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*T*he 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   (JANUARY, 2024)

Section - C: SHORT NEWS	

SECTION A

MAINS ARTICLES

- Discovery of Paleolithic quartzite tools
- Dense Fog in North India
- Lack of Snowfall in Kashmir and Ladakh
- Child Marriages
- Role of women in waste management
- WTO MC13 in Abu Dhabi
- India's lithium-deal with Argentina
- Global Nuclear Order
- India-Myanmar Border Policies
- Grievance Redressal Committees (GRCs) under Street Vendors Act
- India's New Hit-and-Run Law
- BilkisBano Case
- Aligarh Muslim University (AMU's) Minority Character
- Kuki-Zo Tribe's Scheduled Tribe Status
- SC finds multiple loopholes in measures taken for Disability Sector
- Hatti Community in Himachal Pradesh
- Mandatory Aadhar-Linked Payments for MGNREGS Workers
- Broadcasting Regulations for OTT and Digital Media
- Revised Rules for Pharma Sector
- ITIs: Workforce for India's Industrial Growth
- India in the shipping value chain
- Income inequality on decline
- India's textile sector and global ESG norms
- India's Multidimensional poverty rate
- Sisal leaves and sustainable sanitary napkins
- Majority of cities far from clean air target
- Southeast Asia's affordability to retire its coal plants
- Replenish groundwater for our growing cities
- Climate change: The hottest year
- Radiocarbon dating
- Parliament breach accused underwent psychoanalysis
- ISRO to launch XPoSat and 10 other payloads
- The blood management system needs a fresh infusion
- Another eye in sky, on ground: India is now part of world's largest radio telescope project
- National Quantum Mission (NQM)
- MulyaPravah 2.0

1. DISCOVERY OF PALEOLITHIC QUARTZITE TOOLS

Context: The recent floods in the Mulugu district of Telangana has led to a fresh discovery of paleolithic quartzite tools.

What were the findings?

◈ The tools or hand axes were found in the sand bed of a stream that dried up after the flood. The stone axe measuring 15.5cm in length, 11cm in width and 5.5cm in thickness.

◈ The hand axes were found in the stream between Gurrevula and Bhupatipuram villages in Mulugu district. The tools got exposed as the stream has dried up.

◈ The new discovery pushes back the understanding about human habitations in Telangana and central India.

Dating of the tools and Palaeolithic Period

◈ The stone axe belongs to the Lower Paleolithic period and is about 30 lakh years ago. Paleolithic Age is also known as or Old Stone Age or Early Stone Age. It dates back to about 33 lakh years BC. It lasted for 10,000 years.

◈ Palaeolithic hunter gatherers used heavy quartzite and large tools. Similar hand axes as these have been discovered worldwide. The tools were used for cutting wood and killing animals for food.

◈ In 1863, the East India Company's Geological Survey team found a paleolithic site at Attirampakkam near Madras (present-day Chennai) with bifacial hand-axes made of stone by early humans.

◈ The tools were about 15 lakh years old. Paleolithic culture has been labelled as Madras Hand-Axe Industry or Madrasian Culture.

Sites in India

Bori in Maharashtra is considered the oldest one- dating 20 lakh years.

◈ **Bhimbetka Caves:** Located in Madhya Pradesh, Bhimbetka is home to some of the earliest rock paintings, providing valuable insights into the life of Paleolithic humans.

◈ **Homo Erectus:** Fossil evidence suggests the presence of Homo erectus in the Indian subcontinent. The Narmada Valley and the Soan Valley are significant sites associated with these early humans.

◈ **Tool Varieties:** The tools used by Paleolithic humans were largely made of stone, but the sophistication increased over time. Handaxes, cleavers, scrapers, and blades were essential for their survival.

◈ **Hunting and Gathering:** Paleolithic communities were predominantly engaged in hunting animals and gathering plant resources for sustenance.

The Paleolithic period laid the foundation for human evolution and adaptation, setting the stage for the subsequent cultural and technological developments in the Indian subcontinent.

2. DENSE FOG IN NORTH INDIA

Context: According to Indian Metrological department, minimum temperatures in Punjab, Haryana, and the northern reaches of Rajasthan and Uttar Pradesh hovered around 6-9 degrees C

◈ **Dense fog:** It is generally a thick white cloud that forms close to the land or sea. Temperatures should be lower and abundant moisture should be available near the surface."

◈ **Mechanism:** The land surface cooling down at nigh which also led the air close to the surface also cools down. As cooler air cannot hold as much moisture as warm air(supersaturation), the water vapour in the air condenses and form fog.
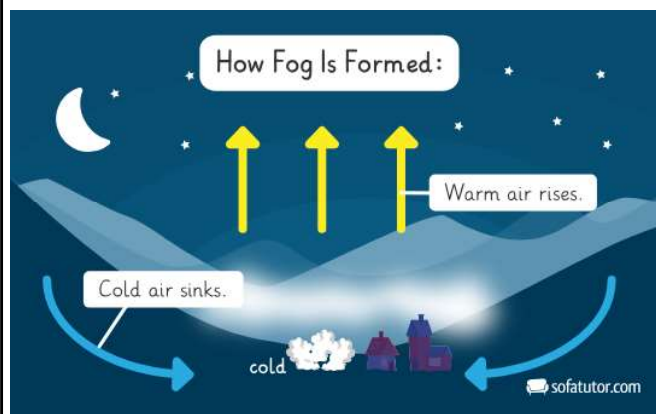
Condition for fog formations:

◈ Low temperature

◈ Abundant moisture near the surface

◈ High humidity(some instance where at lower humidity it may result in fog)

North India a rich ground of Fog Formation in winter, Why?

Main area include the Indo-Gangetic plains due to

● low temperatures

● low wind speed

● moisture availability(Due to western Disturbances which brings Precipitation North India in winter)

● Indian ocean region(Arabian sea brings the moisture)

3. LACK OF SNOWFALL IN KASHMIR AND LADAKH

Context: The winter season in the Kashmir and Ladakh region, known for its picturesque snow-covered landscapes, is experiencing an 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:

1. Western Disturbances:

◈ Winter precipitation in the Himalayan region is primarily influenced by **Western Disturbances – eastward-moving rain-bearing wind systems** originating beyond Afghanistan and Iran.

◈ However, the frequency of these disturbances has shown a **declining trend in recent years**.

2. Climate Change:

◈ The overarching factor contributing to the decreasing trend of snowfall is **climate change**.

◈ Recent studies have shown a **43% decline in the mean frequency of strong and extreme Western Disturbances**.

3. El Nino Impact:

◈ **The persistence of El Nino in the Pacific Ocean** has further complicated the situation.

Implications:

1. 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.

2. 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.

3. 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.

4. CHILD MARRIAGES

Context: In the states like Maharashtra and West Bengal the child marriage again saw an uptick in past 5 years.

Case of Maharashtra

◈ Data from the Ministry of Women and Child Development show that across Maharashtra, there were 13 reported instances of child marriage in 2018; 20 in 2019; 50 in 2020 and 82 in 2021.

◈ However, statistics compiled by an NGO, the Committee of Resource Organisation, show that 10 instances of child marriage took place in 2018; 30 in 2019; 45 in 2020 and 71 in 2022, in the districts of Beed and Latur alone.

◈ However according to the social workers, the unreported cases far outweigh reported ones.

All India analysis of issues related with Child Marriage

◈ Child marriage persists in India due to a confluence of factors, deeply rooted in societal norms and economic challenges.

Causes:

◈ **Poverty and Social Norms:** Economic hardship, coupled with ingrained social norms, perpetuates child marriage, especially in regions like West Bengal.

◈ **Migration and Security Concerns:** Families, in fear for their daughters' safety, resort to early marriages before migrating for work, particularly noted in West Bengal.

◈ **Policy Implementation Gaps:** Despite prevalent child marriages, there is a substantial gap in enforcing laws like the Prohibition of Child Marriage Act, as seen with only 105 cases registered in West Bengal in 2021.

Impact on Health:

Health Risks:

◈ Child marriage contributes to higher infant mortality rates, as illustrated by the distressing incident at Murshidabad Medical College.

◈ Infants born to child brides often face extremely low birth weight, a pervasive health issue.

◈ Young mothers experience heightened risks during pregnancy and childbirth, imposing a burden on both maternal and infant health.

◈ Persistently high rates of child marriage, such as 41.6% in West Bengal, indicate a broad health crisis affecting multiple generations.

◈ **Education Disruption:** Early marriages curtail a girl's education, limiting her future prospects and economic independence.

Initiatives Undertaken:

◈ **KanyashreePrakalpa:** West Bengal's cash transfer scheme incentivizes girls' education, discouraging child marriage and benefiting around 81 lakh girls.

◈ **RupashreePrakalpa:** A cash incentive scheme for girls' marriages, aimed at delaying the age of marriage.

◈ **Legal Age Amendment:** The introduction of the Prohibition of Child Marriage (Amendment) Bill, 2021, seeks to raise the legal marriage age for women to 21.

◈ **District Action Plans:** In 2022, West Bengal initiated district-specific plans to combat child marriage, emphasizing localized solutions.

5. 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 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-middle-income 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 cent).

◈ 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.

Diverse engagement and multi-dimensional impact

◈ **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.

6. WTO MC13 IN ABU DHABI

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.

  ➤ 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.

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'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.

◈ **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.

7. INDIA'S LITHIUM-DEAL WITH ARGENTINA

Context: The mineral is a cornerstone in India's switch to green energy thereby reducing its carbon footprints

The Significance of Latin America in Lithium Supply Chain

◈ **Latin American nations**, particularly Chile and Argentina, play a pivotal role in the global lithium supply chain.

◈ Collectively, they **contribute 30–35% of the world's lithium supplies**.

◈ **Chile,** with **11% of global lithium reserves**, **alone supplies 26% of the global requirements**.

◈ **Argentina,** with nearly **one-fifth of the global resources**, **contributes about 6%.**

India's Push for Critical Minerals

◈ **Critical minerals:** India's increased focus on **critical minerals**, including lithium, is driven by its commitment to **green energy and reducing carbon footprints**.

◈ **White gold:** Known as **'white gold**,' lithium is a cornerstone in India's transition to green energy, with applications ranging from EVs to lithium-ion battery production.

Domestic Auctions and Import Scenario

◈ **Lithium regions in India:** India has recently put up lithium blocks for auction, including one in **Jammu and Kashmir** and another in **Chhattisgarh.**

◈ **Imports:** Despite domestic efforts, a significant portion of India's lithium requirements, spanning EVs, battery manufacturing, and energy storage solutions, is met through imports, constituting an **import bill of around ₹24,000 crore.**

KABIL's Focus and Global Engagements

◈ **KABIL,** a joint venture involving companies like **NALCO, HCL, and MECL**, is strategically positioned to **secure lithium and cobalt for the domestic market**.

◈ As of September 2023, the focus includes engaging with proje**cts in Australia, Argentina, and Chile**.

8. GLOBAL NUCLEAR ORDER

Context: The **global nuclear order (GNO)**, established during the Cold War, is facing unprecedented challenges in the current geopolitical landscape.

Background:

◈ The GNO emerged in the aftermath of the **Cuban Missile Crisis in 1962,** with the U.S. and the U.S.S.R. taking the lead in creating mechanisms to prevent nuclear escalation.

◈ This led to the establishment of the **hotline and subsequent arms control negotiations**.

◈ The **Nuclear Non-Proliferation Treaty (NPT) in 1968 and the formation of the Nuclear Suppliers Group in 1975** further solidified the order.

◈ The evolution of **nuclear dynamics, changing power structures, and emerging threats have put the stability of the GNO into question**.

Need for Global Nuclear Order:

◈ The primary goals of the GNO were to maintain **a taboo against nuclear weapons use and control their proliferation**.

◈ Over the years, it has seen **success in preventing the spread of nuclear weapons** to a limited number of countries.

Challenges and Changing Geopolitics:

◈ **Bipolarity to Multipolarity:** The **bipolar dynamics of the Cold War era no longer define the global nuclear landscape**. The rise of **China as a major player, challenging the U.S.,** has introduced a new dimension to nuclear relations.

◈ **Strain on U.S.-Russia Treaties:** The **withdrawal of the U.S. from the Anti-Ballistic Missile Treaty** in 2002 and the **Intermediate-Range Nuclear Forces Treaty** in 2019, coupled with the uncertainty around the **New START agreement**, has strained the U.S.-Russia nuclear relationship.

◈ **Emergence of Nuclear Peer Rivals**: The U.S. now faces nuclear peer **rivals in Russia and China**, disrupting traditional notions of strategic stability. The collapse of strategic stability talks in the wake of the **Ukraine war** adds to the uncertainty.

◈ **Technological Shifts**: The 75-year-old nuclear technology is undergoing shifts, with concerns raised over the **potential use of more usable weapons**. The **AUKUS deal with Australia, a non-nuclear state**, has raised questions within the Nuclear Non-Proliferation Treaty community.

Nuclear Dynamics in Asia:

◈ **South Korea and Japan's Nuclear Ambitions:** South Korea's consideration of a **nuclear weapons program** and Japan's shift in sentiment towards **nuclear deterrence** indicate the changing landscape in East Asia.

◈ **Uncertainty in U.S. Extended Deterrence**: U.S. allies in East Asia, **including Japan, South Korea, and Taiwan,** are reevaluating their reliance on U.S. extended deterrence. Domestic concerns and geopolitical shifts are pushing them to reconsider their nuclear capabilities.

◈ The global nuclear order, **once a stabilizing force, is now navigating through uncharted waters**.

The evolving geopolitical landscape, technological advancements, and shifting alliances require a reassessment of nuclear policies and international cooperation. As the world grapples with emerging threats, **the future of the GNO hangs in the balance.**

9. INDIA-MYANMAR BORDER POLICIES

Context: The Union government has proposed significant changes in the border policies along the India-Myanmar border, aiming to replace the existing **Free Movement Regime (FMR)**. This move has been prompted by concerns about misuse of the **FMR by militants and criminals**.

Background:

◈ India and Myanmar share a unique relationship with a largely unfenced border of 1,643 km, passing through **Arunachal Pradesh, Nagaland, Manipur, and Mizoram.**

◈ The FMR, **established in the 1970s and last revised in 2016,** allowed people residing within 16 km on either side of the border to cross with a border pass, fostering familial and ethnic ties.

◈ The **Union Home Ministry had constituted a committee (in 2017) headed by Rina Mitra**, Special Secretary-Internal Security, to examine the rules and regulations governing the FMR.

Need for Change:

◈ The proposed changes come amid growing concerns about **security and misuse of the FMR.**

◈ The misuse, including the smuggling of weapons, contraband goods, and fake Indian currency notes, has prompted the **Union Home Ministry to form a committee to reevaluate the existing rules and regulations.**

Proposed Changes:

➤ The government plans to fence **around 300 km of the border**, with a tender expected in the coming days.

➤ A completed **drone survey of the border areas will inform** the implementation of these changes.

➤ The move is anticipated to affect **States like Nagaland and Mizoram**, but the Centre emphasizes that **border security falls under its jurisdiction**.

State Perspectives:

◈ **Manipur** had already suspended the **FMR in 2020 due to the COVID-19 pandemic**.

◈ Chief Minister has urged the **Ministry of Home Affairs to cancel the FMR, linking it to ethnic violence** in the state caused by the unrestricted movement of people across the border.

◈ The proposed changes in the India-Myanmar border policies mark a significant development in the region. **Balancing security needs with historical ties,** these changes aim to address the misuse of the Free Movement Regime, emphasizing the importance of securing the border against potential threats.

10. GRIEVANCE REDRESSAL COMMITTEES (GRCS) UNDER STREET VENDORS ACT

Context: The non-implementation of grievance redressal envisaged under street vendor act.

About the Issue-

◈ Despite a decade since the inception of the Street Vendors (Protection of Livelihood and Regulation of Street Vending) Act, 2014, a crucial provision—the establishment of Grievance Redressal Committees (GRCs) in all urban local bodies—remains largely unimplemented. This raises concerns about the effectiveness of safeguarding street vendors' rights and addressing grievances.

◈ The Act mandates state governments to form GRCs, consisting of a retired civil judge or judicial magistrate as the chairperson and two professionals. These committees serve as a recourse for street vendors facing issues like harassment by police and local authorities.

Who are the street vendors?

◈ Street Vendor is a person who offers goods for sale to the public at large without having a permanent built-up structure from which to sell.

◈ Street vendors may be stationary in the sense that they occupy space on the pavements or other public/priv.ate spaces or, they may be mobile in the sense that move from place to place by carrying their wares on push carts or in baskets on their heads.

Emergence of Street Vendors:

◈ Primarily, the surge in street vendors can be attributed to the dearth of employment opportunities and prevalent poverty in rural areas, prompting individuals to migrate to urban centers for better prospects.

◈ Many of these migrants lack the necessary skills and education for formal employment, compelling them to engage in the informal sector.

◈ Additionally, individuals who formerly held jobs in the formal sector find themselves joining the informal sector due to industry closures, downsizing, or mergers, as they struggle to secure livelihoods.

Current Scenario:

◈ While GRCs have been established in only 17 states, their presence is not universal within those states, creating gaps in the grievance redressal mechanism.

◈ During a national seminar, Hardeep Singh Puri, Minister of Housing and Urban Affairs, emphasized the need for wider GRC implementation, citing their potential to foster inclusivity and support.

Importance of GRCs

- GRCs play a pivotal role in providing street vendors with a formal channel to address grievances, ensuring protection from harassment, and fostering a supportive environment for their livelihoods. The Act envisions GRCs as a key element in the regulatory framework for street vending.

11. INDIA'S NEW HIT-AND-RUN LAW

Context: Protests and debates surrounding Section 106 (2) of the BharatiyaNyayaSanhita, 2023, initiated by transporters and commercial drivers. Stringent measures in hit-and-run cases are necessary, but the protestors argue that the new law is flawed and requires reconsideration.

Background:

◈ Transporters and commercial drivers, particularly from Maharashtra, Chhattisgarh, West Bengal, and Punjab, have voiced their opposition to **Section 106 (2) of the BharatiyaNyayaSanhita, 2023**.

◈ This provision imposes severe penalties, **including up to 10 years in jail and a fine**, for fleeing an accident scene without reporting it to the authorities.

◈ The protests highlight concerns about **unintentional accidents, challenging working conditions, and potential misuse of the law**.

◈ The protests emphasize the need for a **balanced approach** in the legislation concerning hit-and-run incidents.

◈ While acknowledging the **importance of strict actions in such cases,** the transporters argue that the current law lacks consideration for the practical challenges they face, such as long driving hours, difficult roads, and unforeseeable factors contributing to accidents.

Key Highlights:

◈ **Protests and Impact**: Widespread protests among transporters, particularly truck drivers, have impacted

multiple states, leading to **roadblocks, strikes, and disruptions**.

◈ **Demands of Protestors:** Transporters demand the **withdrawal or amendment of Section 106 (2)**, citing concerns about excessive penalties for unintentional accidents and the failure of the law to consider the challenging working conditions faced by drivers.

Road Accidents in India:

◈ The protests occur against the backdrop of **alarming statistics** related to road accidents in India. In 2022, the country witnessed over 1.68 lakh road crash fatalities, averaging 462 deaths daily.

◈ Despite **a global decrease, India experienced a 12% increase in road accidents** and a 9.4% rise in fatalities.

◈ The economic loss due to road crashes amounts to **5-7% of India's GDP annually**.

Principle Underlying the Law:

◈ Section 106 (2) aims to **enforce moral responsibility** on offenders involved in hit-and-run incidents.

◈ The law obligates the offender to report the incident to the authorities, **emphasizing the need for accountability and adherence to legal duties**.

Justification for Stringency:

◈ The **National Crime Records Bureau recorded 47,806 hit-and-run incidents in 2022**, resulting in 50,815 deaths.

◈ The stringent punishment aims to deter drivers from **engaging in rash and negligent driving** that can lead to fatal accidents.

◈ **Contested Provisions and Ambiguities:** Protestors contest the imprisonment **of up to 10 years and a fine of ₹7 lakh mentioned in Section 106.**

12. BILKISBANO CASE

Context: The Supreme Court's recent judgment in the BilkisBano case delves into the intricate balance between the rule of law and the right to personal liberty, emphasizing the judiciary's pivotal role in upholding democratic principles.

Background:

◈ The case involved the quashing of the Gujarat government's decision to **grant remission** to convicts in the BilkisBano case.

◈ While acknowledging **personal liberty as a fundamental right under Article 21, the Court scrutinized whether the rule of law could override it.**

Case Profile:

◈ BilkisBano, the survivor of a horrific incident, sought justice as the convicts in her case were released based on **orders deemed "illegal" and "wholly without jurisdiction**."

◈ The court's decision aimed to restore the balance **between justice and the adherence to legal procedures**.

Rule of Law and its Significance:

◈ **Defining the Rule of Law**: Coined by **John Adams** as "a government of laws and not of men," the rule of law acts as **a safeguard against executive lawlessness**. It ensures that no individual can be detained without legislative sanction.

◈ **Judiciary as Guardian**: **The Supreme Court emphasized its role as the guardian of the rule of law,** asserting that it is the cornerstone of a democratic state. The court's intervention becomes necessary when the state fails to fulfill its duties.

Right to Liberty:

◈ **Constitutional Foundation**: Article 21 of the Constitution guarantees the **right to personal liberty**. However, the court scrutinized whether this right could be compromised in the interest of upholding the rule of law.

◈ **Equality Before Law**: The court highlighted **that breaching the rule of law negates the principle of equality as prescribed by Article 14**. It asserted that no one, regardless of status, is above the law.

Judiciary's Role:

◈ **Beacon of Rule of Law:** The court emphasized its role as a beacon in **upholding the rule of law, stating that a selective application of this concept could lead to a dangerous state of affairs in democracy**.

◈ **Compassion vs. Rule of Law**: The court asserted that **compassion and sympathy have no role where the rule of law is concerned**. Upholding the essence of democracy requires preserving and enforcing the rule of law without bias.

Decision and Rationale:

◈ **Restoration of Status Quo**: Rejecting the convicts' plea for protection of liberty, the court held that the rule of law must prevail**, setting aside the orders of remission as null and void.**

◈ **Principle of Equal Protection:** The court justified the deprivation of liberty for the convicts, citing the **principle of equal protection of law under Article 14. It emphasized restoring the status quo ante to maintain justice.**

◈ The BilkisBano case serves as a significant judicial pronouncement **reaffirming the delicate equilibrium between the rule of law and the right to liberty**. The judgment underscores the judiciary's pivotal role in preserving democratic values while ensuring justice prevails, even in the face of legal complexities.

13. ALIGARH MUSLIM UNIVERSITY (AMU'S) MINORITY CHARACTER

Context: Supreme Court is hearing the case related with issue of AMU status as minority institution dating back 57 years.

◈ The legal dispute over Aligarh Muslim University's (AMU) minority character, dating back 57 years, stems from the interpretation of Article 30(1) of the Constitution, which empowers religious and linguistic minorities to establish and administer educational institutions. This dispute has seen multiple court interventions, shaping the trajectory of AMU's status as a minority institution.

◈ **Historical Background:** AMU's origins trace back to the Muhammadan Anglo-Oriental (MOA) College, established in 1875 by Sir Syed Ahmad Khan. It aimed to address educational backwardness among Muslims, evolving into a university in 1920 under the AMU Act. The Act acknowledged its role as a "teaching and residential Muslim University."

◈ **Genesis of Dispute:** The legal challenge emerged in 1967, questioning amendments to the AMU Act made in 1951 and 1965. Changes altered the University's structure, provoking a Supreme Court ruling that, in 1967, declared AMU was not established or administered by the Muslim minority. The court emphasized that while Muslims may have initiated the university, its recognition by the Indian government necessitated a central Act.

◈ **Persistent Dispute:** Post the 1967 ruling, nationwide protests ensued, prompting a 1981 amendment affirming AMU's minority status. This led to Section 2(l) explicitly stating it was "an educational institution of their choice established by the Muslims of India." However, legal challenges persisted, with the Allahabad High Court overturning a reservation policy in 2005, citing the 1967 verdict. The Union government, along with other petitioners, contested this decision in the Supreme Court in 2006.

The Importance of Minority Institutions:

◈ **Preserving Diversity:** Minority institutions play a pivotal role in preserving cultural and religious diversity by providing a platform for communities to impart education aligned with their ethos.

◈ **Inclusive Education:** These institutions contribute to inclusive education, offering students from minority communities an environment that respects and values their cultural identity.

◈ Empowerment:Recognizing minority institutions empowers communities to actively participate in the educational landscape, fostering a sense of ownership and agency.

◈ **Constitutional Intent:** While Article 30(1) emphasizes minority rights, the AMU case raises questions about the balance between autonomy and state recognition, as the 1967 verdict highlighted the central Act's role.

◈ **Policy Implications:** The legal tussle has implications for reservation policies and the autonomy of minority institutions, with potential ramifications on inclusive education.

◈ **Educational Autonomy:** The dispute has implications for the autonomy of educational institutions and the extent to which the government can regulate their character.

◈ **Minority Rights:** It raises broader questions about minority rights and the interpretation of these rights in the context of educational institutions.

Recent Developments

◈ In 2019, the Supreme Court referred the matter to a seven-judge Bench, acknowledging the complexity of the issue.

◈ The ongoing hearings explore the nuanced interplay between minority rights, constitutional provisions, and the institutional autonomy of AMU.

◈ The AMU dispute encapsulates the delicate balance between minority rights, constitutional provisions, and the need for state recognition. Recognizing the importance of minority institutions is crucial for fostering a diverse and inclusive educational landscape in India.

◈ The ongoing legal deliberations will shape not only AMU's future but also influence the broader discourse on minority rights and educational autonomy.

14. KUKI-ZO TRIBE'S SCHEDULED TRIBE STATUS

Context: The state of Manipur in India is currently grappling with ethnic tensions, particularly surrounding the proposed reconsideration of the Scheduled Tribe (ST) status of the Kuki-Zo community.

Background:

◈ The Manipur conflict, which commenced in early May, stemmed from a **High Court order suggesting the consideration of ST status for the Meitei community**.

◈ This proposition faced **opposition from the Kuki-Zo tribe**, who perceive it as a potential dilution of their privileges due to the political and numerical dominance of the Meiteis in the state.

◈ Chief Minister's suggestion to **review ST status** has triggered strong reactions from Kuki-Zomi organizations, intensifying the ongoing ethnic conflict in the region.

Need for Review:

◈ The controversy emerged when MaheshwarThounaojam, a Meitei leader of the Republican Party of India (Athawale), submitted a **representation to the Union Ministry of Tribal Affairs, urging the exclusion of Kukis from Manipur's ST list**.

◈ The Ministry forwarded the representation to the state government, emphasizing the **need for the state's recommendation before any further action**.

Government's Response:

◈ Possibility of forming **a committee to discuss the ST status of Kukis in Manipur**.

◈ This move, however, has been met with strong opposition from Kuki-Zomi organizations, accusing the **state government of supporting Meiteis and exacerbating the existing ethnic conflict**.

Kuki-Zo Tribe's Perspective:

◈ The **Indigenous Tribal Leaders' Forum (ITLF) and KukiInpi, the apex body of Kuki tribes in Manipur**, condemned any attempt to alter the ST status of the Kuki-Zo community.

◈ The ITLF accused the government of **a coordinated effort with Meitei groups**, asserting that removing the community from the ST list violates constitutional safeguards and perpetuates injustice and discrimination.

Kuki-Zo Tribe:

◈ The Kuki-Zo tribe, primarily **residing in Churachandpur district**, has a rich cultural heritage.

◈ Comprising various tribal bodies, the **ITLF serves as a significant voice for the Kuki-Zo community**.

◈ Their demand for **preservation of ST status aligns** with their commitment to upholding constitutional safeguards and protecting their rights and land.

15. SC FINDS MULTIPLE LOOPHOLES IN MEASURES TAKEN FOR DISABILITY SECTOR

Context: SC report exposes severe gaps in accessibility for people with disabilities at courts across India.

Current state of Disability in India

◈ As per Census 2011, in India, around 2.68 Cr persons are 'disabled' (2.21% of the total population)

◈ The Constitution of India ensures equality, freedom, justice and dignity of all individuals which ensures inclusive society for all, including persons with disabilities. Even after many initiative of Indian government, effects are very limited to ensure rights to disabled person.

Existing measures taken by Government:

Rights of persons with disabilities act 2016 :

◈ The act, increased number of include disabilities from 7 to 21

◈ Includes provision for reservation in higher education and government jobs, free education for children between 6 to 18 years.

The National Trust for the Welfare of Persons with Autism, Cerebral Palsy, Mental Retardation and Multiple Disabilities Act, 1999:

◈ To enable and empower persons with disability to live as independently and as fully as possible within and as close to the community to which they belong.

◈ **Mental Healthcare Act 2017:** it provides the rights of mentally challenged during delivery of mental healthcare and services.

The Rehabilitation Council of India Act, 1992:

◈ The Council act regulates and monitors the training of rehabilitation professionals and personnel and promotes research in rehabilitation and special education.

◈ **National Action Plan for Skill development: It** aims to cover 2.5 million persons with disabilities by the year 2022 through various stakeholders.

Related Schemes:

◈ **Scheme for Implementation of Persons with Disabilities act (SIPDA)**:
  ➤ To provide financial assistance to the states for implementation of act.

◈ **RashtriyaVayoshriYojana**:
  ➤ It ensures Physical Aids and Assisted-living Devices for Senior citizens belonging to BPL category.

◈ **Accessible India Campaign**:
  ➤ To help make buildings and other infrastructure disabled friendly.

◈ **SugamyaPustakalaya**: Online library for persons with disabilities.

◈ **Assistance to Disabled Persons for Purchase/Fitting of Aids and Appliances (ADIP) Scheme**: it ensures distribution of aids and assistive devices.

◈ **Economical measure:** creation of National fund for Person with disabilities.

◈ **Other Measures:**

➤ **Corporate Social responsibility:** Deendayal Disabled Rehabilitation Scheme: Promote Voluntary Action by releasing grant-in aid to NGOs.

Existing loopholes

◈ **Definition of Disability in India:** The definition of disability which is approved in India is ambiguous and problematic.

◈ **Gender Aspect**: Biologically, it is true that disability affects all irrespective of one's gender identity. However, it is important to see that the socio-cultural aspects and the repercussions associated with disability are affected by gender concerns

◈ **Caste issues and disability**: The 2011 census states that disability is higher among the scheduled castes in all age groups.

◈ **Urban-rural divide**: The 2011 census states that the population of disabled is higher in rural areas than that of the urban areas.

16. HATTI COMMUNITY IN HIMACHAL PRADESH

Context: The Himachal Pradesh government has taken significant steps to address the longpending demand of granting Scheduled Tribes (ST) status to the Hatti community in the Transgiri area of Sirmaur district. It also launched a few programmes for the economic growth in the state.

Granting ST Status to Hatti Community:

◈ The Hatti community, residing in **154 panchayats of Sirmaur district's Transgiri area**, has been advocating for ST status.

◈ The government's move follows the passage of the **Constitution (Scheduled Tribes) Order (Second Amendment) Bill, 2023**, and subsequent notification by the President on August 4, 2023.

◈ The delay in implementation was due to the state government seeking **clarification from the Centre**.

Need for Granting ST Status:

◈ The Hatti community's demand for ST status echoes similar recognition granted to the **JaunsarBawar area of Uttarakhand in 1967**.

◈ Despite similarities in **social, cultural, and geographical aspects between Hatti and Jaunsari** communities, the Transgiri area was excluded.

◈ The recent decision rectifies this **historical injustice**, fulfilling a promise made to the Hatti community.

About Hatti Community of Himachal Pradesh:

◈ The Hatti community of **Sirmaur district's Transgiri area** has a unique cultural and historical background.

◈ Their demand for ST status stems from the desire for **equitable representation and socioeconomic empowerment.**

◈ The recent notification granting them **Scheduled Tribes status** marks a significant milestone in their journey for recognition.

Initiatives for Economic Growth:

◈ The state Cabinet has launched the Phase2 of the **Rajiv Gandhi Swarozgar StartUp Yojna**.

◈ This initiative aims to **provide loans** and encourage individuals aged between **21 to 45 years** to engage in businesses related to the installation of **solar power plants**.

◈ The scheme, focusing on capacities ranging from 100 kW to 500 kW, aligns with the state's renewable energy targets.

◈ This step is anticipated to create selfemployment opportunities and contribute to economic growth among the youth.

◈ The Cabinet has also given the nod to the **'Sarkar Gaon Ke Dwar' program**, scheduled from January 8 to 12, which will be conducted across the state.

17. MANDATORY AADHAR-LINKED PAYMENTS FOR MGNREGS WORKERS

Context: The government has mandated the use of **Aadhaar-based payment systems (ABPS)** for the disbursement of wages under the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) scheme.

Background:

◈ The initiation of the **ABPS for MGNREGS** workers began on **January 30, 2023**.

◈ The recent extension, **until December 31, 2023, marked the fifth prolongation of the deadline**, allowing state governments time to align databases.

◈ However, this move has been accompanied by a **notable surge in deletions of MGNREGA job cards**, raising questions about the link between the mandatory ABPS and the reduction in the number of active workers.

Need for ABPS Implementation:

◈ The government's decision to make ABPS mandatory stems from its intention to **streamline wage disbursement and enhance transparency.**

◈ The system requires workers' Aadhaar details to be linked to their job cards, aiming to **expedite payments and minimize rejections.**

Ineligibility Statistics:

◈ According to data from the Union **Rural Development Ministry,** as of December 27, 34.8% of job card holders remain ineligible for ABPS.

◈ The criteria for eligibility are based on active workers, **defined as those who have worked at least one day over the last three financial years.**

◈ Of the **25.25 crore registered workers, 12.7% of active workers are still not eligible for ABPS**.

ABPS Mechanism and Government's Perspective:

◈ ABPS utilizes the worker's unique **12-digit Aadhaar** number as their financial address.

◈ For a worker to be paid under ABPS, their **Aadhaar details must be linked to their job card,** bank account, and the National Payments Corporation of India (NPCI) database.

◈ The government **asserts that ABPS implementation will enhance efficiency, prevent leaks, ensure prompt payments, and reduce rejections**.

18. BROADCASTING REGULATIONS FOR OTT AND DIGITAL MEDIA

Context: The new **draft Broadcasting Services (Regulation) Bill, 2023**, signaling a comprehensive overhaul of the regulatory landscape governing traditional television, digital media, and over-the-top (OTT) platforms.

◈ **Purpose:** The proposed legislation aims **to replace the Cable Television Networks (Regulation) Act**, ushering in new regulations for the broadcasting sector.

Background:

◈ The draft bill expands the **regulatory framework to encompass a wide spectrum, ranging from conventional television services to emerging technologies like OTT platforms and digital content**.

◈ Released for **public consultation by the Ministry of Information and Broadcasting**, the bill aims to streamline regulations and provide a unified legal structure for various broadcasting services.

Need for Regulation:

◈ The government asserts that the proposed bill is essential to **enhance the ease of doing business, ensure compliance with broadcasting codes, and adapt the regulatory framework** to meet the evolving needs of the sector.

◈ However, **concerns have been raised regarding potential threats to freedom of speech and censorship**, especially in the context of increased scrutiny over content deemed **"obscene and vulgar" in the digital media realm.**

Key Provisions of the Bill:

1. Intimation of Operations:

◈ All broadcasting entities, including OTT platforms, must formally register or intimate the government before providing services.

◈ Cable and satellite broadcasting operators must register, and broadcasters need approval from the registering authority.

2. Modern Broadcasting Terminologies:

◈ The bill defines key terms such as broadcasting, broadcaster, broadcasting network, broadcasting network operator, internet broadcasting network, and news and current affairs programmes.

3. Content Quality and Accessibility:

◈ Programmes must adhere to Programme Code and Advertisement Code.

◈ Broadcasters need to classify their content based on various parameters, prominently displaying the classification to enable informed viewing decisions.

◈ Accessibility guidelines are introduced for persons with disabilities, emphasizing measures like audio descriptions, sign language translations, and subtitles.

4. Self-Regulation:

◈ Broadcasters and network operators are required to establish Content Evaluation Committees (CEC) for self-regulation.

◈ The proposed three-tier regulatory structure includes self-regulation, self-regulatory organizations, and a Broadcast Advisory Council.

5. Provision for Inspection and Seizure:

◈ The government and authorized officers can inspect broadcasting networks and services.

◈ Seizure of equipment is allowed in case of violations, with penalties imposed unless compliance is demonstrated within 30 days.

6. Penalties for Non-Compliance:

◈ Penalties include removal of objectionable content,

orders, apologies, off-air periods, and even cancellation of registration.

◈ Monetary penalties and imprisonment are prescribed for serious offenses, with the penalty amount based on the entity's financial capacity.

19. REVISED RULES FOR PHARMA SECTOR

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 and increased understanding of the 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 criteria.

◈ 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.

20. ITIS: WORKFORCE FOR INDIA'S INDUSTRIAL GROWTH

Context: The Industrial Training Institutes (ITIs) have been a crucial element of **vocational education** in India since 1950, contributing to the skill development of the workforce.

Issues:

◈ Despite **historical challenges and chronic under-investment**, recent initiatives are reshaping the ITI landscape, aligning it with the **evolving needs of the industrial sector**.

Background:

◈ Since 2014, there has been a significant **growth of 47% in the number of ITIs**, reaching 14,993 institutions.

◈ The enrolment numbers **have surged from 9.46 lakh in 2014 to 12.4 lakh in 2022**, reflecting an increasing interest in vocational education.

◈ However, systemic challenges such as outdated **infrastructure, over-regulation, and a shortage of trainers** have hampered the full potential of ITIs.

Need for Transformation:

◈ To address the evolving needs of the economy, there has been a **paradigm shift in ITI courses, with over 40% now focusing on service sectors.**

◈ Strategic partnerships with **IT companies have benefited 22 lakh individuals in the last five years.**

◈ The **push for modernization includes the rationalization of course durations**, the introduction of new-age skills courses, and the affiliation of ITIs for drone-related programs.

Skilling and Skill-Industry-Efficiency Dynamics:

◈ To enhance the **skilling ecosystem**, a dual system of training has been implemented in 978 ITIs, facilitating learning in both industry and classrooms.

◈ Thirteen **memorandums with industry** partners have led to customized curriculums, aligning training with industry requirements.

◈ **The Bharat Skills portal**, launched in 2019, has provided digital access to educational resources, benefiting over 54 lakh ITI users and earning national recognition.

Global Perspective on Vocational Education:

◈ Globally, vocational enrolment at the **upper-secondary level is much higher**, with figures ranging from 18% to 49% in countries like South Korea, Australia, and Germany.

◈ In contrast**, India's vocational enrolment is estimated at less than 6%**, reflecting the need for a shift in societal perceptions and systemic improvements.

Challenges and Solutions:

◈ Despite the recent strides, a 2023 NITI Aayog study highlighted systemic challenges such as **outdated infrastructure, over-regulation, trainer shortages, and a curriculum lagging behind economic changes**.

◈ To address these, a **multi-faceted mission** is needed, focusing on awareness, counselling, infrastructure upgrade, trainer capacity building, and technology-enabled governance.

ITIs as a Relevant Contributor:

◈ Despite under-investment, ITIs **remain relevant for the industrial sector**.

◈ A 2020 ministry assessment revealed that **ITI pass-outs possess technical knowledge and a superior ability** to understand job technicalities.

◈ With India positioning itself as a **manufacturing powerhouse,** ITI-based vocational training gains significance, aligning with initiatives like production-linked incentives and semiconductor manufacturing.

Future Prospects:

◈ The **National Education Policy** envisions the integration of vocational and general education, aiming for 50% of students exposed to vocational education by 2025.

◈ Scaling up past efforts and reimagining **a skilled industrial workforce** are imperative to realizing the vision of a developed India.

21. INDIA IN THE SHIPPING VALUE CHAIN

Context: Boosting ship owning, chartering, financing and building would not only push India o the centre of the global maritime industry but also enhance its international trade presence.

The Yangtze River's Role in China's Maritime Dominance

◈ The **Yangtze River** has been integral to China's history, blending tradition, commerce, and culture.

◈ Today, it remains a **lifeline for modern China**, symbolized by the Three Gorges project.

◈ The Yangtze showcases a unique spectacle of massive merchant ships navigating in parallel convoys, emphasizing China's prowess in engineering, logistics, and shipping.

India v/s China

◈ India was ahead in **maritime capabilities** until the late **1980s.** With a tradition of ship-owning and a strong presence in the International Maritime Organization, India had a promising start.

◈ India's growth in the maritime sector **focused on supplying labor to the global market**. English-speaking Indian seafarers became commonplace, contributing to safety in the industry.

◈ Indians **evolved into ship management**, showcasing talent for value engineering.

◈ Indians managed companies contribute significantly to foreign exchange earnings, estimated at $6 billion annually.

India's Challenges

◈ **Stagnation in Ship Owning and Building:**

➤ India struggles to move up the shipping value chain, with ship owning, chartering, financing, and building largely inaccessible.

➤ China, on the contrary, dominates global shipbuilding, producing half of the world's ships by 2020.

◈ **Government Support:** China's dedicated government plan propels shipbuilding and owning. Chinese shipowners primarily build ships at stateowned yards, ensuring control over the entire value chain.

Government Initiatives and Policy Gaps in India

◈ **Maritime Agendas:** Previous and present governments introduced maritime agendas. However, India's share in global shipbuilding dropped, and Maritime India Vision 2030 lacks a concrete plan for shipbuilding and owning.

> **Maritime Vision Document 2030:** It is a 10 Year blueprint on India's vision of a sustainable Maritime sector and vibrant blue economy.

◈ **Sagarmala Initiative:** While Sagarmala focuses on port infrastructure, naval ship orders dominate, neglecting the potential of shipbuilding for economic and strategic growth.

The Strategic Imperative for India in Shipbuilding

◈ **Integral to Industrial and Naval Power:** Shipbuilding is essential for strengthening both industrial and naval power. It provides a seat at the global maritime table and enhances India's presence in international trade.

◈ **Military Significance:** A robust shipbuilding industry is integral to a strong naval base. Nagasaki's shipyard, chosen as a target during World War II, exemplifies the intertwined nature of naval strength and shipbuilding capabilities.

◈ **Economic Competitiveness:** Improved shipping infrastructure enhances India's role as a global trade hub, boosting economic growth and expanding export opportunities.

◈ **Geopolitical Significance:** India's strategic coastal position makes robust shipping infrastructure vital for geopolitical influence and ensuring national security.

◈ **Employment and Skill Development:** Developing shipping infrastructure generates employment for seafarers, addressing unemployment challenges and promoting skill development.

◈ **Integrated Supply Chains:** Efficient shipping infrastructure reduces logistics costs, enhancing industrial competitiveness and attracting domestic and foreign investments.

◈ **Regional Connectivity and Trade Facilitation:** Improved infrastructure fosters regional trade partnerships and strengthens diplomatic ties.

22. INCOME INEQUALITY ON DECLINE

Context: Income inequality has declined in India with a higher tax base and a shift in taxpayers from lower income to higher income tax bracket, the Economic Research Department of the State Bank of India said in a report.

Key Highlights –

◈ **Shift in Taxpayer Dynamics**
  ➤ The **Economic Research Department** of the State Bank of India reports a **decline in income inequality** in India.
  ➤ The shift in taxpayers from **lower to higher income tax brackets** contributes to this decline.

◈ **Taxpayer Migration and Additional Income**
  ➤ Approximately **36.3% of taxpayers** have moved from lower to higher income tax brackets, resulting in a substantial **21.3% increase in overall income**.
  ➤ The **top 2.5% of taxpayers' contribution** to income declined from **2.81% in FY14 to 2.28% in FY21.**
  ➤ **Individual taxpayers** in the income range of Rs 5 lakh to Rs 10 lakh experienced a remarkable **295% increase in income** between AY 2013–14 and AY 2021–22.

◈ **Changing Landscape of Firms and Consumption Trends**
  ➤ Small firms **transitioning** into **larger entities** through MSME value chain integration.
  ➤ Consumption trends, such as the **surge in food orders** through platforms like Zomato, indicate a **diminishing wealth gap.**

◈ **Top Taxpayers' Share and Trends**
  ➤ In FY14, the combined income of the **top 23 individuals** with earnings over Rs 100 crore was 1.64% of the total income, **dropping to 0.77%** with 136 individuals in FY21.
  ➤ Growth is observed across income classes, reducing skewness and converging incomes towards the middle.

◈ **Decline in Two-Wheeler Sales and Substitution Effect**
  ➤ Refuting claims that declining two-wheeler sales signify rural distress, the report highlights **a preference shift to four-wheelers.**
  ➤ Auto loans remain robust, with credit deployment at 1.8 times the pandemic level.

◈ **Female Tax Filers and Geographical Disparities**
  ➤ **Female tax filers** constitute around **15%** of individual tax filers.
  ➤ Certain states like **Kerala, Tamil Nadu, Punjab, and West Bengal** have a **higher share of female tax filers**, warranting further investigation for broadening tax base.

◈ **Consumption Trends and Refutation of Distress Claims**

  ➤ **Consumption patterns**, including data from Zomato, challenge claims of widespread distress.

  ➤ Around 0.44 crore active Zomato users in semiurban areas suggest rising income groups transcending conventional boundaries.

◈ **Income Tax Return (ITR) Filing Trends**

  ➤ ITRs filed by individuals earning between Rs 10 lakh and Rs 25 lakh increased by 291%.

  ➤ The total number of persons filing income tax rose to 7.4 crore in AY23 from 7 crore in AY22.

◈ **Gini Coefficient and Overall Income Inequality**

  ➤ The Gini coefficient for taxable income decreased significantly from 0.472 to 0.402 during FY14FY22, indicating a reduction in overall income inequality.

23. INDIA'S TEXTILE SECTOR AND GLOBAL ESG NORMS

Context: Small businesses in India's textile sector express concern over EU's CBAM rules and ESG norms impact.

What is Carbon Border Adjustment Mechanism?

- On **14 July 2021, the European Commission** published its proposal for a regulation establishing a **carbon border adjustment mechanism (CBAM).**

- The **core element of the CBAM** is the **obligation to pay for the greenhouse gas (GHG) emissions** embedded in certain carbon-intensive products imported into the European Union (EU) through the purchase of so-called CBAM certificates.

- The CBAM is conceived as a measure against the risk of carbon leakage, a phenomenon whereby companies move their production abroad to avoid the costs of complying with stringent environmental standards domestically or import cheaper foreign products that were not subject to a carbon price in their country of production.

Sustainable Practices in Indian Textile Sector

◈ **Renewable Energy Dominance:** Tamil Nadu's textile sector contributes over 50% of the state's renewable energy capacity.

◈ **Sustainable Processes in Clusters:** Tiruppur showcases nearly 300 units connected to zero liquid discharge effluent treatment plants.

◈ **Recycled Fibers in Panipat:** Panipat's open-end spinners exclusively use recycled fiber, demonstrating a commitment to sustainable practices.

What are ESG STANDARDS?

- **Environmental, Social, and Governance (ESG)** goals are a set of **standards** for a company's operations that force companies to follow better governance, ethical practices, environment-friendly measures and social responsibility.

- **Measurement of the company** is not restricted to just the **economic parameter** which includes such as shareholder return. But they are also measured by their **environmental impact, commitment to social issues** and the soundness of their corporate governance and protection of shareholder rights.

- The evolution of ESG laws and regulations is, however, still at a nascent stage in India,

Challenges and Opportunities Amid ESG Shift

◈ **EU's environmental goals**, especially CBAM, pose challenges and opportunities for India's textile sector.

◈ **Concerns among MSMEs** in India's textile sector regarding EU's regulations and the imperative to adopt sustainable practices.

◈ Recognition that **embracing sustainability** can lead to a **paradigm shift**, solidifying India's textile sector as a top global supplier.

ESG Compliance

◈ ESG demands from global buyers acknowledged as significant disruptors, prompting a strategic re-evaluation.

◈ Emphasis on exporters leveraging benefits through India's potential free-trade agreement with the EU by investing in sustainability.

◈ Necessity for documenting existing sustainable and inclusive social practices to comply with ESG standards, ensuring industry-wide benefits.

Industry Response and Future Considerations

◈ **Annual Sustainability Reports:** Major garment exporters releasing annual sustainability reports, showcasing commitment to transparency and accountability.

◈ **Collaborative Green Footprints**: Textile clusters like Tiruppur showcasing collective green footprints, preparing for global exhibitions with sustainability-focused exhibits.

◈ **Financial and Institutional Support:** Initiatives by the Ministry of Textiles, industrial associations, and financial institutions to support ESG compliance, certification, and sustainable projects.

24. INDIA'S MULTIDIMENSIONAL POVERTY RATE

Context: As per a discussion paper by NITI AYOG, India's multidimensional 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 Poverty:** India's population living in multidimensional poverty dropped from 29.17% in 2013-14 to 11.28% in 2022-23, with 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.

HEADCOUNT RATIO

Proportion of population who are multi-dimensionally poor — Figures in %

55.36 (2005-06), 29.17 (2013-14 Projected), 24.85 (2015-16), 14.96 (2019-21), 11.28 (2022-23 Projected)

Source: NITI Aayog report
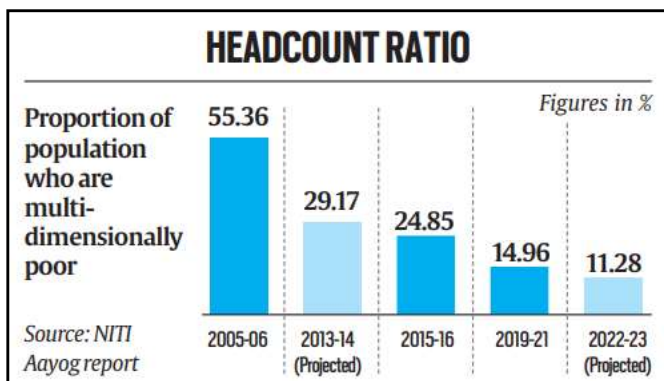
◈ **Indicators and Holistic Measurement of Poverty**

➤ **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.

25. SISAL LEAVES AND SUSTAINABLE SANITARY NAPKINS

Context: A team led by Manu Prakash at Stanford University has found the absorption capacity of a sisal-based material to be higher than those in commercial menstrual pads

Sisal Leaves: A Sustainable Solution for Menstrual Hygiene Products

◈ **Ancient Roots to Modern Innovation** *The **ancient Aztec and Mayan civilizations** pioneered the use of sisal leaves for various applications. Today, scientists at Stanford University leverage sisal leaves to create an environmentally **sustainable material for menstrual hygiene products**.*

◈ **A Green Alternative to Conventional Menstrual Pads** *Stanford researchers propose a method using sisal leaves to produce a **highly absorbent material**, **potentially replacing cotton**, **wood pulp, and synthetic absorbents** in sanitary napkins.*

Data and Information:

◈ **Absorbent Material Development:**
  ➤ The study, published in **Nature Communications Engineering**, outlines a method that uses **sisal leaves for creating a material with superior absorption capabilities**.
  ➤ The material is positioned as a **potential alternative to conventional components** like cotton, wood pulp, and synthetic superabsorbent polymers (SAPs) in sanitary napkins.

◈ **Environmental Sustainability:**
  ➤ The sisal-based method claims to use **no polluting or toxic chemicals** during production.
  ➤ Researchers emphasize that the **process can be conducted locally at a small scale**, offering an **environmentally sustainable solution**.
  ➤ The study discusses the **environmental impact**, comparing the **carbon footprint of sisal-based production** to **conventional methods using timber and cotton**.

◈ **Application in Menstrual Hygiene:**
  ➤ The research aims to address **environmental concerns related to menstrual hygiene product waste**, particularly **non-biodegradable components**.
  ➤ Sisal's absorbent qualities make it a potential candidate for producing sustainable menstrual pads, **reducing reliance on wood pulp and synthetic materials.**

◈ **Global Collaboration for Testing:**
  ➤ The team at Stanford is collaborating with a **Nepal-based NGO** to test the scalability of their **sisal-based method** for **mass production of sanitary napkins**.
  ➤ A global program involving high school students encourages testing the usability of similar processes with various local plants, contributing to a public database.

◈ **Water Use and Sustainability:**
  ➤ Sisal cultivation is noted for requiring **less water compared to cotton**, contributing to potential long-term sustainability.
  ➤ The study indicates a "**25-fold difference**" in water use between cotton and sisal.

◈ **Challenges and Quality Assurance:**
  ➤ Experts highlight the need for robust research to ensure plant **fiber-based menstrual hygiene products** meet existing quality standards.
  ➤ The team is implementing "**distributed quality control**" and "**distributed manufacturing**" to address concerns and create local, sustainable solutions.

Way Forward:

◈ The **innovative use of sisal leaves** presents a promising avenue for creating **sustainable menstrual hygiene products.**

◈ As researchers explore **scalable production** and **engage global collaboration**, sisal-based materials could contribute to a more environmentally conscious approach to menstruation.

26. MAJORITY OF CITIES FAR FROM CLEAN AIR TARGET

Context: In 49 cities whose particulate matter numbers were consistently available for five years, 27 cities showed a decline in PM 2.5, while only four had met or exceeded the targeted decline, according to the analysis

Assessment of India's National Clean Air Programme Reveals Mixed Progress

◈ **Overview of National Clean Air Programme (NCAP)** *An analysis by Respirer Living Sciences and Climate Trends sheds light on the progress of India's ambitious National Clean Air Programme (NCAP), aiming to reduce particulate matter concentrations by 40% by 2026.*

◈ **Varied Performance Across Cities** *Among 49 cities with consistent PM 2.5 data for five years, only four have met or exceeded the targeted decline. Cities like Delhi, Navi*

Mumbai, and Mumbai report marginal declines or even increases in pollution levels, posing challenges to NCAP's objectives.

Data and Information:

◈ **NCAP Goals and Shift in Deadlines:**
  ➤ NCAP initially aimed for a 20-40% reduction in pollution by 2024 but later extended the deadline to 2026.
  ➤ The program targets a 40% reduction in average particulate matter concentrations in 131 cities compared to 2017 levels.

◈ **City-wise Progress and Challenges:**
  ➤ Delhi, despite efforts, observes a mere 5.9% decline in annual PM 2.5 levels.
  ➤ Navi Mumbai records a concerning 46% rise, while Mumbai and Ujjain report 38.1% and 46% increases, respectively.
  ➤ Some cities in Uttar Pradesh, including Varanasi, Jodhpur, and Kanpur, show more than a 40% reduction in PM 2.5 levels.

◈ **Impact of Monitoring Stations:**
  ➤ The availability and spread of continuous ambient air quality monitors significantly influence reported pollution levels.
  ➤ Cities like Mumbai and Delhi, with numerous monitoring stations, provide a more comprehensive picture compared to those with fewer than five stations.

◈ **Geographical Influences and Meteorological Factors:**
  ➤ Variations in PM 2.5 and PM 10 levels are attributed to geographical locations, diverse emission sources, and meteorological influences.
  ➤ Cities in the Indo-Gangetic Plain (IGP) continue to dominate the list of top 20 cities with the highest PM 2.5 levels.

◈ **Unclear Impact of Actions:**
  ➤ While reductions in PM 2.5 and PM 10 levels are noted in some highly polluted cities, the actual translation of cities' actions into improved air quality remains unclear.
  ➤ Strengthened monitoring, as cities add new air quality stations, is expected to provide a clearer understanding of the effectiveness of mitigation measures.

Way Forward and Analysis:

◈ Despite positive strides in addressing air pollution, persistent challenges exist as some urban areas experience an increase in pollution concentrations.

◈ The revised goal of a **40% reduction in particulate matter** by **2026 reflects the commitment** to ambitious environmental targets.

◈ The analysis underscores the need for o**ngoing efforts, strengthened monitoring, and comprehensive strategies** to achieve **the NCAP objectives** and enhance air quality across Indian cities.

27. SOUTHEAST ASIA'S AFFORDABILITY TO RETIRE ITS COAL PLANTS

Context: Indonesia and Vietnam will need to balance their sustainability ambitions and financing, with the reality that many of the power systems already approved for construction will be coal-fired.

About Just Energy Transition Partnership (JETP):

◈ In recent developments, Indonesia and Vietnam have unveiled their plans to utilize funds from the **Just Energy Transition Partnership (JETP),** a **G7-backed initiative**, to drive sustainable development.

◈ The JETP, supported by the **International Partners Group and private banks in the West**, aims to **allocate €18 billion to Indonesia and €14.1 billion to Vietnam** for their green energy transition efforts.

Indonesia's Ambitious Roadmap

1. Targets and Projects

◈ Indonesia aims to raise the share of **renewable energy in its power generation to 44% by 2030**, a significant **increase from the previous target of 34**%.

◈ The **Comprehensive Investment and Policy Plan** outlines **400 priority projects**, seeking substantial investment from JETP donors.

2. Public Involvement

◈ The plan is currently in draft form, with the Indonesian government actively seeking stakeholder inputs to formulate a **final investment plan** expected to be released next year.

◈ **Edo Mahendra**, **Head of Indonesia's JETP Secretariat**, emphasizes the **public's role**, stating that **energy transition is a matter of public interest.**

Vietnam's Vision at COP28

1. Equity Investments and Grants

◈ At COP28, Vietnamese officials outlined their vision for utilizing **€14.1 billion in equity investments**, **grants, and concessionary loans from JETP.**

◈ The initiative has garnered support from the **International Partners Group,** private banks, and investors, showcasing a collaborative effort in sustainable development.

Concerns and Controversies

1. Leaked Documents and Disappointments

◈ Reuters reported that **only 2% of the €7.3 billion committed to Vietnam will be in grants,** raising concerns about the **substantial reliance on loans,** some of which are at market rates.

◈ Indonesia's plan has faced **criticism for excluding power plants supplying off-grid systems**, potentially neglecting significant capacity and future projects in the coal sector.

2. Decarbonization Challenges

◈ **Indonesia acknowledges** the need for a detailed study and roadmap on **decarbonizing off-grid captive power systems,** addressing concerns raised by stakeholders.

◈ The **EU ambassador to Indonesia** emphasizes the opportunity to collaborate on off-grid decarbonization pathways.

28. 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.

I. 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.

II. 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.

III. 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.

IV. 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.

V. 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.

VI. 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.

VII. 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.

Case Study: Shanghai in China and 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.

VIII. 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 Areas:** 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.

◈ A 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.

29. CLIMATE CHANGE: THE HOTTEST YEAR

Context: With temperatures at all-time high in 2023, 2024 will be pivotal in reducing emissions, without compromising developmental needs

The Urgency of Climate Action

◈ Eight years post-COP 21, the global community finds itself on the **brink of a climate catastrophe**, as the **1.5 degrees Celsius limit set in Paris** comes under threat. The alarming rise in temperatures, escalating extreme weather events, and a grim forecast for 2024 demand immediate and comprehensive action.

Alarming Temperature Trends in 2023

1.1: A Year of Records

◈ In 2023, **global temperatures** soared perilously close to the **critical 1.5 degrees Celsius limit**, reaching an **average of 1.46 degrees Celsius above pre-industrial**

levels by November. Unprecedented heatwaves marked every month since June, with two days in November surpassing 2 degrees Celsius above pre-industrial levels.

1.2: World Meteorological Organisation's Verdict

◈ The World Meteorological Organisation (WMO) has unequivocally declared 2023 as the **warmest year on record**. This alarming confirmation intensifies concerns about the irreversible trajectory of climate change.

The Impending Heat Surge in 2024

El Niño's Role

◈ The WMO's provisional State of the Global Climate Report highlights the **role of the warming El Niño event in 2023**, set to exacerbate global temperatures in 2024. Experts anticipate a further spike in temperatures after the El Niño peaks, underlining the urgent need for proactive measures.

Critical Juncture for Climate Change

◈ While the scientific community debates whether we've reached a point of no return, there is consensus that the **next seven years will be pivotal in reducing emissions and mitigating the escalating climate crisis.**

Renewable Energy Progress and Storage Challenges

Positive Signs in Renewable Energy

◈ Encouragingly, the **International Energy Agency** forecasts that **over 35% of the world's electricity** will be generated from **renewables by 2025**. However, the challenge lies in ensuring consistent power supply when renewable sources are intermittent.

Long Duration Energy Storage (LDES) Council

◈ **At COP21 in Glasgow**, nations acknowledged the necessity of **Long Duration Energy Storage (LDES) technologies**. The LDES Council was established to facilitate the commercialization of these technologies, despite many still being in the pilot stage. However, the market for such solutions is in its infancy, and cost competitiveness remains a significant hurdle.

Building Resilience Amidst Climate Uncertainty

Beyond Emissions: Building People's Resilience

◈ Acknowledging the imperative for policymakers to address climate vulnerabilities, experts emphasize the importance of resilient measures. These include building sea walls, enhancing weather alert systems, upgrading urban drainage, installing irrigation systems, and promoting climate-adaptive crop choices.

Balancing Development and Climate Action

◈ As the planet heats up, a delicate balance must be struck to address vulnerabilities without compromising developmental needs. Policymakers face the challenge of uplifting communities out of poverty while simultaneously adapting to a changing climate.

Way Forward: A Call for Urgent, Global Action

◈ The 2023 temperature records and the looming threat of 2024 emphasize the urgency of decisive global action.

◈ Policymakers, scientists, and the public must collaborate to reduce emissions, accelerate the adoption of renewable energy, and build resilience to navigate the challenges posed by an increasingly unpredictable climate.

◈ The coming years will define our ability to address the climate crisis and secure a sustainable future for generations to come.

30. RADIOCARBON DATING

Context: Radiocarbon dating brought the first verifiable way to keep time to many fields of science, significantly transforming them

Introduction

◈ Time is a fundamental aspect in understanding the natural universe, social systems, and technological advancements.

◈ From thermodynamics to GPS, our comprehension of the world hinges on the ability to **measure and interpret the passage of time.**

◈ **Radiocarbon dating**, a groundbreaking technique, has played a pivotal role in transforming various scientific fields, providing a verifiable method to **determine the age of organic materials**.

What is Radiocarbon Dating?

- **Dating Methodology:** Radiocarbon dating involves determining the age of an object by analyzing the concentration of the carbon-14 isotope present in it.

- **Carbon-14 Creation:** Cosmic rays in the Earth's atmosphere create carbon-14 by interacting with nitrogen-14. This newly formed carbon-14 enters the carbon cycle through plants and animals.

- **Historical Origins:** In the early 1940s, chemists Martin Kamen and Sam Ruben synthesized carbon-14 in the lab, revealing its unexpectedly long half-life of around 5,000 years. Inspired by these findings, Willard Libby proposed using carbon-14 for dating organic materials in 1946.

- **Initial Assumptions:** Libby's concept assumed constant carbon-14 concentrations in the atmosphere over millennia and the effective diffusion of carbon-14 into Earth's ecosystems. Later studies validated these assumptions.

How Does Radiocarbon Dating Work?

◈ **Dynamic Equilibrium:** Living organisms constantly exchange carbon with their surroundings, maintaining a dynamic equilibrium of carbon-14. Upon death, this equilibrium is disrupted, and carbon-14 begins to decay.

◈ **Decay Rate Prediction:** The decay rate of carbon-14 is predictable, allowing scientists to estimate the age of an object by measuring the remaining carbon-14 concentration.

◈ **Experimental Validation:** Libby and James Arnold validated radiocarbon dating by accurately dating known-age objects such as redwood trees and an Egyptian pharaoh's funerary boat in the late 1940s.

Tools of Radiocarbon Dating

◈ **Geiger Counter:** Libby utilized Geiger counters to detect radioactive decay. The anti-coincidence counter enhanced precision by filtering background radiation.

- **Modern Techniques:** Contemporary radiocarbon dating employs sophisticated methods such as accelerator mass spectrometry (AMS), offering high sensitivity and the ability to date tiny organic samples.

Modern Radiocarbon Dating Setup

◈ **Accelerator Mass Spectrometry (AMS):** AMS enhances mass spectrometry by utilizing a particle accelerator, enabling the isolation and precise measurement of carbon-14 in small samples.

◈ **Versatility of AMS:** AMS has expanded applications beyond radiocarbon dating, allowing the dating of rocks based on isotopic ratios, contributing to geology.

Impact on Science

◈ **Radiocarbon Revolution:** Recognized as the first objective dating method, radiocarbon dating revolutionized archaeology and geology by providing numerical dates to organic remains.

◈ **Historical Insights:** Radiocarbon dating facilitated the exploration of human migration, civilizational rise and fall, linguistic and religious evolution, human-animal interactions, and climate changes.

◈ **Political Significance in India:** The technique holds political significance in India, where researchers use radiocarbon dating to date objects from temples and mosques.

◈ **Ongoing Refinement:** Continuous refinement of radiocarbon dating techniques addresses potential flaws, ensuring accuracy. Recent studies have highlighted deviations in the radiocarbon cycle during specific historical periods.

◈ **Time Resolution Improvement:** Innovations in atmospheric science have allowed researchers to enhance the time resolution of radiocarbon dating, providing a more detailed temporal perspective.

Way Forward:

◈ Radiocarbon dating stands as a beacon of scientific progress, unraveling the mysteries of time and enriching our understanding of the past.

◈ From its humble beginnings with Geiger counters to the sophisticated AMS technology of today, this technique continues to shape our exploration of history and archaeology, offering a window into the intricate tapestry of human and natural evolution.

31. PARLIAMENT BREACH ACCUSED UNDERWENT PSYCHOANALYSIS

Context: The prominence of 'classical psychoanalysis' has declined over time, while the topic has evolved to become less authoritarian and more practical.

What is Psychoanalysis?

◈ Psychoanalysis, often misconstrued and sometimes associated with mental health alone, is more than just a therapeutic method; it's a comprehensive worldview.

◈ Originating in Vienna, Sigmund Freud, a pioneering psychiatrist, coined the term and developed psychoanalysis as a revolutionary approach to treating individuals with symptoms resistant to conventional medical interventions.

Evolution of Psychoanalysis

◈ Classical psychoanalysis, initially authoritarian, has transformed over time into a more practical and less rigid discipline.

◈ This evolution is indebted to advancements in neurology, psychiatry, psychology, philosophy, and the natural and social sciences.

Transference and Countertransference

◈ Freud introduced the concepts of transference and countertransference.

➤ **Transference** involves projecting past templates onto the therapist, providing an opportunity for clients to gain insights into the effects of past experiences on current behavior.

➤ **Countertransference** acknowledges that therapists may have unresolved conflicts and emphasizes the need for therapists to work through these issues.

Psychoanalysis in Practice

◈ Psychoanalysis aids in **making the unconscious conscious**, exposing individuals to their hidden wishes and self-deceptive behaviors.

◈ Freud's **interpretation of dreams**, considered wish fulfillment, was a crucial aspect of psychoanalysis, although contemporary psychiatrists may differ in this regard.

32. ISRO TO LAUNCH XPOSAT AND 10 OTHER PAYLOADS

Context: The Indian Space Research Organisation, following a landmark 2023, will ring in the new year with the launch of the PSLV-C58 X-ray Polarimeter Satellite (XPoSat) mission.

Background:

◈ The Indian Space Research Organisation (ISRO) is set to embark on a groundbreaking mission with the launch of PSLV-C58, scheduled to lift off from the Satish Dhawan Space Centre in Sriharikota. The focal point of this mission is the deployment of the **XPoSat satellite**, marking a significant milestone as ISRO's **first dedicated scientific satellite** for space-based polarization measurements of X-ray emissions from celestial sources.

The Science Behind XPoSat

◈ XPoSat carries two crucial payloads, namely **POLIX (Polarimeter Instrument in X-rays)** and **XSPECT (X-ray Spectroscopy and Timing)**.

◈ Developed by the **Raman Research Institute**, **POLIX is designed to measure the polarization of X-rays** from various celestial bodies.

◈ On the other hand, **XSPECT, developed by the Space Astronomy Group of URSC**, Bengaluru, focuses **on X-ray spectroscopy and timing measurements**.

◈ These instruments are poised to unravel the **mysteries of cosmic X-ray emissions**, providing valuable insights into the nature of celestial phenomena.

Mission Objectives and Orbit Adjustment

◈ According to ISRO, the **PSLV-C58 mission aims to launch XPoSat** into an eastward low inclination orbit.

◈ Following the injection of XPoSat, the PS4 stage will undergo two restarts to adjust the orbit, ultimately achieving a 350 km circular orbit.

33. THE BLOOD MANAGEMENT SYSTEM NEEDS A FRESH INFUSION

Context: Prioritising access to blood and its products remains fundamental to building a resilient global health architecture

Building a Resilient Global Health Architecture:

◈ The COVID-19 pandemic has underscored the **existing inequities in global public health**, prompting policymakers worldwide to advocate for an enhanced global health architecture.

◈ While strategies such as **increased health financing and digital health solutions** are crucial, this article emphasizes the fundamental importance of prioritizing access to blood and its products in strengthening global health systems.

The Issue of Blood Shortage

◈ The **World Health Organization (WHO)** recently highlighted global disparities in blood collection, revealing concerning patterns.

◈ **African nations**, low-income, and lower-middle-income countries **receive disproportionately low percentages of global blood donations** compared to their populations.

◈ India, despite improvements, still faces a **chronic shortage,** impacting **critical health services**.

◈ In 2019-20, the **country fell short of over six lakh blood units**, endangering lives and affecting surgeries and transplants.

Advantages of a Hub and Spoke Model

◈ To **address blood shortages**, robust **public-private partnerships (PPP)** are essential, with innovative models like the hub and spoke model showing promise.

◈ In this approach, **high-volume blood banks** serve as hubs for smaller centers, optimizing blood distribution and reducing wastage due to short shelf life.

◈ This model, especially relevant for **resource-constrained settings**, enhances accessibility and availability of blood products.

◈ **Data from Parliament** indicates a surplus of **30 lakh blood units discarded over three years** due to expiration and infections which can be addressed by hub and spoke model.

Dispelling Myths Around Blood Donation

◈ My**ths and misinformation hinder voluntary blood donation**, contributing to the perpetuation of inequities in the blood management system.

◈ Targeted awareness initiatives, combining government efforts with private sector collaboration, can dispel these myths.

◈ Dedicated campaigns leveraging social media and innovative tools such as multi-lingual comics can engage diverse audiences, fostering a culture of informed and voluntary blood donation.

Way Forward: Strengthening the Blood Management Ecosystem

◈ As we **transition from the COVID-19 pandemic**, prioritizing blood access is vital for a resilient global health architecture.

◈ **Political leaders and policymakers** must continue strengthening the **blood management ecosystem,** considering it a cornerstone of modern medicine.

◈ **Proactive industry engagement** and **citizen participation** are crucial components of this concerted effort.

◈ By **addressing blood shortages** and dispelling myths, the global community can build a more equitable and sustainable future for healthcare.

34. ANOTHER EYE IN SKY, ON GROUND: INDIA IS NOW PART OF WORLD'S LARGEST RADIO TELESCOPE PROJECT

Context: India, through the Pune-based National Centre for Radio Astrophysics and some other institutions, has been involved in the development of Square Kilometre Array Observatory since its inception in the 1990s

◈ **A Giant Leap in Astrophysics:** India, through institutions like the National Centre for Radio Astrophysics (NCRA), has joined the international mega-science project, the Square Kilometre Array Observatory (SKAO). The SKAO, the world's largest radio telescope, marks a significant milestone in India's participation in cutting-edge astrophysics.

Key Highlights-

SKAO Overview

◈ **Array of Antennas:** The SKAO is not a single telescope but an array of thousands of antennas.

◈ **Global Locations:** Installed in remote radio-quiet locations in South Africa and Australia, it operates as one large unit to observe and study celestial phenomena.

India's Involvement in SKAO:

◈ **Historical Involvement:** India has been involved in the development of SKA since the 1990s.

◈ **Intergovernmental Organization:** SKAO was established as an intergovernmental organization in 2021, with India actively participating in the negotiations.

Government Approval and Financial Sanction:

◈ **First Step Towards Ratification:** India's government approval to join SKAO, with a financial sanction of Rs 1,250 crore, is the initial step towards formal ratification.

◈ **Department of Atomic Energy's Announcement:** The approval was announced by the Department of Atomic Energy in its 2023 year-ending note.

Scientific Significance of SKAO

◈ **Gravitational Wave Research:** Similar to LIGO, SKAO will search for gravitational waves, but its scope extends to studying a range of celestial phenomena, allowing a deeper exploration of the universe.

◈ **Unprecedented Depth:** SKAO can peer more than 3,000 trillion km into the universe, enabling detailed studies of galaxies and stars.

India's Contribution to SKAO

◈ **Telescope Manager Element:** India's main contribution lies in the development and operation of the Telescope Manager element, the crucial software that drives SKAO.

◈ **NCRA's Expertise:** NCRA, known for operating India's largest radio telescope network (GMRT), led the international team to develop the software.

Success of GMRT

◈ **IEEE Milestone Recognition:** GMRT, operated by NCRA, earned recognition as only the third facility in India to receive the Institute of Electrical and Electronics Engineers (IEEE) Milestone in 2021.

◈ **Scientific Achievements:** GMRT's operational success has led to significant scientific results in studying pulsars, supernovae, quasars, and galaxies.

◈ **SKA-India Consortium:** The SKA-India consortium involves engineers and scientists from over 20 national-level research institutions, including IIT-Kharagpur, IISER, TIFR, and others.

◈ **Global Collaboration:** Countries such as the UK, Australia, South Africa, Canada, China, France, Italy, and Germany are part of the global effort to build SKAO, showcasing the collaboration in cutting-edge astrophysics.

35. NATIONAL QUANTUM MISSION (NQM)

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)**.

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 Pre-proposals,"** 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.

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.

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.

36. MULYAPRAVAH 2.0

Context: The recent initiative by University Grants Commission's (UGC) :MulyaPravah 2.0 on the importance of transparency, accountability, and ethical conduct in higher education institutions.

Background:

◈ The UGC, in its pursuit of fostering ethical practices, introduced MulyaPravah 2.0, an evolved version of **the 2019 MulyaPravah**.

◈ The guideline aims **to instill human values and professional ethics** in higher education, addressing issues highlighted in a survey of human resource managers, such as unethical practices in hiring, training, and gender discrimination.

◈ **Need:** Corruption and ethical violations in admission, examinations, and university administration continue to plague the higher education system.

Key Highlights:

1. Emphasis on Transparency:

◈ MulyaPravah 2.0 stresses the need for **transparency in administration**, urging decision-making to be guided solely by institutional and public interest.

◈ It emphasizes the **abolition of discriminatory privileges** and calls for swift actions against corruption.

2. Core Values and Integrity:

◈ The guideline outlines the essential values for higher education institutions, including **integrity, trusteeship, harmony, accountability, inclusiveness, commitment, respectfulness, belongingness, sustainability, constitutional values, and global citizenship**.

3. Confidentiality and Information Disclosure:

◈ While emphasizing confidentiality, the article suggests that higher education institutions should voluntarily disclose **critical information, agendas, proceedings, minutes of meetings, annual reports, and audited accounts** to the public domain.

◈ This can **deter malpractices and enhance public confidence**.

4. Role of Teachers:

◈ Recognizing teaching as a noble profession, MulyaPravah 2.0 expects teachers to act as **role**

models, setting examples of good conduct, dress, speech, and behavior.

◈ It encourages **adherence to institutional rules** but remains silent on the issue of teachers' associations.

5. Involvement of Unions and Support Groups:

◈ The guideline expects **staff and student unions to support administration** in development activities and raise issues in a dignified manner.

◈ However, the **expectation that unions act as the team B of the administration** and the importance of allowing stakeholders to participate proactively in decision-making can prove to be a double edged sword.

◈ Concerns are being raised about **potential misuse and threats** to associations and unions of teachers, staff, and students.

◈ It calls for a **careful consideration of provisions that might cause more harm than good**.

Importance of Ethics in Higher Education:

◈ It's crucial to recognize that ethics in higher education is fundamental to the holistic development of **students, the credibility of institutions, and the overall advancement of society.**

◈ Ethical practices contribute to a **positive learning environment, fostering critical thinking, integrity, and responsible citizenship.**

◈ Ethics in higher education goes beyond **compliance with regulations**; it involves nurturing a culture of academic honesty, intellectual integrity, and social responsibility.

◈ Institutions must **prioritize the development of ethical leaders** who can navigate complex challenges with integrity and contribute meaningfully to society.

◈ Moreover, an **ethical higher education system attracts and retains high-caliber faculty and students,** enhancing the institution's reputation.

◈ **Collaboration between academia and industry thrives when built on ethical foundations**, fostering innovation, research integrity, and societal impact.

◈ The integration of values and **ethics in higher education is not only a regulatory requirement but a cornerstone** for building a responsible, sustainable, and impactful educational ecosystem.

◈ Initiatives like **MulyaPravah 2.0, when implemented effectively, contribute to the broader goal** of shaping ethical leaders and fostering a culture of excellence in higher education.

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SECTION B

PRELIMS ARTICLES

1. ETIKOPPAKA TOYS

Context: In his Mann Ki Baat address Prime Minister made a mention about 'Etikoppaka toys' of Anakapalli district. Calling for India to become a global hub for toy production, with the slogan 'vocal for local toys.

About the Toy

◈ Made in the Etikoppaka region of Andhra Pradesh, these toys are made with lacquer color and are traditionally known as Etikoppaka toys or EtikoppakaBommalu.

◈ The village is very famous for its toys made of wood. The toys are also called as lacquer toys because of application of lacquer coating.

◈ The toys are made out of wood and are coloured with natural dyes derived from seeds, lacquer, bark, roots and leaves.

◈ The wood used to make the toys is soft in nature and the art of toy making is also known as turned wood Lacquer craft. While making the Etikoppaka toys, lac, a colourless resinous secretion of numerous insects, is used.

◈ The already prepared vegetable dyes are further mixed to the lac, during the process of oxidation. After this process, the end product obtained is rich and colored lacquer.

◈ The lac dye is used for decorating the Etikoppaka toys, which are exported all over the world.

2. GI TAGS

Context: Over 500 products across all the States have been given GI tags so far.

◈ The products ranged from handicrafts such as the DongariaKondh shawl from Odisha, to agricultural products such as the Sundarban Honey from West Bengal. A GI tag is a sign used on products that have a specific geographical origin and possess qualities or a reputation that are due to that origin.

What is a GI tag?

- A **GI tag** is a sign used on products that have a **specific geographical origin** and possess qualities or a reputation that are due to that origin.

- Any **trader's body, association, or organisation** can apply for a GI tag. The applicants need to prove the **uniqueness of the item** with historical records and a complete breakdown of how the product is made.

- GI tags are also not meant just for popular products. There are hundreds of GI tags across States.

- Every GI tag recognises a particular region and product and brings it to the public eye.

- It is important to note that the **raw materials for such products do not have to come from that region** (unless it is an agricultural tag).

- For instance, the leaf that gives the **Banarasipaan** its identity is not grown in Varanasi; it comes from Bihar, West Bengal, or Odisha.

- The mulberry silk used in **Kancheepuramsarees** comes from Karnataka and the gold zari from Surat.

- The products ranged from handicrafts such as **the DongariaKondh** shawl from Odisha, to agricultural products such as the Sundarban Honey from West Bengal.

3. MAYURBHANJ'S RED ANT CHUTNEY

Context: The Similipalkai chutney made with red weaver ants by the tribal people of Odisha'sMayurbhanj district received the geographical identity tag.

The Red ant Chutney

◈ The savoury chutney is popular in the region for its healing properties and also deemed important for nutritional security of the tribal people.

◈ The scientists of **OUAT Bhubaneswar analysed the red weaver ants and found it contains valuable proteins, calcium, zinc, vitamin B-12, iron**, magnesium, potassium, sodium, copper, amino acids, among others.

◈ Consuming the species can help boost the immune system and prevent diseases. Many indigenous people from Mayurbhanj district venture into nearby forest to collect *kaipimpudi* (red weaver ant).

◈ Around 500 tribal families have been eking out a living by collecting and selling these insects and a chutney made with them.

◈ Red weaver ants are **collected from the nests along with their eggs and cleaned. After that, the chutney is prepared by mixing and** grinding salt, ginger, garlic and chillies. The hot chutney has a pungent and sour taste and is appetising.

◈ **Medicinal Properties:** Trials preparea medicinal oil in which they dip the ants along with pure mustard oil. After a month, this **concoction is used** as a body oil for babies and to cure rheumatism, gout, ringworm and other diseases by the tribes.

➤ The local people also consume **this to stay fit and strong. They makes soups and other forms as well.**

➤ It is also consumed as a functional ingredient to cure various health problems like stomach ache, dysentery, cold and fever.

➤ known to improve appetite as well as enhance eyesight naturally.

Nature's architects

◈ The red weaver ants form colonies with multiple nests in trees. Each nest is made of leaves stitched **together with the silk produced by their larvae.**

◈ **They mostly lodge in** trees like mango, sal, jambu and jackfruit. The nests are strong enough against wind and impermeable to water.

◈ Kai's nests are usually **elliptical in shape and range in size from single small leaf folded and bound onto itself to large nest consisting** of many leaves and measure over half a metre in length.

◈ **The Kai families consist of three categories of members** — workers, major workers and queens. Workers and major workers are mostly orange coloured.

◈ Workers are 5-6 millimetres long, major workers are 8-10 mm long with strong legs and large mandibles and queens are **20-25 mm long and greenish brown coloured**.

◈ They **feed on small insects and other invertebrates like beetles, flies** and hymenopterans. They do not sting but have **a painful bite into which they can secrete irritant chemicals from their abdomens.**

◈ **Ecological functioning:** They are also recognised as bio-control agents because they are aggressive and will prey on most arthropods entering their territory. They protect a variety of tropical crops against insect pests, acting as an alternative to chemical insecticides.

◈ **Availability:** The red weaver ants are indigenous to Mayurbhanj and are found in abundance in the jungles of every block area of the district, including in the Similipal Tiger Reserve.

◈ **Application for GI tag:** The application was made in 2020 for registration in Class 30 under sub-section (1) of section 13 of Geographical Indications of Goods (Registration and Protection) Act, 1999.

➤ Geographical indications assign products to the place of its origin. It conveys an assurance of quality and distinctiveness for such goods.

➤ Under Articles 1 (2) and 10 of the Paris Convention for the Protection of Industrial Property, geographical indications are covered as an element of Intellectual Property Rights.

➤ They are also covered under Articles 22-24 of the Trade Related Aspects of Intellectual Property Rights (TRIPS) Agreement.

4. INDIA-NEPAL SIGNED POWER PACT AND ENERGY MOU

Context: Nepal signed a long-term agreement for the export of 10,000 MW power to India in the next 10 years and an MoU for cooperation in renewable energy.

About the pact -

◈ India and Nepal reached a significant milestone in their bilateral relations by signing a ground-breaking power pact and a Memorandum of Understanding (MoU) in renewable energy.

◈ **The agreement,** signed during the 7th meeting of the Nepal-India Joint Commission, outlines a plan for Nepal to export 10,000 MW of power to India over the next decade. Simultaneously, an MoU for collaboration in renewable energy was inked between the Nepal Electricity Authority and India's National Thermal Power Corporation Limited.

Deeper and multi-level cooperation

◈ This strategic move not only reinforces economic ties but also signifies a deeper level of cooperation in crucial sectors.

◈ The bilateral discussions between the countries covered various aspects, including trade, economic relations, connectivity projects, defense, security, agriculture, energy, power, water resources, disaster management, tourism, civil aviation, people-to-people exchanges, and cultural partnerships.

◈ The virtual inauguration of three cross-border transmission lines—132 kV Raxaul-Parwanipur, 132 kV Kushaha-Kataiya, and New Nautanwa-Mainahiya—underscores the collaborative efforts between India and Nepal in enhancing connectivity and infrastructure.

Optimism and Vibrant relations

◈ India's External Affairs Minister expressed optimism about the multifaceted engagement, highlighting the positive impact on overall bilateral ties.

◈ The sentiment was echoed by Nepal's Prime Minister, who hailed the power agreement as a major breakthrough in Nepal's power sector.

◈ The main contours of India-Nepal bilateral relations include a comprehensive approach encompassing trade, economic cooperation, and shared development goals.

◈ This recent agreement not only addresses energy needs but also serves as a testament to the enduring friendship and mutual benefit between the two nations.

5. ARGENTINA REJECTS INVITATION TO JOIN BRICS NATIONS

Context: Argentine President Javier Milei sent an official letter to BRICS leaders to formalise his decision to reject an invitation to join the grouping.

Key Highlights –

◈ In August, BRICS announced its expansion.

◈ The bloc planned to add six new members, namely Argentina, Ethiopia, Iran, Saudi Arabia, Egypt, and the United Arab Emirates, effective from January 1, 2024.

Argentina's Withdrawal:

◈ Argentina, one of the prospective members, decided to withdraw from BRICS.

◈ The decision came after the election of Javier Gerardo Milei as the president, who expressed differences in foreign policy compared to the previous administration.

History of BRICS

- The term BRIC was first introduced in the 2001.
- In 2001, the British Economist Jim O'Neill coined the term BRIC to describe the four emerging economies of Brazil, Russia, India, and China.
- The grouping was formalised during the first meeting of BRIC Foreign Ministers' in 2006.
- South Africa was invited to join BRIC in December 2010, after which the group adopted the acronym BRICS.

BRICS Organization

- BRICS is an acronym for the grouping of the world's leading emerging economies, namely Brazil, Russia, India, China, and South Africa.
- The chairmanship of the forum is rotated annually among the members, in accordance with the acronym B-R-I-C-S.
- It is viewed as an alternative to the Western-led global order.

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6. REFUSAL OF ENFORCEMENT DIRECTORATE SUMMONS

Context: Delhi Chief Minister and Jharkhand CM HemantSoren have declined Enforcement Directorate (ED) summonses in separate cases, citing various reasons. The ED, in response, faces legal intricacies regarding the nature of the summonses and the consequences of non-compliance.

Examination of Refusal and ED Summons in Focus

◈ Delhi CM in relation to the Delhi excise policy case, points to the ED's 'non-disclosure' and 'non-response' approach, along with the upcoming RajyaSabha elections and Republic Day celebrations. Similarly, Hemant Soren (CM Jharkhand) has refused seven summonses in a money laundering case.

Provisions of Summons and Powers of ED:

◈ The summonses are issued under Section 50 of the Prevention of Money Laundering Act (PMLA), empowering ED officials to inspect, enforce attendance, compel record production, and receive evidence.

◈ The provision specifies that the summoned individuals must attend in person or through authorized agents.

Refusal Consequences:

◈ Refusing to appear may result in penalties under Section 63 (2) (C) of the PMLA, ranging from Rs 500 to Rs 10,000.

◈ Non-cooperation can also lead to proceedings under Section 174 of the Indian Penal Code, stipulating a jail term of one month and/or a fine of Rs 500.

Arrest Possibilities:

◈ While arrest under Section 63 of the PMLA is a potential consequence, it is a complex process requiring a fresh case under Section 174 of the IPC, followed by a trial.

◈ Courts have emphasized that Section 50 does not grant ED the power to arrest a summoned person directly.

Court Interpretations:

◈ The Delhi High Court clarified that ED's power to issue summonses (Section 50) does not inherently include the authority to arrest (Section 19).

◈ The court emphasized the distinctiveness of these provisions and highlighted that the apprehension of arrest does not justify resistance to summons.

◈ In navigating the complexities of ED summonses, legal interpretations, and potential consequences, the Kejriwal and Soren cases shed light on the delicate balance between investigative powers and individual rights, prompting a closer examination of legal frameworks and due process.

7. DIGIYATRA INITIATIVE FACES CONTROVERSY AS AIRPORT STAFF ENROLL PASSENGERS WITHOUT CONSENT

Context: The DigiYatra initiative, aimed at digitizing and streamlining passenger processing at airports through facial recognition, has come under scrutiny as reports reveal instances of passengers being enrolled without their knowledge or consent.

Background:

◈ The DigiYatra initiative **promotes paperless and seamless travel through airports**.

◈ The process involves **passengers scanning their boarding passes and faces at the entry point**, creating a biometric face token for subsequent checkpoints.

◈ However, recent incidents indicate that **private airport staff and security personnel are actively enrolling passengers without obtaining informed consent**.

◈ This controversial practice, observed at various Indian airports, has raised concerns about privacy infringement and data security.

About DigiYatra:

◈ The **DigiYatra Foundation, a not-for-profit entity** with shareholders including the Airports Authority of India and private airports, aims to enhance operational efficiency and security.

◈ By enabling passengers to **navigate checkpoints effortlessly**, the initiative seeks to reduce congestion, lower operational costs, and improve security standards.

◈ Initially launched at **three airports in December 2022**, the DigiYatra initiative has expanded to 11 airports, with plans for further expansion to 14 more in the coming months.

◈ The **project receives funding from the airports** rather than the government.

Recent Controversy :

◈ Instances where airport staff collected facial biometrics **without explicit consent**.

◈ The Central Industrial Security Force **(CISF) denies involvement**, leading to contradictory statements from airport officials.

◈ Concerns about **data security and privacy violations** persist, especially in light of past large-scale data breaches in India.

8. SWACHH SURVEKSHAN AWARDS 2023

Context: Hyderabad is selected as a five-star rating city in an open garbage free city category in SwachhSurvekshan and Water Plus recertification for 2023.

About the SwachhSurvekshan Awards 2023

◈ SwachhSurvekshanAwards 2023, A flagship initiative by the Ministry of Housing and Urban Affairs (MoHUA) in 2016.

◈ **A competitive framework:** It has evolved into the world's largest urban sanitation survey.

◈ **The primary aim :** Primarily it is focused on large scale citizen participation and create awareness amongst

all sections of society, it is governed through the theSwachh Bharat Mission (Urban).

◈ **Important Themes/Indicator** : Phased reduction of plastic, effective processing of plastic waste, promotion of waste-to-wonder parks, and the organization of zero-waste events,

◈ **Waste Management** :It includes source segregation of waste, increasing cities' waste processing capacity to match generation, and reducing waste sent to dumpsites.

◈ The ranking of wards within cities is now integral to the survey. Furthermore, the assessment will consider specific indicators related to issues like 'Open Urination' (Yellow Spots) and 'Open Spitting' (Red Spots) faced by cities.

9. PRIMARY AGRICULTURAL CREDIT SOCIETIES (PACS) AS NEW JAN AUSHADHIKENDRAS

Context: The Indian government has recently creating the establishment of PradhanMantriBhartiya Jan AushadhiKendras by inclusion of Primary Agricultural Credit Societies (PACS) nationwide.

Generic drugs

- **Definition** It refers the affordable versions of branded/patented drugs introduced to the market once the original drug manufacturer's patent expires.

- **Utility :** These medicines possess identical potency, quality, and effects, functioning in the same manner as their branded counterparts. Generic drugs are marketed by either their salt or brand name.

PradhanMantriBhartiya Jan AushadhiKendras

◈ **Governing Law/Act :** It isestablished under the PradhanMantriBhartiyaJanaushadhiPariyojana, launched by the Department of Pharmaceuticals, Ministry of Chemicals and Fertilizers in November 2008.

◈ **Objective**: Providing quality medicines at affordable prices, especially for the economically disadvantaged, to minimize healthcare-related out-of-pocket expenses.

◈ **Key Mechanism**: AushadhiKendras offer generic drugs, maintaining equivalent quality and efficacy to expensive branded drugs but at lower prices.

◈ The **Pharmaceutical & Medical Devices Bureau of India (PMBI),** established under the **Department of Pharmaceuticals, Government of India, collaborates with** CPSUs to coordinate the procurement, supply, and marketing of generic drugs through the PMBKs.

◈ **Government as Facilitator :** An incentive amount **of Rs.5 lakh is** provided for establishing a PradhanMantriBhartiya Jan Aushadhi Kendra.

10. ARVIND PANAGARIYA APPOINTED CHAIRMAN OF 16TH FINANCE COMMISSION

Context: Arvind Panagariya, the former Chairman of NITI Aayog, has recently been named as the head of the 16th Finance Commission.

Background:

◈ Arvind Panagariya served as the **Chairman of NITI Aayog**, a premier policy institution, contributing to the Indian government's policymaking process.

◈ His **diverse experience and expertise in economic matters** make him a prominent figure for the role of heading the Finance Commission.

◈ This significant appointment follows his departure from **the think tank in August 2017 after a notable two-year tenure.**

Finance Commission in India:

The Finance Commission is a constitutional body in India that plays a crucial role in fiscal federalism. Here are a few key pointers about the Finance Commission:

1. Constitutional Mandate:

◈ The Finance Commission is constituted under **Article 280** of the Indian Constitution.

◈ It is formed **every five years** or at such intervals as deemed necessary by the President.

2. Objective:

◈ The primary objective of the Finance Commission is to address the distribution of financial resources between the Centre and the States.

3. Functions:

◈ The Commission recommends the distribution of net proceeds of taxes between the Centre and the States.

◈ It suggests principles governing the grants-in-aid to be given to the States out of the Consolidated Fund of India.

◈ The Commission also evaluates the impact of the Centre's debt on the fiscal autonomy of States.

4. Composition:

◈ The Finance Commission comprises a Chairman and four other members.

◈ Members are appointed by the President, and they bring diverse expertise, including economics, finance, and public administration.

Panagariya's Vision for India:

◈ Earlier this year, Arvind Panagariya expressed optimism about **India's economic trajectory**.

◈ He envisioned **India becoming the world's third-largest economy by 2026**.

◈ According to his projections, India's GDP could **reach $5 trillion in 2026 and $5.5 trillion in 2027**, indicating a significant growth trajectory.

11. "VIKSIT BHARAT SANKALP YATRA" BOOSTS BENEFICIARY NUMBERS

Context: With a significant decline in the number of PM-Kisan beneficiaries, the government launches a special drive under the **Viksit Bharat Sankalp Yatra to add 34 lakh farmers back into the scheme**.

Background:

◈ PM-Kisan, **initiated on February 24, 2019,** provides eligible farmer families with Rs 6,000 annually in three equal installments through **Direct Benefit Transfer (DBT).**

◈ The number of beneficiaries, which peaked at 10.47 crore in April-July 2022, w**itnessed a decline to 8.12 crore by the latest payment round in November 2023.**

Need for the Special Drive:

◈ The launch of Viksit Bharat Sankalp Yatra on November 15, **six months ahead of the Lok Sabha elections**, seeks to address the decreasing numbers of PM-Kisan beneficiaries.

◈ Efforts are made to cover all intended beneficiaries **under various government flagship schemes**.

Inclusion of 34 Lakh Farmers:

◈ Under the saturation drive, **34 lakh farmers are added to the PM-Kisan beneficiary list**.

◈ **Uttar Pradesh leads with 8.50 lakh additions**, followed by Rajasthan (2.39 lakh), Manipur (2.27 lakh), Jharkhand (2.2 lakh), and Maharashtra (1.89 lakh).

◈ This inclusion ensures eligibility for the **next PM-Kisan installment** before the end of the 2023-24 financial year.

Expected Impact by January 2024:

◈ The Union Ministry of Agriculture and Farmers' Welfare

anticipates that the total number of farmer beneficiaries **will surpass 8.75 crore by January 2024, the conclusion of the Viksit Bharat Sankalp Yatra**.

Addressing Decline and Disbursement Challenges:

◈ The decline in **PM-Kisan beneficiaries over the past financial year** is acknowledged, and efforts are made to address the challenges.

◈ The annual disbursement of funds, which **peaked at** Rs 67,121 crore in 2021-22, dropped to Rs 58,258 crore in 2022-23.

◈ The current financial year, **till November 22, has seen a** disbursement of Rs 38,660 crore.

◈ A **decline in funds** was attributed to the introduction of mandatory **land seeding and Aadhaar linking.**

NO. OF BENEFICIARIES UNDER PM-KISAN (in cr)

Source : Parliamentary question reply
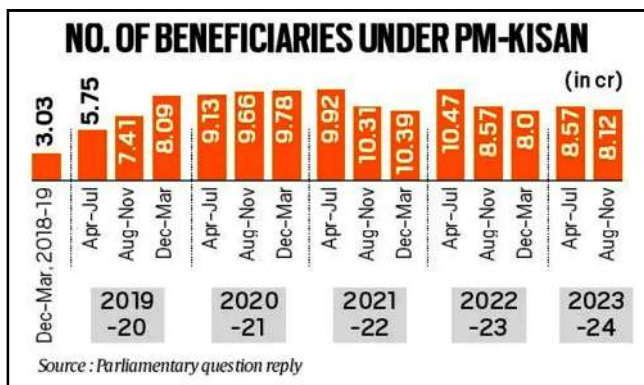
12. STATES/UNION TERRITORIES PERFORMANCE ON CPGRAMS

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

13. 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.

• 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.

Procedure post incident

◈ 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

- It is the regulatory body in the field of Civil Aviation and primarily deals with safety issues.
- 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.

14. SCHEME FOR RESIDENTIAL EDUCATION FOR STUDENTS IN HIGH SCHOOLS IN TARGETED AREAS (SHRESHTA)

Context: Ministry of Social Justice & Empowerment implements Central Sector Scheme namely Scheme for Residential Education for Students in High Schools in Targeted Areas (SHRESHTA).

Key Highlights-

◈ **Objective of SHRESHTA Scheme**

➤ **Development Intervention:** SHRESHTA aims to enhance government development interventions in SC-dominant areas, specifically focusing on education and socio-economic upliftment.

➤ **Filling Service Gaps:** The scheme addresses service deficiencies by supporting grant-in-aid institutions run by NGOs and residential high schools to provide high-quality education to SC students.

◈ **Implementation Modes**

➤ Mode 1: SHRESHTA Schools (Best CBSE/State Board Schools)

➤ **Selection Process:** Meritorious SC students are selected through the National Entrance Test for SHRESHTA (NETS) conducted by the National Testing Agency (NTA).

➤ **Admission Criteria:** Students are admitted to the best private residential schools based on merit, ensuring completion of education till the 12th standard.

◈ **Mode 2: NGO/VO Operated Schools/Hostels (EXISTING COMPONENT)**

➤ **Grant Provision:** Schools/Hostels run by VOs/NGOs receive grants for school fee and residential charges for SC students. Grants are based on the type of school and residential arrangement.

◈ **Financial Provisions**

➤ **Total Fee Coverage:** The department covers the total fee for SC students, including school fee and hostel charges, with admissible fees ranging from Rs. 1,00,000 to Rs. 1,35,000 for classes 9th to 12th.

➤ **Bridge Course:** A 10% fee for a bridge course is incorporated to enhance students' capabilities to adapt to the school environment.

◈ **Monitoring Mechanism**

➤ **Real-time Data Management:** A Data Management Information System (MIS) is established for real-time collection and dissemination of progress, ensuring better reporting on output outcome indicators.

➤ **Surveillance Measures:** Institutions are required to install closed-circuit cameras for live feed availability, and field visits by inspection teams are mandated.

15. GLOBAL FUTURE POSSIBILITIES INDEX

Context: Future Possibilities 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**.

◈ The 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**, and **Experience Economy's** shift towards **consuming experiences over physical good**s.

◈ 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 well-being.

➤ entity which is already on UPI platform, and developing their own APIs referred to as third party apps.(Whatsp pay, goggle pay)

16. INDIAN AGRICULTURE WITH AI INTEGRATION

Context: The Ministry of Agriculture & Farmers Welfare, Government of India, is spearheading a transformative initiative by embracing cutting-edge 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 approach to address the multifaceted 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 AI-powered 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)**.

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

Memorandum of Understanding (MoU) 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 **AI-driven digital agriculture transformation, aligning with the National Plan for AI outlined by the Ministry of Electronics & IT**.

◈ The creation of an **AI cell within the Ministry** signifies the institutionalization of AI in agriculture, marking a historic moment in India's agricultural landscape.

17. COVID19 SUBVARIANTS

Context: Now is the moment to treat SARSCoV2 or COVID19 akin to any common respiratory illness; it primarily pertains to individual health.

About Evolving Variants-

◈ The SARSCoV2 virus, identified in 2019, has undergone multiple variants, including the recent emergence of the **JN.1 subvariant** of Omicron.

◈ The World Health Organization designates JN.1 as a **Variant of Interest (VoI)**, triggering surveillance efforts, but it does not currently pose severe risks.

◈ Over **1,000 subvariants** and recombinant sublineages have emerged since 2019, emphasizing the virus's continuous genetic changes.

Variant Impact

◈ **Designation Criteria:** VoIs like JN.1 require monitoring but don't automatically indicate severe consequences. Variants of Concern (VoCs) are distinguished by substantial alterations in virus characteristics.

◈ **Current Scenario:** No VoCs are circulating globally, and the downgrading of Omicron in March 2023 reflects the evolving nature of SARSCoV2.

◈ **JN.1 Evaluation:** The subvariant poses no evidence of increased severity or immune escape, with wastewater surveillance indicating widespread circulation.

Vaccination Response and Public Awareness

◈ **Hybrid Immunity:** Existing vaccines and natural infections offer protection against subvariants, reducing immediate concerns. No scientific basis supports a fourth COVID19 vaccine dose.

◈ **Interpreting Cases:** The spike in COVID19 cases may result from increased testing rather than a genuine surge. Deaths attributed to COVID19 need careful evaluation, considering other prevalent causes.

◈ **Public Response:** Citizens should act responsibly, relying on verified information. Government communication must be interactive and easily understandable, emphasizing routine preventive measures.

COVID19 as Routine Respiratory Illness

◈ **Government Strategy:** Nuanced and evidencebased responses are crucial. Standard public health measures, surveillance, and clinical management should align with routine respiratory illness protocols.

◈ **Community Actions:** Individuals need not disrupt routines due to minor case increases. A syndromic approach to respiratory illnesses and adherence to preventive measures remain paramount.

◈ **Children's Risk:** The lowest risk among age groups makes school closures unnecessary. Treating COVID19 as a routine respiratory illness is essential for public health perspectives.

18. INDIA'S GSAT-20 SATELLITE SET FOR SPACEX'S FALCON-9 LAUNCH

Context: India is gearing up for a remarkable advancement in its space capabilities with the upcoming launch of the GSAT-20 satellite. The NewSpace India Limited (NSIL), the commercial arm of the Indian Space Research Organisation (ISRO), has disclosed crucial details about this mission.

Details Unveiled by NSIL:

◈ NSIL, responsible for **building, launching, owning, and operating satellites** based on user demands, has shared insights into the GSAT-20 satellite mission.

◈ This initiative follows the successful deployment **of GSAT-24 in June 2022**, a mission funded entirely by NSIL and securing capacity through TataPlay.

GSAT-20's Objectives:

◈ Scheduled for the second quarter of 2024, GSAT-20 is designed to significantly **enhance broadband connectivity in India.**

◈ Additionally, it aims to support **In-Flight and Maritime Connectivity (IFMC) and cellular backhaul services** across the country.

Key Features of GSAT-20:

◈ **High-Throughput Satellite (HTS) Capacity**: The satellite boasts an impressive HTS capacity of nearly 48Gbps.

◈ Comprehensive Coverage: **Featuring 32 beams, GSAT-20 ensures comprehensive coverage** over the entire Indian subcontinent, including the Andaman & Nicobar and Lakshadweep islands.

Collaboration with SpaceX:

◈ Weighing 4700 kg, GSAT-20 is being developed by ISRO and will be launched aboard **SpaceX's Falcon-9 rocket.**

◈ This collaboration emphasizes the **growing global partnerships in the space industry** and underscores the significance of international cooperation in advancing space technology.

Commercial Demand:

◈ Indian service providers have already **pre-booked the bulk of the high-capacity bandwidth** offered by GSAT-20.

◈ This indicates a strong demand for **improved connectivity,** hinting at the potential transformative impact on the region.

Significance of GSAT-20 Mission:

◈ The mission holds particular significance as it aims to meet the **challenging service requirements of remote and previously unconnected regions.**

◈ By **bridging the digital divide**, GSAT-20 contributes to fostering inclusive growth.

SECTION C

QUICK BYTE

- Navy unveils Shivaji-inspired new design for Admirals' epaulettes
- Nritya Kalanidhi Award
- National Maritime Domain Awareness Centre
- Russia, NASA agree to continue joint ISS flights until 2025
- Two villages on LOC get electricity for the first time
- Karnapex 2024
- Digital tools set to save Kashmiri script
- WHO lanuches ICD-11, Traditional Medicine Module 2
- Warm vaccine
- Longest sea bridge Atal Setu Started for commuters
- Nashik's Kalaram temple
- ANUBHAV Awards Scheme
- Silver Harvest Festival
- Prime Minister's Awards for Excellence in Public Administration
- Bab al Mandeb
- Ishikawa, Japan
- Kepulauan Talaud
- Punganur Cows
- Cigaritis conjuncta

Hyperlocalisation

Panelist in recent StarX summit talked about need of Hyperlocalisation.

About Hyperlocalisation -

- Hyperlocalisation is a business strategy emphasizing extreme localization.
- Focuses on catering services or products to a very specific, localized audience.
- Utilizes data and technology to tailor offerings based on the immediate needs and preferences of the local community.
- Aims to create a personalized and relevant experience for consumers within a small geographic area.
- Enables businesses to build strong community connections, enhance customer engagement, and stay responsive to local trends and demands.

Navy unveils Shivaji-inspired new design for Admirals' epaulettes

The Navy unveiled the new design of epaulettes that senior officers will display on their uniform as part of efforts to shed the remnants of its colonial legacies in customs and traditions.

About:

- The new Navy button reflects the new crest, sans the fouled anchor which was a colonial era vestige.
- As per the Navy, the red octagon reflects the eight cardinal directions indicative of an all-round long-term vision.
- It is inspired by the new naval ensign that was unveiled last year and inspired from the Rajmudra of Maratha ruler Chhatrapati Shivaji Maharaj who had built the massive Maratha Navy which has a rich maritime legacy.

Nritya Kalanidhi Award

The award was conferred to Vasanthalakshmi Narasimhachari.

About the award

- It is presented in the field of dance every year by the Madras Music Academy.
- The award has been given to Vasanthalakshmi Narasimhachari . She excels both in Bharatanatyam and Kuchipudi.
- The award was presented to her by the Singapore Consulate General, who also highlighted the historical relationship which it shares with Tamils.
- Tamil is one of the four official languages and its historical people-to-people links are intertwined with heritage and tradition of the fine arts.

Madras Music Academy

- A landmark institution in the history of the fine arts which emerged as an offshoot of the All India Congress Session held in Madras in December 1927.
- Founded on the notion that it would set the standard for Carnatic music.
- **It also confers the various awards such as the Sangita Kalanidhi, Nritya Kalanidhi.**

National Maritime Domain Awareness Centre

India is poised to establish a National Maritime Domain Awareness Centre (NMDAC) in response to emerging threats in the Indian Ocean Region (IOR).

About NMDAC -

- The primary objective of the NMDAC is to meticulously gather, analyze, and provide actionable intelligence to address maritime challenges such as terrorism, piracy, trafficking, and illegal fishing.
- This center is designed to bring together 15 departments and organizations spanning seven ministries under a single roof. The involved ministries include petroleum, defense, fisheries, shipping, among others.
- **Bharat Electronics Limited (BEL), a defense public sector undertaking, is entrusted with the responsibility of providing all the requisite hardware and software.**

Russia, NASA agree to continue joint ISS flights until 2025

As per the latest update, Russian and U.S. space agencies have agreed to keep working together to deliver crews to the International Space Station (ISS) until at least 2025.

About:

- It aims "to guarantee the presence of at least one representative of Roscosmos on the Russian segment and the presence of at least one representative of NASA on the American segment."

The International Space Station (ISS):

- The station was designed between 1984 and 1993. Elements of the station were in construction throughout the US, Canada, Japan, and Europe beginning in the late 1980s.
- The International Space Station Program brings together international flight crews, multiple launch vehicles, globally distributed launch and flight operations, training, engineering, and development facilities, communications networks, and the international scientific research community.
- ISS partners – the United States, Russia, Europe, Canada and Japan – are for the moment only committed to operate the orbiting laboratory until 2024, though US officials have stated they want to continue until 2030.

Two villages on LOC get electricity for the first time

Kundiyan and Patroo – two remote villages in North Kashmir's Kupwara district, **along the Line of Control** have got electricity for the first time.

- They have now been connected to the grid by the Two sub-stations of 250 KV were completed under the **SamirdhSeemaYojana** by the KPDCL Electric Division Kupwara to electrify the villages.

SamirdhSeemaYojana

- SSY scheme was launched in 2022-23 in the Union Territory of Jammu and Kashmir as a special initiative with an allocation of Rs 50 crore for inclusive development of border areas, in convergence with other schemes, especially in the seven Thematic Areas

- Including Roads and Buildings, Health, Education, Agriculture, Power, Drinking Water Supply, Social Sector and Sports Infrastructures. The aim is to ensure the provision of essential infrastructure facilities and opportunities for sustainable living which would help integrate these areas with the mainstream by providing basic facilities

Karnapex 2024

The 13th state-level philatelic exhibition, Karnapex 2024 -Festival of Stamps.

About-

- Stamps dating back to 1832 and a half-anna piece in red, was the oldest on display.
- Collection of postage stamps is philately. The Government launches stamps commemorating special events like centenary birth anniversaries of great leaders, achievements of schemes, sports persons, honouring military officials and their sacrifices, promoting tourist spots and heritages, etc.
- Stamps are reflections of the heritage and achievements of a country. **National Philately Day** is celebrated on October 13 to encourage philately as a hobby.
- India Post organised AMRITPEX 2023 in New Delhi. It was a National Philatelic Exhibition.

Digital tools set to save Kashmiri script

Microsoft India's MS Translator software has now included the Kashmiri language.

About –

- The Kashmiri language has survived only through oral traditions; by 2013, those who could write the script fell to just 5%.
- These moves are likely to benefit 70 lakh Kashmiri speakers living in the erstwhile State of Jammu and Kashmir, including those in Pakistan Occupied Kashmir (PoK).
- Kashmiri — which is influenced significantly by Sanskrit, Persian, and Arabic — had fallen into the category of endangered languages.

Kashmiri Language

- Is a Dardic language of Indo-Aryan language family spoken by around 7 million Kashmiris of the Kashmir region (majority in Kashmir Valley) primarily in the Indian-Administrated union territory of Jammu and Kashmir.
- Kashmiri has split ergativity and the unusual verb-second word order.
- Since 2020, it has been made an official language of Jammu and Kashmir along with Dogri, Hindi, Urdu and English. Kashmiri is also among the 22 scheduled languages of India.

WHO lanuches ICD-11, Traditional Medicine Module 2

The data and terminology relating to diseases based on Ayurveda, Siddha and Unani Medicine have been included in the WHO ICD-11 classification.

About ICD-11 Classification-

- ICD serves a broad range of uses globally and provides critical knowledge on the extent, causes and consequences of human disease and death worldwide via data that is reported and coded with the ICD.
- Clinical terms coded with ICD are the main basis for health recording and statistics on disease in primary, secondary and tertiary care, as well as on cause of death certificates.

- The International Classification of Diseases (ICD) has been the basis for comparable statistics on causes of mortality and morbidity between places and over time.

About ASU:

- Ayurveda, Siddha and Unani drugs, which are mainly poly-herbal/herbo-mineral preparations, are very different from synthetic molecules of the allopathic system which are produced under controlled laboratory conditions.

- It depends on the quality and availability of raw materials of botanical origin.

- Keeping this in view, the National Medicinal Plants Board (NMPB) was established in the year 2000 with the objective of in-situ conservation and ex-situ cultivation of quality medicinal plant raw materials.

- In view of environmental pollution the NMPB is examining how best to adopt Good Agricultural and Collection Practices for collection and cultivation of medicinal plants for ensuring quality raw material for ASU medicines.

- As a large number of our forest dwellers and small landholders are engaged in collection and cultivation, these norms have to be adopted in a way that livelihood is not affected.

- Both traditional and modern parameters are used for quality testing and standardization of raw materials as well as finished products.
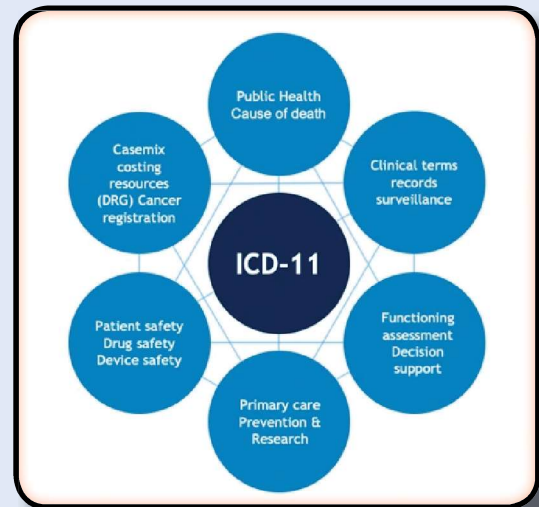
Warm vaccine

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.

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.

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.

LOCATION IN NEWS

Bab al Mandeb

British maritime security agency UKMTO reported explosions near a cargo ship in the strategic Bab el-Mandeb Strait by Yemen's Iran-backed Houthi rebels.

About Bab al Mandeb-

- Bab al-Mandeb is a **strategic strait** connecting the **Red Sea to the Gulf of Aden** and ultimately the Indian Ocean.
- Its location at the southern entrance of the Red Sea makes it a critical **maritime chokepoint.**
- It serves as a crucial passage for **international shipping and trade**, facilitating the movement of goods between Europe, Asia, and the Middle East.
- The strait is flanked by **Djibouti and Yemen**, and both locations host naval bases of international significance.
- Countries like the United States, China, and others maintain military bases in the region, emphasizing its strategic importance.

Ishikawa, Japan

Earthquake of Magnitude of 7.6 hit City Ishikawa on the western coast of Japan.

About the incident-

- A series of powerful earthquakes hit western Japan.
- Aftershocks continued to shake Ishikawa prefecture and nearby areas.

About Ishikawa-

- Ishikawa is a prefecture located on the coast of the Sea of Japan, situated in the Chubu region of Honshu, Japan's main island.
- The capital city of Ishikawa is Kanazawa, renowned for its well-preserved Edo-period districts and traditional arts and crafts.
- The prefecture is famous for its traditional crafts like Kutani ware (porcelain), Kaga Yuzen silk dyeing, and Wajima-nuri lacquerware, showcasing the region's artistic and artisanal expertise.

Kepulauan Talaud

An earthquake of magnitude 6.8 struck Indonesia's Kepulauan Talaud.

About Kepulauan Talaud –

- **Talaud Islands**, island group of northern Indonesia, situated about 225 miles (360 km) **northeast of Celebes (Sulawesi).**
- The Talaud Islands form an **archipelago** situated to the north-east of the Minahasa Peninsula.
- Along with the Sangihe Islands to the west and south, the Talaud Islands are **administered from Manado**, the capital of North Sulawesi provinsi (province).
- The region is regularly rocked by large earthquakes and volcanic eruptions, as the **Molucca Sea Plate is being consumed** in both directions.

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.
- *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.