. It is essential to take more prompt actions and support these initiatives to ensure that cooperatives become a key vehicle for a developed India by 2047.

#### PRELIMS QUESTION:

**Q. With reference to the Cooperatives in India Consider the following statements:**

1. To form cooperatives is the fundamental right under the constitution of India.
2. The States only regulate the multi-state cooperatives under entry 44 of the seventh schedule.
3. The cooperatives aim to boost the rural economy by providing membership to diverse sections.
4. Tamil Nadu has the highest number of cooperatives in India.

**How many of the above-given statements are correct?**

- A. Only one
- B. Only two
- C. Only three
- D. All four

**ANSWER: B**

#### MAINS QUESTION:

**India has the highest number of cooperatives in the world. However, their potential to contribute to the rural economy has been constrained by various challenges. What are the ways to unlock and utilize this untapped potential?**

**(250 words 15 marks)**

### NDIA'S NATIONAL GREEN HYDROGEN MISSION: PIONEERING CLEAN ENERGY LEADERSHIP AND SELF-RELIANCE

#### WHY IN THE NEWS?

PM Modi addresses the International Conference on Green Hydrogen virtually. He also highlighted India's Commitment to Clean Energy.



#### WHAT IS HYDROGEN AND ITS VARIOUS FORMS?

**Hydrogen:** Hydrogen is the most fundamental element in the universe, comprising only one proton and one electron. It is the simplest and most abundant element, playing a crucial role in various chemical processes.

It can be produced and used in various forms, each with distinct methods of production and environmental impacts. Green hydrogen offers many benefits such as 1. Plentiful Supply 2. Transportable, 3. Excellent Storage, 4. Utilizes Excess Renewable Energy, 5. Energy Efficiency, 6. Readily Available.

#### VARIOUS FORMS OF HYDROGEN BASED ON PRODUCTION METHODS

**Grey Hydrogen:** Produced by steam reforming of fossil fuels, emitting CO<sub>2</sub> and contributing significantly to global warming.

**Blue Hydrogen:** Created through steam reforming with carbon capture and storage (CCS) to reduce CO<sub>2</sub> emissions.



**Green Hydrogen:** Generated via electrolysis using renewable energy sources, producing only oxygen as a by-product.

**Turquoise Hydrogen:** Produced by thermally cracking natural gas into hydrogen and solid carbon.

**Pink Hydrogen:** Made through electrolysis powered by nuclear energy, providing low emissions.

#### **APPLICATIONS OF GREEN HYDROGEN:**

**1. Fuel and Feedstock Substitution:** Replaces fossil fuel-derived feedstocks in key industries such as petroleum refining, fertilizer production, and steel manufacturing.

**2. Decarbonizing Mobility:** Powers long-haul trucks and marine vessels, reducing emissions in the transportation sector.

**3. Energy Carrier for Remote Areas:** Provides sustainable energy solutions for remote locations, including islands, where traditional infrastructure is challenging.

**4. Storage of Renewable Energy:** Stores excess renewable energy, converting it into hydrogen for later use, thus optimizing energy resource management.

**5. High-Energy Density Applications:** Supplies energy for high-energy-density needs such as aviation and heavy industry, where electrification is difficult.

**6. Chemical Production:** Serves as a clean feedstock for producing chemicals like ammonia and methanol, contributing to greener industrial processes.

#### **NATIONAL GREEN HYDROGEN MISSION**

The government launched the National Green Hy-

drogen Mission in 2023, aiming to position India as a global leader in Green Hydrogen.

#### **MISSION OBJECTIVES:**

**1. Global Hub:** Position India as the global hub for the production, usage, and export of Green Hydrogen and its derivatives.

**2. Self-Reliance:** Achieve energy self-reliance (Aatmanirbhar) through clean energy.

**3. Inspiration:** Serve as a model for the global clean energy transition.

**4. Decarbonization:** Drive significant reductions in carbon emissions across the economy.

**5. Fossil Fuel Dependence:** Decrease reliance on fossil fuel imports.

**6. Leadership:** Establish India as a leader in Green Hydrogen technology and markets.

#### **KEY COMPONENTS OF THE NGHM:**

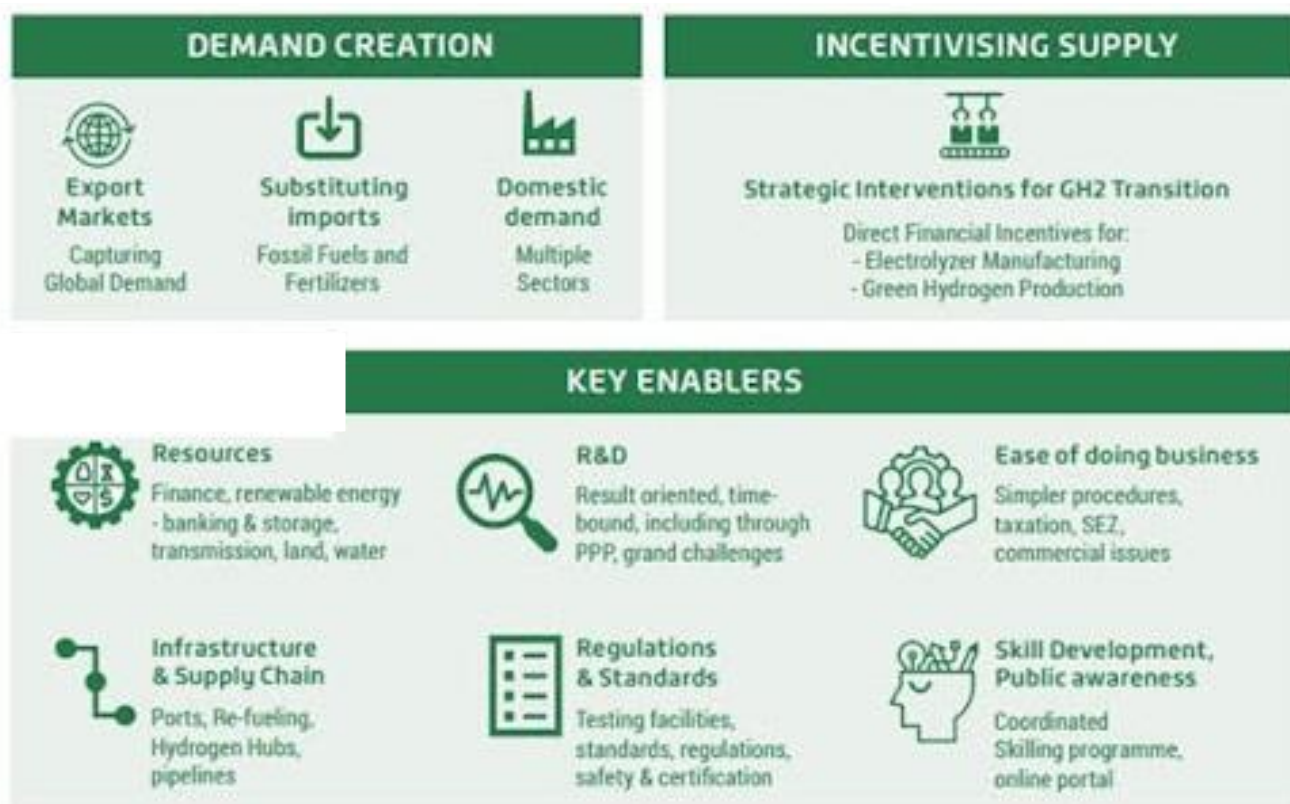
##### **SIGNIFICANCE OF THE NGHM:**

**Decarbonization of the Economy:** The Mission aims to cut carbon emissions significantly by promoting Green Hydrogen, a zero-emission fuel.

**Reduction of Fossil Fuel Dependence:** The initiative seeks to reduce India's dependence on imported fossil fuels by boosting domestic Green Hydrogen production.

**Global Benchmark for Clean Energy Transition:** The Mission aims to set a global benchmark for Green Hydrogen adoption, highlighting India's leadership in clean energy.





**Enhancement of Technology and Market Leadership:** The initiative will drive advancements in hydrogen technologies, such as electrolysis and fuel cells, establishing India as a tech leader.

**Economic Benefits:** Transitioning to Green Hydrogen is expected to boost economic growth through new investments, job creation, and infrastructure development.

**Environmental Benefits:** The Mission will improve air quality and environmental health by reducing reliance on fossil fuels and cutting carbon emissions.

### CHALLENGES TO THE USE OF GREEN HYDROGEN TECHNOLOGY AND IMPLEMENTATION OF THE NGHM:

- 1. Safety:** Hydrogen's high flammability compared to petrol, natural gas, or propane raises safety concerns, particularly for vehicles and during transportation or storage.
- 2. Storage:** Due to hydrogen's low energy density, it must be stored at high pressures, low temperatures, or through chemical processes, creating challenges

for compact storage in lighter vehicles.



- 3. Transportation:** The low density of hydrogen complicates its transportation, necessitating either liquefaction at  $-253^{\circ}\text{C}$  or compression to 700 times atmospheric pressure.
- 4. Infrastructure:** The widespread use of hydrogen



fuel cells in vehicles necessitates significant investment in refueling infrastructure to support users.

**5. Cost of Production:** The production of green hydrogen remains costly due to expensive fuel cell technology and electrolysis processes, including the use of platinum catalysts.

**6. Technological Advancements:** While India has made progress, there are still gaps in advanced technologies for efficient hydrogen production, storage, and utilization.

**7. Skill Development:** There is a shortage of skilled professionals in the emerging field of green hydrogen technology.

### **THE FUTURE OF GREEN HYDROGEN TECHNOLOGY**

**1. Financial support:** The first step is to devote more financial resources to the private and public sectors to ensure investment in safety.

**2. Role in Climate Neutrality:** Green hydrogen is essential for achieving climate neutrality, It can store surplus renewable energy, decarbonize long-distance transport and heavy industry, and replace fossil fuels in various applications.

**3. India Leadership:** the commitment of net zero can be achieved by setting precedence, in this India can take the lead in the global south.

**4. Global collaboration:** India can partner with countries like Australia, Chile, Germany, Japan, and Saudi Arabia are also advancing their green hydrogen initiatives.

**5. Complementary Solution:** Green hydrogen will be part of a broader mix of solutions to combat climate change. In the short term focusing on the pilot projects is important. Concept of Green Highways etc.

**6. Demographic Dividend:** India can harness the potential of its Demography to skill these

workforces to work in renewable energy including Green Hydrogen.

**7. Policy support:** Government initiatives like the SIGHTS program and other policies need to be consistently supported by the government so private players can invest in green energy.

### **CONCLUSION:**

Green hydrogen, when produced in an environmentally friendly manner, has the potential to play a pivotal role in addressing climate change. As a zero-emission energy source, it not only offers the advantage of storing excess renewable energy but also presents a virtually limitless resource. With continued commitment and investment, green hydrogen could soon become a significant player in global decarbonization efforts and the transition to a sustainable energy future.

### **PRELIMS QUESTION:**

**Q.Consider the following Information:**

Sr	Type of Hydrogen	Sources
1	Green Hydrogen	Produced from the Natural Gas
2	Blue Hydrogen	Produced from renewable energy
3	Gray Hydrogen	Produced from vehicular emission.
4	Pink Hydrogen	Produced from animal shells.

**In how many of the given- above pairs are correctly matched?**

- A. Only one
- B. Only two
- C. Only three
- D. All four

**ANSWER: A**

## MAINS QUESTION:

**Green hydrogen is emerging as a key solution for decarbonizing hard-to-electrify industries and for surplus renewable energy storage. In this context, discuss the challenges and future of green hydrogen as a renewable energy source.**

(250 words 15 marks)

## PRELIMS BITS: EXERCISES IN NEWS

### EXERCISE EASTERN BRIDGE VII

#### RECENT CONTEXT:

An IAF contingent comprising MiG-29s, Jaguars, and C-17s is ready to set a course to participate in Exercise Eastern Bridge in Oman.



#### KEY FACTS: EXERCISE EASTERN BRIDGE VII

**Event:** Exercise Eastern Bridge VII, a bilateral air exercise between the Indian Air Force (IAF) and the Royal Oman Air Force.

**Location:** Conducted at Air Force Base Masirah, Oman.

**IAF Contingent:** Includes MiG-29s, Jaguars, and C-17s aircraft.

#### Objectives:

1. Enhance interoperability between the Royal Oman Air Force and the Indian Air Force.
2. Strengthen strategic cooperation and operational readiness through joint training missions.
3. Improve tactical and operational skills, including complex aerial maneuvering and air-to-air/air-to-ground operations.

#### Significance:

1. Reinforce the strategic partnership between India and Oman.
2. Promotes regional security and stability through shared expertise and operational experience.

### TARANG SHAKTI EXERCISE

#### RECENT CONTEXT:

Defence Minister Rajnath Singh to inaugurate IDAX-24 in Jodhpur.



## KEY FACTS ABOUT TARANG SHAKTI EXERCISE:

**Location:** Jodhpur Air Force Station, India

**Scope:** Tarang Shakti is one of the largest multi-national air exercises conducted by the Indian Air Force.

**Participating Countries:** Air forces from seven major countries including the USA, Japan, Australia, Singapore, Sri Lanka, UAE, and Greece.

**Observer Countries:** 16 countries are participating as observers in the exercise.

**Defence Minister:** Rajnath Singh will observe the exercise and inaugurate the Defence Aviation Expo (IDAX).

**Air Show Features:** The air show will showcase performances by the Suryakiran aerobatic team, Sarang helicopter display team, indigenous fighter aircraft Tejas, and Sukhoi-30.

**Expo Focus:** The IDAX will display a range of products and technologies from the Indian aviation industry, including contributions from Defence Public Sector Undertakings (DPSUs), DRDO, private industries, and start-ups.

**Objective:** The exercise aims to demonstrate India's air force capabilities, enhance international military cooperation, and showcase India's advancements in aviation technology.



## EXERCISE AL NAJAH V

### RECENT CONTEXT:

The Indian Army contingent has departed for the 5th edition of the India-Oman Joint Military Exercise AL NAJAH.

### KEY FACTS: INDIA-OMAN JOINT MILITARY EXERCISE AL NAJAH V

**Dates and Location:** The exercise will take place from 13th to 26<sup>th</sup> September 2024 at the Rabkoot Training Area in Salalah, Oman.

**Participants:** The Indian contingent consists of 60 personnel from a Battalion of the Mechanised Infantry Regiment and other arms and services. The Royal Army of Oman will also send 60 personnel from the Frontier Force.

**Exercise History:** AL NAJAH has been conducted biennially since 2015, alternating between India and Oman. The previous exercise was held in Mahajan, Rajasthan.

**Objective:** The primary aim is to enhance joint military capabilities for counter-terrorism operations under Chapter VII of the United Nations Charter.

**Focus Areas:** The exercise will emphasize operations in desert environments and include tactical drills such as joint planning, cordon and search operations, fighting in built-up areas, and counter-drone operations.

**Outcomes:** The joint exercise aims to exchange best practices, improve interoperability, foster goodwill and camaraderie, and strengthen defense cooperation and bilateral relations between India and Oman.

## EXERCISE YUDH ABHYAS-2024

### RECENT CONTEXT:

The 20th edition of the India-USA Joint Military Exercise, Yudh Abhyas 2024, has officially begun at the Foreign Training Node in the Mahajan Field

Firing Ranges, Rajasthan. This exercise, which runs from September 9 to September 22, 2024, is conducted annually and alternates between India and the USA.



#### KEY FACTS: EXERCISE YUDH ABHYAS-2024

**Exercise Name:** YUDH ABHYAS-2024

**Location:** Foreign Training Node, Mahajan Field Firing Ranges, Rajasthan, India

**Edition:** 20<sup>th</sup>

**Participants:**

Indian Army: the RAJPUT Regiment.

US Army: the Alaska-based 11th Airborne Division

**Objective:** Enhance joint military capabilities for counter-terrorism operations under Chapter VII of the UN Charter

**Focus:** Semi-desert environment operations, including joint response to terrorist actions and combined field training

**Significance:** Improves interoperability, facilitates sharing of best practices, and strengthens bilateral relations between India and the USA

#### OCEAN 2024 EXERCISE

##### RECENT CONTEXT:

The Russian Navy has launched a week-long, extensive exercise named 'Ocean 2024' in the Pacific,

which involves the Northern and Baltic fleets, the Caspian flotilla, and includes ships from the People's Liberation Army Navy along with aircraft from the People's Liberation Army Air Force taking part in the Pacific Fleet segment of the drills.



#### KEY FACTS: OCEAN 2024 EXERCISE



**Exercise Name:** Ocean 2024

**Participating Fleets:**

Russian Navy: Pacific Fleet, Northern Fleet, Baltic Fleet, and Caspian Flotilla

**International Participation:** Ships of the People's Liberation Army Navy (PLAN) and aircraft from the People's Liberation Army Air Force (PLAAF)

**Equipment:** More than 400 warships, submarines, and support vessels, Over 120 naval aircraft

**Locations:** Pacific Ocean, Arctic Ocean, Mediterranean Sea, Caspian Sea, and Baltic Sea



## Objectives:

1. Assess readiness of Russian Navy senior staff for operating all-arms groups
2. Test the use of high-precision and advanced weaponry
3. Expand cooperation with partner navies for joint maritime missions

**Historical Context:** Echoes the Soviet-era Ocean exercises of the 1970s and 1980s, which were the largest Cold War naval drills.

**Focus:** Emphasis on precision weapons, modern military hardware, and strengthening cooperation with friendly countries amid global geopolitical tensions.

## PRELIMS QUESTION:

**Q. Consider the following Information:**

	Exercise name	Participating countries	Location
1	<i>Eastern Bridge</i>	India and Thailand	Andaman Sea
2	Yudh Abhyas	India and USA	Florida Coast
3	Al Najah	India and Oman	Salalah
4	Tarang Shakti Exercise	India and Australia	Jodhpur

In how many of the above rows is the given information correctly matched?

- A. Only one
- B. Only two
- C. Only three
- D. All four

**ANSWER: B**

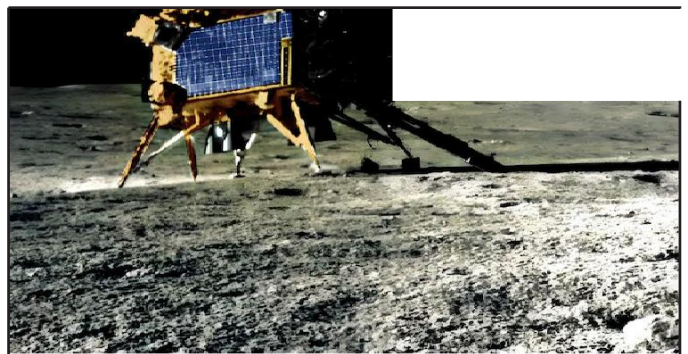
## Chandrayaan-3 Detects Historic 250 Seismic Signatures on Moon

### RECENT CONTEXT:

India's Chandrayaan-3 mission has achieved a historic milestone by detecting an unprecedented 250 seismic signatures on the Moon. This achievement not only marks a significant advancement in lunar exploration but also offers profound insights into the Moon's geological processes and internal structure. The findings from Chandrayaan-3 are set to reshape our understanding of the Moon's seismic activity and provide crucial data for future lunar missions.

### BACKGROUND ON CHANDRAYAAN-3

Chandrayaan-3, launched by the Indian Space Research Organisation (ISRO) on July 14, 2023, represents the next step in India's lunar exploration program. Following the Chandrayaan-1 mission, which was notable for discovering water molecules on the Moon, and Chandrayaan-2, which aimed for a soft landing but faced challenges, Chandrayaan-3's primary objective was to land a rover on the lunar surface and conduct detailed surface-level scientific investigations.



The mission consisted of a lander and a rover, equipped with a suite of scientific instruments designed to study the Moon's surface and subsurface.

One of the most critical instruments aboard Chandrayaan-3 is the Seismometer, designed to detect and record seismic activity on the Moon. The successful detection of 250 seismic signatures marks a groundbreaking achievement in lunar science.

## **INSTRUMENTATION AND DATA COLLECTION**

The Instrument for Lunar Seismic Activity (ILSA), which was part of the Vikram Lander, operated from August 24 to September 4, 2023. It recorded these seismic events from coordinates 69.37° S and 32.32° E. ILSA is notable for being the first instrument based on MEMS (Micro-Electro-Mechanical Systems) technology designed to measure seismic activity on the Moon, using advanced silicon micro-machining techniques.

## **SEISMIC SIGNATURES EXPLAINED**

Seismic signatures are records of ground vibrations caused by various geological events. On Earth, these include earthquakes, volcanic eruptions, and tectonic movements. On the Moon, the types of seismic activity differ due to its unique geological characteristics. The Moon lacks tectonic plates and has no active volcanoes, so seismic activity is influenced by different factors such as meteorite impacts, thermal stress, and possibly tectonic remnants from the Moon's early history.

Seismic waves generated by these activities travel through the Moon's crust and can be detected by sensitive instruments. By analyzing these waves, scientists can infer details about the Moon's internal structure, including the composition and properties of its crust, mantle, and core.

## **SIGNIFICANCE OF THE DETECTION**

- **Insights into Lunar Internal Structure**

The seismic data collected by Chandrayaan-3 offers invaluable information about the Moon's internal structure. By analyzing the seismic waves, scientists

can deduce the composition and physical properties of the Moon's crust and mantle. This helps to answer fundamental questions about the Moon's geological history, including how it was formed and how its internal structure has evolved over time.

The data suggests that the Moon's interior may have more complexity than previously understood. For instance, variations in seismic wave speeds can indicate differences in material density and elasticity within the Moon's crust and mantle. This can provide insights into the presence of subsurface layers or structures that were not detectable before.

- **Understanding Lunar Seismic Activity**

The detection of such a large number of seismic signatures suggests that the Moon is more seismically active than previously thought. While the Moon does not experience tectonic plate movements like Earth, it is still subject to seismic activity due to other factors.

Meteorite impacts, for example, generate seismic waves that travel through the Moon's surface. Thermal stresses caused by extreme temperature fluctuations between day and night can also induce seismic events. Understanding the frequency and intensity of these events is crucial for comprehending the Moon's seismic behavior and its potential impact on future lunar exploration and settlement.

- **Implications for Future Lunar Missions**

The findings have significant implications for future lunar exploration and colonization efforts. If the Moon is indeed seismically active, it could pose challenges for the construction and stability of lunar habitats and infrastructure. The data from Chandrayaan-3 can help engineers design more resilient structures capable of withstanding seismic events.

Moreover, understanding lunar seismic activity is essential for ensuring the safety of future lunar

missions. Knowledge of potential seismic hazards can guide mission planning and risk assessment, ensuring that both crewed and uncrewed missions are adequately prepared for potential seismic disturbances.

## TECHNICAL ASPECTS OF SEISMIC DETECTION

The Seismometer aboard Chandrayaan-3 was a highly sensitive instrument designed to detect minute vibrations on the Moon's surface. It operates by measuring oscillations and converting them into seismic wave data. The instrument is calibrated to detect low-frequency seismic waves, which are typically associated with impacts and thermal stresses rather than high-frequency tremors.

The Seismometer's sensitivity allowed it to capture a broad range of seismic events, from subtle tremors to more significant disturbances. The detection of 250 seismic signatures indicates that the instrument successfully recorded a variety of seismic activities, providing a comprehensive view of the Moon's seismic environment.

## CHALLENGES AND LIMITATIONS

- **Extreme Environmental Conditions**

The Moon's surface experiences extreme temperature variations, ranging from extremely hot during the lunar day to extremely cold at night. These temperature fluctuations can affect the accuracy and sensitivity of seismic measurements. Instruments must be carefully designed to function reliably under such harsh conditions.

- **Limited Coverage**

Chandrayaan-3's seismic data is limited to the specific regions where the lander and rover operated. The lack of a global network of seismometers means that the data may not provide a complete picture of seismic activity across the entire lunar surface. Future missions and additional seismome-

ters will be necessary to build a more comprehensive understanding of lunar seismicity.

- **Interpretation of Data**

Interpreting seismic data requires careful analysis and modeling. The seismic signatures detected by Chandrayaan-3 must be analyzed to distinguish between different sources of seismic activity, such as impacts versus thermal stresses. Accurate interpretation is crucial for drawing meaningful conclusions about the Moon's geological processes.

## BROADER IMPLICATIONS FOR SPACE SCIENCE

The success of Chandrayaan-3 and its seismic discoveries extends beyond lunar science. The techniques and technologies developed for this mission have potential applications in studying other celestial bodies. Seismic studies on planets and moons can provide insights into their geological history, internal structure, and potential for future exploration.

For example, similar seismic studies could be conducted on Mars, where there is evidence of past volcanic activity and tectonic movements. By applying the lessons learned from Chandrayaan-3, scientists can develop more advanced instruments and methods for studying seismic activity on other planets and moons.

Additionally, the data from Chandrayaan-3 contributes to our broader understanding of planetary geology and seismic phenomena. By comparing seismic data from different celestial bodies, scientists can gain insights into the commonalities and differences in their geological histories and processes.

## CONCLUSION

Chandrayaan-3's detection of 250 seismic signatures on the Moon represents a significant milestone in space exploration and lunar science. The

findings offer new insights into the Moon's internal structure and seismic activity, challenging previous assumptions and opening new research avenues. As we continue to explore the Moon and other celestial bodies, the data collected by Chandrayaan-3 will play a crucial role in advancing our understanding of the universe and preparing for future space missions.

The mission highlights the importance of continued exploration and scientific inquiry in unraveling the mysteries of our solar system. By building on these discoveries, we move closer to unlocking the secrets of the Moon and beyond, paving the way for future generations of space explorers and scientists.

Chandrayaan-3's achievements underscore the innovative spirit and dedication of space agencies around the world. As we look to the future, the insights gained from this mission will inform and inspire the next wave of exploration, ensuring that humanity's quest for knowledge continues to push the boundaries of what is known about our solar system and the cosmos.



#### PRELIM QUESTION:

**Q.What is the primary scientific significance of Chandrayaan-3 detecting 250 seismic signatures on the Moon?**

A) It indicates the presence of liquid water on the Moon.

B) It provides insights into the Moon's internal structure and seismic activity.

C) It confirms the Moon's complete lack of any seismic activity.

D) It suggests that the Moon's surface is primarily composed of ice.

**Answer: B**

#### MAINS QUESTION:

**Q.Analyze the significance of Chandrayaan-3's detection of 250 seismic signatures on the Moon. In your analysis, discuss how these findings contribute to our understanding of lunar geological processes, the potential implications for future lunar missions, and the broader impact on planetary science?(200words)**

#### Fortifying India's Digital Frontier: Navigating the Landscape of Cybersecurity Challenges and Solutions

#### WHY IN THE NEWS?

On the occasion of the first Foundation Day celebrations of the Indian Cyber Crime Coordination Centre (I4C), the Union Home Minister launched several significant initiatives to enhance cybercrime prevention and strengthen the country's cyber security framework.





## WHAT ARE THE CYBER SECURITY, CYBERCRIMES AND ITS FORMS?

### CYBERSECURITY:

Cybersecurity refers to the practices, technologies, and processes designed to protect digital systems, networks, and data from cyber threats and attacks. Its primary goal is to ensure the confidentiality, integrity, and availability of information and systems by defending them from unauthorized access, damage, or disruption.

### CYBER CRIMES:

Cyber crimes refer to illegal activities conducted using digital devices or networks, primarily the Internet. These crimes exploit technological vulnerabilities to steal, manipulate, or destroy information and disrupt digital systems.

### FORMS OF CYBER CRIMES:

**1. Identity Theft:** This occurs when someone uses another person's personal information without permission to commit a crime.

**2. DDoS Attack:** A Distributed Denial-of-Service attack that overwhelms a network with traffic from multiple sources, disrupting its operations.

**3. Malware:** A broad term for malicious software like viruses, ransomware, and spyware designed to damage systems, steal data, or gain unauthorized access.

**4. Ransomware:** A type of malware that encrypts a victim's files and demands a ransom for their decryption.

**5. Computer Viruses:** Malicious code that infects and destroys files on computer systems and can spread to other devices.

**6. Cyberterrorism:** Acts of terrorism conducted through cyberspace aimed at causing disruption or harm.

**7. Phishing:** Phishing is a prevalent form of cyber-crime where attackers impersonate legitimate organizations to trick individuals into revealing sensitive information like passwords, credit card numbers, or other personal details.

**8. Criminal Hacking:** Unauthorized access to computer systems or networks to steal personal information, corporate secrets, or government intelligence.

### INDIA AND CYBERSPACE:

#### CERT-IN REPORT 2023 DATA ON VARIOUS CYBER CRIMES:

<i>Incident Type</i>	<i>Number of Incidents</i>
Phishing	869
Unauthorized Network Scanning/Probing	447,720
Vulnerable Services	941,592
Virus/Malicious Code	184,131
Website Defacements	10,665
Website Intrusion & Malware Propagation	1,045
Others	6,895
<b>Total</b>	<b>1,592,917</b>

## INDIA'S DIGITAL LANDSCAPE:

**Internet Users:** March 31, 2014: 25 crores (250 million) to March 31, 2024: 95 crores (950 million)

**Data Consumption:** Average Data Usage in 2024: 20.27 GB per users.

### Digital Facilities and Transactions:

- Jan Dhan Accounts: 35 crore (350 million)
- Rupay Debit Cards: 36 crore (360 million)
- Digital Transactions Value in 2024: ₹20,64,000 crore (₹20.64 trillion)
- India's Share of Global Digital Transaction Volume: 46%

**Panchayat Internet Connectivity:** In 2024, 2,13,000 panchayats connected

**Total Mobile Connections:** 1,151 million (82.54% of the population)

## KEY INITIATIVES OF THE GOVERNMENT OF INDIA TO PREVENT CYBERCRIMES:

**1. Cyber Fraud Mitigation Centre (CFMC):** This centre will focus on mitigating cyber fraud and enhancing response mechanisms.

**2. Samanvay Platform:** A joint cyber crime investigation facilitation system designed to improve coordination and streamline investigations.

**3. Cyber Commandos Programme:** A plan to train around 5,000 Cyber Commandos over the next five years to tackle cyber threats.

**4. Suspect Registry:** A national-level registry aimed at preventing cybercrime by connecting states and tracking potential threats.

**5. CERT-In:** CERT-In, the Indian Computer Emergency Response Team, operates under the Ministry

of Electronics and Information Technology (MeitY) with the mission to secure Indian cyberspace. It provides 24×7 support through its incident response Help Desk.

**6. Security Profiling, Assurance Framework, and Audit Services:** Conducts information security audits, including vulnerability assessments and penetration testing.

**7. National Cyber Coordination Centre (NCCC):** To generate macroscopic views of cybersecurity threats, provide near-real-time situational awareness, and facilitate rapid response to cyber-attacks and incidents.

**8. Cyber Forensics:** The Cyber Forensics Lab of CERT-In supports the Incident Response team by conducting detailed investigations and analyzing data from digital storage and mobile devices during cyber incidents.

**9. Indian Cyber Crime Coordination Centre (I4C):** I4C (Indian Cyber Crime Coordination Centre) was established to serve as a national coordination center for combating cyber crimes and enhancing cybersecurity.



## CHALLENGES POSED BY CYBER CRIMES TO INTERNAL SECURITY:

**1. Data Breaches and Loss:** According to a report by IBM, India faced a significant rise in data breaches with an average cost of data breaches reaching ₹17.7 crore (approximately \$2.4 million) per incident in 2023.

**2. Disruption of Critical Infrastructure:** CERT-In reported over 1,000 incidents of cyber-attacks on critical infrastructure sectors, including power grids and transportation systems in recent years. Attack on the AIIMS Delhi.

**3. Advanced Persistent Threats (APTs):** Indian organizations have been targeted by advanced persistent threats, notably from state-sponsored actors, with CERT-In detecting various such activities over the years.

**4. Ransomware Attacks:** In 2023, India witnessed a surge in ransomware attacks with 450 reported incidents impacting various sectors including health-care and finance.

**5. Phishing and Social Engineering:** CERT-In reported 869 phishing incidents in 2023 alone. Increased incidents of financial fraud and identity theft affecting individuals and organizations.

**6. Insider Threats:** While specific figures are less frequently reported, insider threats remain a significant concern, with cases of employees abusing access to sensitive data being periodically disclosed.

**7. Lack of Cybersecurity Awareness:** Reports indicate that only 40% of Indian organizations have a comprehensive cybersecurity training program for employees. This increased vulnerability to phishing, malware, and other cyber-attacks due to insufficient awareness and preparedness.

**8. Inadequate Incident Response:** Many organizations lack effective incident response plans, causing delayed responses and extended recovery times.

**9. Outdated Software:** The NASSCOM Cybersecurity report indicates that many Indian businesses fail to regularly update their software, leading to exploitable vulnerabilities.

**10. Zero-Day Exploits:** A study by the IIT-B reported a rise in zero-day exploits affecting Indian software and systems, with an increase of 20% over the past year.

## WAYS TO MAKE CYBER SPACE MORE SAFER:

### *Individual Level:*

**Cybersecurity Awareness:** Stay informed about common cyber threats and safe online practices through reliable sources and educational resources.

**Use of Security Tools:** Implement strong passwords, two-factor authentication, and up-to-date antivirus software to protect personal data.

**Report Cyber Incidents:** Use the helpline number 1930 to report suspicious activities or cybercrimes to authorities.

**Safe transactions:** Individuals should take care of spam messages do not share critical information with anyone.

### *Organizational Level:*

**Establish Cybersecurity Policies:** Develop and enforce comprehensive cybersecurity policies and procedures within the organization.

**Implement Training Programs:** Regularly conduct cybersecurity training for employees to enhance their awareness and response to cyber threats.

**Invest in Cybersecurity Infrastructure:** Upgrade and maintain robust security infrastructure, including firewalls, intrusion detection systems, and secure communication channels.

**Form Cyber Incident Response Teams:** Establish dedicated teams to handle and manage responses to cybersecurity incidents.

**Foster Collaboration:** Engage in public-private partnerships to share threat intelligence and collaborate on cybersecurity solutions.

### *State Level:*

**Strengthen National Cybersecurity Centres:** Enhance the capabilities of national centers like CERT-IN to effectively coordinate responses and share threat intelligence.

**Implementation of the Personal Data Protection**

**Act 2023:** The government should implement data protection law in later and spirit to protect the digital public infrastructure.

**Upgradation National Response Plan:** The CERT-in is implementing the crisis response plan which needs upgradation to deal with present challenges.

**Enhance Infrastructure:** Invest in developing and upgrading forensic laboratories and investigative tools to keep pace with evolving threats. Institutions like I4C need more support to make it a premier organization for handling cyber crimes.

**Popularize Helpline Number 1930:** Organize awareness campaigns to ensure the helpline number is well-known and accessible to the public.

**International cooperation:** India can adopt the best practices from like-minded countries by cooperating with them. Participation in global initiatives.

### **CONCLUSION:**

India is an emerging economic powerhouse and the foundation of this powerhouse is based on the digital public infrastructure (DPI). The recent initiatives to protect India's DPI are commendable but the cyber threat is persistent and coordinated efforts at three levels: Individual, organizational, and state are needed to make India's cyberspace safer for millions of Indians.

### **PRELIMS QUESTION:**

**Q. "Zero-Day Exploits" are often discussed in the context of:**

- A. Financial market
- B. Ecological footprint
- C. Cyber Security
- D. Earth revolution

**ANSWER: C**

### **MAINS QUESTION:**

Discuss the major internal security challenges posed by the increasing vulnerability of cyberspace in India. Analyze the strategies and measures that can be implemented to enhance the security and resilience of cyberspace against these threats.

**(250 WORDS 15 MARKS)**

### **Prelims Bits: Schemes and Awards**

#### **NATIONAL FLORENCE NIGHTINGALE AWARDS**

#### **RECENT CONTEXT:**

President Presents National Florence Nightingale Awards to Nurses at Rashtrapati Bhavan.



#### **KEY FACTS ABOUT THE NATIONAL FLORENCE NIGHTINGALE AWARDS**

**Award Presentation:** President Droupadi Murmu conferred the National Florence Nightingale Awards 2024.



**Institution Date:** The National Florence Nightingale Award was instituted by the Ministry of Health and Family Welfare in 1973.

**Purpose:** The award recognizes the meritorious services rendered by nurses and nursing professionals to society.

**Significance:** It serves as a mark of honor for exceptional contributions and dedication in the field of nursing.

**Recognition:** The award highlights the essential role of nurses in healthcare and acknowledges their commitment to improving patient care.

### ***“MISSION MAUSAM”***

#### ***RECENT CONTEXT:***

The Union Cabinet, led by Prime Minister Narendra Modi, has approved ‘Mission Mausam’ with a budget of Rs. 2,000 crore over two years.



#### ***KEY FACTS: MISSION MAUSAM***

##### **Objectives:**

1. Enhance India’s weather and climate science, research, and services.
2. Equip stakeholders to better handle extreme weather events and climate change impacts.
3. Improve capacity and resilience across communi-

ties, sectors, and ecosystems.

##### **Technological Integration:**

1. Deployment of next-generation radars and satellite systems with advanced sensors.
2. Utilization of high-performance supercomputers and artificial intelligence.
3. Development of improved Earth system models and a GIS-based automated Decision Support System.

##### **Focus Areas:**

1. Accurate weather and climate information, including monsoon forecasts, air quality alerts, and extreme weather warnings.
2. Weather interventions for managing fog, hail, and rain.

##### **Beneficiary Sectors:**

1. Agriculture, disaster management, defense, environment, aviation, water resources, power, tourism, shipping, transport, energy, and health.
2. Enhanced data-driven decision-making for urban planning, road and rail transport, offshore operations, and environmental monitoring.

**Primary Implementing Institutes:** The mission will be chiefly implemented by the Ministry of Earth Sciences.

1. India Meteorological Department (IMD)
2. Indian Institute of Tropical Meteorology (IITM)
3. National Centre for Medium-Range Weather Forecasting (NCMRWF)

#### ***PM E-DRIVE: PM ELECTRIC DRIVE REVOLUTION IN INNOVATIVE VEHICLE ENHANCEMENT (PM E-DRIVE) SCHEME***

##### ***RECENT CONTEXT:***

The Union Cabinet, chaired by Prime Minister Nar-

endra Modi, has approved the PM E-DRIVE Scheme, which is designed to promote electric mobility in India.



## KEY FACTS: PM E-DRIVE

### Replacement of Previous Scheme:

The PM E-Drive scheme replaces the Faster Adoption and Manufacturing of (Hybrid and) Electric Vehicles (FAME II) scheme, which expired in March this year.

### Objectives:

1. To expedite EV adoption through subsidies and incentives.
2. To facilitate the establishment of essential EV charging infrastructure.
3. To promote green mobility, reduce environmental impact, and improve air quality.

### Major Components and Allocations:

1. **Subsidies/Demand Incentives:** INR 3,679 crore allocated for incentivizing electric two-wheelers (e-2Ws), three-wheelers (e-3Ws), ambulances, trucks, and other emerging EVs.
2. **Electric Buses:** INR 4,391 crore allocated for the procurement of 14,028 electric buses by state transport units (STUs) and public transport agencies.
3. **Charging Infrastructure:** INR 2,000 crore allo-

cated for installing 22,100 fast chargers for electric four-wheelers, 1,800 fast chargers for electric buses, and 48,400 fast chargers for electric two- and three-wheelers.

**4. Vehicle Testing Infrastructure:** INR 780 crore allocated for enhancing vehicle testing infrastructure.

**E-Vouchers System:** Introduction of e-vouchers to streamline the EV buying process. The scheme portal will generate Aadhaar-authenticated e-vouchers for buyers, which are essential for claiming demand incentives.

**Electric Ambulances:** INR 500 crore allocated for the procurement and deployment of electric ambulances, aimed at integrating EVs into the healthcare sector and improving patient transport.

**Incentives for E-Trucks:** INR 500 crore allocated for incentivizing the purchase of electric trucks, with additional incentives available for those scrapping old trucks.

**Charging Stations:** The scheme supports the installation of a total of 88,300 electric vehicle charging stations, including fast chargers for various types of EVs.

**Support for Domestic Manufacturing:** The scheme includes a phased manufacturing program (PMP) to encourage domestic EV manufacturing and strengthen the EV supply chain.

**Economic Impact:** The scheme is expected to create significant employment opportunities in the manufacturing and charging infrastructure sectors and contribute to a more resilient and competitive EV industry.

## PRELIMS QUESTION:

**Q. 1. Which of the following are the components of the PM E-DRIVE Scheme?**

1. Subsidies to four-wheeler cars

2. Introduction of E-Ambulances
3. Building strong charging infrastructure
4. The use of E-vouchers System

Select the correct answer using the code given below:

- A. Only one
- B. Only two
- C. Only three
- D. All four

**ANSWER: C.**

**Q. 2. Consider the following statements:**

**Statement-I:** The National Florence Nightingale Awards are given annually by the Ministry of Home Affairs.

**Statement-II:** The award recognizes the meritorious services rendered by nurses and nursing professionals to society.

Which one of the following is correct in respect of the above statements?

- A. Both Statement I and Statement II are correct and Statement II is the correct explanation for Statement I
- B. Both Statement I and Statement II are correct and Statement II is not the correct explanation for Statement I
- C. Statement I is correct but Statement II is incorrect
- D. Statement I is incorrect but Statement II is correct

**ANSWER: D**

**Q.3. With reference to the Mission Mausam, Consider the following statement:**

1. The Mission Muasam is a landmark mission to provide real-time weather forecasts in any part of

India.

2. Deployment of next-generation radars and satellite systems with advanced sensors is one of the components of this Mission.

3. The Mission is implemented by the Ministry of Forest and Climate Change, Government of India.

How many of the above-given statements are correct?

- A. Only one
- B. Only two
- C. All three
- D. None

**ANSWER: B**

## The National Hindi Diwas

### WHY IN THE NEWS?

Hindi Diwas is observed nationwide on 14 of September every year. On this day in 1949, the Constituent Assembly designated Hindi, written in the Devanagari script, as the official language of India. Today, Hindi stands as one of the most widely spoken languages globally and serves as the mother tongue for over 520 million individuals.



THE OFFICIAL LANGUAGE VS THE NATIONAL  
LANGUAGE VS CLASSICAL LANGUAGE

Aspect	Official Lan- guage	National Language	Clas- sical Lan- guage
Defini- tion	A lan- guage designat- ed by a coun- try's constitu- tion or laws for official govern- ment functions.	A language that holds special status, rep- resenting the identity, culture, and unity of a nation.	A language that has a rich heri- tage and classical literature, recognized for its ancient historical signifi- cance.
Purpose	Facilitates communi- cation and docu- men- tation in gov- ern- ment affairs and legal pro- cesses.	Reflects the cultural and historical identity of the nation; may symbolize national heritage.	Preserves and promotes ancient literature, philoso- phy, and cultural heritage.
Usage	Used for admin- istrative purposes, court pro- ceedings, and formal state functions.	Often used in cultural, educa- tional, and social contexts; promoted in media and public life.	Studied for academ- ic and cultural purposes; often used in classical literature, religious texts, and historical studies.
Example	Hin- di: Official language of India.	India does not have a national language.	San- skrit: Rec- ognized as a classical language of India with a rich histori- cal and literary tradition.

LANGUAGE STATISTICS FROM THE 2011  
CENSUS OF INDIA

Most Spoken Languages:

- 1. Hindi: 41% of the population speaks Hindi, making it the most widely spoken language.
- 2. Bengali: 8.1% of the population speaks Bengali.
- 3. Telugu: 7% of the population speaks Telugu.
- 4. Marathi: 7% of the population speaks Marathi.
- 5. Tamil: 5.9% of the population speaks Tamil.

**Linguistic Diversity:** The 2011 Census recorded a total of 122 major languages and 1599 other languages spoken across the country.

**Scheduled Languages:** The Constitution of India recognizes 22 languages under the Eighth Schedule, which include Hindi, Bengali, Telugu, Marathi, Tamil, Urdu, Gujarati, Malayalam, Kannada, Oriya, Punjabi, Assamese, Maithili, Santali, Nepali, Konkani, Sindhi, Dogri, Manipuri, Bodo, Sanskrit, and Kashmiri.





## JOURNEY OF HINDI AS THE OFFICIAL LANGUAGE:

The Official Language Committee, chaired by Shri K.M. Munshi and with Shri G.K. Iyengar as a key member, played a pivotal role in recommending Hindi as the official language of India. Their efforts were instrumental in shaping India's language policy, leading to the formal adoption of Hindi, written in the Devanagari script, on September 14, 1949.



## GOVERNMENT OF INDIA'S STEPS TO PROMOTE HINDI LANGUAGE:

### Constitutional Position:

#### Part XVII: Constitution of India (Article 343-351)

**Article 343:** Designates Hindi in the Devanagari script as the official language of the Republic of India.

**Article 344:** Provides for the creation of a Commission for the Promotion of the Official Language.

**Article 345:** Allows states to adopt Hindi or other languages for official purposes.

**Article 346:** Specifies Hindi as the official language of the Union for communication between the Union and the states.

**Article 351:** Mandates the promotion of Hindi as the link language and its enrichment by assimilating elements from other languages.

### Non-Constitutional Measures

**Official Languages Act, 1963:** Provides for the use of Hindi and English in official communication and prescribes the procedures for the use of Hindi in the central government.

**Hindi Sahitya Sammelan (Recognition) Act, 1956:** Established a body to organize literary events, support authors, and promote Hindi literature.

**NEP 2020:** The NEP 2020, advocates for the three-language formula, and many states promote this formula.

**Institutional Mechanism:** under the Ministry of Home Affairs, the official language department is responsible for promoting Hindi as the official language.

### Scheme and initiatives:

**Official Language Policy:** Outlines the implementation of Hindi in various government departments and institutions, encouraging its use in administrative functions.

**Hindi Pakhwada:** An annual observance from September 1st to September 15th aimed at promoting Hindi use in government offices and institutions.

**Rajbhasha Gaurav Puraskar:** Recognize individuals and organizations for their exemplary contributions to the promotion and use of Hindi in official communications.

**Rajbhasha Kirti Puraskar:** Honors institutions and individuals who have demonstrated outstanding efforts in integrating Hindi in official and academic spheres.

**Central Hindi Training Institute (CHTI):** Provides Hindi language courses to improve proficiency among non-Hindi speakers, facilitating better use of Hindi in official settings.

**Kantahastha Translation Software:** Enhances the accuracy and efficiency of translating Hindi texts through advanced memory-based technology.

**Hindi Shabd Sindhu – Version 2:** Provide an updated and comprehensive Hindi dictionary to support language learning and usage.

**World Hindi Secretariat (WHS):** Promotes Hindi internationally and advocates for its recognition as a UN official language.

**Use of Hindi in Digital Technology:** Increases the accessibility of Hindi through Unicode support and digital platforms.

### **ROLE OF HINDI AS A UNIFYING FACTOR IN INDIAN SOCIETY:**

**1. Bridging Linguistic Divides:** India is home to hundreds of languages and dialects. Hindi, being one of the most widely spoken languages, serves as a common linguistic medium for people from diverse linguistic backgrounds, facilitating easier communication and interaction.

**2. Symbol of National Unity:** Hindi, as one of the official languages of India, is often associated with national identity. Its widespread use helps foster a sense of belonging and unity among Indians, creating a shared cultural and linguistic framework.

**3. Standardized Education:** Hindi is taught in schools across India, making it a common medium of instruction in many regions.

**4. Official Communication:** Hindi is used extensively in government documents, uniformity helps in streamlining government operations and making information accessible to a broader audience, enhancing administrative efficiency and inclusiveness.

**5. National Celebrations:** Hindi is often used in national celebrations, festivals, and public events. The use of Hindi in such contexts helps promote a shared cultural experience and strengthens the feeling of unity among citizens.

**6. Workplace Communication:** In many urban and

professional settings, Hindi serves as a common language for communication among people from different regions. This facilitates collaboration and economic activities, contributing to a more integrated society.

**7. Online Platforms:** The rise of digital media in Hindi allows for the exchange of ideas and information across linguistic boundaries. Social media platforms and digital content in Hindi connect people from various regions, fostering a sense of community and shared experience.

### **CONCLUSION**

While Hindi can act as a unifying factor, it is also important to respect and celebrate India's rich linguistic diversity. Balancing the use of Hindi with the preservation and promotion of regional languages ensures that the unity achieved through Hindi does not come at the expense of regional identities and cultural richness.

### **PRELIMS QUESTION:**

**Q. Consider the following statements:**

Statement I: September 14 is celebrated annually as National Hindi Day.

Statement-II: On September 14, 1949, the Constituent Assembly of India officially adopted Hindi as the National language of the country.

**Which one of the following is correct in respect of the above statements?**

A. Both Statement I and Statement II are correct and Statement II is the correct explanation for Statement I

B. Both Statement I and Statement II are correct and Statement II is not the correct explanation for Statement I

C. Statement I is correct but Statement II is incorrect

D. Statement I is incorrect but Statement II is correct

**Answer: C**

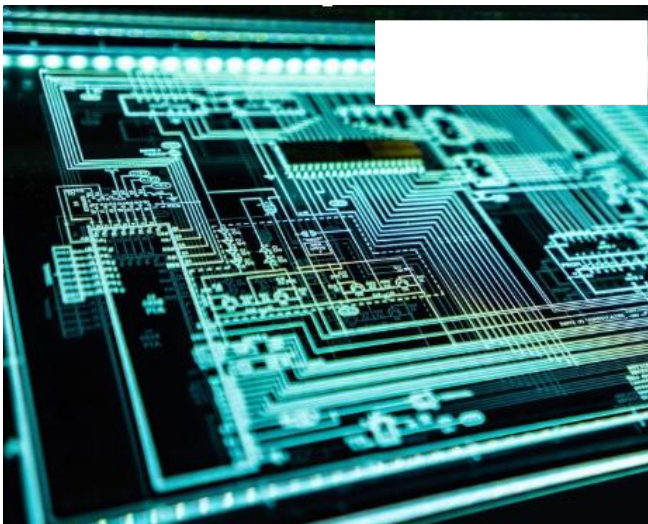
### MAINS QUESTION:

Indian society is characterized by unity in diversity, with language being a prominent aspect of this diversity. Do you think that, in recent years, Hindi has become more popular not only as the official language but also as a widely spoken dialect across India?

### Prelims Bits: Organizations in the news.

#### CHIP-4 ALLIANCE

**Recent Context:** Recently India joined the US-led Chip 4 alliance which will boost semiconductor manufacturing in India.



#### KEY FACTS:

**CHIPS Act:** The CHIPS Act, signed into law by President Joe Biden in August 2022, is designed to enhance semiconductor production and research within the US. The Act also aims to reinforce collab-

orations with international allies, including India.

**Members:** United States, Japan, Taiwan, South Korea, India (2024)

**Formation:** Proposed By: United States, Date: March 2022

#### Objective:

1. Enhance the “security” and “resilience” of global semiconductor supply chains.
2. Reduce dependence on semiconductor production in China.
3. Promote sustainable semiconductor manufacturing within member countries.
4. Industry Impact: Represents over 70% of the global semiconductor industry’s value.

#### Key Goals:

1. Policy Cooperation: Align policies to support semiconductor production and supply chain stability.
2. Supply Chain Security: Improve the security and resilience of semiconductor supply chains.
3. Investment and Innovation: Encourage investment and innovation in semiconductor technologies.

#### Strategic Importance:

1. Aims to strengthen collaboration among leading semiconductor producers to address global supply chain challenges.
2. Seeks to secure and diversify semiconductor manufacturing sources to mitigate geopolitical risks.

#### Focus Areas:

1. Sustainable and efficient semiconductor production practices.
2. Joint efforts to advance semiconductor technology and infrastructure.

3. Coordinated response to supply chain disruptions and market fluctuations.

### ***GULF COOPERATION COUNCIL (GCC)***

#### ***RECENT CONTEXT:***

India's Foreign Minister recently attended the trade meeting with the GCC country's ministers and aimed to enhance the trade ties between the GCC and India.

### ***GULF COOPERATION COUNCIL (GCC): KEY FACTS***

**Establishment:** May 1981 **Location:** Riyadh, Saudi Arabia

**Member States:** Saudi Arabia, Kuwait, United Arab Emirates, Qatar, Bahrain, and Oman

**Organizational Structure:** Supreme Council, Ministerial Council, Secretariat General.





## Objectives and Goals:

1. Economic integration among member states.
2. Coordination in political, economic, and cultural matters.
3. Promotion of common interests and goals within the region.

35% of India's oil imports and 70% of its gas imports. In 2021-22, India's crude oil imports from the GCC amounted to approximately \$48 billion, while LNG and LPG imports totaled around \$21 billion.

**Investments:** GCC investments in India are valued at over USD 18 billion, highlighting the significant economic ties between the two regions.



## Key Initiatives:

1. Efforts to create a common market and customs union.
2. Collaborations on security and defense issues.
3. Joint ventures and investments across member states.

**Presidency Rotation:** The presidency of the GCC rotates annually among the member states in alphabetical order.

## Major Achievements:

1. Establishment of a single economic market.
2. Coordination in regional security and defense.
3. Collaborative projects in various sectors including infrastructure, technology, and health.

## India's Trade Relations with GCC

**Trade Volume:** The GCC is India's largest trading partner bloc, with bilateral trade valued at over USD 154 billion for the fiscal year 2021-22.

**Oil and Gas Imports:** GCC countries supply nearly

## *The International Cooperative Alliance (ICA) 1895:*

### Recent Context:

the ICA announced that India will hold the Meeting of the ICA for the first time in the history of the ICA in the month of November 2024.

## *Key Facts about the International Cooperative Alliance (ICA)*

**Foundation:** Established in 1895

### Purpose:

1. Promotes and supports cooperative enterprises worldwide
2. Advocates for cooperative principles and practices

**Headquarters:** Located in Geneva, Switzerland

### Objectives:

1. Enhance cooperation among cooperatives
2. Develop and promote cooperative principles

3. Provide a global platform for cooperative enterprises

**Core Principles:**

1. Voluntary and open membership
2. Democratic members control
3. Member economic participation
4. Autonomy and independence
5. Education, training, and information
6. Cooperation among cooperatives
7. Concern for community

**Organizational Structure:**

**General Assembly:** The highest decision-making body

**Board of Directors:** Governs between General Assemblies

**Sectoral Organizations:** Focus on specific cooperative sectors (e.g., agriculture, consumer, worker cooperatives)

**Global Reach:** Represents around 3 million cooperatives

**Membership:** Approximately 1 billion cooperative members worldwide

**Role:** Apex body for cooperatives, providing a global voice, knowledge-sharing, and coordinated action

**India and the ICA:** The National Cooperative Union of India (NCUI) is the primary body representing Indian cooperatives within the ICA.

**PRELIMS QUESTIONS:**

**Q.1. With reference to the International Cooperative Alliance, Consider the following statement:**

1. The ICA is an intergovernmental organization

based in Geneva Switzerland.

2. The objective of the ICA is to enhance collaboration in cross-country cooperatives.

3. The Agricultural Produce Export Development Authority (APEDA) is the representative of India at ICA meetings and conferences.

**How many of the above-given statements are correct?**

- A. Only one
- B. Only two
- C. All three
- D. None

**ANSWER: A**

**Q.2. Consider the following countries:**

1. Saudi Arabia
2. Iran
3. Iraq
4. Kuwait
5. UAE
6. Oman
7. Afghanistan

**How many of the above-mentioned countries are members of the Gulf Cooperation Council?**

- A. Only two
- B. Only three
- C. Only four
- D. Only five

**ANSWER: C**

Q.3. Which of the following countries has enacted the CHIPS ACT to enhance the manufacturing and development of the cheaps?

A. USA

B. EU

C. UK

D. UAE

**ANSWERS: A**