CURRENT AFFAIRS



MAINS

- GS-I D UNPRECEDENTED LACK OF SNOWFALL IN KASHMIR AND LADAKH: CAUSES AND IMPLICATIONS
 - THE INTEGRAL ROLE OF WOMEN IN WASTE MANAGEMENT
- GS- II 👨 WTO LEGITIMACY AT STAKE IN ABU DHABI MEETING
 - SC REFUSES TO STAY NEW LAW EXCLUDING CJI FROM SELECTION PANEL TO ELECT CEC AND EC
 - NAVIGATING COMPLEX GEOPOLITICAL WATERS: INDIA'S Role in the Indian Ocean Region
 - ADDRESSING CHILD SAFETY: YOUTUBE'S RESPONSE AND THE ROLE OF NCPCR
 - PHARMA SECTOR: MINISTRY INTRODUCES REVISED RULES TO ENSURE GLOBAL QUALITY STANDARDS
- GS- III 👨 INDIA'S MULTIDIMENSIONAL POVERTY RATE
 - TO COMBAT CLIMATE CHANGE, CITIZENS AND GOVERNMENT MUST JOIN HANDS
 - CONCERNS RAISED OVER DECIMATION OF GREEN COVER IN CAUVERY BASIN: NGT ISSUES NOTICE TO SOUTHERN STATES
 - GROWING LEOPARD ATTACKS IN URBAN POCKETS OF U'KHAND
 - REPLENISH GROUNDWATER FOR OUR GROWING CITIES
 - NATIONAL QUANTUM MISSION (NQM)

GS- IV CONFRONTING THE SURGE IN MORAL POLICING: UPHOLDING INDIVIDUAL FREEDOM

PRELIMS

HISTORY

 India's oldest living city found in Vadnagar

SOCIETY

 Beyond Basics: The Annual Status of Education Report (ASER)

GOVERNANCE & SOCIAL JUSTICE

- Coal Controller
 Organisation's
 Restructuring and
 Responsibilities
- o One District One Product Initiative: Celebrating Diversity, Empowering Communities
- Fortifying Rice for a Healthier India: A Solution to Iron Deficiency and Anaemia

POLITY

- States/Union Territories performance on CPGRAMS
- Unruly passenger behaviour and DGCA quidelines for airlines
- Draft Bills for Repealing Indian Stamp Act

ENVIRONMENT & ECOLOGY

- Framework for climate data, greater access to info -IMD launches new initiatives
- Climate Conference 2024:
 Decoding the Green
 Transition for India
- Assam's Kaziranga
 National Park records 27%
 increase in waterbirds

INTERNAL SECURITY

DoT' Preventive Steps to curbs cyber frauds

ECONOMY

- Reassessing Distributive
 Justice Amidst Soaring
 Global Inequality
- c Global conclave on creation of investment forum on climate resilient agri-food systems
- Flagship UPI Payment system is developing as Global Platform for Direct Fund Transfer
- South India Takes Lead in NPS Enrolment Amidst Nationwide Challenges

SCIENCE & TECH

- India Ranks 35th in Global Future Possibilities Index
- Revolutionizing Indian
 Agriculture: A Paradigm
 Shift with AI Integration
- State-of-art AI supported
 Telemedicine Mobile Clinic
 launched for remote hilly
 areas in Udhampur
- The Evolution and Advantages of Light-Emitting Diodes (LEDs)
- Implementation strategy and timelines of National Ouantum Mission (NOM)

MISCELLANEOUS

 Maiden Indian Navy – Royal Thai Navy Bilateral Exercise and 36th Edition of Indo-Thai Coordinated Patrol

SPECIALS

b Lithium & Green Energy Transition



www.iasscore.in

- Disclaimer -

The current affairs articles are segregated from prelims and mains perspective, such separation is maintained in terms of structure of articles. Mains articles have more focus on analysis and prelims articles have more focus on facts.

However, this doesn't mean that Mains articles don't cover facts and PT articles can't have analysis. You are suggested to read all of them for all stages of examination.

CONTENTS

WEEK - 3 (JANUARY, 2024)

Section - A: MAINS CURRENT AFFAIRS						
Paper & Section of GS		Topics in News	Page No.			
GS I	GEOGRAPHY	 Unprecedented Lack of Snowfall in Kashmir and Ladakh: Causes and Implications 	02			
	SOCIETY	The integral role of women in waste management	03			
		 Confronting the Surge in Moral Policing: Upholding Individual Freedom 	04			
GS II	INTERNATIONAL RELATIONS	WTO legitimacy at stake in Abu Dhabi meeting	05			
	POLITY	 SC refuses to stay new law excluding CJI from Selection Panel to elect CEC and EC 	06			
	GOVERNANCE & SOCIAL JUSTICE	 Navigating Complex Geopolitical Waters: India's Role in the Indian Ocean Region 	07			
		 Addressing Child Safety: YouTube's Response and the Role of NCPCR 	07			
		 Pharma Sector: Ministry Introduces Revised Rules to Ensure Global Quality Standards 	09			
GS III	ECONOMY	India's multidimensional poverty rate	09			
	ENVIRONMENT AND ECOLOGY	 To combat climate change, citizens and government must join hands 	11			
		 Concerns raised over decimation of green cover in Cauvery basin: NGT issues notice to southern states 	12			
		Growing leopard attacks in urban pockets of U'khand	14			
		Replenish groundwater for our growing cities	16			
	SCIENCE & TECH.	National Quantum Mission (NQM)	17			
Section - B: SPECIAL						
Paper & Section of GS		Topics in News	Page No.			
GS III	ENVIRONMENT	Lithium and Green Energy Transition	21			
Section - C: PRELIMS CURRENT AFFAIRS						
Paper & Section of GS		Topics in News	Page No.			
GS I	HISTORY	India's oldest living city found in Vadnagar	29			
	SOCIETY	 Beyond Basics: The Annual Status of Education Report (ASER) 	29			







An Institute for Civil Services

元要に CSE 2024

SELF-PACED TEST SERIES for PRELIMS & MAINS

Attempt the tests according to your PREPARATION & PRIORITY

© Comprehensive coverage of Prelims & Mains Syllabus through 4000+ MCQs & 400+ Mains Questions + Mentorship

A total of 45 Prelims Tests including

- 14 Fundamental Tests
- 4 Current Affairs Tests
- 6 CSAT Tests
- 6 Subject Revision Tests
- 4 16 Mock Tests (GS + CSAT)

A total of 20 Mains Tests including

- 9 Sectional Tests
- 3 Essay Mock Tests
- 8 Mock Tests (After Prelims)
- Approach Class before the start of each subject to provide comprehensive understanding of the subject.
- Concept and Essential Skills Building through Tests, Discussion and Mentorship
- Strong emphasis on both Static & Current Events as per the evolving format

PROGRAMME FEE

FOCUS ₹ 14,000 (+GST) FOCUS + TARGET PT ₹ 20,000 (+GST) **©8448496262**





GS II	GOVERNANCE & SOCIAL JUSTICE	Coal Controller Organisation's Restructuring and Responsibilities	30			
		One District One Product Initiative: Celebrating Diversity, Empowering Communities	31			
		Fortifying Rice for a Healthier India: A Solution to Iron Deficiency and Anaemia	32			
	POLITY	States/Union Territories performance on CPGRAMS	33			
		Unruly passenger behaviour and DGCA guidelines for airlines	34			
		Draft Bills for Repealing Indian Stamp Act	35			
	ENVIRONMENT & ECOLOGY	Framework for climate data, greater access to info -IMD launches new initiatives	35			
		Climate Conference 2024: Decoding the Green Transition for India	36			
		Assam's Kaziranga National Park records 27% increase in waterbirds	37			
	INTERNAL SECURITY	DoT' Preventive Steps to curbs cyber frauds	38			
	ECONOMY	Reassessing Distributive Justice Amidst Soaring Global Inequality	38			
		Global conclave on creation of investment forum on climate resilient agri-food systems	39			
GS III		 Flagship UPI Payment system is developing as Global Platform for Direct Fund Transfer 	40			
		South India Takes Lead in NPS Enrolment Amidst Nationwide Challenges	41			
	SCIENCE & TECH	India Ranks 35th in Global Future Possibilities Index	41			
		 Revolutionizing Indian Agriculture: A Paradigm Shift with Al Integration 	42			
		State-of-art AI supported Telemedicine Mobile Clinic launched for remote hilly areas in Udhampur	43			
		The Evolution and Advantages of Light-Emitting Diodes (LEDs)	44			
		Implementation strategy and timelines of National Quantum Mission (NQM)	44			
	MISCELLANEOUS	 Maiden Indian Navy – Royal Thai Navy Bilateral Exercise and 36th Edition of Indo-Thai Coordinated Patrol 	45			
		Section - D: SHORT NEWS				
Topics in News						
NEWS IN SHORT						
Yuva NIdhi Scheme Of Karnataka						
Longest sea bridge Atal Setu Started for commuters						
Nashik's Kalaram temple						





ANUBHAV Awards Scheme		
Warm Vaccine		
LOCATION IN NEWS		
Government Reconstitutes EPFO Board with Altered Representation	50	
India Signs Agreement for Lithium Exploration & Mining Project in Argentina		
Silver Harvest Festival		
Prime Minister's Awards for Excellence in Public Administration		
SPECIES IN NEWS		
Punganur Cows	53	
Cigaritis conjuncta		
From Black tigers to the Tibetan brown bear: Recent sightings of rare animals around the world		





Section A [MAINS]

- Unprecedented Lack of Snowfall in Kashmir and Ladakh: Causes and Implications
- S The integral role of women in waste management
- **WTO** legitimacy at stake in Abu Dhabi meeting
- SC refuses to stay new law excluding CJI from Selection Panel to elect CEC and EC
- Mavigating Complex Geopolitical Waters: India's Role in the Indian Ocean Region
- Addressing Child Safety: YouTube's Response and the Role of NCPCR
- OF Pharma Sector: Ministry Introduces Revised Rules to Ensure Global Quality Standards
- প্তে India's multidimensional poverty rate
- s To combat climate change, citizens and government must join hands
- Concerns raised over decimation of green cover in Cauvery basin: NGT issues notice to southern states
- Growing leopard attacks in urban pockets of U'khand
- Replenish groundwater for our growing cities
- Mational Quantum Mission (NQM)
- cs Confronting the Surge in Moral Policing: Upholding Individual Freedom



UNPRECEDENTED LACK OF SNOWFALL IN KASHMIR AND LADAKH: CAUSES AND **IMPLICATIONS**

Context: The winter season in the Kashmir and Ladakh region, known its picturesque snow-covered experiencing landscapes. is unusual dearth of snowfall.

Impact: Impacting the **tourist industry** but also carrying significant repercussions for agriculture, horticulture, water resources, and the local economy, raises concerns about the changing climatic patterns in the region.

Background:

- In recent years, the Kashmir valley has witnessed a **declining trend** in snowfall, and the current season stands out as particularly remarkable.
- The iconic tourist destination of Gulmarg, renowned for its winter sports, has seen a stark absence of snow, leading to a substantial decrease in tourist footfall and adversely affecting the business of ski resorts.

Factors Contributing to Reduced Snowfall:

Western Disturbances:

- ▶ Winter precipitation in the Himalayan region is primarily influenced by Western Disturbances eastward-moving rain-bearing wind systems originating beyond Afghanistan and
- ➤ These disturbances play a crucial role in bringing snowfall to Jammu and Kashmir and Ladakh during the winter months.
- ► However, the frequency of these disturbances has shown a **declining trend in recent years**.
- ▶ In December, only **one feeble western** disturbance event occurred, failing to bring any substantial rains.
- ► A decline in the overall frequency of western disturbance events has led to reduced precipitation during the winter months.

Climate Change:

- The overarching factor contributing to the decreasing trend of snowfall is **climate change**.
- Atmospheric scientists highlight that **rising**

- temperatures, particularly higher **elevation areas**, are a significant factor.
- ➤ Recent studies have shown a 43% decline in the mean frequency of strong and extreme Western Disturbances.

□ El Nino Impact:

- > The persistence of El Nino in the Pacific **Ocean** has further complicated the situation.
- ➤ El Nino has disrupted the global atmospheric circulation, potentially contributing to the deficit in precipitation in the region.
- ▶ While El Nino is not the sole reason, it appears to exacerbate the already existing challenges.

Implications:

Short-Term Consequences:

- ➤ Tourism Downturn:The absence of snow in Gulmarg has led to a significant decline in tourist arrivals, impacting the local economy and ski resorts.
- > Forest Fires and Agricultural Drought:Dry spells can result in an increase in forest fires and agricultural drought, adversely affecting crop production.

Long-Term Challenges:

- Hydroelectricity **Generation**:Reduced snowfall poses a threat to hydroelectricity generation in the region.
- ➤ Glacier Melting:The decline in snow cover may accelerate glacier melting, contributing to long-term environmental changes.
- ➤ **Drinking Water Supply:**Scanty snowfall implies minimal groundwater recharge, posing challenges for the region's drinking water supply.

Agriculture and Horticulture:

- ➤ Impact on Winter Crops:Winter crops crucial for the local economy, especially horticulture, face a decline in yields due to the absence of steady moisture from winter snow.
- ➤ Reduced Apple and Saffron Yields: Apples and saffron, vital components of the local economy, witness adverse effects on yields.



THE INTEGRAL ROLE OF WOMEN IN WASTE MANAGEMENT

Context:

According to the one global online survey titled Mapping the status of women in the global waste management sector conducted by Women of Waste (WOW), an initiative led by women in the waste sector and supported by the **International Solid Waste Association**women contribute massively to the global waste management sector.

Revealing data

- The data which was collected across 73 countries of 626 women reveals that across the globe women are engaged in a variety of roles across the waste management hierarchy, and through a diversity of organisations, even though they are not very 'visible' in society.
- The majority of responses were received from upper-middle and high-income countries; however, many highly qualified and experienced women were active in low- and lower-middleincome countries.
- For example, the survey found that the majority of respondents currently work in local government (30.2 per cent), followed by private waste management companies (14.4 per cent) and consulting / engineering companies (13.3 per
- Moreover, women have been increasingly active in promoting waste prevention, in reuse, recycling and recovery of materials: In other words, proactive jobs and activities to help break the waste crisis.

The integral role of women in waste management

- It is a crucial aspect often overlooked in policymaking. Gender inclusion in waste management strategies can lead to more holistic and inclusive solutions.
- o In many developing economies, particularly in areas where informal waste picking is prevalent, women have been the driving force in waste collection activities.
- Women play a significant role in household waste segregation and collection, contributing to the initial stages of the waste management process. Beyond household responsibilities, women

- globally contribute extensively to the solid waste management sector and circular economy.
- Their involvement spans various roles such as engineers, collectors, recyclers, activists, researchers, policymakers, and even higher-level managerial positions.
- In India, women's participation in waste management tends to be dominant at the grassroots level, involving activities like collection, segregation, and informal waste recycling.
- Despite low-paying jobs, women contribute significantly to the waste management chain, where they excel in door-to-door collection and segregation.
- One example from Pune emphasize that 90% of street recycling pickers, often informal workers, are women. In Bengaluru, women, known as 'pourakarmikas,' actively participate in waste collection and separation, contributing to the recycling process.

Persistent Challenges

- With women often engaged in repetitive and time-consuming tasks, earning less than their male counterparts. Integrating a gender perspective into waste management policies is crucial.
- Such policies should address gender-specific needs, create opportunities for women at various levels of the waste management value chain, and promote their leadership roles.
 - The importance of women's participation in decision-making roles within the waste sector extends beyond gender equality. It leverages their unique perspectives for better environmental management and sustainable development.
- To maximize women's contributions, equal opportunities, training programs, and awareness campaigns are essential

Diverse engagement and multi-dimensional

- Grassroots Impact: Women actively contribute at the grassroots level, excelling in door-to-door collection and segregation, as seen in cities like Pune and Ambikapur.
 - ➤ This can also serve to engage them positively at local level serving multiple benefits ranging from economic participation, waste management, and regeneration to sustainable practices.
- **Economic Empowerment:** Women engaged in waste management, particularly in informal roles,



contribute significantly to their families' income, leading to economic empowerment.

- Community Health and Awareness: Women, often associated with household cleanliness and family health, are quick to notice environmental deterioration, making them crucial for community health and awareness.
- Entrepreneurship Opportunities: Integrating women into decision-making roles provides opportunities for entrepreneurship in waste management, addressing gender disparities.
- Environmental Sustainability: Women's unique perspectives contribute to better environmental management, fostering sustainability and aligning with India's waste reduction and recycling goals.



CONFRONTING THE SURGE IN MORAL POLICING: UPHOLDING INDIVIDUAL FREEDOM

Context:

The recent spate of attacks in Karnataka on individuals engaged in inter-faith relationships underscores the alarming prevalence of moral policing, echoing the contentious discourse surrounding 'love jihad'.

Moral Policing

- Moral Policing/Vigilantism is a term used to describe vigilante groups that act to enforce a code of morality in India without legal authority. It is the ugly truth of modern India.
- The target of moral policing is any activity that is deemed to be immoral or against Indian culture.
- The term morality in this time and age has different meanings for different persons and therefore moral policing has different consequences for different persons.
- Moral Policing in its broadest sense could mean a system where a strict vigil and restriction is imposed on those who violate the basic standards of our society.
- The basic standard of our society could be found in its cultures, age-old customs which are derived from the scriptures and ancient texts in this situation the moral character of an individual is questioned by those who advocate this phenomenon.
- This disturbing trend poses a direct challenge to fundamental rights enshrined in the Indian Constitution and warrants a comprehensive response from the criminal justice system.

Violation of Fundamental Rights:

- The attacks on inter-faith couples represent a blatant infringement of individual rights guaranteed by the Constitution.
- The right to choose one's life partner is a fundamental aspect of personal liberty, and any encroachment upon this right contradicts the very ethos of a democratic society.

Human Rights Perspective:

- Beyond constitutional rights, these incidents also violate fundamental human rights.
- The Universal Declaration of Human Rights emphasizes the right to privacy, protection against arbitrary interference, and freedom from discrimination.
- Moral policing, in its various forms, runs afoul of these international human rights principles.

Alarming Rise in Moral Policing:

- The surge in incidents, often recorded and circulated online, highlights the escalating intolerance towards inter-faith relationships.
- The "love jihad" narrative, prevalent not only in Karnataka but also in states like UP, Haryana, and Rajasthan, reflects a disturbing pattern that demands a robust response from law enforcement.
- The rise is also due to the perceived false notion of new generation destroying cultures of India by engaging themselves in love affairs. The problem took ugly turn when it transcends the caste barriers or inter faith.
- The attack is also an outcome of patriarch nature of Indian Society, which is based on notions of male dominated society and quardianship.

Role of Criminal Justice System:

The criminal justice system must unequivocally address such crimes, ensuring a swift and impartial investigation.

- The response should transcend regional boundaries, adopting a unified approach to counter the menace of moral policing and protect individual freedoms
- Technology and Cybercrime Challenges:

The misuse of technology, as witnessed in the recording and dissemination of violent acts, calls for an enhanced focus on combating cybercrime. Law enforcement agencies need to bolster their capabilities to address the evolving challenges posed by the digital realm.

 Addressing Stigma and Enhancing Conviction Rates: **WEEKLY**

Campaigns aimed at destigmatizing victims of sexual violence should be prioritized. Additionally, the abysmally low conviction rate for crimes against women in India, standing at 26% as of 2021, necessitates urgent improvements in the efficiency of investigative and prosecutorial agencies.

Political Leadership and Civil Society Role:

- Political leaders, irrespective of party affiliations, must unequivocally denounce moral policing. Any hint of tacit support for such acts undermines the principles of justice and individual freedom.
- There needs to be more awareness with regard to threats which moral policing poses in nation in general and society in particular. Political parties who are at forefront and represent the voices of all, shall take unwavering position on such incidents of moral policing and criticise it publicly to send larger message.
- Civil society plays a pivotal role in advocating for a culture that respects diverse choices and relationships. They must act as bridge to inculcate social behaviour according to the constitutional values. The rise in moral policing poses a direct threat to the foundational principles of democracy and human rights.



WTO LEGITIMACY AT STAKE IN ABU DHABI MEETING

Context:

WTO members are facing the daunting task of making the multilateral trading system respond to the needs of the contemporary world, especially those of the developing countries.

Key Highlights:

Existential Crisis of the WTO:

The 13th Ministerial Conference (MC13) of the WTO is happening in Abu Dhabi amid a growing existential crisis of the multilateral trading system.

WTO's Ministerial Conference

- The MC is at the very top of WTO's organisational chart.
- It meets once every two years and can take decisions on all matters under any multilateral trade agreement.

- All decisions at the WTO are made collectively and through consensus among member countries at varied councils and committees.
 - The WTO, designed to ensure orderly global trade, faces challenges in adapting to the contemporary world's needs and aspirations.

Dysfunctional Multilateral Trade Rules and **Enforcement:**

- ▶ Multilateral trade rules, considered ideal for conducting trade, need constant review and updating to align with global changes.
- The WTO's dispute settlement body (DSB), once robust, has become dysfunctional, undermining the enforcement of trade rules.

Abandonment of Doha **Development** Agenda:

- > The **Doha Development Agenda**, initiated in 2001 to rebalance trade rules, was abandoned after 15 years, leading to the dominance of major economies.
- ➤ Engagements on new issues by a subset of members violate core principles of multilateralism.

Death Blow to DSB by Trump Administration:

- ➤ The Trump administration's refusal to appoint new members to the appellate body of the DSB dealt a severe blow, making it non-existent.
- The absence of the appellate body allows members to violate WTO disciplines without consequences, rendering multilateral trade rules ineffective.

Current Issue-Based Discussions:

- ▶ WTO members engage in issue-based discussions, including subsidies discipline for the fisheries sector and the review of disciplines on agriculture.
- ▶ Disciplines for fishery subsidies aim at promoting sustainable fishing while preserving policy space for developing countries.

D Significance of Agriculture Review for India:

- ➤ The review of the agreement on agriculture (AoA) includes crucial components for India, such as public stockholding for food security.
- India faces challenges under the AoA's subsidies' disciplines, limiting its ability to implement the National Food Security Act (NFSA).



Legitimacy Deficits and Glaring Weakness:

- ► India's challenges under subsidies' disciplines exemplify legitimacy deficits within the WTO.
- ► MC13 must address these weaknesses and make decisions to strengthen the institution.

About World Trade Organization (WTO)

- It came into being in 1995.
- The WTO is the successor to the General Agreement on Tariffs and Trade (GATT) established in the wake of the Second World War.
- Its objective is to help trade flow smoothly, freely and predictably.
- It has 164 members, accounting for 98% of world trade.
- It was developed through a series of trade negotiations, or rounds, held under the GATT.
- GATT is a set of multilateral trade agreements aimed at the abolition of quotas and the reduction of tariff duties among the contracting nations.
- The WTO's rules the agreements are the result of negotiations between the members.
- The WTO Secretariat is based in Geneva (Switzerland).



SC REFUSES TO STAY NEW LAW EXCLUDING CJI FROM SELECTION PANEL TO ELECT CEC AND EC

Context:

Government enacted a new law, The Chief Election Commissioner and Other Election Commissioners (Appointment, Conditions of Service and Term of Office) Act, 2023 to select the CEC and EC through Selection Panel committee

Importance of Election Commission: Its functioning determines the quality of governance and strength of democracy.

KEY Highlights of the New Law-

 Chief Election Commissioner and Other Election Commissioners (Appointment, Conditions of Service and Term of Office) Act, 2023, replaces the Election Commission (Conditions of Service of Election Commissioners and Transaction of Business) Act, 1991.

Appointment Process:

The CEC and ECs will be **appointed by the President** upon the recommendation of a **Selection Committee.**

- The Selection Committee includes Prime Minister, a Union Cabinet Minister, and the Leader of Opposition/leader of the largest opposition party in Lok Sabha.
- Recommendations of the Selection Committee will be valid even if there is a vacancy in this Committee.
- A Search Committee headed by the **Cabinet Secretary** will propose a panel of names to the Selection Committee.
 - ► Eligibility Member should be equivalent to the **Secretary to the central government.**

Salary and Conditions:

- The salary and conditions of service of the CEC and ECs will be similar to that of the Cabinet Secretary.
- Earlier in 1991 Act, it was equivalent to the salary of a **Supreme Court Judge**.

Removal Process:

Existing constitutional provisions under (Article 324(5)) which allows the CEC to be removed like a Supreme Court Judge, while ECs can only be removed on the recommendation of the CEC by President

Safeguards of CEC and ECs:

- CEC and EC are immune to legal proceedings related to actions taken during their tenure, provided such actions were part of the discharging of official duties.
- The amendment aimed to shield these officials from civil or criminal proceedings related to their official functions.

Major Concern:

- SC in March 2023 held that the CEC and ECs shall be appointed on the advice of a committee comprising the Prime Minister, Leader of Opposition in the Lok Sabha and the Chief Justice of India.(New Law dilutes SC Observation)
- Lacks Independent Mechanism (Violates free and fair election)
- Violates separation of power is also **the <u>basic</u> structure of** the Constitution"







NAVIGATING COMPLEX **GEOPOLITICAL WATERS:** INDIA'S ROLE IN THE INDIAN **OCEAN REGION**

Context: The recent attacks in the red sea in particular and the heating up of security scenario in the Indian Ocean region in general have raised stakes in this region for India.

Background

- The evolving **geopolitical landscape** in the Indian Ocean Region (IOR) has become a focal point of global attention. Developments in the Western Indian Ocean, presents multifaceted challenges involving nations such as Israel, Iran, Yemen, and the emergence of China.
- India plays a **pivotal role** in ensuring **maritime** security by strategically guarding critical sea routes, conducting joint naval exercises, and contributing to regional stability. Its naval capabilities and cooperation with neighboring countries contribute to safeguarding vital maritime interests and countering security threats in the Indian Ocean region.
- The regions challenges are characterized by a complex mixture of interconnected challenges of religion, economics, politics, and the environment shaping the IOR in the 21st century.
- The ceaseless currents of historical change are highlighted as integral elements in defining the geopolitical landscape.

Analysis- The immediate triggers

- Urgent need for a comprehensive analysis as the Western Indian Ocean witnesses the Israel-Hamas conflict, Iran's covert involvement through Hezbollah, and reactionary measures by Houthis in Yemen.
- The indiscriminate targeting of merchant ships in the Red Sea adds complexity, jeopardizing innocent passage and freedom of navigation.

India's Strategic Deployment

• In the rapidly evolving situation, India, preferred security partner in the region was swift enough to deploy its warships across the Arabian Sea to secure vital trade routes.

This cements India's commitment to **protecting** global commons, with a significant naval presence in the region. Also reinforces its rising power status.

Diplomatic Dilemmas

- Close co-operation with other likeminded **nations** like US, UK etc, yet independently maintaining its neutral posture. (US carried out strikes against Houthis)
- India's strong ties with both Saudi Arabia and Iran pose challenges, making armed strikes on Houthis a delicate diplomatic matter.
- External Affairs Minister S Jaishankar's diplomatic efforts, including his visit to Iran, are highlighted as crucial in navigating these challenges.

Maritime Security Challenges

- Traditional Challenges like piracy are shifting and evoling.
- China's presence and selective targeting of non China bound vessels have emerged as security challenge.
- Increased Chinese assertiveness in IOR with permanent presence of PLA-Navy.

Geopolitical Challenges in Maldives

- The presidential election in the Maldives introduces new challenges, with the newly elected president strengthening ties with China.
- The possibility of China influencing the Maldivian military and increasing Salafi activities raises concerns for India's regional stability.

Need to Revisit Global Policies

- The article suggests a reevaluation of global policies, particularly in the context of the Ukraine-Russia conflict and Hamas -Israel conflict, as it relates to the Red Sea Houthi challenge.
- The arrival of the PLA Navy and its engagement with the Maldivian presidency adds complexity to the geopolitical landscape, necessitating a nuanced approach.



ADDRESSING CHILD SAFETY: YOUTUBE'S RESPONSE AND THE ROLE OF NCPCR



www.iasscore.in

Context: YouTube recently sought additional time from the National Commission For Protection of Child Rights (NCPCR) to comply with directives to remove content depicting indecent acts involving mothers and sons.

Background:

YouTube's Request for Extension:

- ➤ YouTube, in response to NCPCR's summons on January 10,2024 appealed for more time to adhere to directives aimed at eliminating videos depicting indecent acts involving mothers and sons.
- The NCPCR had summoned a YouTube official to appear on January 15 and present a list of channels hosting such content.
- ➤ The NCPCR granted **YouTube an extension** until January 29 to comply with the directives, emphasizing the importance of addressing child safety concerns promptly.

NCPCR's Concerns:

- The NCPCR highlighted an alarming trend of "Child sexual abuse material" on YouTube, specifically videos portraying potential sexual abuse acts among women and minor children.
- The commission expressed concerns about the viewership of these videos, including minors.

National Commission for Protection of Child Rights (NCPCR):

What is NCPCR?

- ➤ The NCPCR is a **statutory body constituted** under the Commission for Protection of Child Rights (CPCR) Act, 2005.
- ▶ It operates to protect and promote child rights, overseeing the implementation of crucial acts like the Protection of Children from Sexual Offences (POCSO) Act, 2012, Juvenile Justice Act, 2015, and Right to Free and Compulsory Education (RTE) Act, 2009.

Composition of NCPCR:

- Chairperson: A person of eminence with outstanding work for children's welfare, serving for three years or until the age of 65, with a maximum of two terms.
- Members: Six members, including at least two women, each eminent in specific fields related to

child welfare, serving for three years or until the age of 60, with a maximum of two terms.

Functions and Responsibilities of NCPCR:

• The NCPCR has a broad range of functions, including examining existing safeguards, reporting to the central government, investigating violations of child rights, reviewing policies, and promoting research in child rights. It also has specific mandates under acts like POCSO and RTE.

Powers of NCPCR:

• The Commission, while investigating, possesses powers equivalent to a Civil court, allowing it to summon individuals, require document production, and issue commissions. Post-inquiry, it can recommend legal proceedings and approach higher courts for directions.

Initiatives by NCPCR:

NCPCR has undertaken initiatives like the POCSO e-Box, Samvardhan to combat child trafficking, MASI App for monitoring Child Care Institutions, and GHAR - GO Home and Re-Unite portal for restoration and repatriation of children.

Challenges and Limitations:

 NCPCR faces challenges such as limited capacity to enforce recommendations, scarce resources, lack of time frames for inquiries, and constraints in addressing all issues affecting children effectively.

Recommendations for Effective Functioning:

NCPCR's To enhance effectiveness. recommendations include increasing funding, strengthening legal powers, raising awareness, enforcing recommendations more effectively, and prioritizing children's participation and empowerment.

State Commission for Protection Of Child **Rights:**

 Each state government establishes a State Commission for Protection of Child Rights, following a structure and composition similar to the NCPCR.





PHARMA SECTOR: MINISTRY **INTRODUCES REVISED RULES** TO ENSURE GLOBAL QUALITY **STANDARDS**

Context:

In response to global concerns regarding sub-standard medicines exported from India, the Ministry of Health and Family Welfare recently announced revised rules under Schedule M of the Drugs and Cosmetics Rules, 1945.

Aim:

The aim is to bolster the commitment of the pharmaceutical sector to produce safe, effective, and high-quality drugs in accordance with international standards, benefiting both patients and the industry.

Background:

- India faced international scrutiny last year following the World Health Organization's (WHO) alert about contaminated cough syrups.
- The substances found, diethylene glycol and **ethylene glycol**, are toxic and potentially fatal.
- The contamination was traced to a batch manufactured by QP Pharmachem Ltd in **Punjab**, leading to the suspension of their license.
- This incident highlighted the need for stringent **measures** to ensure the quality of pharmaceutical products.

The Revision:

- The revision responds to the **evolving** pharmaceutical manufacturing landscape increased understanding interdependence between manufacturing and product quality.
- The Ministry acknowledges the necessity to reevaluate the existing Good Manufacturing **Practices (GMP) regulations** to align them with global standards, especially those outlined by the WHO.
- This move aims to ensure the production of high-quality drugs that meet global acceptability
- The revised rules introduce five new categories of drugs, covering substances such as sex hormones, steroids, cytotoxic substances, biological products, and radiopharmaceuticals.

- Additional sections include the implementation of a pharmaceutical quality system (PQS), quality risk management (QRM), product quality review (PQR), qualification and validation of equipment, and a computerized storage system for all drug products.
- According to the notification, manufacturers must take responsibility for the quality of pharmaceutical products, ensuring they meet licensing requirements and do not pose risks to patients due to safety, quality, or efficacy issues.
- Companies are required to market finished products only after obtaining satisfactory results from ingredient tests and retaining samples for further verification.

Implementation and Timeline:

- The Ministry has set a **deadline** for compliance based on company turnovers.
- Small manufacturers (annual turnover less than Rs 250 crore) have 12 months to adhere to the revised rules, while large manufacturers (annual turnover over Rs 250 crore) must comply within six months.
- The revised **Schedule M, with 13 parts** providing GMP guidelines, signifies a significant step towards enhancing the quality of pharmaceutical drugs in India.
- By aligning with global standards, the Ministry aims to rebuild confidence in the Indian **pharmaceutical sector** and ensure the production of medicines that meet the highest quality benchmarks, ultimately benefiting patients and fostering the industry's reputation worldwide.



INDIA'S MULTIDIMENSIONAL **POVERTY RATE**

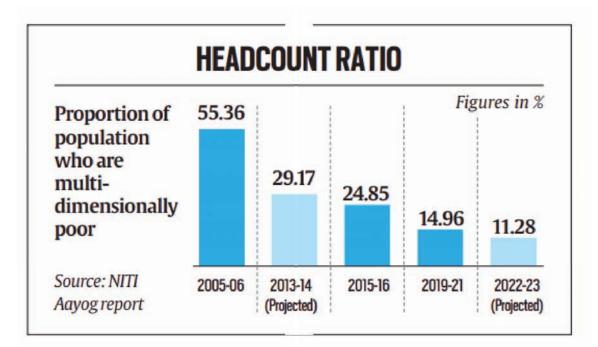
Context: As per a discussion paper by NITI multidimensional India's poverty rate down to 11.28% in 2022-23 from 29.17% in 2013-14.

Key Highlights:

- India's Progress in Multidimensional Poverty Reduction
 - **▶** Remarkable Decline in Multidimensional India's population multidimensional poverty dropped from 29.17% in 2013-14 to 11.28% in 2022-23, with



www.iasscore.in



an estimated 24.82 crore people escaping poverty in the last nine years.

- **State-wise Improvements:** Uttar Pradesh, Bihar, Madhya Pradesh, and Rajasthan witnessed significant reductions in the number of people classified as poor based on the Multidimensional Poverty Index (MPI).
- Severity of Deprivation and Trends: The severity of deprivation declined, albeit at a slightly lower rate between 2015-16 and 2019-21 compared to the previous period. The discussion paper also analyzes long-term poverty trends.
- **□** Impact of COVID-19 and Sustainable **Development Goals (SDG)**
 - COVID-19's Influence: The paper acknowledges that the impact of the COVID-19 pandemic might not be fully reflected in the data, as NHFS-5 data collected between 2019-21 was obtained before the pandemic.
 - Achieving SDG Target 1.2: India is likely to achieve Sustainable Development Goals (SDG) Target 1.2, reducing the proportion of people living in poverty in all dimensions ahead of the 2030 deadline.
- n Indicators and Holistic Measurement of **Poverty**
 - Standard of Living Dimension Improvements: Indicators related to the standard of living, such as cooking fuel and sanitation facilities, showed significant improvements over the years.

- ➤ Impact of Indicators on MPI: The sharpest decline was observed in the indicator measuring deprivation of access to bank accounts.
- **State-wise Comparison:** Bihar, Jharkhand, and Uttar Pradesh recorded substantial drops in the share of MPI poor, reflecting positive trends in multidimensional poverty reduction.
- **Definition of Multidimensional Poverty:** India's definition incorporates twelve indicators covering nutrition, mortality rates, maternal health, education, and living conditions, providing a comprehensive assessment beyond income levels.

The Global Multidimensional Poverty Index:

- The index is an international measure of acute multidimensional poverty covering over 100 developing countries.
- It complements traditional monetary poverty measures by capturing the acute deprivations in health, education, and living standards that a person faces simultaneously.

How we can measure poverty?

- Poverty can be defined as a condition in which an individual or household lacks the financial resources to afford a basic minimum standard of living.
- Economists and policymakers estimate "absolute" poverty as the shortfall in consumption expenditure from a threshold called the "poverty line".
- The official poverty line is the expenditure incurred

to obtain the goods in a "poverty line basket" (PLB).

- Poverty can be measured in terms of the number of people living below this line (with the incidence of poverty expressed as the head count ratio). The "depth" of poverty indicates how far the poor are below the poverty line.
- Six official committees have so far estimated the number of people living in poverty in India
 - The working group of 1962
 - V N Dandekar and N Rath in 1971
 - Y K Alagh in 1979
 - ▶ D T Lakdawala in 1993
 - Suresh Tendulkar in 2009
 - ➤ C Rangarajan in 2014
- The government did not take a call on the report of the Rangarajan Committee; therefore, poverty is measured using the Tendulkar poverty line.
 - As per this, 21.9% of people in India live below the poverty line.

How poverty impacts India's economy?

- Less number of people getting resources.
- Growth inclination as rich becomes richer and poor becomes poorer
- Low income generation
- Drop in standard of living conditions
- Cheap labour and man-power available
- Gender inequality
- Low rate of education

Expected Aftermath of reducing Multidimensional Poverty

Socio-Economic Transformation

- > Enhanced Quality of Life: Reduction in multidimensional poverty indicates improvement in health, education, and living standards, contributing to an overall enhancement in the quality of life for millions of individuals.
- Increased Human Capital: Improved education and health outcomes result in a more skilled and healthy workforce, potentially boosting productivity, innovation, and contributing to economic growth.
- **Empowerment** Marginalized **Communities:** Poverty reduction often leads to greater empowerment of marginalized

communities, fostering social inclusion, equity, and reduced socio-economic disparities.

Economic Impact

- **Economic Growth:** A healthier and more educated population is often correlated with increased productivity and economic growth, as individuals become more capable contributors to the workforce.
- **Higher Consumer Demand:** As people move out of poverty, there tends to be an increase in consumer spending, driving demand for goods and services and positively impacting various sectors of the economy.

Public Health and Education

- ▶ Improved Public Health: Reduced poverty implies better access to healthcare services, leading to a decline in disease prevalence and improvements in overall public health indicators.
- **Educational Attainment:** Poverty reduction is associated with increased school attendance and educational attainment, fostering a more educated and skilled populace.

Social and Environmental Implications

- ➤ **Social Cohesion:** Poverty reduction can contribute to greater social cohesion as communities experience improved living conditions, leading to a more stable and harmonious society.
- **Environmental Stewardship:** With improved living standards, there may be increased awareness and capacity for environmental stewardship, as communities focus on sustainable practices and conservation.



TO COMBAT CLIMATE CHANGE, CITIZENS AND GOVERNMENT **MUST JOIN HANDS**

Addressing pollution involves trade-Context: offs. Politicians must take the initiative

The Perennial Challenge of Air Pollution

• Air pollution in India, especially in the National Capital Region (NCR), has transformed from a seasonal inconvenience to a persistent issue. Solving this problem requires challenging decisions at societal and governmental levels, emphasizing the necessity for informed trade-





offs between development and environmental preservation.

The Triangle of Decision-Makers

> Scientists and Academia

The **foundation for informed decision-making** lies in the evidence generated by scientists, particularly in **atmospheric sciences and the health sector**. While gaps may persist, their role is to present evidence, not make trade-offs.

> Activists and Their Role

While activists contribute significantly to the debate, their pre-established stances may limit open discussions. Acknowledging the absence of **a single "right" trade-off** is crucial for a constructive dialogue.

> The Political Class

As elected representatives, **politicians should ideally lead the decision-making process**. Past policies addressing air pollution showcase the potential of political leadership, yet the current political climate lacks effective response.

Lessons from Policy Decisions

> BRT Corridor in Delhi

The **Bus Rapid Transport (BRT) corridor** aimed at prioritizing public transport faced opposition from the car-using middle class, resulting in its dismantling despite meeting its objectives.

> Odd-Even Experiment

The **2016 odd-even experiment** faced debate regarding its effectiveness. Its political acceptability, despite inconclusive evidence, highlights the role of politics in decision-making during public health emergencies.

> Smog Towers and Public Perception

Despite questions about the **effectiveness of smog towers**, their **installation persists due to political efforts** to portray sensitivity to public concerns, showcasing the influence of political narratives.

Addressing Crop Burning: A Complex Challenge

 Technical, Regulatory, Fiscal, and Informational Interventions

Effective **solutions to crop burning** require a comprehensive approach involving technical advancements, regulatory measures, fiscal incentives, and information dissemination.

> The Need for a Political Narrative

The success of **addressing crop burning hinges** on crafting a political narrative that aligns with the interests of all stakeholders. Convincing all parties requires a well-defined and marketed package of interventions.

The Role of the Public

> Incremental Gains vs. Critical Tipping Point

While incremental gains are being made, reaching a **critical tipping point necessitates public acceptance of real and hard trade-offs**. The middle class's readiness for compromises will determine the speed of progress.

> Incentivizing Public Engagement

Political leadership must incentivize public engagement through appropriate policies. The circular logic of politicians encouraging citizens to move in the right direction and citizens signaling readiness for compromise can lead to a tipping point.

Way Forward: A Tango between Community and Politics

- The ongoing tango between the community and the political class defines the current state of the fight against air pollution.
- The question remains: who is leading the dance? As both parties synchronize their steps, the potential for a cascading effect leading to a tipping point becomes apparent.
- The journey towards cleaner air requires a collaborative effort, and it indeed takes two to tango.



CONCERNS RAISED OVER
DECIMATION OF GREEN COVER
IN CAUVERY BASIN: NGT ISSUES
NOTICE TO SOUTHERN STATES

Context: A recent report found green cover has declined to 15,345 sq km from 28,154 sq km over past 50 years

A Growing Environmental Crisis in Cauvery basin

The National Green Tribunal (NGT) has taken suo motu cognizance of a report by the Indian Institute of

Science (IISc) revealing a significant decline in green cover in the Cauvery basin over the past five decades. Notices have been served to Karnataka, Tamil Nadu, and Kerala governments, highlighting the urgent need to address environmental challenges.

Notices and Stakeholders

> NGT Action and Key Authorities

Authorities like the Union Ministry of Environment, Forests, and Climate Change and the Forest Survey of India have also been

> Suo Motu Action by Justice Prakash Srivastava

Justice Prakash Srivastava, acting suo motu, emphasized the severity of the environmental issue, categorizing it under environmental law.

D Cauvery Basin Deforestation: Alarming **Statistics**

▶ Green Cover Loss

The IISc report highlights a staggering loss of 12,850 sq km of green cover in the Cauvery basin between 1965 and 2016, with only 18% remaining as forested areas.

> State-wise Impact

- Karnataka: 57% of green cover lost (9,664 sq km).
- Tamil Nadu: 29% loss (2,905 sq km).
- Kerala: 27% loss (279 sq km).

Impact on National Parks and Sanctuaries

> Bandipur National Park

A 15.19% decline in forest cover due to development activities and forest fires.

> Nagarhole National Park

An 11% decrease attributed to human intervention and increased horticulture activities.

► Biligiri Ranganathaswamy Temple (BRT) Wildlife Sanctuary

Concerns raised about forest encroachment.

Cauvery Wildlife Sanctuary

An 18.43% reduction in greenery between 1973 and 2016 due to population growth and encroachment.

Bannerghatta National Park

Dense forest cover decreased to 28% in 2016 from 50.40% in 1973.

• Environmental Impact and Legal Implications

> NGT's Categorization

The NGT categorizes the issue as a matter of environmental law, asserting the authority to address the environmental challenges in the Cauvery valley.

Urgency Emphasized

The NGT underscores the urgency of addressing the environmental challenges facing the Cauvery basin and safeguarding its ecosystems.

Deforestation in Western Ghats: A Broader **Perspective**

Western Ghats Deforestation

A study by the Indian Institute of Technology, Bombay (IIT-B), reveals a 35% loss (33,579 sq km) of green cover in the Western Ghats since 1920.

> Impact on Monsoons

Deforestation in the Western Ghats affects 25% to 40% of Tamil Nadu's monsoon rainfall, disrupting crucial Kharif crops.

> Rising Temperatures

Deforestation leads to a 0.25-degree Celsius increase in surface temperature across Tamil Nadu, exacerbating the environmental impact.

Addressing the Challenges: A Holistic **Approach**

Cauvery River Challenges

Multiple pressures on the Cauvery, including water demand, inter-state disputes, and prolonged dry stretches.

Proposed Solutions

Afforestation alone is not a solution; a holistic approach is necessary.

Solutions include urban pollution control, proper waste management, and restoring riparian and floodplain ecosystems.

Critique of Afforestation Initiatives

> Isha Foundation's Tree Planting

The Isha Foundation's large-scale tree **planting initiative** faces criticism from



environmental experts. Concerns include the project's efficacy and the need to address root causes.

> The Importance of Holistic Approaches

Experts emphasize the need to **focus on urban pollution control**, sustainable agriculture, and responsible water management to address multifaceted challenges faced by India's rivers.

Way Forward:

The Urgent Need for Holistic Environmental Conservation

- The NGT's intervention and the alarming data on **deforestation** in the Cauvery basin and Western Ghats highlight the pressing need for immediate and comprehensive environmental conservation efforts.
- The balance between development and preservation requires collaborative actions to ensure a sustainable future for the region.



GROWING LEOPARD ATTACKS IN URBAN POCKETS OF **U'KHAND**

Context: In response to the recent leopard attacks on two children within a week, the forest department has increased its alert status.

Leopard and India

Leopard attacks: With the burgeoning leopard population in Uttarakhand, a state renowned for its rich wildlife, there has been a parallel surge in incidents of leopard encroachment and attacks.

Alarming Escalation in Attacks

 Leopard-related incidents, once confined to rural regions, are now escalating in frequency, posing a significant threat to densely populated areas.

About Leopards in India

 Leopards, with their majestic spotted coats and stealthy demeanor, play a crucial role in India's diverse ecosystem.

These enigmatic big cats are not only a symbol of strength and agility but also serve as keystone species, contributing significantly to maintaining the delicate balance of the ecosystem.

Habitat

- Leopards in India are highly adaptable and can thrive in various habitats, ranging from dense forests and grasslands to arid regions and mountainous terrains.
- They are known to inhabit both tropical and subtropical landscapes, showcasing their remarkable ability to coexist with diverse environmental conditions.

Keystone Species

- As keystone species, leopards exert a disproportionately large influence on their ecosystems.
- Their presence helps regulate prey populations, and preventing overgrazing promoting biodiversity.
- By controlling herbivore numbers, leopards indirectly support the health and vitality of plant communities, showcasing their vital role in maintaining the ecological balance.

Prey Base

- Leopards display remarkable adaptability in their diet, preying on a wide range of animals.
- Their diet includes but is not limited to deer, wild boars, monkeys, and smaller mammals.
- This versatility in prey selection allows leopards to thrive in diverse habitats and ensures their survival even when specific prey species become scarce.

Geographic Distribution

- Leopards are found across various regions in India, showcasing their ability to adapt to different climates and landscapes.
- Some of the prominent areas where leopards are spotted include the Western Ghats, Eastern Ghats, the Himalayan foothills, and the central Indian forests.
- Their presence is not limited to protected reserves, as leopards often navigate through human-dominated landscapes, adding to the complexity of wildlife conservation efforts.

Conservation Challenges

Despite their adaptability, leopards face numerous challenges in India, primarily due to habitat loss, human-wildlife conflicts, and poaching.

human populations expand, conflicts between leopards and communities escalate, highlighting the need for comprehensive conservation strategies that consider both the needs of people and the conservation of these magnificent predators.

Conservation Initiatives

- o India has undertaken various conservation initiatives to protect leopards and their habitats.
- The establishment of wildlife sanctuaries and national parks, coupled with community-based conservation programs, aims to mitigate humanleopard conflicts and preserve crucial habitats.

Recent Tragic Incident in Nanakmatta

 Nanakmatta incident: A tragic incident unfolded in Nanakmatta where a four-year-old boy fell victim to a fatal leopard attack while playing in a field.

Forest Department's Response

- Chief Wildlife Warden: To address the growing crisis, Chief Wildlife Warden announced a comprehensive work plan, responding to the changing circumstances.
- Precautionary measures: The Chief Minister's directive has led the State Forest Chief to instruct all Divisional Forest Officers (DFOs) to implement precautionary measures in their respective areas.

Awareness Campaigns

 Recognizing the urgency, DFOs have been tasked with conducting awareness campaigns as a top priority.

Public Cautioned Against Rumor-Mongering

• Unchecked rumors: Chief Wildlife Warden advised the public against spreading unchecked information and rumors about leopards on social media platforms.

High Alert from Police and Forest Department

- In response to the heightened threat, both the police and forest department are on high alert.
- Public Safety: Rajpur and Raipur police stations are using loudspeakers on patrol vehicles to notify residents and ensure public safety.

What are the suggestions made by the committee?

- Standing committee of the State Board of Wildlife (SBWL)
 - The new bill provides provision to create a Standing committee of the State Board of Wildlife (SBWL) to make the functioning of SBWL more purposive and target-oriented.
 - ➤ Composition:
 - 1/3rd of non-official members of the SBWL
 - 3 institutional Members
 - ➤ Director of Wild Life Institute of India
 - Standing Committee can take the powers of the State Board for Wildlife (SBWL) and take decisions independently.
- Human-Animal Conflict (HAC) Advisory Council
 - Committee has recommended setting up HAC Advisory Body to tackle the growing instances of Human-Animal Conflict.
 - ► HAC Advisory Committee will be chaired by Chief Wildlife Warden.
 - The Advisory Committee has the power to make site-specific plans and mitigation measures, which may include changing cropping patterns and critical decisions at short notice.

Elements of **Human-Wildlife** conflict management:

- Understanding the conflict: Research all aspects of the conflict profile to understand the context for conflict in any given situation (hotspot mapping, community attitudes, spatial and temporal characteristics, etc.)
- Mitigation: Reducing the impacts of HWC after it occurs (compensation, insurance, alternative livelihoods, etc.)
- Response: Addressing an on-going HWC incident (response teams, reporting mechanisms, standard operating procedures, etc.)
- **Prevention:** Stopping or preventing HWC before it occurs (fences, early detection tools, safe working environments, etc.)
- Policy: Enabling HWC management through protocols, principles, provisions, and measures stipulated in the legislation and undertaken by authorities (international and national law, national and local HWC management plans, spatial plans, etc.)



 Monitoring: Measuring the performance and effectiveness of HWC management interventions over time (data collection, information sharing, adaptive management, etc.)

Way Forward and Ongoing Vigilance

- The recent surge in leopard-related incidents in Uttarakhand necessitates a proactive response from the forest department, law enforcement, and the public.
- Ongoing vigilance, awareness campaigns, and strategic planning are crucial to mitigating the human-wildlife conflicts and ensuring the safety of residents.



REPLENISH GROUNDWATER FOR OUR GROWING CITIES

Context:

With climate change now a reality, ecological experts should come up with multiple solutions to ensure that rainwater is effectively harvested and dependence on groundwater is reduced.

¬ Groundwater Issue in India:

- ▶ Borewells in Urban sphere: The unbridled drilling of borewells in Bengaluru has emerged as a critical issue, despite efforts by a dedicated team to monitor and regulate this activity.
- ▶ **Legality of borewells**: With numerous complaints, particularly on the city's outskirts where Cauvery water supply remains elusive, questions arise about the legality of borewells and the consequences of unauthorized drilling.

What Constitutes an Illegal Borewell?

- ➤ **Authorization:** The legality of a borewell hinges on obtaining proper authorization from the authorities.
- **▶** Water Supply and Sewerage Board (BWSSB): The Bengaluru **BWSSB** grants permission for small residential plots, while the Karnataka Ground Water Authority oversees high-rises and commercial buildings.
- However, the process is marred by **bureaucratic** red tape, hindering the effectiveness of regulatory measures.

• The Commercialization Threat

The **surge** in illegal borewells traces its roots to the burgeoning business of selling

- groundwater in tankers.
- ➤ As the **demand for water escalated**, particularly in areas where Cauvery water supply remains a distant prospect, unscrupulous practices led to overexploitation of depleting groundwater.
- > The absence of laws governing groundwater use and sale exacerbated the situation.

Regulatory Measures and Crackdown

- **Penal Action:** Recognizing the severity of the issue, the Groundwater Directorate has initiated penal actions against offenders.
 - This crackdown aims to curb rampant drilling and prevent further depletion of the water table.

Urbanization and Water Demand

- Rapid urbanization: The uncontrolled use of groundwater is symptomatic of rapid urbanization without commensurate infrastructure development.
 - The proliferation of housing complexes, apartments, and businesses in Bengaluru and its periphery has intensified the demand for water, leading to increased reliance on borewells.

The Looming Water Crisis

- **Demand and Supply gap:** Bengaluru, requiring nearly 2,700 million liters of water per day, faces a significant deficit as the BWSSB supplies only around 1,400 MLD. Borewells, some drilled as deep as 1,700 feet, bridge the gap.
- ▶ With drought looming over Karnataka and a deficient monsoon causing low dam water levels, dependence on groundwater is poised to increase in the coming year.

Depleting Aquifers: A Long-Term Concern

- ▶ The consequence of unchecked borewell drilling is the depletion of aquifers, a vital source of sustainable groundwater.
- ▶ To address this, efforts must be directed towards recharging lakes and preserving green spaces.
- Sponge Cities: Urban planning should prioritize the development of 'sponge cities' with wetlands to capture rain runoff, ultimately replenishing aquifers.



Sponge Cities

The concept of "Sponge Cities" has emerged as an innovative and sustainable approach to urban development, particularly in managing water resources. A Sponge City employs strategies to effectively capture, store, and utilize rainwater, mimicking the natural characteristics of a sponge.

Shanghai in China and Case Study: Copenhagen in Denmark

- Shanghai implemented a comprehensive plan to absorb and reuse rainwater, integrating green spaces and permeable surfaces.
- Copenhagen's initiatives focus on creating green roofs, restoring water bodies, and constructing rainwater storage facilities.

c Climate Change Imperative

- ➤ As climate change becomes an undeniable reality, ecological experts must devise comprehensive solutions to harvest rainwater effectively.
- ▶ Reducing dependence on groundwater necessitates innovative strategies to manage water resources sustainably in the face of evolving climate patterns.

Central Water Commission Report Highlights Urgent Groundwater Concerns

In a recent report by the Central Water Commission, alarming findings shed light on the precarious state of groundwater in various regions across the country. Some of the highlights of the report is provided below

- As per the 2023 assessment report, the total annual ground water recharge for the entire country is 449.08 billion cubic meters (BCM), marking an increase of 11.48 BCM compared to the previous year (2022) and annual ground water extraction for the entire country is 241.34 BCM.
- Further, out of the total 6553 assessment units in the country, 736 units have been categorized as 'Over-exploited'.
- Analysis indicates improvement in ground water conditions in 226 assessment units in the country compared with 2022 assessment data
- Total annual ground water recharge for entire country is 449.08 billion cubic meters (BCM), while extraction is 241.34 BCM
- Stage of ground water extraction stands at 59.23%.
- Out of total 6553 assessment units, 4793 units categorized as 'Safe'

The report underscores the urgent need for comprehensive water management strategies to address the imminent crisis.

- **Depleting Groundwater Levels:** The report reveals a significant decline in groundwater levels, pointing to over-extraction and insufficient recharge mechanisms. For instance, regions like Punjab, known as the 'Granary of India,' face severe depletion due to extensive agricultural practices.
- **Rising Salinity and Contamination:** The study highlights a surge in salinity and contamination of groundwater, threatening its quality. Coastal areas, exemplified by parts of Gujarat and Tamil Nadu, showcase elevated salinity levels due to seawater intrusion, impacting agriculture and potable water sources.
- **Over-exploitation** in Urban Urbanization emerges as a major contributor to over-exploitation. Cities like Chennai and Delhi witness excessive extraction for domestic and industrial purposes, exacerbating the strain on aquifers..
- **Depletion of Critical Aquifers:** The report identifies critical aquifers facing rapid depletion. The example of the Yamuna River basin reveals excessive extraction, affecting both rural and urban regions in states like Haryana and Uttar Pradesh.
- Need for Sustainable Practices: The report emphasizes the imperative of sustainable water management practices. Implementing rainwater harvesting initiatives, as successfully demonstrated in Bengaluru and Pune, serves as a model for mitigating groundwater depletion

Future Directions

- The unregulated drilling of borewells in Bengaluru poses a formidable challenge that demands immediate attention.
- holistic approach involving streamlined regulatory processes, increased awareness, and innovative urban planning is crucial to mitigate the looming water crisis.
- Sustainable water management practices, especially in the face of climate change, must be prioritized to ensure the well-being of Bengaluru and its residents in the years to come.



NATIONAL QUANTUM MISSION (NQM)

MAINS



Context: The National Quantum Mission (NQM) is poised to revolutionize India's stance in Quantum Technology (QT), as evidenced by the strategic decisions made during the 1st meeting of the Mission Governing Board (MGB) under the chairmanship of Dr. Ajai Chowdhry.

Background:

- Approved by the Union Cabinet on 19th April 2023, the NQM is under the stewardship of the Department of Science and Technology (DST) with a substantial outlay of Rs. 6003.65 Crore over eight years.
- The primary objective of the mission is to cultivate, nurture, and scale up both scientific and industrial Research and Development (R&D) in Quantum Technology, fostering a dynamic and innovative ecosystem in the field.

Mission Governing Board (MGB) Deliberations:

- Formation of Mission Coordination Cell (MCC):
 - ➤ The MGB, in its **inaugural meeting**, emphasized the establishment of the Mission Coordination Cell (MCC).
 - Acting as a coordinating agency, the MCC will collaborate closely with the Mission Secretariat, DST.
 - ➤ The selection of the institution hosting the MCC will be based on merit and existing infrastructure, functioning under the guidance of the Mission Technology Research Council (MTRC).
- **D** Quantum Technology Genesis in India:
 - Dr. Ajai Chowdhry, Chairman MGB, highlighted the inception of quantum technology in India.

- ➤ Emphasizing the significance of manpower and startups, he articulated the mission's commitment to **leapfrogging** in this transformative area.
- The MGB also approved a "Call for Preproposals," inviting proposals for setting up the four technology hubs under the NQM in consortia format.
- ➤ This strategic move is expected to attract diverse and innovative ideas, fostering collaboration across sectors.

D Human Resource Development:

- Prof A K Sood, Principal Scientific Advisor to the Government of India, underscored the critical role of creating human resources.
- ➤ He advocated for **empowering the hubs to build human capacity**, recognizing it as a
 pivotal factor in the success of the NQM.

n Industry's Role and Collaboration:

- ➤ Dr V K Saraswat, Member Niti Aayog, stressed the importance of **industry participation in technology and fund sharing**.
- ➤ He urged a shift towards **developing indigenous systems** rather than relying on imports, positioning the industry as a key player in the mission's success.

Mission Hubs:

 Prof Abhay Karandikar, Secretary DST, unveiled the plan for NQM to establish four mission hubs in Quantum Computing, Quantum Communication, Quantum Sensing & Metrology, and Quantum Materials & Devices.

These hubs will be **collaborative efforts**, involving academia, R&D labs, and industry consortia.

 $\odot \odot \odot \odot$





PRELIMS **TEST SERIES** 2024 **ECTIONAL**

Scan QR Code for more **Details & Test Schedule**



PROGRAMME FEE ₹ 4.500 (+GST)



Tests as per Changing Pattern of the UPSC Prelims

2800+ QUESTIONS



Concept & Essential Skills Builiding through Tests and their Discussion



Level-wise Questions for gradual improvement & exam readiness



One-on-one mentorship for Personlised Guidance



Emphasis on both Static & Current Events as per the evolving format





SECTIONAL TESTS (GS)

100 QUESTIONS



CURRENT AFFAIRS **TESTS 100 QUESTIONS**



MOCK TESTS (GS & CSAT) **100 & 80 QUESTIONS**





Section B [SPECIAL\$]

Topic

ঙ্গে Lithium and Green Energy Transition

WEEK - 3 (JANUARY, 2024)



LITHIUM AND GREEN ENERGY TRANSITION

About Lithium:

Lithium is a soft, silvery-white alkali metal that is highly reactive and flammable. It is the lightest metal and the least dense solid element. Lithium is widely distributed across the world, with the largest reserves found in Bolivia, Argentina, and Chile. In India, the Geological Survey of India has discovered lithium deposits in Salal village, Reasi district, Jammu & Kashmir.

Uses of Lithium:

Lithium has a wide range of uses, including in the production of ceramics, glass, and aluminum, as well as in the manufacture of batteries, lubricants, and pharmaceuticals. Lithium-ion batteries are used in electric vehicles, mobile phones, laptops, and other electronic devices. The demand for lithium is expected to rise significantly in the coming years due to the increasing popularity of electric vehicles and the shift towards renewable energy.

Lithium Distribution: India and World

Lithium, often referred to as the "white gold" of **the 21st century**, has become a vital component in powering our modern world. (see image: 1)

Global Lithium Landscape:

Distribution Overview: The distribution of lithium resources is not uniform, with key deposits concentrated in

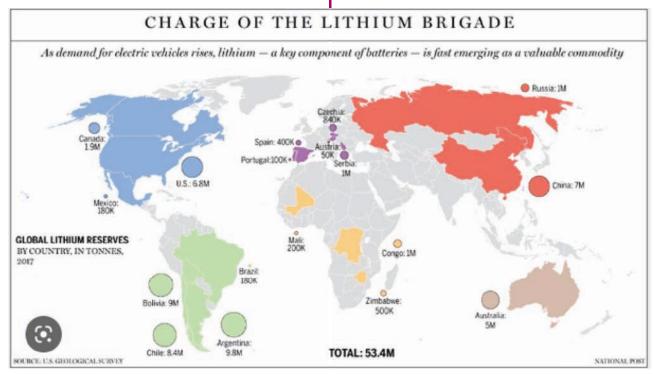
specific regions. One of the largest lithiumproducing countries is Australia, home to the Greenbushes lithium mine, which holds a substantial share of the world's lithium reserves.

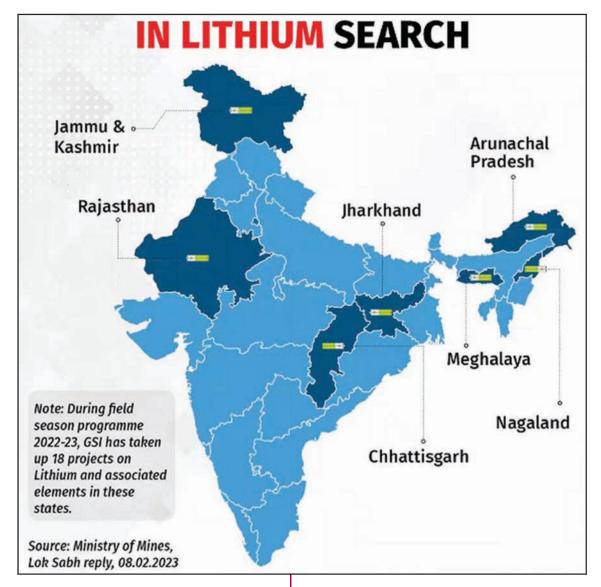
- South America's Lithium Triangle: The Lithium Triangle, encompassing parts of Argentina, Bolivia, and Chile, stands out as a major lithium-producing region. Salar de Atacama in Chile, for instance, hosts significant lithium brine deposits, contributing substantially to the global lithium supply.
- China's Dominance: China, a major player in the lithium-ion battery market, has developed a robust lithium industry. With extensive lithium resources in provinces like Jiangxi and Sichuan, China plays a pivotal role in the global lithium supply chain.

(see image: 2)

> Lithium Landscape in India:

Current Scenario: India, despite being a major consumer of lithium-ion batteries, is yet to tap into significant lithium resources domestically. The exploration and extraction of lithium in India are in nascent stages, and the country relies heavily on lithium imports to meet its growing demand.





- **Pegmatite Reserves in Rajasthan:** Recent exploration activities have identified lithium-bearing pegmatite reserves in the Marwar region of Rajasthan, marking a potential breakthrough for India's lithium resources. The extraction of lithium from pegmatites is gaining traction as a feasible option.
- **Collaborations for Lithium Exploration:** India is actively seeking collaborations with lithium-rich nations and private entities to secure a sustainable lithium supply chain. Partnerships with countries like Bolivia and Australia aim to facilitate exploration and extraction initiatives.

Case Studies:

Greenbushes Lithium Mine (Australia): The Greenbushes mine in Western Australia is a standout example of a lithium-rich resource. It contributes significantly to

- global lithium production, emphasizing the strategic importance of Australia in the lithium market.
- **Salar de Atacama (Chile):** Chile's Salar de Atacama is renowned for its vast lithium brine deposits. The sustainable extraction of lithium from brines has become a model for environmentally conscious mining practices.
- Lithium Exploration in Rajasthan (India): Ongoing exploration activities in the Marwar region of Rajasthan showcase India's potential as a lithium resource. Pilot projects and collaborative ventures are crucial in establishing a sustainable lithium industry within the country.

Recent Data and Future Prospects:

Global Demand and Supply (2023): Recent data indicates that the global demand for lithium is soaring, driven by the expanding electric vehicle market and

- renewable energy projects. As of 2023, the lithium supply chain faces challenges to meet the increasing demand, necessitating investments in exploration and extraction.
- India's Lithium Roadmap (2023): In India, the government's push for electric mobility and renewable energy integration has elevated the significance of lithium. The nation is devising a comprehensive lithium roadmap, focusing on sustainable extraction, recycling, and strategic collaborations to secure its lithium future.

Impacts of Lithium Mining:

- > 1. Mining: The two primary methods for extracting lithium—open-pit mining and lithium brine extraction—pose distinct environmental challenges.
 - Open-pit mining, often used for lithiumbearing minerals like spodumene, results in habitat disruption and extensive land clearance.
 - On the other hand, brine extraction involves diverting water from natural sources, altering local ecosystems.

Case Studies: Real-world Impact

- > Salar de Atacama, Chile: Chile's Salar de Atacama, a key player in the global lithium market, illustrates the environmental tradeoffs. The extraction of lithium from brines in the region has led to concerns about water scarcity and ecosystem disruption. The delicate balance of the Atacama Desert's unique flora and fauna is under threat as lithium production intensifies.
- Greenbushes Lithium Mine, Australia: The Greenbushes lithium mine in Western Australia, a major global supplier, exemplifies the environmental impact of open-pit mining. The disruption of local ecosystems, dust pollution, and the energy-intensive **extraction** process contribute to the mine's environmental footprint.

Water Scarcity: A Critical Concern

Lithium Brine Extraction and Aquifer **Depletion:** One of the significant environmental concerns linked to lithium brine extraction is water scarcity. In regions like Argentina's Salar del Hombre Muerto, the extraction process involves diverting water from local aquifers, leading to depletion and threatening the livelihoods of nearby communities.

Carbon Footprint: The Hidden Challenge

Energy-Intensive Extraction Processing: Lithium extraction and processing demand significant energy inputs, contributing to the industry's carbon footprint. The carbon intensity of lithium production is particularly pronounced in areas where fossil fuels power the extraction process, offsetting the clean energy narrative associated with electric vehicles.

Mitigation Strategies and Sustainable Practices

- Recycling Initiatives: To address the environmental impact of lithium mining, recycling initiatives are gaining momentum. Recovering lithium from used batteries reduces the need for new mining, lessening the strain on ecosystems.
- **Technological Innovations:** Advancements in lithium extraction technologies are crucial for minimizing environmental impact. Sustainable methods, such as direct lithium extraction technologies, aim to reduce water usage and habitat disruption.

Lithium and Geopolitics

Uneven **Distribution:** The global distribution of lithium resources characterized by regional disparities, with key reserves concentrated in countries like Australia, Chile, China, and Argentina. This uneven distribution sets the stage for geopolitical competition over access to lithium, a crucial element for electric vehicles and renewable energy storage.

Case Studies:

- > Australia-India Collaboration: Australia. home to significant lithium reserves, has emerged as a key partner for India. In a recent agreement, Indian companies entered partnerships with Australian counterparts to explore and develop lithium assets. This collaboration aims to secure a stable lithium supply for India's burgeoning clean energy initiatives.
- India's Engagement with Bolivia: Bolivia, home to vast lithium resources in the Salar de Uyuni, has become a focal point for India's lithium diplomacy. Recent agreements between India and Bolivia involve joint ventures for lithium exploration and extraction. Bolivia's lithium-rich salt flats present a strategic opportunity for India to diversify its lithium sources.



China's Dominance and India's Strategic Response:

Lithium Triangle Diplomacy: China's influence in the Lithium Triangle (Argentina, Bolivia, and Chile) has prompted India to adopt a strategic approach. India's engagement with these South American nations involves diplomatic efforts to counterbalance China's stronghold and secure lithium resources for its ambitious clean energy plans.

Africa's Lithium Reserves and India's Outreach:

• Partnerships in Africa: Africa, with untapped lithium reserves, has become a focus for India's lithium outreach. Recent agreements involve collaboration with African nations to explore lithium resources. This proactive engagement aims to diversify India's lithium supply chain and reduce dependency on specific regions.

Pioneering the Shift: From Oil to Lithium - A **Transformative Economic Journey**

➤ The global transition from fossil fuels to clean energy sources has spurred a paradigm shift, with lithium emerging as a linchpin in the journey towards a sustainable future. The Indian government has set a target of achieving 30% electric vehicle penetration in private cars, 70% in commercial vehicles, and 80% in two and three-wheelers by 2030. The development of a domestic lithium-ion battery industry is expected to create jobs and reduce India's dependence on imports.

The Fossil Fuel Era: A Foundation in Oil

• Historical Dependence: For decades, the global economy has been anchored in the extraction, refinement, and consumption of oil. Fossil fuels, primarily oil, have powered industries, transportation, and economies, shaping the geopolitical landscape.

> Lithium's Ascent: A Catalyst for Change

- **Clean Energy Imperative:** As concerns over climate change escalate, nations are compelled to shift towards clean and renewable energy sources. Lithium-ion batteries have emerged as a transformative technology, powering electric vehicles (EVs) and serving as storage solutions for renewable energy.
- **Transportation Revolution:** The rise of electric vehicles is a striking example

of the shift from oil to lithium. Major automotive players are investing heavily in EV technologies. Companies like Tesla, with its groundbreaking electric cars, have disrupted the traditional automotive industry and set the stage for a lithiumcentric transportation sector.

Case Studies:

- Norway's EV Revolution: Norway provides a compelling case study of a nation embracing the lithium-based economy. With aggressive incentives for EV adoption, Norway has transformed its transportation sector. Electric vehicles now dominate the market, showcasing the potential of lithium-powered mobility.
- China's Lithium Dominance: China, a global leader in lithium-ion battery production, exemplifies the economic implications of the shift. The country's commitment to electric mobility and renewable energy has positioned it at the forefront of the lithium-based economy, influencing global supply chains.

Economic Impact and Job Creation:

Emergence of New Industries: The lithiumbased economy has sparked the rise of new industries. Battery manufacturing, lithium extraction technologies, renewable energy projects are generating employment opportunities and fostering economic growth in regions strategically investing in the clean energy transition.

> Challenges and Opportunities:

- Resource Geopolitics: As nations vie for lithium resources, a new form of resource geopolitics is unfolding. Lithiumrich countries gain economic leverage, potentially altering the global power dynamic. This shift demands astute diplomacy and strategic alliances to secure a stable lithium supply.
- **Technological Innovation:** The transition to a lithium-based economy necessitates continuous technological innovation. Research and development in battery technologies, energy storage solutions, and lithium extraction methods present opportunities for economic advancement and global leadership.

Significance of Lithium for India:

> Lithium as the Enabler of Clean Energy: Lithium-ion batteries, powered by the metal

lithium, have become the backbone of clean energy solutions. In India, the significance of lithium lies in its pivotal role in the electrification of transportation, renewable energy storage, and the overall transition towards a greener and more sustainable economy.

Electric Vehicles (EVs) Revolution: India, with its ambitious goals for electric mobility, sees lithium as a critical component for the widespread adoption of electric vehicles. Lithium-ion batteries offer higher energy density and longer life, making them ideal for powering the EV revolution in the country.

c Challenges Faced by India:

- > Limited Domestic Lithium Reserves: India's lithium landscape is characterized by limited domestic reserves. The nation is heavily dependent on lithium imports, primarily from countries like China and Australia. Ensuring a stable and diversified lithium supply chain is a paramount challenge for India.
- **Exploration and Extraction Hurdles:** The exploration and extraction of lithium reserves within India present challenges. While potential lithium-bearing regions like Rajasthan have been identified, the scaling up of extraction operations involves overcoming technological and infrastructural barriers.
- Competition Global and Resource **Geopolitics**: The global demand for lithium has led to intensified competition among nations for securing stable supplies. India faces the challenge of navigating this resource geopolitics to safeguard its lithium interests and mitigate the risk of supply chain disruptions.

n Indian Government Initiatives for Lithium:

- National Mission on **Transformative Mobility and Battery Storage (NMTM&BS):**
 - Objective: Launched as part of the National Institution for Transforming India (NITI) Aayog's efforts, the mission aims to promote clean and sustainable mobility and advance energy storage solutions.
 - Focus on Lithium: The NMTM&BS places a significant emphasis on the development of advanced battery technologies, including lithium-ion batteries, for electric vehicles and energy storage applications.
- Faster Adoption and Manufacturing of **Hybrid and Electric Vehicles (FAME) Scheme:**
 - **Objective:** The FAME scheme, initiated by the Ministry of Heavy Industries and Public Enterprises, provides financial incentives

- to promote the adoption of electric and hybrid vehicles.
- **Focus on Lithium:** The scheme incentivizes the manufacturing and adoption of lithium-ion batteries and electric vehicles, contributing to the growth of the domestic lithium ecosystem.

Lithium Exploration in Rajasthan:

- **Initiative:** The Geological Survey of India (GSI) identified lithium reserves in the Marwar region of Rajasthan.
- **Objective:** This exploration initiative aims to assess the lithium potential in the region and lay the foundation for future extraction and utilization.

International Collaborations:

- Initiative: Collaborations with lithium-rich countries for joint ventures in exploration and extraction.
- Example: Agreements with countries like Bolivia and Australia involve joint efforts to explore and develop lithium resources.

Research and Development Support:

- **Initiative: Funding** for research and development in lithium-related technologies.
- **Example:** Support for research projects focused on improving lithium-ion battery technologies, exploring new extraction methods, and enhancing recycling processes.

> Incentives for Battery Manufacturing:

- **Objective:** To boost domestic manufacturing of lithium-ion batteries.
- **Example:** Incentives, subsidies, policy support for setting up battery manufacturing units, which contribute to the growth of the lithium ecosystem.

> Policy Framework for Mineral Exploration:

- **Objective:** Streamlining regulatory processes for mineral exploration, including lithium.
- **Example:** Ongoing efforts to create a favorable policy framework that encourages responsible exploration and extraction of lithium resources.

> Sustainable Resource Management:

Initiative: Incorporating lithium and other critical minerals into strategic resource planning.

Example: Considering the importance of lithium in the context of national resource security and developing strategies for sustainable resource management.

Indian Agreements for Lithium:

India has signed several agreements with different countries to secure its supplies of lithium. Here are some of the recent agreements:

- ▶ India-Argentina: In 2023, the Mines Ministry, through Khanij Bidesh India Limited (KABIL), signed an agreement with Argentina's Stateowned CAMYEN. CAMYEN, which stands for Catamarca Minera Y Energetica Sociedad Del Estado, is based out of the Catamarca province in the Latin American nation.
- India-Argentina: In 2022, India signed a memorandum of understanding with Argentina to jointly explore and develop lithium resources. The agreement was signed between Khanij Bidesh India Limited (KABIL) and the state-owned enterprise of Catamarca Province, Argentina. KABIL will start the exploration and development of five lithium brine blocks, covering an area of about 15,703 hectares, located in the Catamarca province of Argentina.
- India-Bolivia: In the same year, India signed a deal with Bolivia to import lithium carbonate. Bolivia has the world's largest reserves of lithium, and the country is willing to sign a Preferential Trade Agreement (PTA) with India for select goods.
- India-Australia: In 2021, India signed a memorandum of understanding with Australia to collaborate on critical minerals, including lithium. The agreement aims to strengthen the supply chains for critical minerals and reduce the dependence on China.
- India-Chile: In 2018, India signed an agreement with Chile to acquire lithium. The agreement was signed between the Indian state-owned companies, National Aluminum Company (NALCO) and Hindustan Copper Limited (HCL), and the Chilean state-owned copper mining company, Codelco.

Case Studies:

The Tata Power and Australia Partnership: Tata Power, one of India's major energy players, has entered into a partnership with Australian mining firm Neometals to explore lithium recycling opportunities. This collaboration showcases India's commitment to innovative solutions and sustainable lithium practices.

India's Lithium Exploration in Rajasthan: Ongoing exploration activities in Rajasthan exemplify India's efforts to tap into its domestic lithium potential. Pilot projects and collaborations with global mining companies signify a concerted push towards self-reliance in lithium resources.

Way Forward

Navigating Challenges for a Sustainable Lithium Ecosystem

- o Investments in Research and Development: The Indian government's emphasis on research and development in lithium technologies is pivotal. Investments in innovation, including advancements in lithium-ion battery technologies, are essential for overcoming challenges and fostering a sustainable lithium ecosystem.
- **Policy Frameworks for Lithium Integration:** Strategic policy frameworks that incentivize lithium exploration, extraction, and manufacturing are critical. The Indian government's commitment to creating an enabling environment for the lithium sector is evident in policy initiatives aimed at promoting sustainable practices.

Conclusion

- ▶ Lithium is a critical metal that is essential for the production of lithium-ion batteries, which are essential for the storage of renewable energy.
- ➤ The geographical distribution of lithium is concentrated in a few countries, including Bolivia, Argentina, and Chile.
- India has recently discovered lithium deposits in Jammu & Kashmir and has signed agreements with several countries to secure its supplies of lithium.
- The shift from an oil-based economy to a lithium-based economy is expected to have significant economic and environmental benefits for India, but there are several challenges that need to be addressed, including the lack of domestic reserves and the environmental impact of lithium mining.
- ▶ The Indian government has taken several initiatives to promote the development of a domestic lithium-ion battery industry, which is expected to create jobs and reduce India's dependence on imports.





IAS PRELIMS 2024

COMPLETE REVISION of PRELIMS through 6000 MCQS & 90 CLASSES

AN ULTIMATE COURSE for MICRO MANAGEMENT of the SYLLABUS



DAILY TESTS & REVISION CLASSES

- Micromanagement of the Syllabus through **Daily Tests & 60 Concept cum Revision Classes for GS**
- Regular Doubt-clearing Sessions & Mentorship
- 10+ CSAT Classes & Tests



PRELIMS TEST SERIES

Apart from Daily Tests, the following tests are:

- 6 Revision Tests
- 6 Sectional Tests
- 20 Mock Tests (GS +CSAT)





PRELIMS REVISION N

- Prelims-Specific Revision Notes
- Yearly Compilation of Prelims Current Affairs
- Prelims Fact File



CURRENT AFFAIRS TESTS & CLASSES

- 20+ Current Affairs Tests & Classes covering 800+ Topics from last 2 Yrs
- Special sessions on Economic Survey & **Budget and India Year Book**





Section C [PRELIMS]

To Attempt -

Weekly Current Affairs Test, Visit

www.iasscore.in

- og India's oldest living city found in Vadnagar
- Beyond Basics: The Annual Status of Education Report (ASER)
- **©** Coal Controller Organisation's Restructuring and Responsibilities
- one District One Product Initiative: Celebrating Diversity, Empowering Communities
- S Fortifying Rice for a Healthier India: A Solution to Iron Deficiency and Anaemia
- States/Union Territories performance on CPGRAMS
- Unruly passenger behaviour and DGCA guidelines for airlines
- **☞** Draft Bills for Repealing Indian Stamp Act
- s Framework for climate data, greater access to info -IMD launches new initiatives
- cs Climate Conference 2024: Decoding the Green Transition for India
- Assam's Kaziranga National Park records 27% increase in waterbirds
- OS DoT' Preventive Steps to curbs cyber frauds
- Reassessing Distributive Justice Amidst Soaring Global Inequality
- Global conclave on creation of investment forum on climate resilient agri-food systems
- Flagship UPI Payment system is developing as Global Platform for Direct Fund Transfer
- South India Takes Lead in NPS Enrolment Amidst Nationwide Challenges
- ☑ India Ranks 35th in Global Future Possibilities Index
- Revolutionizing Indian Agriculture: A Paradigm Shift with Al Integration
- State-of-art Al supported Telemedicine Mobile Clinic launched for remote hilly areas in Udhampur
- The Evolution and Advantages of Light-Emitting Diodes (LEDs)
- M Implementation strategy and timelines of National Quantum Mission (NQM)
- Maiden Indian Navy Royal Thai Navy Bilateral Exercise and 36th Edition of Indo-Thai Coordinated Patrol



INDIA'S OLDEST LIVING CITY FOUND IN VADNAGAR

Context: A joint study by the IIT (Kharagpur) has found evidence of cultural continuity in Vadnagar even after the Harappan collapse.

About the findings

- Deep archaeological excavation has found evidence of a human settlement that is as old as 800 BCE contemporary to late-Vedic/pre-Buddhist Mahajanapadas or oligarchic republics.
- The excavations indicated the various aspects concerned with central Asian invasions into India and attributed some of them to severe change in climate like rainfall or droughts.
- Excavation revealed the presence of seven cultural stages (periods) namely:
- Mauryan, Indo-Greek,
- Indo-Scythian or **Shaka-Kshatrapas** 'Satraps', descendants of provincial governors of ancient Achaemenid Empires,
- Hindu-Solankis,
- Sultanate-Mughal (Islamic)
- Gaekwad-British colonial rule and the present settlement.
- One of the oldest Buddhist monasteries has been discovered during the excavation.
- Further findings revealed the characteristic archaeological artefacts, potteries, copper, gold, silver and iron objects and intricately designed bangles. Also found were coins moulds of the Greek king Appollodatus during the Indo-Greek rule at Vadnagar.

Why these findings are significant?

Busts the myth of Dark Age:

- ➤ The evidence of cultural continuity in Vadnagar showed — even after the Harappan collapse, thus making it likely that the "Dark Age" was a myth.
- ➤ The period between the collapse of the Indus Valley Civilisation and the emergence of the Iron Age and cities like Gandhar, Koshal, and Avanti is often depicted as a Dark Age by archaeologists.
- Rare archaeological evidence:

- > Archaeological records are rare, the earliest one being the rock-inscription of Emperor Ashoka during the Mauryan period (320-185 BCE) at Sudarsana Lake, Girnar hill, Gujarat.
- This makes Vadnagar the oldest living city within a single fortification unearthed so far in
- Some of our recent unpublished radiocarbon dates suggest that the settlement could be as old as 1400 BCE contemporary to very late phase of post-urban Harappan period.



BEYOND BASICS: THE ANNUAL STATUS OF EDUCATION **REPORT (ASER)**

About the Report

- It is conducted by an NGO/ Civil society Pratham
- Assessed group-Rural students aged 14 to 18 years.
- The survey was conducted in 28 districts across 26 states and it assessed the foundational reading and arithmetic abilities of 34,745 students.
- Assessment was done in the activities students are engaged in, their basic and applied reading and math abilities and digital awareness and skills.

Findings from the report

- **Enrolment:** 86.8% of 14-18-year-olds are enrolled in an educational institution. The percentage of youth not enrolled is 3.9% for 14-year-old youth and is 32.6% for 18-year-olds. This denotes the Small gender gaps in enrolment, but notable differences by age.
- Stream preferences and Gender Gap: Most of the people in this age group were enrolled in the Arts/Humanities streams. In Class XI or higher, more than half are enrolled in the Arts/Humanities stream (55.7%) and females are less likely to be enrolled in the Science, Technology, Engineering, and Mathematics stream (28.1%) than males (36.3%).
- Basic abilities: Only 5.6% of surveyed youth report taking vocational training or other related courses currently. Youth at the college level are the most likely to be taking vocational training (16.2%).
- Preferences for Short duration courses: The survey found adding that most youth are taking short duration courses of six months or less.

- Glaring picture on Basic learning: about 25% still cannot read a Class II level text fluently in their regional language. More than half struggle with division (3-digit by 1-digit) problems. Only 43.3% of 14-18-year-olds are able to do such problems correctly. This skill is usually expected in Standard III/IV.
 - A little over half can read sentences in English (57.3%).
 - ▶ Of those who can read sentences in English, almost three quarters can tell their meanings (73.5%).
 - ➤ While females (76%) do better than males (70.9%) in reading a Standard II level text in their regional language, males do better than females in arithmetic and English reading.
 - > Of the youth who can do subtraction or more, over 60% are able to do the budget management task, about 37% can apply a discount, but only about 10% can calculate
- Digital skills: Close to 90% of all youth have a smartphone in the household and know how to use it. Of those who can use a smartphone, males (43.7%) are more than twice as likely to have their own smartphone as females (19.8%).
 - Females are less likely to know how to use a smartphone or computer as compared to males.
 - ► Across all tasks using mobile phones, males outperformed females.
 - ▶ Performance on digital tasks improves with education level. The ability to do digital tasks increases with basic reading proficiency.

About ASER Report

- It is a large-scale citizen-led household survey **Facilitated by Pratham Education Foundation** since 2005.
- It aims to understand whether children in rural India are enrolled in school and whether they are learning.
- The basic, nationwide ASER survey is conducted every alternate year. It collects data on the enrolment status of children in the age group of 3-16 years, and basic reading and arithmetic levels of children in the age group of 5-16 years.

Why focus on the 14-18 age group?

 India has the largest youth population in the world. It is important to ensure that these young people have the skills and the opportunities needed to

- help them build a better future for themselves, their families, and for the country.
- The National Youth Policy 2021 articulates a ten-year vision for youth development aiming to 'unlock the potential of the youth to advance India', and catalyse development across education, employment and entrepreneurship, youth leadership and development, health and fitness, and social justice.
- The Right to Education Act (RTE) guarantees free and compulsory education up to the age of 14, by when most children complete Std VIII.
- It is important to understand children's pathways after leaving elementary school, before they become adults at the age of 18.
- Their preparedness to take on adult responsibilities is crucial to their personal, social and professional success in the future.



COAL CONTROLLER **ORGANISATION'S** RESTRUCTURING AND RESPONSIBILITIES

Context: The Ministry of Finance's recent approval of the restructuring of the Coal Controller Organisation marks a significant milestone in aligning the organization with the evolving dynamics of the coal sector.

About Coal Controller Organisation:

- The Coal Controller Organisation, operating under the Ministry of Coal, is entrusted with collecting and maintaining coal production data from both private and public sector coal mines across India.
- Operating on a monthly basis, the organization plays a pivotal role in ensuring fair production and commercial transactions within the coal sector.

Key roles:

- Regulate commercial mining
- Boost domestic coal production
- Achieve the ambitious target of 1 billion tonnes with zero imports.

Background:

 The Coal Controller Organisation, a subordinate office under the Ministry of Coal, undertakes various responsibilities to uphold the integrity of coal production.

- **WEEKLY**
- PRELIMS WEEK 3 (JANUARY, 2024)
- This includes inspecting collieries to verify coal class, grade, or size accuracy, issuing directives for maintaining coal grades, and acting as an appellate authority in disputes.
- The organization also regulates coal stock disposal, oversees quality surveillance, and plays a crucial role in the assessment and collection of excise duty on raw coal.

Need for Restructuring:

- In response to the changing landscape of the coal sector, the Ministry of Coal initiated a comprehensive review in November 2019.
- A four-member Committee, led by Sh. A.N.Sahay, **proposed restructuring** to enhance organization's effectiveness.
- With a focus on regulating commercial mining and boosting domestic coal production, the restructuring received approval from the Ministry of Finance on October 20, 2023.

Current Status and Future Plans:

- The restructuring entails a new sanctioned strength of 130 personnel, distributed across Gazetted and Non-Gazetted groups.
- The Ministry of Coal and the Coal Controller Organisation are in the process of approving recruitment rules for these sanctioned positions.
- This marks a crucial step in implementing the restructuring and enhancing the organization's capabilities to meet the **challenges and** opportunities presented by the evolving coal sector.

Coal Controller Organisation's Commitment to Safety:

- Aligning with the Directorate General of Mines **Safety (DGMS)**, the Coal Controller Organisation prioritizes safety and health standards in the mining industry.
- Safety provisions are incorporated agreements with private mine allocattees, ensuring compliance with laws and industry practices for the protection of employees' health, safety, welfare, and minimum wages.



ONE DISTRICT ONE PRODUCT INITIATIVE: CELEBRATING DIVERSITY, EMPOWERING **COMMUNITIES**

Context: In a significant stride towards promoting 'Brand India,' the One District One Product (ODOP) initiative, led by the Department for Promotion of Industry and Internal Trade (DPIIT), Ministry of Commerce & Industry, has achieved a major milestone by enlisting over 50 aggregators.

Aim: This collaborative effort aims to enhance consumer awareness by spotlighting the origin of ingredients in various products.

Background:

- The ODOP initiative, launched in January 2018 by the Uttar Pradesh government, gained national prominence and support from the central government.
- The concept involves selecting, branding, and promoting one unique product from each of the 761 districts across the country.
- The initiative spans diverse sectors such as textiles, agriculture, processed goods, pharmaceuticals, and industrial items.
- The core objective of ODOP is to **boost economic** growth at the district level by leveraging local potential, resources, skills, and culture.
- o Over 1000 products have been identified, with the initiative covering a wide spectrum of traditional crafts and industries.
- The ODOP initiative stands as a beacon for celebrating India's cultural diversity, preserving traditional knowledge, and fostering economic growth at the grassroots level.
- By promoting 'Brand India' through unique products, ODOP not only enriches consumer experiences but also contributes to the larger narrative of a self-reliant and empowered nation.

Implementation and Collaborations:

- The Ministry of Food Processing Industries (MoFPI), Ministry of Textile, and Directorate General of Foreign Trade (DGFT) are actively involved in implementing and supporting the ODOP scheme.
- Collaborations with entities like Garvi Gurjari of Gujarat and TRIFED reflect the shared vision of promoting indigenous products.



 The 'Lota Shop' at the National Crafts Museum, inaugurated by the Ministry of Textile, showcases and sells ODOP products.

Showcasing Diversity and **Creative** Approaches:

- The ODOP aggregators, spanning over **25 states** and union territories, are a vibrant community celebrating the diversity of Indian craftsmanship.
- From Pashmina weavers in Leh to bamboo artisans in West Tripura, each district's unique product is showcased at prestigious events like the World Economic Forum and the Atma Nirbhar Bharat Utsav.

Economic Development and Entrepreneurship:

- ODOP contributes to economic development by creating a diversified and sustainable economic base at the grassroots level.
- The initiative fosters entrepreneurship and skill **development** by providing support to artisans and entrepreneurs.
- The focus is on **enhancing production** capabilities, product quality, and market reach, ultimately empowering individuals and communities.

Preserving Heritage and Market Linkages:

- In addition to economic development, ODOP plays a crucial role in preserving India's rich heritage of traditional crafts and products.
- By providing market linkages and creating a robust marketing ecosystem, ODOP helps in preserving and promoting traditional arts and crafts.
- The initiative aims to overcome challenges posed by globalization and changing consumer preferences.

One District One Product Awards:

- Recognizing the exemplary efforts in promoting economic development and realizing the vision of Atmanirbhar Bharat, DPIIT has instituted the One **District One Product Awards.**
- These awards will acknowledge outstanding work by States/UTs, Districts, and Indian Missions Abroad, further incentivizing the commitment to the initiative.

Sevottam Model

- It is proposed by 2nd ARC (Administrative Reforms Commission) for public Service Delivery is now considered as standard model for providing citizen-centric governance services.
- The word, Sevottam, is a combination of two Hindi words: 'Seva' (service) and 'Uttam' (excellence).
- Savottam Model is developed by Department of Administrative Reforms & Public Grievances (DARPG) focus on Grievance redressal Mechanism



FORTIFYING RICE FOR A **HEALTHIER INDIA: A SOLUTION** TO IRON DEFICIENCY AND **ANAEMIA**

Context:

Addressing widespread iron deficiency and anaemia in India requires effective and sustainable strategies. Fortifying rice, a dietary staple, with essential nutrients like iron, vitamin B12, and folic acid emerges as a promising solution.

The Challenge of Iron Deficiency and **Anaemia**

- Iron deficiency and anaemia predominantly affect children and women in India, especially in states like Uttar Pradesh, Odisha, Madhya Pradesh, and Bihar, with prevalence rates as high as 50 percent, according to the National Family Health Survey (NFHS-5).
- Poor consumption of iron-rich foods and parasitic infections contribute to this health challenge.

The Role of Fortified Rice

- Fortifying rice with iron, vitamin B12, and folic acid presents an opportunity to combat iron deficiency and anaemia, considering the widespread consumption of rice in India.
- Studies have shown the effectiveness of fortified rice in managing anaemia and iron deficiency.

Need for Fortified Rice:

Overcoming Resistance and Misinformation

- Despite the success of food fortification programs globally, resistance to fortified rice has emerged in India.
- Misinformation, including concerns about the safety of fortified rice and fears of overconsumption leading to adverse effects, has caused confusion among consumers and manufacturers.
- It is essential to address these concerns based on **scientific evidence**.

Safety and Effectiveness of Fortified Rice

- The micronutrient levels in fortified rice are regulated by the Food Safety and Standards Authority of India (FSSAI), ensuring safety.
- Iron absorption is naturally regulated in the body, preventing toxicity.
- Studies, including a WHO review, demonstrate a modest reduction in anaemia through rice fortification, aligning with national nutrition goals.

Pilot Studies and Effectiveness

- Recent pilot studies in Malkangiri, Odisha, show a reduction in anaemia rates, reinforcing the effectiveness of iron-fortified rice.
- The changes observed align with long-term preventive strategies, and no adverse effects have been reported.

Addressing Concerns:

- Haemoglobinopathies and Blood Disorders
 - Concerns about the consumption of fortified foods, especially for individuals with haemoglobinopathies and blood disorders, are addressed.
 - ➤ Research indicates **no adverse effects**, with iron released from blood transfusions far exceeding the amounts from fortified food.

Government Support and Research

- The Indian Council of Medical Research's National Institute of Nutrition supports the safety of ironfortified foods.
- As large-scale food fortification expands, continuous evaluation and monitoring for adverse events are crucial, emphasizing the need for ongoing research.

Potential:

 Fortifying rice emerges as a cost-effective and promising long-term solution to combat micronutrient malnutrition in India.

- With effective regulation, safety measures, and scientific evidence supporting its benefits, fortified rice aligns with public health objectives.
- It stands as a crucial strategy until a diverse and adequate diet becomes achievable for all segments of the Indian population.



STATES/UNION TERRITORIES PERFORMANCE ON CPGRAMS

Context: 17th Report on States/Union Territories performance on CPGRAMS released by DARPG

Department of Administrative Reforms and Public Grievances (DARPG):

It is one of the three departments under Ministry of Personnel, Public Grievances and Pensions with three departments namely, Department of Personnel and Training (DOPT), Department of Administrative Reforms and Public Grievances and Department of Pension and Pensioners Welfare.

It brings E-Governance **through NATIONAL e-GOVERNANCE SERVICE DELIVERY ASSESSMENT (NeSDA)** which helps the respective governments improve their delivery of citizen centric services and shares best practices across the country for all States, UTs and Central Ministries to emulate.

Key Points about CPGRAMS

- It functions under the Department of Administrative Reforms and Public Grievances (DARPG)
- It is an online platform available to the citizens 24x7 to lodge their grievances to the public authorities on any subject related to service delivery. It is a single portal connected to all the Ministries/Departments of Government of India and States.
- Every Ministry and States shall have role-based access to this system.
- CPGRAMS can be access through Mobile application and application integrated with UMANG.
- Grievance Tracking System: Unique registration ID provided at the time of registration of the complainant.
- CPGRAMS also provides an appeal facility to the citizens if they are not satisfied with the resolution by the Grievance Officer







UNRULY PASSENGER BEHAVIOUR AND DGCA GUIDELINES FOR AIRLINES

Context:

The recent incident of passenger hitting the pilot due to delays in taking off of flight has brought back the focus on rise in incidents of unruly behaviour and the response of airline with regard to such behaviour.

How are airlines expected to respond?

- Actions and Response shall be guided by the Civil Aviation Requirements (CAR) on "Handling of unruly passengers" issued by the aviation watchdog Directorate General of Civil Aviation (DGCA).
- The airline should first inform the passengers concerned that in case their behaviour is deemed unruly as per the guidelines.

What is Unruly Behaviour?

- Unruly behaviour includes (but is not limited to): consuming liquor or drugs resulting in unruly behaviour; smoking; not obeying the pilot's instructions; using threatening or abusive language against crew or other passengers.
- Physically threatening and abusive behaviour; intentionally interfering with discharge of duties by the crew; and endangering the safety of the aircraft and those on board.
- If the aircraft was still on ground, the passenger shall be handed over to airport security immediately.
- o In cases of unruly behaviour in the air, the pilot is required to quickly assess if the cabin crew can control the unruly passenger, and accordingly inform the airline's central control on the ground.
- If the pilots and the airline's central control believe that the unruly passenger cannot be brought under control by the cabin crew, they must land as soon as possible at the nearest available airport and handed over to security after registration of FIR.

The airline must refer the complaint to an internal

committee, which must include (i) a retired

district and session's judge as chairman, (ii) a

representative of a different airline and, (iii) a representative of a passengers' association, or consumer association, or a retired officer of a consumer disputes redressal forum.

- The internal committee is required to decide the matter within 30 days, along with the categorisation of the incident in one of three defined category levels.
- The committee shall also decide the duration for which the unruly passenger will be banned from flying. The committee's decision shall be binding on the airline.

And what are the category levels of disruptive passenger behaviour?

The levels define behaviour ranging from verbal harassment to murderous assault.

- Level 1: Unruly behaviour, including physical gestures, verbal harassment, and unruly inebriation.
- Level 2: Physically abusive behaviour, including pushing, kicking, hitting, and grabbing or inappropriate touching or sexual harassment.
- Level 3: Life-threatening behaviour, including damage to aircraft operating systems, physical violence such as choking, eye gouging, murderous assault, and attempted or actual breach of flight crew compartment.

Penalties

- Ban on passenger for 30 days and Airlines are required to maintain a database of unruly passengers and share it with the DGCA and other airlines. The DGCA maintains a No-Fly List based on the data shared by carriers.
- For Level 1 and 2 offences, the ban on flying can extend to three months and six months respectively. For a Level 3 offence, the minimum ban should be for 2 years, with no upper limit.

Recourse for Banned passenger

- An individual who is banned from flying can appeal within 60 days to an Appellate Committee constituted by the Ministry of Civil Aviation, and headed by a retired judge of a High Court.
- An appeal against the appellate panel's decision shall be made to a High Court.

DGCA

Aviation and primarily deals with safety issues.

Procedure post incident 34

- It is responsible for regulating air transport services to/from/within India.
- Further its responsibility pertains to enforcement of civil air regulations, air safety and airworthiness standards.
- It is an attached office of the Ministry of Civil Aviation, Government of India.



DRAFT BILLS FOR REPEALING **INDIAN STAMP ACT**

Context: The government has proposed repealing the Indian Stamp Act, 1899 and bringing in a new legislation for the stamp duty regime in the country.

More on the News

- Department of Revenue under the Ministry of Finance has invited suggestions on the draft 'Indian Stamp Bill, 2023' from the public.
- The Intent is to align it with the modern stamp duty regime. Once enacted, the Bill shall replace the Indian Stamp Act, 1899.

What is a Stamp Duty?

- It is a tax, similar to income tax, collected by the government. Stamp duty is payable under Section 3 of the Indian Stamp Act, 1899.
- Stamp Duty must be paid in full and on time. If there is a delay in payment of stamp duty, it attracts penalty.
- A stamp duty paid instrument / document is considered a proper and legal instrument / document and has evidentiary value and is admitted as evidence in courts. Document not properly stamped, is not admitted as evidence by the court.

The Indian Stamp Act

- The Indian Stamp Act 1899 lays down the legal provisions for tax levied in the form of stamps on instruments recording transactions.
- Stamp duties are levied by the central government, but within the states are collected and appropriated by the concerned states in terms of provisions of Article 268 of the Constitution.
- The stamp duties on documents specified in entry 91 of the union list of the Seventh Schedule. The seventh schedule deals with division of subjects among Union and States.

Stamp duty is levied on instrument recording transaction including bills of exchange, cheques, promissory notes, bills of lading, letters of credit, policies of insurance, transfer of shares, debentures, proxies and receipts are levied by the Union.

Why it is being repealed?

- It is a pre-Constitution Act and has been amended from time to time to enable a more modern stamp duty regime.
- However, a number of provisions contained in the Indian Stamp Act, 1899 have become redundant/ inoperative and hence, it need to reflect the present realities and objectives there is a need to re-orient the Indian Stamp Act, 1899.



CLIMATE CONFERENCE 2024: DECODING THE GREEN TRANSITION FOR INDIA

Context: Innovation, research and climate startups needs to be expanded at scale to meet the climate commitments and all the stakeholder-be it policy makers, private sector, investors and industry and MDBs must work on innovative solutions to expand the accessibility of finance

Background:

The Climate Conference 2024, centered around the theme "Decoding the Green Transition for India." Organized by the Ministry of Environment, Forest and Climate Change, Government of India, the event aimed to explore the crucial role of the private sector, climate tech startups, and institutional investors in advancing India's green transition.

Key Highlights and Initiatives:

- **B** Global Impact and Ministry's Actions:
 - Researchers emphasized the global repercussions of climate change, urging immediate action, meticulous planning, and financial mobilization.
 - ➤ The Green Credits Programme and the reinvention of ECOMARK labelling under the Lifestyle for Environment (LiFE) initiative were highlighted.



• Emerging Issues and Critical Areas:

- NITI Aayog CEO addressed India's challenges of industrialization, urbanization, and growth, emphasizing five critical areas - renewable energy, energy storage, electric mobility, energy efficiency, and the circular economy.
- ➤ They underscored the role of **promoting energy efficiency** in micro, small, and medium enterprises (MSMEs) for cost savings and increased competitiveness.
- ➤ They also proposed a **blend of public and** private funds for high-risk climate projects, emphasizing the potential of green hydrogen and storage systems.

India's Roadmap to Net-Zero:

- The conference highlighted India's commitment to achieving net-zero by 2070, outlining a roadmap that involves green transition investments.
- The focus areas include transforming energy systems, reducing CO2 emissions, conserving natural resources, increasing biodiversity, and enhancing climate resilience in a socially just and inclusive manner.

Data and Facts:

- The conference was organized under the **Green** Climate Fund Readiness Programme, with UNDP India as the Delivery Partner and Avaana Capital as the Knowledge Partner.
- Participants discussed the Ministry's actions, including the **Green Credits Programme** and the reinvention of ECOMARK labelling under the Lifestyle for Environment (LiFE) initiative.

Way Forward:

The Climate Conference 2024 marked a pivotal moment in India's journey towards a green transition, bringing together key players to foster collaboration and innovation in the fight against climate change.



FRAMEWORK FOR CLIMATE DATA, GREATER ACCESS TO INFO -IMD LAUNCHES NEW **INITIATIVES**

Four new initiatives are aimed at Context: better climate modeling & access to climate information. Everyone is a beneficiary of IMD's efforts

Introduction:

- The India Meteorological Department (IMD) celebrated its 150th anniversary with the launch of innovative initiatives aimed at bolstering climate forecasting and improving accessibility to weather data.
- Historical Overview: Dr Mrityunjay Mohapatra, the IMD's director general, reflected on the inception of the IMD in 1875 during the First War of Independence, emphasizing its role in protecting life and property from natural disasters.
- **IMD Theme Song:** The IMD commemorated its 150 years with a **theme song** written by **poet** Gajendra Solank, capturing the essence of the department's dedication to safeguarding against natural calamities.
- Climate Change Services Focus: A significant portion of the event emphasized the IMD's climate change services, including ozone monitoring and flood meteorological services, aiming to establish databases and enhance resilience against climate-related disasters.

New Initiatives by IMD:

- National Framework for Climate Services (NFCS):
 - > **Objective:** To increase climate forecasting and enhance the accessibility of weather data.
 - **UN Model:** Modeled after the Global Framework for Climate Services (GFCS) adopted by the UN in 2012.
 - > Purpose: Facilitate the exchange of climate information among different government departments and international agencies.
 - Impact: Aims to establish the IMD as a regional leader in climate information through collaboration and soft diplomacy.
- **b** Weather Analysis and Forecast Enabling System (WAFES) Decision Support System:
 - > **Platform:** Integrated system for visualizing weather forecasts and climate models.
 - **Features:** Provides risk warnings for extreme weather events and their socio-economic impact across the country.
 - **Purpose:** Enhance the IMD's capabilities in climate modeling, prediction, and risk assessment.

Panchayat Mausam Seva:

> Collaboration: Developed in collaboration with the Ministry of Panchayat Raj.

$\frac{1}{2}$ WEEK - 3 (JANUARY, 2024) **WEEKLY**

- ➤ **Objective**: Increase accessibility of weather information for farmers through the gram panchayat system.
- ▶ *Impact*: Aims to assist farmers with accurate weather predictions, aligning with the "Har Har Mausam, Har Ghar Mausam" slogan.

Mausam App:

- ➤ *Features:* Offers comprehensive weather forecasts, sunrise and sunset timings, and risk assessments for extreme weather events at the user's location.
- ➤ **Objective:** Increase accessibility to weather information for citizens, making everyone a beneficiary of the IMD's efforts.

Way Forward:

 As the IMD marks its 150th anniversary, these new initiatives demonstrate India's commitment leveraging advanced meteorological technologies for improved climate services and disaster resilience. The integration of technology, collaboration with various sectors, and a focus on accessibility reflect a forward-looking approach in addressing the challenges posed by climate change.



ASSAM'S KAZIRANGA NATIONAL PARK RECORDS 27% INCREASE IN WATERBIRDS

Context: The tiger reserve is now among the top five habitats of resident and winter migratory birds in India.

Background:

- Kaziranga National Park and Tiger Reserve, renowned for safeguarding the greater onehorned rhinoceros, has recently reported a remarkable 27% increase in the number of resident and winter migratory waterbirds.
- The findings, unveiled through the fifth waterbird census, conducted under the citizen scientist initiative, reveal a flourishing avian community within the 1,302 sq. km wildlife preserve.
- A Birdwatcher's Haven: Kaziranga's Waterbird **Census Results**

The census, showcased a substantial rise in the waterbird population, recording a total of 84,839 birds. This marked an 18,063 increase from the previous census conducted in 2021-22.

Kaziranga Among the Top Waterbird Habitats

Park officials announce that the recorded surge in waterbird numbers places Kaziranga among the top five habitats for waterbirds in the country.

Extensive Survey Efforts

► The census was conducted simultaneously across 115 waterbodies in three divisions of the Kaziranga Tiger Reserve - Eastern Assam Wildlife, Nagaon Wildlife, and Biswanath Wildlife.

> Analysis:

- The substantial increase in the waterbird **population** is indicative of Kaziranga's robust conservation efforts and the health of its unique terrestrial and aquatic habitats.
- With over 50% of its landmass under grasslands and numerous water bodies. Kaziranga provides an ideal environment for both resident and migratory birds.
- park's ecological significance, The acknowledged by organizations like the **Bombay Natural History Society and BirdLife International**, reaffirms standing as an Important Bird Area.

Notable Wetlands and Species

- ▶ Wetlands adjoining the tiger reserve, including Kaziranga-Hukuma Beel and Joysagar Doloni, recorded 3,049 and 1,765 birds, respectively.
- ▶ Other significant wetlands, like **Gonak** Beel, Sahala Beel, and Sisubari Beel, also contributed to the overall bird presence.

Rich Avian Biodiversity

- ➤ Kaziranga sustains more than 500 avian species, making it a popular destination for birders.
- ▶ Unique and endangered species reported during the census include Baer's pochard, Baikal teal, greater scaup, gull-billed tern, and black stork.

> Analysis:

- The variety of wetlands and the diverse species recorded in Kaziranga highlight the park's commitment to the conservation and protection of its avian inhabitants.
- The presence of rare and endangered species underlines the importance of Kaziranga in maintaining biodiversity.



Way Forward:

- Kaziranga National Park's success in the waterbird census not only signifies a thriving avian ecosystem but also emphasizes the park's commitment to preserving its unique biodiversity.
- As a UNESCO World Heritage Site and a haven for wildlife enthusiasts, Kaziranga continues to play a pivotal role in wildlife conservation and ecological balance.



DOT' PREVENTIVE STEPS TO CURBS CYBER FRAUDS

Context:

Department of Telecommunication provides Pro-active guidelines to prevent malicious incoming calls and safeguarding cybercrimes and frauds through strengthens the user friendly guidelines.

Types of cyber Frauds:

 They can be originated through Identity Theft, Botnets, Cyber stalking, Phishing, Distributed Denial-of-Service (DDoS) and other means Pegacisous

Recent DoTs guidelines:

- Dialling *401# followed by unknown mobile number is a type of fraud. Never dials such numbers.(it may lead call forwarding access)
- Checks call forwarding history and use only when required

Existing Government Measure to tackle **Cyber Crimes in India?**

- Cybercrime Prevention against Women and Children (CCPWC) Scheme: supports financially to States/ UTs for developing capabilities of Law Enforcement Agencies in investigating cyber-crimes.
- Joint Cyber Coordination Teams: Constituted to enhance coordination among Law Enforcement Agencies of States/UTs, particularly in areas with multi-jurisdictional issues related to cyber-crimes.
- o CyTrain Portal: A Massive Open Online Courses (MOOC) Platform to empower police officers, judicial officers, and prosecutors through online courses on critical aspects of cyber-crime investigation, forensics, and prosecution through capacity building.
- Indian Cyber Crime Coordination Centre (I4C): It coordinates all activities to tackle all types of cyber-crimes across the country.

- National Cyber Forensic Laboratory: It provides earlystage cyber forensic assistance to Investigating Officers of all State/UT Police through both online and offline modes.
- National Cyber Crime Reporting Portal: A reporting Platform for victims to report incidents of cybercrimes, with a special focus on crimes against women and children.
- o Citizen Financial Cyber Fraud Reporting and Management System: It is a dynamic system for immediate reporting of financial frauds and assistance in lodging online cyber complaints through a toll-free helpline.



REASSESSING DISTRIBUTIVE JUSTICE AMIDST SOARING **GLOBAL INEQUALITY**

Context:

As the annual World Economic Forum commenced in Davos, Switzerland, Oxfam's latest report laid bare the escalating global wealth gap.

Key Points:

- Significant disparity between the fortunes of the top five billionaires and the increasing impoverishment of 5 billion people worldwide.
- In the Indian context, while there's a **noteworthy** reduction in multidimensional the persistent income inequality prompts a reevaluation of distributive justice for comprehensive human development.

Global Wealth Disparities:

- Oxfam's report underscores a disconcerting reality: the wealth of the world's five richest individuals, including Bernard Arnault, Jeff Bezos, Warren Buffet, Larry Ellison, and Elon Musk, has more than doubled since 2020, reaching a staggering \$869 billion.
- Simultaneously, the report projects that the world will witness its first trillionaire within the next decade, yet global poverty eradication remains a distant goal-estimated to take 229 more years.

Positive Trends in India:

• In India, the Niti Aayog offers a glimmer of positive news, reporting a reduction in multidimensional poverty to 11.3% in 2022-23, a significant drop from over 29% a decade ago.

- Approximately 24.8 crore people are estimated to have escaped multidimensional poverty in the past nine years.
- However, discrepancies arise due to varied **definitions of poverty**, with Niti Aayog's approach considering a spectrum of 12 indicators, including nutrition, child mortality, education, and access to essential services.

Need for Distributive Justice:

- While progress is evident in addressing basic needs, the paradox emerges as income inequality escalates.
- The Asia-Pacific Development Report 2024 highlights India's remarkable per capita income growth from \$440 to \$2,400 between 2000 and 2022, but it also signals a surge in wealth disparity.
- With the top tenth of the population claiming **57% of the national income** and the bottom half receiving a mere 13%, India stands out as one of the most unequal income distributors.

Call for Comprehensive Human Development:

- The evolving landscape demands a shift from merely satisfying basic needs to ensuring allround human development.
- 'Capitalism with a human face' necessitates reevaluating wealth distribution mechanisms.
- This could involve revisiting 'soft' taxation policies favoring the wealthy and curbing corporate power by dismantling monopolies.

What is Distributive Justice:

- Distributive justice, refers to the fair allocation of resources and opportunities within a society.
- It involves addressing inequalities in income and wealth distribution, ensuring that benefits and burdens are distributed equitably.
- In the face of rising global and national inequality, reexamining distributive justice becomes imperative for fostering inclusive and sustainable human development.



GLOBAL CONCLAVE ON CREATION OF INVESTMENT FORUM ON CLIMATE RESILIENT AGRI-FOOD SYSTEMS

India, in collaboration with the Food Context: and Agriculture Organisation (FAO) and NITI Aayog, is convening a global conclave to address the pressing issue of climate-resilient agri-food systems.

Objective:

- This initiative aims to instigate discussions on transforming cropping patterns for major crops, fostering a paradigm shift in agriculture.
- The intent of the Programme is to see discussions on paradigm shift in cropping patterns of major crops. It's not just about climate resilient agriculture, but climate resilient agri-food systems.
- Developing an investment forum in the agriculture sector. This is much needed as awareness about potential use of technology in agriculture for making it more resilient is well understood but the avenues for investment is much lower when compared to euphoria.

Investment Forum for Climate Resilient Agri-Food Systems:

- The central agenda revolves around creating an investment forum in the agriculture sector.
- Stakeholders include government bodies, private sectors, and farmers' organizations.
- The goal is to devise an investment and partnership strategy to propel climate-resilient agri-food systems.

Challenges of Climate Change:

- The conclave will tackle the question of global preparedness to confront climate change challenges.
- Emphasis on the need for a fundamental paradigm shift in cultivating staple foods like rice, wheat, pulses, sugarcane, and cotton.

Agri-Food System Development Approach:

- The call for adopting an agri-food system development approach that integrates digital infrastructure, mechanization, value chains, and gender mainstreaming.
- Expanding the focus from climate-resilient agriculture to holistic climate-resilient agri-food systems.

Role of the Proposed Investment Forum:

- Facilitate collaboration among UN agencies, civil society, public and private sectors, producer organizations, and development agencies.
- Discussion topics include digital infrastructure, financing strategies, climate-resilient value chains,



production practices, and gender mainstreaming for climate resilience.

Water Management:

- Identifying water availability as a fundamental challenge.
- Proposals for water accounting and the introduction of an evaporation transpiration monitoring system.
- The excessive groundwater usage in India compared to other countries. This is of more concern when India is a water deficient country and most of its regions are in danger zones of water scarcity.
- Introducing evaporation transpiration monitoring system will be beneficial for India. This technology can monitor how much water being used by plants. India can utilise this technology for planning purposes for the country's cropping systems so that there is enough water for agriculture and for people.

Inclusive approach

- The conclave signifies a holistic approach, expanding the discourse from climate-resilient agriculture to climate-resilient agri-food systems.
- The proposed Investment Forum is crucial, fostering collaboration among diverse stakeholders, emphasizing the interconnectedness of digital infrastructure, finance, gender mainstreaming, and sustainable production practices.
- Addressing water scarcity with advanced monitoring systems indicates a forward-looking strategy.

Indian Agriculture Issues:

- Water Scarcity: High groundwater usage and inefficient water management pose significant challenges.
- Traditional Cropping Patterns: Resistance to paradigm shifts in cultivating staple foods inhibits climate resilience.
- Technological Adoption: Limited integration of digital infrastructure and modern agricultural practices.
- Gender **Mainstreaming:** The need for greater inclusion of women in agriculture for comprehensive resilience.

India's approach, as seen in the conclave, reflects a recognition of the multifaceted challenges in agriculture. The emphasis on collaboration and systemic changes can pave the way for a more resilient and sustainable future for Indian agriculture.



FLAGSHIP UPI PAYMENT SYSTEM IS DEVELOPING AS GLOBAL PLATFORM FOR DIRECT FUND TRANSFER

Context:

UPI collaborated with Singapore's Pay Now to facilitate direct fund transfers It is the result of collaboration between the Reserve Bank of India (RBI) and the Monetary Authority of Singapore (MAS).

Unified Payments Interface (UPI)

- Online Instant payment system created by the National Payments Corporation of India in 2016
- It enables seamless inter-bank transactions, both peer-to-peer and person-to-merchant, on mobile devices
- UPI is largest payment gateway the National Payments Corporation of India (NPCI) operated systems including National Automated Clearing House (NACH), Immediate Payment Service (IMPS), Aadhaar enabled Payment System (AePS), Bharat Bill Payment System (BBPS), RuPay etc.
- IT is platform for top UPI apps include PhonePe, Paytm, Google Pay, Amazon Pay and BHIM, the latter being the Government offering.

National Payments Corporation of India

- NPCI, an umbrella organisation for operating retail payments and settlement systems in India, is an organisation under Reserve Bank of India (RBI) and Indian Banks' Association (IBA) regulated under the provisions of the Payment and Settlement Systems Act, 2007.
- It establishes as "Not for Profit" Company under the provisions of **Section 25 of Companies Act** 1956 (now Section 8 of Companies Act 2013), it provides infrastructure to the entire Banking system in India for physical and leading the electronic payment and settlement systems.

Recent Development:

- UPI collaborated with Singapore's Pay Now to facilitate direct fund transfers.
- It brings security assurance, convenience and cost-effective transactions for small and frequent remittances.





WEEK - 3 (JANUARY, 2024) **WEEKLY**

- Two Organisations are instrumental for these collaborations (the Reserve Bank of India (RBI) and the Monetary Authority of Singapore (MAS))
- It expands the scope of India's digital payment ecosystem
- A Mandatory, Active, bank account is must for sending or receiving cross-border payments. For those seeking to transfer money to foreign country , the sender requires the recipient's registered Pay Now mobile number or Virtual Payment Address
- It enhances the scope for third party application **providers** for online transaction system

Third-party application provider (TPAP)

- The UPI ecosystem is designed for banks. Only a banking entity can directly interact with the UPI switch.
- However, non-banking entities is allowed to participate by partnering with a banking entity which is already on UPI platform, and developing their own APIs referred to as third party apps. (Whatsp pay, goggle pay)



SOUTH INDIA TAKES LEAD IN NPS ENROLMENT AMIDST NATIONWIDE CHALLENGES

Context:

Chairman of the Pension Regulatory & Development Authority (PFRDA) highlights the dominance of South India in National Pension System (NPS) enrolments.

Key Information

- During the current fiscal year, South India has emerged as the frontrunner in NPS private sector enrolments, encompassing both NPS Corporate and NPS All Citizen categories.
- The region contributes significantly, with 39% of enrolments in NPS Corporate and 29% in NPS All Citizen.
- Moreover, 36% of women participating in the NPS Corporate subscriber base hail from the **Southern region**, marking the highest percentage nationwide.

Need for Broadening Pension Awareness:

Commendable increase in assets under management (AUM) from ₹10 lakh crore to ₹11 lakh crore between August 2023 and January 10, 2024.

- Still there is a vast untapped potential in the pension market.
- The pension assets to GDP ratio in India is currently 16.5%, compared to over 100% in developed countries.
- Lack of financial literacy and awareness about pension schemes, especially among women, remains a significant challenge.

Countrywide Scenario:

- Western countries adopt a three-tier retirement/ pension scheme involving the government, employers, and individuals.
- o In contrast, India lacks a mandatory pension plan for the majority of its population.
- Financial security requires proactive planning and investment.
- While women in India currently have only a 20 to 21% exposure to the NPS, their longer life expectancy makes pension planning crucial.

PFRDA Initiatives:

- PFRDA is working towards broadening the scope of the National Pension System and the **Atal Pension Yojana**.
- The focus is on reaching smaller communities, women, farmers, and small entrepreneurs.
- Recognizing India's youthful demographic and rising incomes, PFRDA aims to increase awareness through collaborations with intermediaries, financial advisors, and leveraging digital channels for efficient communication and enrollment.



INDIA RANKS 35TH IN GLOBAL FUTURE POSSIBILITIES INDEX

Context:

Possibilities Future Index (FPI). providing insights into India's positioning at 35th globally and the top-performing countries.

The Index: The study, conducted by Newsweek Vantage and Horizon Group during the World Economic Forum Annual Meeting, evaluates countries' readiness to harness future opportunities.

Findings

• The Future Possibilities Index (FPI) reveals Denmark, the US, the Netherlands, Germany, and the UK as the top-ranking countries in assessing readiness for future trends.



- Among large emerging markets, China secures the highest position at 19th, followed by Brazil at 30th, India at 35th, and South Africa at 50th.
- study assesses factors crucial for governments, investors, and private sector stakeholders to capitalize on six global transformative trends.
- These trends, shaping growth and well-being across 70 countries, include the Exabyte Economy, Wellbeing Economy, Net Zero Economy, Circular Economy, BioGrowth Economy, and **Experience Economy.**
- Emphasizing the **Exabyte Economy's** role in advanced digital technologies, Wellbeing Economy's focus on health prevention and wellness, Net Zero Economy's commitment to reducing carbon emissions, Circular Economy's emphasis on recycling and reuse, BioGrowth Economy's innovations in food and agriculture, **Experience Economy's** shift towards consuming experiences over physical goods.
- Highlighting the substantial business opportunities, the study estimates a combined value of over USD 44 trillion by 2030, constituting more than 40% of global GDP in 2023.
- These opportunities may disproportionately benefit the Global North, emphasizing the need for a strong industry base for widespread economic growth and societal well-being.

Data Sources and Methodology

- Utilizing data from recognized international organizations and a survey of 5,000 business executives conducted by Phronesis Partners.
- This comprehensive approach ensures a thorough assessment of countries' readiness to leverage future possibilities.
- The report acknowledges that **international** development efforts must focus on assisting developing countries in maximizing these opportunities.
- Strengthening related industries becomes crucial to ensure equitable benefits and prevent global disparities in economic growth and societal wellbeing.



REVOLUTIONIZING INDIAN AGRICULTURE: A PARADIGM SHIFT WITH AI INTEGRATION

Context: The Ministry of Agriculture & Farmers Welfare, Government of India, is transformative spearheading a

initiative by embracing cuttingedge Artificial Intelligence (AI) technologies.

Key information:

- This strategic move is geared towards enhancing the well-being of farmers and elevating overall agricultural productivity in the country.
- The integration of AI is **not just a technological** advancement; it signifies a groundbreaking address the multifaceted approach to challenges faced by Indian farmers.
- In this progressive endeavor, the Ministry is at the forefront of championing the India Digital Ecosystem Architecture (InDEA) 2.0's network approach, meticulously designed by the Ministry of Electronics & IT, Government of India.
- This architectural framework lays the **foundation** for the seamless integration of AI technologies into the agricultural landscape, marking a paradigm shift in the sector.
- Leveraging AI in agriculture becomes evident with the introduction of the 'Kisan e-Mitra,' an Alpowered chatbot.
- This innovative solution has been specifically designed to address farmers' queries related to the PM Kisan Samman Nidhi scheme.
- Available in multiple languages, including Hindi, Tamil, Odia, Bangla, and English, the chatbot has become a vital resource for farmers, with over 21 lakh accessing it within just two months of its launch.

National Pest Surveillance System:

- Beyond addressing farmer queries, the Ministry is actively collaborating with the private sector to develop a National Pest Surveillance System.
- This initiative harnesses the power of AI and Machine Learning (ML) models to detect crop issues promptly.
- By providing timely information to farmers, the system empowers them to take swift action, potentially leading to healthier crops, increased yields, and improved livelihoods.

Tripartite Collaboration:

 A significant milestone in this transformative journey was achieved on 17th January 2024, with the signing of a Tripartite Memorandum of Understanding (MoU).



WEEKLY

 The agreement involved key stakeholders, including the National Farmers' Welfare Programme Implementation Society, IndiaAl under Digital India Corporation, and Wadhwani Foundation.

Understanding (MoU) Memorandum of **Highlights:**

- As per the MoU, Wadhwani Foundation has committed to providing crucial support in formulating and executing an AI strategy.
- This strategic partnership aims to position India as a global leader in Al-driven digital agriculture transformation, aligning with the National Plan for AI outlined by the Ministry of Electronics &
- The creation of an Al cell within the Ministry signifies the institutionalization of AI in agriculture, marking a historic moment in India's agricultural landscape.



STATE-OF-ART AI SUPPORTED TELEMEDICINE MOBILE CLINIC LAUNCHED FOR REMOTE HILLY AREAS IN UDHAMPUR

Bridging Healthcare Gaps in Remote Regions

Union Minister of State, unveiled a cutting-edge Telemedicine Mobile Clinic named "Aarogya-Doctors on Wheels," empowered by Artificial Intelligence (AI). This initiative aims to address healthcare disparities in the remote hilly areas of Jammu and Kashmir.

n Inauguration and Significance

- Launch of "Aarogya-Doctors on Wheels"
 - Dr Jitendra Singh inaugurated the state-ofthe-art Al-supported Telemedicine Mobile Clinic for remote hilly areas.
 - Focus on enhancing healthcare accessibility in regions lacking adequate facilities.

> Importance of AI in Telemedicine

• The upgraded Tele Clinic employs AI to provide healthcare services where facilities are limited or inadequately available.

Functionality of "Aarogya"

- > Multilingual Al Interface
 - Patients can articulate their illnesses in their native language.

• Al comprehends and responds in the patient's language, ensuring effective communication.

Connection to Super Specialists

- After the initial Al interaction, patients are connected to leading super specialists across the country.
- Tie-ups with renowned hospitals facilitate comprehensive body profiles and investigations.

> Quick Prescription Delivery

- Within 40 to 50 minutes, patients receive prescriptions and necessary guidance.
- Free-of-cost treatment is provided, aligning with the government's commitment to accessible healthcare.

• Phased Implementation and Geographic Coverage

Rollout Phases

- Gandoh Area, District Doda: The initial phase covered the far-flung Gandoh area, extending healthcare services for three months.
- **Zero Line Villages, International Border:** The second phase targeted villages along the Zero Line, ensuring healthcare outreach to border regions.
- Upper Reaches of Bilawar: Phase three focused on the upper reaches of Bilawar, addressing healthcare needs in challenging terrains.
- **Upcoming Phase Dudu Basantgarh:** The fourth phase, slated for the next few months, will extend services to Dudu Basantgarh in the upper reaches of Ramnagar block, Udhampur.

Way Forward:

Revolutionizing Healthcare Delivery

- ➤ The launch of "Aarogya-Doctors on Wheels" represents a significant step in leveraging technology to bridge healthcare gaps in remote regions.
- ➤ The integration of AI in telemedicine enhances the efficiency and accessibility of healthcare services, aligning with the government's commitment to providing quality healthcare to every citizen, regardless of geographical challenges.









THE EVOLUTION AND ADVANTAGES OF LIGHT-**EMITTING DIODES (LEDS)**

Context: The emergence of light-emitting diodes (LEDs) as the lighting choice of the 21st century, recognized by the Nobel Prize in Physics in 2014, marks a significant shift from traditional incandescent bulbs and fluorescent lamps

Diodes: Foundations of LED Technology

What are diodes?

- ➤ A diode, a fundamental electronic component, allows the flow of current in only one direction through a p-n junction.
- ➤ This junction comprises a **p-type material** with positive charge-carriers (holes) and an n-type material with negative chargecarriers (electrons).

How does a diode work?

- An electric field applied across the diode encourages electrons to flow from the n-side to the p-side, creating an electric current.
- This one-way flow is crucial in electronic circuits.

LEDs: Harnessing Light Emission

What is an LED?

- ➤ An LED is a diode that emits light through electroluminescence.
- ▶ In the p-n junction, electrons, having more energy than holes, emit light when occupying a hole.
- ➤ The band gap, the energy difference between electron energy levels, determines the emitted light's frequency.

What is the band gap?

- The band gap, crucial in LED functioning, represents the energy required for electrons to jump from lower to higher energy levels.
- In LEDs, the energy released during electron-hole recombination corresponds to the band gap, determining the emitted light's color.

What colors can an LED produce?

- By carefully selecting materials for the p-layer and the n-layer, researchers engineer LEDs to emit visible light.
- LEDs can produce red, green, and blue, allowing the creation of a spectrum of colors on display boards and various applications.

Need for LEDs:

Efficiency and Advantages

> Why are LEDs prized?

- Even before Haitz's law, LEDs were valued for surpassing incandescent bulbs and fluorescent lamps in efficiency.
- Haitz's law predicts a 10x drop in cost and a 20x increase in light output every
- LEDs provide up to 300 lumens per watt, compared to incandescent bulbs' 16 **lumens** and fluorescent lamps' 70 lumens per watt.

Applications and Benefits

- LEDs, with their durability and energy efficiency, find applications in diverse fields - from consumer electronics to industrial settings.
- Their advantages include higher cost savings, less material waste, enhanced performance in various devices, including smartphones, TV screens, and even air quality monitoring.



IMPLEMENTATION STRATEGY AND TIMELINES OF NATIONAL **QUANTUM MISSION (NQM)**

Context:

The 1st meeting of Mission Governing Board (MGB) on the strategy and timelines for implementation of the mission held.

Implementation Strategy

- The Mission Coordination Cell (MCC) will be set up as a coordinating agency for the Mission and will work in coordination with the Mission Secretariat, Dept. of S&T (DST).
- The MCC will be set up in an institution identified by DST, based on merit and existing infrastructure

WEEK - 3 (JANUARY, 2024) **WEEKLY**

and will function under the overall supervision and guidance of Mission Technology Research Council (MTRC).

Developing own system: focus should be on developing own system rather than importing systems not developed here. Industry has to play a key role in technology sharing as well as in fund sharing.

Quantum Technologies

- Quantum Technology is based on the principles of Quantum mechanics developed in the early 20th century to describe nature at the scale of atoms and elementary particles.
- Quantum technology uses the building blocks of nature (subatomic particles)
- Using quantum superposition, a set of unbreakable codes or super-speedy information processing, quantum computers are able to mimic several classical computers working in parallel.
- Quantum technology is manifested through applications in secure communication, disaster management through better prediction, computing, simulation, chemistry, healthcare, cryptography, imaging among others.

National Quantum Mission (NQM)

- National Quantum Mission (NQM) was launched in the year 2023 and it is being implemented by DST with a total outlay of Rs.6003.65 Crore for a period of eight years.
- The Mission aims to seed, nurture and scale up scientific and industrial R&D and create a vibrant & innovative ecosystem in Quantum Technology
- This will accelerate QT led economic growth, nurture the ecosystem in the country and make India one of the leading nations in the development of Quantum Technologies & Applications (QTA).
- The Mission aims to advance technology in magnetometers and atomic clocks for precise applications in timing, communications, and navigation. Additionally, it supports the development of quantum materials like superconductors and unique semiconductor structures, crucial for creating quantum devices.
- While holding considerable civilian applications, particularly in governance and industry, the mission recognizes the strategic importance of quantum technology in military communications, potentially altering the dynamics of conflicts.
- This initiative is integral to India's aspirations to compete with China in the quantum

- communication domain, an area where China has made significant strides.
- Quantum communication is emphasized for its potential to revolutionize military communication, enabling a nation with such capabilities to potentially disrupt an adversary's data and communication networks.
- Furthermore, having quantum communication can bolster the cybersecurity of critical infrastructure, including electricity, aviation, defence, and energy, protecting them from potential attacks by hostile nations.



MAIDEN INDIAN NAVY -ROYAL THAI NAVY BILATERAL **EXERCISE AND 36TH EDITION** OF INDO-THAI COORDINATED **PATROL**

Context: The Indian Navy (IN) and Royal Thai Navy (RTN) conducted their maiden Bilateral Maritime Exercise from December 20 to 23, 2023.

Objectives of Exercise:

- This exercise marked a significant step in strengthening operational synergy increasing exercise complexity between the two navies.
- Simultaneously, the 36th edition of the India-Thailand Coordinated Patrol (Indo-Thai **CORPAT)** was carried out, highlighting the commitment to regional maritime security.

Background:

- The Indian Navy's proactive engagement with countries in the Indian Ocean Region aligns with the Government of India's vision of SAGAR (Security And Growth for All in the Region).
- The bilateral relations between the Indian Navy and the Royal Thai Navy have evolved positively over the years, emphasizing the importance of regional maritime security and cooperation.

Bilateral Maritime Exercise Details:

The inaugural Bilateral Maritime Exercise featured the participation of indigenously built Indian Naval ships Kulish and IN LCU 56, alongside His Thai Majesty's Ship (HTMS) Prachuap Khiri Khan from the Royal Thai Navy.





CURRENT AFFAIRS **WEEKLY**

- The exercise included surface and antiair exercises, incorporating weapon firing, seamanship evolutions, and tactical maneuvers.
- The Sea Phase of the exercise saw Maritime Patrol Aircraft from both navies in action, enhancing the overall maritime capabilities of the participating units.

Indo-Thai CORPAT:

- The 36th edition of the Indo-Thai Coordinated Patrol, conducted concurrently with the bilateral exercise, further underscored the commitment to joint maritime efforts.
- Such coordinated patrols contribute to

fostering cooperation, information sharing, and mutual understanding between the Indian Navy and the Royal Thai Navy.

Symbolism of 'Ex-Ayutthaya':

- o The Bilateral Exercise has been named 'Ex-Ayutthaya,' signifying 'The Invincible One' or 'Undefeatable.'
- This nomenclature carries historical and cultural significance, representing the oldest cities, Ayodhya in India and Ayutthaya in Thailand.
- It reflects the rich cultural ties and shared historical narratives between the two nations. spanning several centuries.

 $\odot \odot \odot \odot$





At **GS SCORE**, we embody quality education through latest pedagogy, personalized attention for an empowered learning experience.

> **EXCELLENCE & EMPOWERMENT** are our guiding principles.

COURSES for IAS 2025-26





MAINS CLASSES



- POL. SCIENCE
- HISTORY
- ANTHROPOLOGY = GEOGRAPHY
- SOCIOLOGY
- PUB. AD.

LAW



TEST SERIES

- PRELIMS **TEST SERIES**
- MAINS **TEST SERIES**
- INTEGRATED TEST SERIES
- OPTIONAL **TEST SERIES**



I am highly obliged towards GS SCORE for its best evaluation and assessment mechanism which helped me to crack UPSC in first attempt.

YASHARTH SHEKHAR (AIR 12, 2021)



I am very thankful to GS Score for realizing my dreams into reality. The well-crafted all India Test Series helped me a lot and augmented my score

APALA MISHRA (AIR-9, 2020)

THE MOST EXPERIENCED & SEASONED **SUBJECT EXPERTS**



- **IASSCORE**official
- gsscoreofficial



gsscoreofficial



gsscoreofficial



iasscore



gsscoreofficial/



Section D [QUIK BYTES]

NEWS IN SHORT

- Yuva NIdhi Scheme Of Karnataka
- S Longest sea bridge Atal Setu Started for commuters
- og Nashik's Kalaram temple
- **GS ANUBHAV Awards Scheme**
- **Warm Vaccine**

LOCATION IN NEWS

- Government Reconstitutes EPFO Board with Altered Representation
- India Signs Agreement for Lithium Exploration & Mining Project in Argentina
- Silver Harvest Festival
- Prime Minister's Awards for Excellence in Public Administration

SPECIES IN NEWS

- **G** Punganur Cows
- Cigaritis conjuncta
- rom Black tigers to the Tibetan brown bear: Recent sightings of rare animals around the world

NEWS IN SHORT

Yuva NIdhi Scheme Of Karnataka



Yuva Nidhi scheme of Karnataka

It provides financial support to educated unemployed youth in the state. It offers economic security to the youth and reduces their dependency on others for their financial needs.

Provisions:

- Monthly financial Assistance through DBT till they got employment or till 2 year (only graduates and diploma holders are Eligible)
- Rs. 3,000/month for unemployed graduates.
- Rs.1,500/month for diploma pass-outs.
- Beneficiary of similar schemes will not be eligible

Longest sea bridge Atal Setu Started for commuters



History created, India's longest sea bridgeAtal Setu opens, earlier known as 'Atal Bihari Vajpayee Sewari-Nhava Sheva Atal Setu, in Mumbai.

Key Facts to know:

- Length: 22 km, also known as Mumbai Trans Harbour Link (MTHL)
- Saves around 1hour of daily time.
- Provides **Energy security (fuel saving)** and helps to reduces carbon emission.
- Enabled with Lightening Protection system in event of Lightning and thunderstorm
- Noise and view Barrier provided around sensitive areas passing through **BARC and flamingo** area
- Helps in Indian economy to achieve the 5 trillion target through better infrastructure

Nashik's Kalaram Temple



Modi visited kalaram temple having historical connect with and Ambedkar

About Kalaram Mandir:

Kalaram Mandir is situated on Godavari river in Panchavati area Nasik, Maharashtra

- Ambedkar and Pandurang Sadashiv Sane led the Dalit satyagragh to temple entry rights here
- Panchavati comes from the existence of five banyan trees here.
- It has 84 pillars, represent 84 lacs species
- Black Ram idol is unique feature





ANUBHAV Awards Scheme

ANUBHAV Awards Scheme recognizes the contribution made by Retired Officials to Nation building while working in Government and to document the administrative history of India by written narratives.

Key Highlights -

- It is for the retiring/retired Central Government employees while working with the Government.
- It is envisaged that this culture of leaving notes by retirees will become the foundation stone of good governance and administrative reforms in future.
- The retiring (8 months prior) and retired up to 1 year post retirement can post their experiences on Abubhav Portal.
- The write-ups will be published after assessment by concerned Ministries/Departments. The published write-ups will be shortlisted for Anubhav Awards and Jury Certificates.

Warm Vaccine

IISc Bengaluru comes up with warm vaccine against current strains of SARS-CoV-2.

About the warm vaccine -

 It is a vaccine that can maintain its chemical structure even in room temperature. This will help to manage the logistical challenge.

Vaccine Candidate by IISc Bengaluru –

 It is effective against all current strains of SARS-CoV-2 and can be quickly adapted for future variants as well.

LOCATION INNEWS

Government Reconstitutes EPFO Board with Altered Representation

The government has recently done a substantial restructuring of the Central Board of Trustees (CBT) of the Employees' Provident Fund Organisation (EPFO), with notable alterations in the representation of trade unions.

- Term of Board: Five years
- The last reconstitution: November 2018,
- The revised board includes members from prominent trade unions such as the Bharatiya Mazdoor Sangh (BMS), Hind Mazdoor Sabha, Centre of Indian Trade Unions (CITU), and others.
- Notable absence: All India Trade Union Congress (AITUC), All India United Trade Union Centre (AIUTUC), and Indian National Trade Union Congress (INTUC).

Concern: About the composition of the board and the exclusion of specific trade unions.

About EPFO:

- The Employees' Provident Fund Organisation (EPFO) is a tripartite, statutory body formed by the central government under the Employees' **Provident Funds and Miscellaneous Provisions** Act. 1952.
- o Comprising representatives from employees, employers, and the government, the EPFO Board's tenure is five years.
- The Union Minister of Labour and Employment serves as the Chairman, leading a board that includes a Vice Chairman, Central Provident government Commissioner, central representatives, state government representatives, employers' representatives, and employees' representatives.

Role of the Board: Administering funds, delegating administrative and financial powers, appointing officers and staff, maintaining accounts, and determining the annual interest rate for over 29 crore EPFO subscribers, approximately 6 crore of whom are active contributors.

India Signs Agreement for Lithium Exploration & Mining Project in Argentina

India and Argentine signed agreement for Lithium Exploration and Mining in Argentina. The agreement was signed with Khanij Bidesh India Limited to start Exploration & Development of Five Lithium Blocks.

Key information

- Agreement gives further fillip to India's Efforts for Sourcing Lithium
- Agreement between Khanij Bidesh India Limited (KABIL) and the state-owned enterprise of Catamarca province of Argentina CATAMARCA MINERA Y ENERGÉTICA SOCIEDAD DEL ESTADO (CAMYEN SE) at Catamarca, Argentina.
- It is a step which will not only play a crucial role in driving the **energy transition** for sustainable future, but also ensure a resilient and diversified supply chain for critical and strategic minerals essential for various industries in India.
- This is the first ever lithium exploration and mining project by a Government Company of India.
- Argentina is the part of "Lithium Triangle" along with Chile and Bolivia with more than half of world's total lithium resources and having the distinction of having 2nd largest lithium resources, 3rd largest lithium reserves and 4th largest production in world.



Silver Harvest Festival

Aditya Vikram Birla Memorial Vyapar Sahayog Kendra (AVBM) Marks 25 Years with Cultural **Extravaganza During Pongal Festivities**

About:

- Pongal is observed by the Tamil community across the world in mid-January every year.
- It is one of the biggest harvest festivals in India along with Makar Sankranti.
- It is basically a harvesting festival or it can be considered as the 'thanksgiving' festival' because this festival is celebrated to thank the Sun God and Lord Indra for helping farmers in getting better-yielding crops.
- During the festival, people reject old belongings and welcome new stuff.

Prime Minister's Awards for Excellence in Public Administration

Government has launched the Scheme for Prime Minister's Awards for Excellence in Public Administration 2023 designed to acknowledge, recognize, and reward exemplary work done by civil servants across the country.

About:

- For the year 2023, the Scheme for Prime Minister's Awards for Excellence in Public Administration has been revised to recognize the contribution of civil servants in the holistic development of Districts under the following schemes:
 - ➤ Category 1: Holistic Development of Districts under 12 Priority Sector Programs, in this category 10 awards would be conferred.
 - ➤ Category 2: Innovations for Central Ministries/ Departments, States, Districts, under this category 6 awards would be conferred.
- The Prime Minister's Awards for Excellence in Public Administration 2023 shall consist of a trophy, a scroll and an incentive of Rs. 20 lac to the awarded District/ Organization to be utilized for implementation of project/ program or bridging the resource gap in any area of public welfare.
- The PM's Awards are conferred by the Prime Minister of India on Civil Services Day.

SPECIES IN NEWS

Punganur Cows



Punganur Cows:

- Punganur cows are a distinctive breed originating from the Punganur municipality in Andhra Pradesh's Chittoor district.
- Renowned for their dwarf stature, these bovines stand at a remarkable 70-90 cm tall, with an average weight ranging from 115 to 200 kg.
- Marked by a broad forehead and short horns, these cows are well-suited for small-scale dairy farming and organic agriculture.

Rich Milk and Medicinal Properties:

- Beyond their unique appearance, Punganur cows are valued for their high-quality milk, known to be rich in fat content and possess medicinal properties.
- According to reports, these cows yield approximately 3 to 5 liters of milk daily, making them ideal for small-scale and sustainable dairy farming practices.

Cigaritis conjuncta



New butterfly species endemic to Western Ghats discovered in Karnataka.

Key Characteristics of Cigaritis conjuncta:

Discovery and Research:

- Initial Sighting: First spotted in 2008 at Iruppu Falls in Brahmagiri Wildlife Sanctuary, Karnataka, by Krushnamegh Kunte.
- Field Research: Nine specimens found in Honey valley, Kodagu district of Karnataka.

Habitat and Distribution:

- **Habitat:** Primarily found in dense mid-elevation evergreen forests.
- **Endemism:** Only the second endemic species discovered in the Western Ghats.
- o Preference: Indicates specialized habitat preferences within the Western Ghats biodiversity hotspots.

Comparison with Other Silverline Butterflies:

Distinct Wing Patterns: Although appearing similar from a distance, the conjoined silverline butterfly reveals distinct wing patterns upon closer examination.

Naming: Named "conjoined silverline" due to the unique characteristic of fused bands on the underside of the wings.

Significance and Conservation:

- Second Endemic Species: Signifies the ecological richness of the Western Ghats.
- Conservation Concerns: Emphasizes the need for habitat preservation, especially in mid-elevation evergreen forest.

From Black tigers to the Tibetan brown bear: Recent sightings of rare animals around the world

Tibetan Brown Bear: A Himalayan Enigma

Characteristics:

- Subspecies of brown bear.
- > Inhabits high altitudes of the Himalayas and Tibetan Plateau.

Distribution:

- ➤ Endangered, as per IUCN.
- > Faces threats from habitat loss, poaching, and human-wildlife conflict.

Recent Sighting:

- ➤ January 2024 in Sikkim, India.
- Captured on a camera trap in Khangchendzonga Biosphere Reserve.

b Significance:

wildlife ➤ Remarkable achievement for conservation in the region.

Black Tiger: The Melanistic Marvel

Characteristics:

- ➤ Rare color variant of Bengal tiger.
- ▶ Dark coat with faint stripes due to a genetic mutation.

Distribution:

- ▶ Not a separate species but a rare morph of Bengal tiger.
- ➤ Approximately one in 10,000 tigers exhibit this condition.

Recent Sighting:

- ▶ In Simlipal National Park, Odisha, India.
- Home to the world's largest population of black tigers.

WWW.WWW.SHORT NEWS

Significance:

➤ Photos posted by IFS Officer Parveen Aswan garnered attention on social media.

White Sea Turtle: Leucism's Elegance

Characteristics:

- Rare hatchling with leucism (partial loss of pigmentation).
- ➤ Not a separate species but a variation of the green sea turtle.

Distribution:

- Spotted on Kiawah Island, South Carolina, USA, in October 2020.
- ➤ One of 120 hatchlings from a nest that night.

Significance:

➤ Unique occurrence during sea turtle nest monitoring.

Walter's Duiker: Elusive African Antelope

c Characteristics:

- ➤ Petite African antelope, part of the dwarf antelopes group.
- Described in 2010, one of the least known mammals.

Distribution:

- ➤ No confirmed sightings until 2021.
- ➤ Camera traps captured first-ever images in Fazao-Malfakassa National Park, Togo.

b Significance:

➤ Marks a breakthrough in understanding the species and its habitat.

Wood Warbler: A Songbird's Surprise Visit

Characteristics:

- Small, colorful songbird.
- ➤ Breeds in temperate forests of Europe and Asia.

Distribution:

- ▶ Migratory bird wintering in sub-Saharan Africa.
- ➤ Uncommon in India, with limited records.

Recent Sighting:

- ➤ Oct 15, 2022, in Long Beach, New York.
- First recorded sighting in the area.

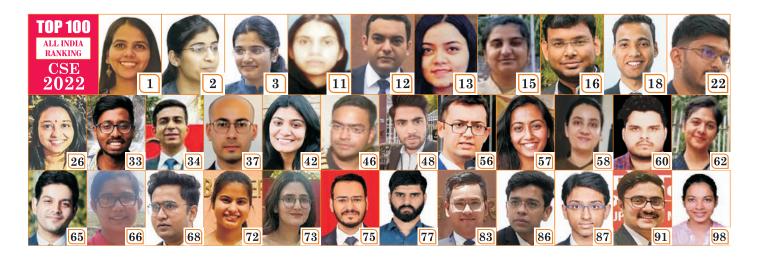
b Significance:

Exceptional event for local birdwatching community.









SUCCESS IS A PRACTICE WE DO!

