



CSB IAS ACADEMY

The road map to Mussorie..

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CULTURE AND HERITAGE

1. 'Vishwakarma scheme will aid 30 lakh artisan families

Context:

The Cabinet Committee on Economic Affairs has approved a new Scheme named "PM Vishwakarma".

Vishwakarma Scheme :

- **Type:** Central Sector Scheme
- **Aim:** To strengthen and nurture the Guru-Shishya parampara or family-based practice of traditional skills by artisans and craftspeople working with their hands and tools.
- To improve the quality, as well as the reach of products and services of artisans and craftspeople and to ensure that the Vishwakarmas are integrated with the domestic and global value chains.
- **Coverage:** The scheme will provide support to artisans and craftspeople of rural and urban areas across India.
- Eighteen traditional trades will be covered under the scheme. These include carpenter, boat maker, armourer, blacksmith, hammer and tool kit maker, locksmith, goldsmith, potter, sculptor, stone breaker, cobbler, mason, basket/mat/broom maker/coir weaver, traditional doll and toy maker, barber, garland maker, washerman, tailor and fishing net maker.
- **Duration of the scheme:** Five years (FY 2023-24 to FY 2027-28).
- **Key Features of the scheme:** Artisans and craftspeople will be provided a recognition through PM Vishwakarma certificate and ID card.
- The scheme has a provision of credit

support of up to 1 lakh (first tranche) and Rs. 2 lakh (second tranche) with a concessional interest rate of 5%.

- It also has a provision to provide skill upgradation, incentive for toolkit as well as digital transactions and marketing support.
- Skilling programmes will take place at both basic and advanced types. Participants will get a stipend of Rs. 500 per day while undergoing training.
- Beneficiaries will also receive up to Rs. 15,000 to buy modern tools.

UPSC Prelims point: Vishwakarma Scheme

2. Brazil found the last survivors of an Amazon tribe. Now what?

Context:

Recently, the last survivors of an Amazon rainforest tribe called Piripkura were found in Brazil.

About the Piripkura Tribe:

- The Piripkura tribe is a small and indigenous tribe from the Mato Grosso region of Brazil.
- The tribe is known for their extreme isolation and efforts to maintain its traditional way of life.
- Their land lies within the Amazon rainforest, an area that is rich in biodiversity and crucial for the ecological balance of the region.

Population of Piripkura Tribe:

- The Piripkura tribe's population is estimated to consist of merely three individuals.

- Conducting an accurate census is complicated due to their isolation and unique circumstances.
 - The Piripkura tribe people have faced significant challenges due to encroachment on their land by illegal logging, mining and other forms of land exploitation.
- Other indigenous tribes residing in the Amazon Rainforest:**
- **Yanomami Tribe:** They are a group of around 35,000 people who live in the northern part of the Amazon Basin in Brazil and Venezuela. They have a rich culture and deep spiritual connection to the forest, which is central to their daily life.
 - **Kayapo Tribe:** They live in the central part of the Amazon Basin in Brazil. They are known for their elaborate body painting and beadwork.
 - **Awa Tribe:** It is a tribe that resides in the northern Amazon Basin of Brazil. They are known for their musical traditions and vibrant dances.
- **Based on:** The art form is based on certain episodes taken from the epic Ramayana.
 - The performance portrays the tale of Sita's journey, from vanayatra (exile to the forest) to Sita's andardhanam (descend into the earth).
 - **Key Features:** The art form is a blend of songs, storytelling and fast movements. It is accompanied by instruments such as ganjira, manikatta, chiratta and kaimani.
 - The costumes and the make-up are loud and eye-catching. The characters of Rama and Laxmana appear in green since the color is used to represent gods and goddesses in Kathakali.
 - **Reason for decline:** Seethakali songs were orally transmitted from one generation to the next, which led to a pause in the tradition.
- UPSC Prelims point: Seethakali folk art.**

3. Artistes breathe a new life into Seethakali folk art.

Source:

The Perinad Seethakali Sangham, a group of artists from diverse backgrounds, revived the dying Seethakali folk art form in 2017.

This group is now set to perform outside Kerala for the first time

About Seethakali folk art:

- Seethakali is a traditional folk-dance drama from Desinganad, Kerala. It is primarily performed during the Onam festivities.
- **Performed by:** The performance is carried out by Dalit artists belonging to the Veda and Pulaya communities.

INDIAN POLITY, POLICY AND INTERNAL SECURITY

1. The 2047 Dream- Developed country? Provided India undertakes a tough but doable set of internal reforms.

Context:

In this article author discusses India's potential to become a developed nation by 2047. For this, he emphasizes the need for economic reforms, better opportunities for the young population, increased women's workforce participation, improved global trade, and enhancing the overall quality of life.



The potential factors that could help India become a developed nation by 2047:

- Young Population: India has the world's largest population below 30, providing a large workforce.
- Educated Women: More girls than boys are studying in STEM fields.
- Global South Voice: India's position allows it to represent developing nations after the pandemic.
- Global Influence: As G20 president, India addressed issues like the Global South's debt crisis.

India need to become a developed nation by 2047:

- Reevaluate Economic Classifications: India is currently a lower middle-income country as per World Bank. Relying solely on per capita gross national income might be misleading; Bermuda

ranks higher than the U.S.

Address Underemployment: There's a slow transition of youth from farms to industries. Focusing on productive sectors can create more opportunities for the young population.

Boost Women's Workforce Participation: Women's participation rate was only 24% in 2022, compared to the global average of 47%. Improved public safety and transport can enable more women to work.

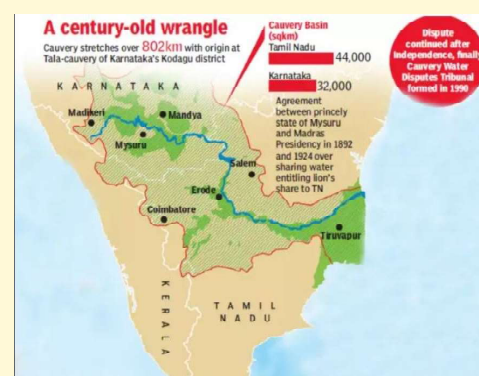
Redefine Trade Policy: India is 18th in global merchandise export rankings. A shift from protectionist policies can promote cross-border trade.

Implement Internal Reforms: Embrace reforms to unshackle the economy's potential. Improve human capital quality to support growth.

2. Why is the Cauvery water sharing issue flaring up again?"

Context:

Recently, the Tamil Nadu government approached the Supreme Court to make Karnataka immediately release 24,000 cusecs water from its reservoirs and ensure the availability of the specified quantity at Biligundlu on the inter-State border for the remainder of the month.



The water being shared:

- As per monthly schedule, Karnataka is obligated to provide Tamil Nadu with a total volume of 177.25 TMC during a standard water year spanning from June to May.
- Out of this quantity, 123.14 TMC is slated to be transferred from June to September.
- The Cauvery Water Management Authority (CWMA) and Cauvery Water Regulation Committee (CWRC)** has been established to ensure the enforcement of the court's decision.

T.N. approached the SC:

- During its session on August 11, the CWMA expressed **the need for Karnataka to release 10,000 cusecs of water at Biligundlu for the next 15 days.**
- Karnataka would be required to provide 0.86 TMC of water daily or a total of 12.9 TMC over the 15-day period.
- Tamil Nadu was upset over Karnataka's rejection of its commitment during the CWRC meeting, which was set at 15,000 cusecs for a 15-day duration.
- Karnataka stated its intention to release only 8,000 cusecs.

Karnataka responded:

- Karnataka has argued that decreased rainfall in the Cauvery catchment area has resulted in insufficient inflow into its reservoirs.
- As per data from the Meteorological Department Kodagu district is experiencing rainfall deficit. It is the source of the Cauvery river.

Way forward:

- The people of Tamil Nadu are eagerly anticipating Karnataka's stand over the decision made by the Authority.
- The current storage level of Tamil Nadu's Mettur reservoir is critically**

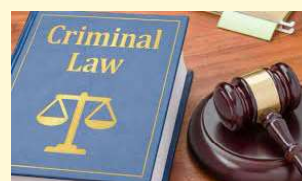
low. This amount would only be sufficient for around 10 days. However, water will be required for at least one more month to sustain the ongoing short-term crop, kuruva.

The perspective of the Supreme Court on this matter is yet to be determined. It remains uncertain how the Supreme Court will perceive the situation.

Mains point: Issues related to river water disputes between states

3. Our criminal laws must Uphold gender justice.**Context:**

Recently, Parliament introduced three Bills transforming India's criminal laws – the Bharatiya Nyaya Sanhita to replace the Indian Penal Code; the Bharatiya Nagarik Suraksha Sanhita to replace the Code of Criminal Procedure and the Bharatiya Sakshya Bill to replace the Indian Evidence Act.

**Some positive aspects of these laws:**

- The government's intention to modernize our criminal justice system is understandable and commendable.
- The proposed revisions aim to bring key aspects of the system into the digital age, streamline the process of filing complaints, expedite legal proceedings, and introduce community service as a penalty for minor offenses.
- The foundational framework of our existing penal code is over a century old. There is a need for legal revisions.

Some women-centric concerns related to these Bills:

- The consideration of women's safety is of utmost importance. The Bharatiya Nyaya Sanhita (BNS) introduces more stringent and comprehensive provi-

sions for offenses against women and children. It dedicates an entire chapter to these matters.

In contrast, under the Indian Penal Code (IPC), such crimes are part of a broader chapter on offenses “**affecting the human body.**”

The choice of words and the tone adopted in the proposed changes within the **Bharatiya Nyaya Sanhita (BNS)** exhibit a clear dichotomy in their view of gender. It upholds the idea of preserving women’s honor rather than treating women as equals.

Marital rape would only be considered a criminal offense if the wife is below the age of 18.

This outdated assumption that a married woman is the possession of her husband limits women’s control over their sexual and reproductive rights.

This is the case despite India’s efforts to strengthen laws against violence towards women and the Supreme Court’s engagement with petitions seeking to criminalize marital rape.

In specific instances, the language used in the text provides insightful viewpoints. For example, Section 73 of the BNS characterizes acts of assault as intending to “outrage her modesty.

These words reflect outdated ideas about women’s behavior, morality, and transgression. It lacks an emphasis on women’s rights.

The Bills also do not provide sufficient remedies for men or non-binary individuals encountering similar violations. reevaluation. For instance, the inclusion of “**deceitful means**” in relation to marriage could introduce new uncertainties when determining culpability.

Mains point: Gender justice.

4. New Bills and a principled course for criminal law reforms.

Context:

Recently, Parliament introduced three Bills transforming India’s criminal laws – the **Bharatiya Nyaya Sanhita** to replace the Indian Penal Code; the **Bharatiya Nagarik Suraksha Sanhita** to replace the Code of Criminal Procedure and the **Bharatiya Sakshya Bill** to replace the Indian Evidence Act.

Three bills introduced in Lok Sabha

Indian Penal Code (IPC), 1860	Code of Criminal Procedure (CrPC), 1973	Indian Evidence Act, 1872
TO BE REPLACED BY Bharatiya Nyaya Sanhita Bill, 2023	TO BE REPLACED BY Bharatiya Nagarik Suraksha Sanhita, 2023	TO BE REPLACED BY Bharatiya Sakshya Bill, 2023
<ul style="list-style-type: none"> It will have 356 sections (instead of 511 sections in IPC) 175 sections have been amended 8 sections have been added, and 22 sections have been repealed 	<ul style="list-style-type: none"> It will have 533 sections (instead of 478 sections in CrPC) 160 sections have been changed 9 sections have been added, and 9 sections have been repealed 	<ul style="list-style-type: none"> It will have 170 sections (instead of 167 sections in IEA) 23 sections have been changed 1 section has been added, and 5 sections have been repealed

“From 1860 to 2023, the country’s criminal justice system functioned as per the laws made by the British. I can assure the House that these bills will transform our criminal justice system. The aim will not be to punish, it will be to provide justice.”
— AMIT SHAH

WHAT NEXT
The three bills will be studied by the standing committee on home affairs, which is chaired by BJP MP Brijlal (who is a retired IPS officer).

The challenges in reformation of criminal laws:

- **Incorporating the collective aspirations of the public into criminal law reforms poses a significant challenge.** Balancing the divergent views prevalent in society with the perspective of the state is necessary.
- **Criminal law functions as a mechanism for upholding societal stability.** The deeply rooted perceptions of individuals involved in the criminal justice system, add complexity in reforming criminal laws.
- The success or failure of criminal law reforms depends on their **inception, formulation, resilience, and foresight- edness.**
- **The political leadership** has consistently aimed to utilise criminal law as a preemptive instrument. Criminal law continues to be a crucial strategic resource for the state.

The points must be considered while reforming the criminal laws:

- . The discourse surrounding the Bills should extend beyond evaluating favourable or unfavourable results. The core emphasis should be on emphasising that fundamental principles of criminal jurisprudence are maintained,
- . There is a need to assess the degree to which reforms cater to the requirements and apprehensions of those impacted by the criminal justice system.
- . The revised laws must achieve a careful equilibrium between state security and the individual freedoms
- . **The effectiveness of reforms** depends on their capacity to prevent potential misuse by those in positions of authority.
- . Adhering to **principles of criminalization** when introducing new offences is equally important. The underlying basis for the harm or legal offence caused by the criminalised behaviour requires thorough examination.
- . **Criminal laws in India perpetuate class divisions.** They favour the wealthy and privilege in accessing justice over marginalised and vulnerable individuals. Therefore, ensuring principles of equality and fairness is crucial in evaluating criminal law reform.
- . It is not appropriate to assume that the general population opposes stringent measures against terrorists or organised criminals. However, enhancing the severity of laws does not automatically restore public confidence in the criminal justice system.
- . The effectiveness of reforms depends on the criminal justice system's capability to implement them efficiently.
- . The impact of the reforms on the vulnerable, victims, and the underprivileged will also determine their effectiveness.

Mains point:criminal law reforms

5. **Illegal, irrational, unconstitutional: The problem with recent suspensions of MPs**

Context:

The rules for suspending members from India's Parliament if they disrupt its proceedings. Recently, suspensions, including key leaders, have been longer than usual, going against traditional norms and rules. These extended suspensions are controversial and might be unconstitutional. The author suggests finding better solutions to manage disagreements in Parliament.

The methods of suspending members from India's Parliament:

Process of Suspending in Lok Sabha:

- . In the Lok Sabha, members causing disruptions can be suspended under Rule 374. When a member consistently obstructs business or shows disregard to the Chair's authority, the Chair has the right to name them.
- . Once the member is named, the government introduces a motion for their suspension. If the motion passes, the member gets suspended.
- . For example, Adhir Ranjan Chowdhury, the leader of the Congress party, was recently suspended using this method.

Process of Suspending in Rajya Sabha:

- . In the Rajya Sabha, a similar procedure is followed under Rule 256. The Chair identifies any member causing undue disruptions. Following this, a motion is presented to the House for their suspension. If the House approves the motion, the member is suspended.
- . Recent instances include the suspensions of members like Sanjay Singh and Raghav Chadha.

Rule Used for Suspending:

- . Rules of the Houses of Parliament are framed under Article 118 of the Constitution and these can operate only subject to the provisions of the Constitution.

- The standard procedure under both rules (374 and 256) dictates that suspension should typically last until the end of the ongoing session.

The implications of suspending members from India's Parliament:

- **Disruption to Proceedings:** Members can't participate, potentially hindering legislative work.
- **Legal Implications:** In 2022, the Supreme Court, in the Ashish Shelar vs Maharashtra Legislative Assembly case, declared suspensions beyond rule-prescribed periods unconstitutional. The plea of procedural irregularities under Article 122 was rejected. It was seen as substantial illegality, not just procedural error.
- **Deviation from Rules:** Recent cases like those of Sanjay Singh, Raghav Chadha, and Adhir Ranjan Chowdhury show suspensions extending beyond typical limits or pending investigations, against traditional norms.
- **Challenge to Democracy:** Over-reliance on suspensions might stifle opposition voices, affecting democratic discussions.
- **Need for Conflict Resolution:** Such suspensions highlight the need for better methods to handle disagreements in Parliament.

Way forward:

- **Adhere to Established Rules:** Parliament should strictly follow **Rules 374 (Lok Sabha) and 256 (Rajya Sabha) when suspending members.**
- **Avoid Extended Suspensions:** Suspensions should not exceed the ongoing session's duration. Cases like Sanjay Singh's extended suspension go against this principle.
- **Review Recent Changes:** The recent indefinite suspensions, like that of Adhir Ranjan Chowdhury, should be revisited to ensure they align with constitutional norms.

• **Seek Judicial Guidance:** Referring to the **Ashish Shelar vs Maharashtra Legislative Assembly (2022)** decision can help clarify suspension durations' legality.

• **Promote Dialogue:** Political leaders should prioritize dialogue over suspensions to address disagreements in Parliament.

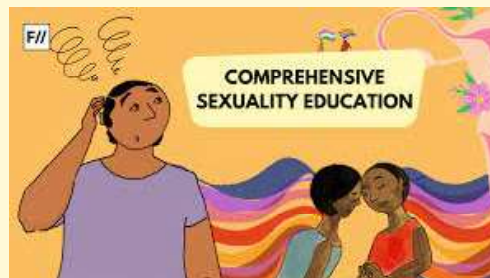
Mains point: The methods of suspending members from India's Parliament:

6. India needs comprehensive sexuality education.

Context:

The need for thorough sex education in India to stop child abuse. They stress the importance of learning about consent and propose using local languages to explain it. The author also points out that schools, parents, and caregivers have a crucial role in this education.

The sexual consent :



- Sexual consent is a mutual agreement between individuals to engage in any form of intimate activity. It's essential for maintaining healthy relationships and understanding boundaries.
- Consent can be given, asked for, and withdrawn at any point. Many in India, especially teenagers and young adults, may not fully understand this concept.
- There's a need for clear language and education in regional languages to discuss and teach about consent and its significance.

A better understanding of sexual consent is important:

- **Better understanding of sexual consent is important because:**
- **Protection from Abuse:** The NCRB reported 51,863 cases under The Protection of Children from Sexual Offences Act in 2021, emphasizing the need for awareness.
- **Healthy Relationships:** Understanding consent helps maintain respectful and mutual relationships.
- **Awareness Gaps:** A Tinder study showed over 64% of young Mumbaikars hesitated around the concept of giving, asking for, or withdrawing consent.
- **Legal Implications:** High Courts in Madras, Delhi, and Meghalaya have highlighted the frequent criminalization of consensual adolescent relationships, indicating the need for clarity.
- **Cultural Context:** Historically, discussions around consent have been limited in India, making education essential for the diverse population.
- **Empowerment:** Knowledge of consent empowers individuals, promoting their well-being, dignity, and human rights.

The challenges of sex education in India:

- **Cultural Resistance:** Some state governments and societal sections believe it violates "Indian values".
- **Misunderstandings:** Concerns about it "sexualizing" children have led to watered-down programs.
- **Language Barrier:** Absence of vocabulary in regional languages for discussing concepts like consent.
- **Teacher Preparedness:** UNESCO's 2021 report indicates teachers often lack knowledge on diverse topics in sex education.
- **State Discretion:** Each state in India can design its own curriculum, leading to varied levels of education quality.

Way forward:

- **Comprehensive Curriculum:** Implement comprehensive sexuality educa-

tion for children, parents, and caregivers.

- **Emphasize Consent:** Develop clear language, especially in regional languages, to teach about sexual consent.
- **Early Start:** UN global guidance suggests that comprehensive sexuality education should start at the age of five, paired with formal education.
- **Teacher Training:** According to the UNESCO 2021 global status report, there's a need to enhance teacher capacity to ensure they are equipped to address these diverse topics.
- **Incorporate NGOs:** Models like Jharkhand's Udaan can be integrated into the main education system.
- **Holistic Approach:** Cover the broad relation between sexual health and human rights, not just legal aspects.

Mains point: The need for thorough sex education in India to stop child abuse.

7. Time's Come To Draw New Lines.

Context:

Ranjan Gogoi, a former Chief Justice of the Supreme Court, put forth the notion that the concept of the basic structure is subject to debate.

Some facts about basic structure:

- The Kesavananda Bharati judgment was delivered by a 13-member constitutional bench in 1973. It introduced the concept of "basic structure".
- The bench said that there are some things in the Constitution that even Parliament cannot change.

The issues with the basic structure:

- **Lack of clarity-** There is a question regarding the extent to which SC can interpret the concept of the "basic structure." The judiciary has not yet provided clear guidance on this matter.
- **Varying perspectives among judges-** As per Ranjan Gogoi, the concept of the basic structure is subject to debate.

- The current Chief Justice had expressed that the basic structure serves as the “North Star” guiding jurisprudence.
- **Historical perspective-** When the Kesavananda verdict was delivered in April 1973, it carried a narrow majority of 7-6. The panel of 13 judges produced a total of 11 separate opinions.
- The consensus was shaped by the then Chief Justice, SM Sikri. He presented a six-point “majority view” in open court. However, four of the judges declined to do so.
- The second proposition stated that “**Article 368 does not empower Parliament to modify the fundamental structure or framework of the Constitution.**”
- **The concept of the basic structure did not organically arise from this judgment.** Its frequent use to justify judicial interventions is questionable unless the entire idea is thoroughly examined by another constitutional bench.
- **Political backdrop-** Indira Gandhi held considerable power. She wants amendments that would enhance the authority of the executive in pursuing its social agenda.
- The judiciary was divided between progressive and conservative factions, and some believed that curbing executive power was imperative.
- **Extraordinary circumstances can lead to flawed laws.** The notion of the basic structure was a product of its era. It warrants a reevaluation and clarification in the context of our times.
- **Other issues-** Certain common-sense “basic” features have been disregarded by the judiciary. A fundamental aspect of the Constitution should involve checks and balances.
- There are questions regarding the Supreme Court having authority to exclusively appoint all judges to the higher judiciary.
- **A dissenting judge in the NJAC case,**

Justice J Chelameswar, argued that the independence of the judiciary isn’t compromised simply because the Chief Justice isn’t the primary influencer in judicial appointments.

- There is assumption that the concept of the basic structure was derived from the thoughts of the constituent assembly that drafted the Constitution.
- However, the chapter on fundamental duties was not part of the original Constitution. This was added in 1976 as Article 51A.
- A provision introduced a quarter century after the initial Constitution was classified as an element of the basic structure.

Mains point: The concept of the basic structure

8. Judges should declare their assets, too.

Context:

The issues of declaration of assets by judges of Supreme Courts and High Courts.



The various provisions related to declaration of assets by public officials:

- All public officials in India are obligated to submit an annual declaration of their assets, using various forms and methods.
- The terms of employment and the Conduct Rules for Civil Servants specify the compulsory submission of annual property declarations for their immovable assets.

- Other constitutional authorities, such as the **Comptroller and Auditor General of India**, adhere to their Code of Ethics by posting their most recent asset declarations on their website.
- Members of the Council of Ministers also disclose their assets in accordance with the Code of Conduct for Ministers issued by the Ministry of Home Affairs.
- Members of Parliament are mandated to provide details of their assets and liabilities within 90 days of taking their oath of office.

The stand of the judiciary on declaration of assets by judges:

- Regarding the judges of the Supreme Court and high courts, there is no provision for officially disclosing their financial holdings.
- In 1997, the Supreme Court adopted a resolution called "**The Restatement of Values of Judicial Life**" was adopted. This resolution stipulates that judges must declare their assets and debts upon assuming office and subsequently at the beginning of each year.
- In 2009, a full bench of the Supreme Court decided to make judges' asset declarations public** by posting them on the apex court's website. The same bench changed its stance, deciding that asset declarations would be posted on the website voluntarily.
- Currently, the Supreme Court's website shows that only 55 judges have uploaded their asset declarations. Concerning high courts, only five have made this information available on their websites.

Some facts about the Judicial Standards and Accountability Bill, 2010:

- This bill aimed to establish a legal framework for investigating individual complaints against judges of the high courts and Supreme Court and recommending appropriate actions.
- It also aimed to facilitate **the declara-**

tion of judges' assets and debts and establish standards of conduct for them. The bill was meant to replace the Judges Inquiry Act of 1968 while preserving its fundamental aspects.

Way forward-

- The Supreme Court has taken the stance that the public has the right to be informed about the assets of individuals contesting elections as Members of Parliament or Members of Legislative Assemblies.
- Judges also serve as public officials.** It is reasonable for litigants to have access to such fundamental information about them. This approach would foster trust and confidence in the judicial system among those involved in legal proceedings.
- The Parliamentary Standing Committee on Personnel, Public Grievances, Law and Justice extensively discussed it.
- The Committee suggested that the government should introduce appropriate legislation to enforce the mandatory submission of property reports by judges of the Supreme Court and high courts on an annual basis.
- This can be achieved by introducing necessary amendments to existing acts – namely, the **Supreme Court Judges (Salaries and Conditions of Service) Act of 1958** and the **High Court Judges (Salaries and Conditions of Service) Act of 1954**.
- Alternatively, an entirely new legislation addressing this matter could be introduced.
- Another option is for the Supreme Court collegium to establish a suitable mechanism that would require judges of the Supreme Court and high courts to compulsorily disclose their annual reports on immovable properties.

Mains point: Reform in judiciary

9. Rethink the dynamics of India's fiscal federalism.

Context:

The need for relook at the present system of fiscal federalism.

The emerging dynamics of India's fiscal federalism need rethinking:

- Fundamental shift from a centrally planned economy to a market-driven economic structure.
- The conversion of a dual-tier federation into a multi-tier fiscal system following the 73rd and 74th Constitutional Amendments.
- **The elimination of the Planning Commission and its substitution with NITI Aayog.**
- **The enactment of the Fiscal Responsibility and Budget Management (FRBM) Act.**
- The implementation of the Goods and Services Act with authority vested in the GST Council,
- The widespread utilization of cess and surcharges that impact the size of the divisible pool.

The system of transferring resources between different levels of government be more focused on equity:

- **According to Chancel and Piketty (2019)**, the share of total income captured by the top 1% earners in India was less than 21% in the 1930s. It dropped to 6% in the early 1980s and then increased to 22% during the period of economic liberalization.
- The recent measures like tax exemptions and concessions have disproportionately favored the affluent and have reduced the available pool of resources.
- Per capita income in 16 major states from 1970-71 to 2020-21 reveals an increasingly divergent pattern.
- The Human Development Index across 15 states exhibits convergence during the post-reform era. When examining data since 2005, the rate of convergence

has decreased with a significant negative CAGR of -2.85%.

There a need for reevaluating Article 246 and the Seventh Schedule to undertake a fresh division of powers, functions, and responsibilities:

- India's political landscape has evolved from the single-party governance of the post-Independence era to a genuinely multi-party system.
- The dynamics of politics, society, technology, demographic composition, and even the development approach itself have undergone substantial changes.
- In the new evolving framework, numerous central legislation, **including the MGNREGA 2005, the Right of Children to Free and Compulsory Education Act 2009, and the National Food Security Act 2013** place an additional burden on the individual states.
- During the process of constitution-making, the issues of division of responsibilities and taxation authority was not adequately addressed. It heavily borrowed from the Government of India Act 1935, and neglected the subsidiarity principle.
- 73rd and 74th Constitutional Amendments provided an opportunity for reconsideration. But, no significant steps were taken. In fact, matters were complicated further by the **introduction of Schedule XI and Schedule XII.**
- These schedules lack practical significance unless they are broken down into specific activities and sub-activities, similar to the approach adopted by Kerala and a few other states.

Other issues related to fiscal federalism that should be considered by the Union government:

- The persistent neglect in integrating the third tier of governance into India's fiscal federal framework is a significant concern.
- The lack of a consistent financial report-

ing system across all tiers of government presents a notable deficiency.

- **A comprehensive reevaluation of the off-budget** borrowing practices of both the Union and the individual States is essential.
- Such borrowings usually evade scrutiny and remain unreported. All financial transactions should be accounted for under appropriate budgetary allocations.
- The central government should set a positive example. But, it is perhaps more culpable of resorting to off-budget borrowing than the States.
- **States are subject to restraint through Article 293(3)** under the oversight of the Union and the Fiscal Responsibility and Budget Management (FRBM) Act. But, the Union frequently evades such checks.
- The substantial use of the National Small Saving Fund (NSSF) for financing central public sector undertakings and ministries through loans is not included in the Union's fiscal deficits.
- There is also a substantial domain of unique banking arrangements involving public sector banks to facilitate cash and credit circulation outside the bounds of budgetary allocations.
- It is imperative for the Union, States, and local governments to act transparently and make all off-budget transactions transparent and publicly accessible.

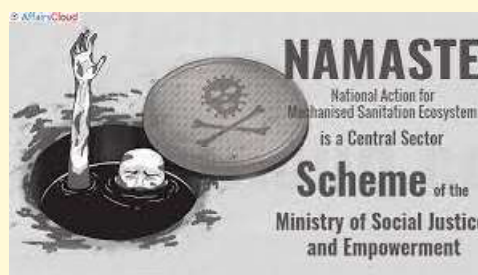
Mains point: The emerging dynamics of India's fiscal federalism need rethinking

10. National Action for Mechanised Sanitation Ecosystem (NAMASTE).

Context:

The Government of India is implementing the **National Action for Mechanised Sanitation Ecosystem (NAMASTE)** scheme to stop deaths of Sewers and Septic Tank Workers (SSWs) and to pro-

mote mechanization of cleaning operations with a vision to reduce hazardous cleaning and ensure safety of sanitation workers.



The National Action for Mechanised Sanitation Ecosystem (NAMASTE) Scheme:

- **Launched by:** Ministry of Social Justice and Empowerment (MoSJE) and Ministry of Housing and Urban Affairs (MoHUA)
- **Aim:** To eliminate hazardous cleaning, stop deaths of sewer and septic tank workers and ensure their safety and dignity.
- **Type:** Central Sector Scheme
- **Replaced by:** The scheme has replaced the Self-Employment Scheme for the Rehabilitation of Manual Scavengers (SRMS), which was started in 2007.
- **Coverage:** The scheme is to be implemented in all 4800+ Urban Local Bodies (ULBs) of the country, during the three years upto 2025-26.

Objectives of the scheme: Zero fatalities in sanitation work in India

- All sanitation work is performed by skilled workers
- No sanitation workers come in direct contact with human faecal matter
- Sanitation workers are collectivized into SHGs and are empowered to run sanitation enterprise
- All Sewer and Septic tank sanitation workers (SSWs) have access to alternative livelihoods
- Strengthened supervisory and monitoring systems at national, state and ULB levels to ensure enforcement and monitoring of safe sanitation work.

The key features of the Scheme to be Implemented in all ULBs

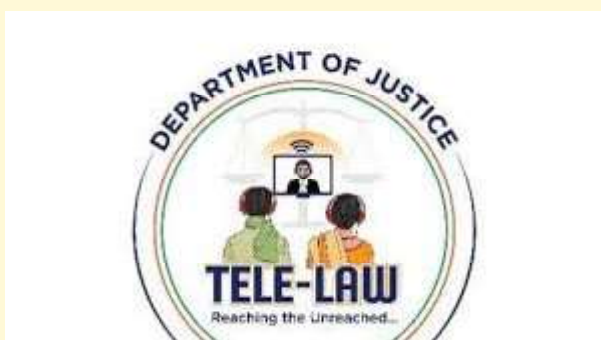
- **Identification:** NAMASTE envisages identifying the Sewer/Septic Tank Workers (SSWs).
- Occupational Training and distribution of PPE Kits to SSWs.
- Assistance for Safety Devices to Sanitation Response Units (SRUs).
- **Extending Health Insurance Scheme Benefits to identified SSWs and their families under the Ayushman Bharat-Pradhan Mantri Jan Arogya Yojana (AB-PMJAY).**
- **Livelihood Assistance:** The Action Plan will promote mechanization and enterprise development by providing funding support and subsidy (capital +interest) to the sanitation workers, to procure sanitation related equipment.
- **IEC (Information Education and Communication) Campaign:** Massive campaigns would be undertaken jointly by the ULBs & NSKFDC (National Safai Karamcharis Finance & Development Corporation) to spread awareness about the interventions of NAMASTE

Mains point: The National Action for Mechanised Sanitation Ecosystem (NAMASTE)

11. Tele-Law 2.0 unveiled by Law Minister.

Context:

The Union Law Minister has launched the Tele-Law 2.0 initiative.



The Tele Law Initiative:

- The Tele Law Initiative was launched

by the Department of Justice in 2017.

Purpose: It is an e-interface mechanism to seek legal advice and consultation at a pre-litigation stage with the aim of 'Reaching the Unreached'.

Under this initiative, smart technology of video conferencing, telephone /instant calling facilities available at the vast network of Common Service Centres at the Panchayat level are used to connect the indigent, down-trodden, vulnerable, unreached groups and communities with the Panel Lawyers for seeking timely and valuable legal advice.

In addition, the service can also be accessed through the Tele Law Mobile App (available on Android and iOS).

Cost: Tele Law is provided free of cost to those persons entitled to free legal aid under **Section 12 of the Legal Services Authorities (LSA) Act, 1987**, and at a nominal fee of Rs. 30/- per consultation for "others".

Real time data: A dedicated Tele Law dashboard has been developed to capture real-time data on the nature of cases registered & advice enabled.

Significance: Tele Law initiative has made legal consultation both easily accessible and highly affordable for the common citizens.

The Tele-Law 2.0 initiative:

- Tele-Law 2.0 entails the fusion of Tele-Law Services with Nyaya Bandhu pro bono legal services to improve citizen access to legal aid.

This merger is seen as a significant step in making legal services more accessible to people throughout India, contributing to the democratization of legal assistance.

The Nyaya Bandhu Initiative:

- **Nyaya Bandhu's (Pro Bono Legal Services) initiative** was launched by the Minister for Law & Justice.

Aim: To establish a framework for dis-

pensation of pro bono legal services across the country.

- Under Nyaya Bandhu, practicing advocates, interested to volunteer their time and services, are connected, via mobile technology, with eligible marginalized beneficiaries.

To be a beneficiary for Legal help under Nyaya Bandhu Initiative:

- Beneficiaries or Applicants, in order to avail the benefits under this programme must belong to one of the categories mentioned under Section 12 of The Legal Services Authority Act of 1987.
- These include:** 1) Member of a Scheduled Caste 2) Member of a Scheduled Tribe 3) Victim of trafficking in human beings or begar as referred in article 23 of the Constitution 4) Woman or a Child 5) Person with disability 6) Person in custody 7) An industrial workman 8) Victim of a mass disaster, ethnic violence, caste atrocity, flood, drought, earthquake or industrial disaster; 9) Person with annual income less than as specified under law and Others.

Prelims point: The Tele Law Initiative.

12. Don't shut down the debate on the Basic Structure of the Constitution.

Context:

During a debate in Parliament, Ranjan Gogoi claimed that the "Basic Structure Doctrine" has asserted that basic structure has "a very debatable jurisprudential basis".

There a need to carefully examine the Rajan Gogoi viewpoint about basic structure doctrine:

- The importance of the broader matter cannot be exaggerated, especially in the present context of Indian politics.
- The Supreme Court will reexamine this matter when the hearings on the revocation of Article 370 and the Jammu and Kashmir Reorganisation Act 2019 gain momentum.

The practice of "cancel culture," which avoids discussions, is detrimental to both the pursuit of justice and the strengthening of democracy.

It is crucial to recall the words of Pandit Nehru and his "Freedom at Midnight" speech.

As per Nehru, the collective voice of the nation finds expression through the instrument of Parliament. The independent and unimpeded functioning of Parliament is indispensable for the sustenance of Indian democracy.

13. The state of scholarships for minorities.

Context:

The about cutting budgets and stopping educational schemes for religious minorities in India. They stress how these schemes help minorities, particularly Muslims, with education. The author also gives ideas to make these schemes better and reach more people.

There scholarships for religious minorities:

Large Population: India is home to over 30 crore people from religious minority communities, making up 20% of the total population.

Developmental Challenges: The Sachar Committee found that the Muslim minority faced neglect in many dimensions of development. This committee, established by the UPA government, highlighted that Muslims generally ranked above SC/ST but below Hindu OBCs and other groups in various developmental indicators.

Economic and Educational Lags: Muslims often have low participation in salaried jobs and are mainly engaged in the informal sector with limited benefits.

Focused Approach: The Ministry of Minority Affairs was formed in 2006 to address issues affecting minorities, with an emphasis on educational and economic empowerment.

- **Dips in Education:** Muslim representation in higher education enrollment decreases as education levels rise.

The issues with educational welfare schemes for religious minorities:

- **Discontinuation of Schemes:** Key educational schemes like the Pre-Matric Scholarship for classes 1 to 8 and the Padho Pardesh scheme have been discontinued.
- **Budget Reductions:** The Merit-cum-Means based Scholarship Scheme's funding was cut from Rs. 365 crore to 144 crore in 2023-24. The Maulana Azad National Fellowship was cancelled in 2022 after having benefited over 6,700 candidates between 2014-15 and 2021-22.
- **Narrowed Scope:** The Pre-Matric Scholarship Scheme now only covers class 9 and 10, leaving out the earlier beneficiaries from class 1 to 8.
- **Drop in Beneficiaries:** In three years, the beneficiaries of six central educational schemes dropped by around 7%. Specifically, MANF beneficiaries fell from 2,580 in 2019-20 to 2,061 in 2021-22.
- **Underutilisation of Funds:** More than Rs. 2,500 crore were allocated for certain schemes in 2022-23, but the actual expenditure was far less. For example, only Rs. 43.95 crore was spent out of the allocated Rs. 556 crore for the pre-matric scholarship.
- **Late Distribution:** A 2022 report by the Centre for Budget and Governance Accountability highlighted that scholarships were often distributed towards the end of the academic year.
- **Enrolment Issues:** Muslim representation in total enrolment drops at higher levels of education. The All India Survey on Higher Education (2020-2021) revealed a decrease in Muslim student enrolment from 5.5% in 2019-20 to 4.6%

in 2020-21.

- **CBGA Report:** A 2022 report by the Centre for Budget and Governance Accountability (CBGA) highlighted a "declining trend" in the overall budget expenditure towards minorities. The report also pointed out that scholarship funds were often utilized towards the end of the academic year, causing delays for beneficiaries.

Way forward:

Niti Aayog's Recommendations:

- The Niti Aayog suggests enhancing the pre-matric, post-matric, and merit-cum-means scholarships, as well as the MANF.
- It also emphasizes a 15% annual increase in scholarships from 2019-20 and a 10% yearly increase in scholarships for girls from minority communities.
- **Timely Distribution:** Ensure scholarships are disbursed at the start of the academic year, not towards the end, benefiting students when they need it most.
- **Restore Budgets:** Reallocate and utilize the full budget for educational schemes to ensure no drop in beneficiaries.
- **Promote Higher Education:** Address the dip in Muslim enrollment in higher education by introducing targeted initiatives.

Mains point: scholarships for religious minorities

INTERNATIONAL RELATIONS

1. The power of an acronym.

Context:

The evolution and relevance of the BRICS group, highlighting its inconsistencies and China's increasing influence, and questions India's position given its differing interests and relationships compared to other BRICS nations.



About evolution of BRICS:

- **Origin:** Coined by Goldman Sachs, representing Brazil, Russia, India, and China as future dominant economies.
- **Performance:** China and India thrived, entering top five economies. Russia and Brazil lagged; Russia isn't in the top 10 anymore.
- **Addition of South Africa:** Diluted the initial economic focus, as its economy is much smaller.

Initiatives by BRICS :

- BRICS nations hold regular summits to discuss collaboration.
- One significant achievement is the "BRICS bank", established to support development projects, though its impact has been limited.
- Proposals were made for a dedicated data cable to ensure secure communication, but progress has been slow.
- New currency arrangements were dis-

cussed to challenge the dominance of the dollar, but haven't been implemented.

The relevance of BRICS in today's world:

- **Economic Clout:** China and India are now among the top five economies, highlighting BRICS' economic significance.
- **Alternative Voice:** BRICS is seen as a potential counter to Western-dominated global structures.
- **Developmental Initiatives:** The establishment of the "BRICS bank" aims to support developmental projects.
- **Diplomatic Platform:** Over 40 developing countries have shown interest in joining, suggesting its growing diplomatic importance.

China influencing BRICS:

- **Push for Expansion:** China is advocating for an increase in BRICS membership. They're keen to have more countries join, extending the group's reach.
- **Diplomatic Strategy:** With limited regional allies like North Korea, Cambodia, and Myanmar, China sees BRICS as a way to gain broader diplomatic support.
- **Countering Western Influence:** China aims to use BRICS as a platform to challenge and break Western dominance in global affairs.
- **Engagement with Other Groups:** BRICS has initiated talks with the Shanghai Cooperation Organisation, a China-dominated group, furthering China's influence within BRICS.
- **Potential Data Control:** China's involvement in the proposed BRICS data cable raises concerns about its ability to access and control communication, given

its technological prowess.

The India stands:

- **Economic Performance:** India has prospered, now ranking among the top five global economies.
- **Relationship with China:** India has an adversarial relationship with China, blocking imports, investments, and market access for Chinese technologies.
- **Diplomatic Challenges:** Many countries seeking BRICS membership, like Indonesia, Saudi Arabia, and UAE, pose diplomatic issues for India. Blocking them could strain relations.
- **Membership Criteria:** India advocates for clear criteria for new BRICS members, highlighting the existing inconsistencies within the group.
- **Alignment with Western Nations:** India is increasingly aligned with Europe and the US in defense, technology, and people movement, contrasting with China and Russia's stances.
- **Political System:** India's political system is more open than China's or Russia's, potentially leading to differences in governance perspectives within BRICS.

Mains point: About evolution of BRICS

2. A 'fab' way to conduct India-Japan tech diplomacy.

Context:

In July 2023, India and Japan reached an agreement to cooperate on semiconductor technology.



The agreement about:

- The collaboration aims to establish a stronger supply chain for semiconductors and jointly develop the semiconductor ecosystem.
- **The partnership will focus on five areas:** 1) semiconductor design, 2) manufacturing, 3) equipment research, 4) establishing resilience in the semiconductor supply chain, and 5) talent development.
- The partnership encourages sharing technical knowledge, research, and innovation between Indian and Japanese semiconductor industries, keeping Japan and India at the forefront of semiconductor progress.
- The partnership aims for technology transfer, semiconductor research collaboration, and reciprocal trade. It also prioritizes human resource development through skill exchange programs, workshops, and training.

The measures have been taken by both countries in promoting semiconductor technology:

- Both countries support semiconductor manufacturing and research through their policies. India's "Make in India" and Japan's "Society 5.0" share self-reliance and innovation-driven growth goals.
- Both countries value semiconductors for innovation, growth, and security.
- Japan leads in chip production, while India's IT sector is growing with increasing demand for semiconductors. This provides a solid foundation for their partnership.

The significance of this partnership:

- **Tackling Technological Challenges:** India-Japan partnership holds a key role in shaping the global semiconductor landscape. Their collaboration addresses evolving tech challenges like miniaturization, AI, and quantum com-

puting.

- **Diversification:** In January 2023, Japan and the Netherlands joined the U.S. to restrict chip material exports to China, affecting Japanese chip firms. Thus, the India collaboration becomes vital for Japan in diversifying the semiconductor industry.
- **Supply Chain Challenges:** Geopolitical tensions and supply chain issues underscore the need for diverse semiconductor supply chains and global cooperation.
- Hence, collaborative research efforts help in pooling resources to tackle complex semiconductor challenges, driving innovation and solutions.
- **Unity Among Indo-Pacific Partners:** This partnership comes after a recent US-India technological alliance which supports the development of interconnected semiconductor ecosystems.
- Hence, **bilateral agreements with India by the US and Japan** showcase unity among Indo-Pacific partners in critical technology, reflecting shared geostrategic and security interests.

The way ahead:

- The agreements demonstrate Quad countries' trust in India, highlighting India's semiconductor growth.
- Hence, agreement between India and Japan holds significance as it would combine Japan's tech skill and India's innovation, fostering advanced electronics, connectivity, and shared technology progress.

Mains point: India-Japan tech diplomacy.

3. The Katchatheevu controversy.

Context:

Tamil Nadu's Chief Minister M. K. Stalin restarted discussions about Katchatheevu, a barren islet near Rameswaram. He called to reclaim the islet from Sri Lanka as it would perma-

nently resolve issues for local fishermen.



- He said that even though fishermen were set free after being caught by Sri Lanka, their boats and fishing nets, essential to their livelihoods, were not given back.

The Katchatheevu become a part of Sri Lanka:

- In June 1974, India's Prime Minister Indira Gandhi and Sri Lanka's Prime Minister Sirim R.D. Bandaranaike signed an agreement to establish the boundary between the two countries from Palk Strait to Adam's Bridge.
- The boundary was determined by historical evidence and international legal principles, placing Katchatheevu within Sri Lanka's territory.

Kachatheevu:

- Both countries' fishermen have historically used the islet for fishing.
- However, the March 1976 pact specified that fishermen must not fish in the historic waters, territorial sea, or exclusive zones of either country without permission from Sri Lanka or India.
- Some political groups and Tamil Nadu fishermen view Katchatheevu's reclamation as a remedy for illegal maritime boundary crossings.
- However, fishermen in Sri Lanka's Northern Province believe this would

worsen their problems, given Tamil Nadu fishermen's use of bottom trawling on their territorial waters.

The talks between India and Sri Lanka over Katchatheevu:

- Sri Lanka claimed Katchatheevu due to Portuguese rule from 1505-1658 CE, while India argued it was under the control of the former **Raja of Ramnad**.
- However, in a July 1974 Lok Sabha debate, External Affairs Minister Swaran Singh explained that the decision to include Katchatheevu as part of Sri Lanka resulted from extensive research into historical and other records concerning the islet.
- Since then, there have been multiple instances where political leaders have resurfaced the issue of Katchatheevu. Over the past 15 years, both Jayalalithaa and Karunanidhi have brought the issue before the Supreme Court.

The Centre responded regarding the issue:

- In August 2013, India told the Supreme Court that the issue of reclaiming Katchatheevu from Sri Lanka didn't exist, as no Indian land was given to Sri Lanka.
- They said it was a historical dispute between British India and Ceylon, **settled by the 1974 and 1976 agreements**.
- In December 2022, the government mentioned to the Rajya Sabha that Katchatheevu is on Sri Lanka's side of the India-Sri Lanka International Maritime Boundary Line.

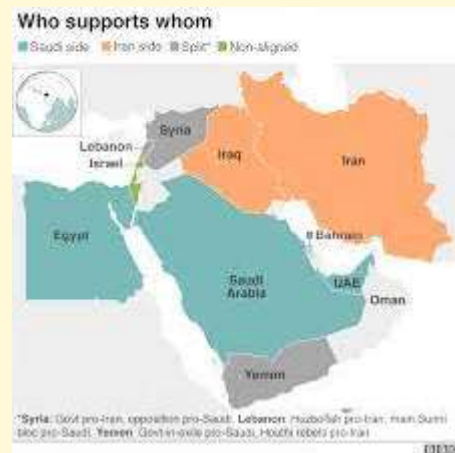
Mains point: India and Sri Lanka agreement on Katchatheevu.

4. Express View on Saudi and Iran: Welcome detente.

Context:

Recently, Iranian foreign minister Hossein Amirabdollahian's visit to Saudi Arabia had traveled to Riyadh to

offer condolences on the death of King Abdullah.



The historical trajectory of the relationship between Iran and Saudi Arabia:

- The relationship has faced challenges primarily due to their contest for leadership within the region. Iran was led by Shia leadership and Saudi Arabia by Sunni leadership.
- **Since the Iranian Revolution in 1979, suspicions about each other's motives have persisted.** Iran accused Saudi Arabia of providing support to Baghdad during the **Iran-Iraq war (1980-88)**. Saudi Arabia was alleged to have backed insurgents against the Iran-affiliated President Bashar al-Assad in the ongoing Syrian civil war since 2011. The Iranian nuclear program further intensified these suspicions.
- **Tensions escalated in 2016 when Saudi Arabia executed a prominent Shia cleric.** It triggered Iranian protesters to attack the Saudi embassy in Tehran.
- Diplomatic relations had been severed in 1987-88 when hostilities between the regional rivals reached a peak due to clashes in Mecca involving Iranian pilgrims and attacks on the Saudi embassy in Tehran.

The Stability in relationship between Iran and Saudi Arabia holds immense significance for India:

- Over 8 million Indians are residing in the West Asian and Gulf regions.
- India's energy security depends on the strength of its connections with the two primary suppliers of crude oil.
- India has maintained strong affiliations with both Riyadh and Tehran. Naturally, Delhi will closely monitor these developments due to their implications for its national interests.

Mains point: Saudi and Iran.

5. The World Bank must reform- Overhauls to multilateral development banks could be a lasting legacy of India's G20 presidency"

Context:

The need for reforms in the World Bank Group (WBG) to better support low and middle-income countries, enhance its role as a knowledge provider, and improve its advisory services.

The major roles of the WBG:

- Financier:** Provides loans to low and middle-income countries. Like, assisting countries with developmental needs.
- Knowledge Bank:** Produces and shares information and research. Like, publishing the "Doing Business index".
- Trusted Advisor:** Offers policy advice based on global best practices. Such as, sharing cross-country experiences to aid policy decisions in developing countries.

There a need for reforms in the WBG:

- Debt Distress in LICs:** Despite owing half their external debt to MDBs, low-income countries (LICs) are considered in debt distress. Like, questions arise about the accuracy of debt sustainability assessments by multilateral development banks (MDBs).
- Incentive Structure Issues:** There's a potential conflict of interest, where

WBG staff are rewarded for new lending, possibly leading to biased debt sustainability assessments.

- Volatile Support for MICs:** Middle-income countries (MICs), while having market access, are susceptible to rapid changes in capital flows. For instances, MICs often experience capital flow reversals due to global sentiment shifts.
- Knowledge Impact:** Despite allocating a significant budget to knowledge dissemination, its impact has been limited. For example, While WBG releases multiple growth forecasts for India, it doesn't significantly address India's low female labor force participation or its lagging manufacturing sector.
- Lack of Local Engagement:** WBG's current advisory model lacks intense local engagement and updated country-specific knowledge.
- Redundancy:** The WBG often duplicates efforts that other institutions, like the IMF, already handle. Like, multiple growth forecasts for India with no superior accuracy.
- Operational Mode:** The WBG has remained in remote mode post-pandemic, unlike its client countries, affecting its efficiency and relevance.

Way forward:

Enhance Financial Support:

- For LICs, the WBG should focus on building resilience and state capacity. Addressing LICs' debt distress through comprehensive assessments, factoring in challenges like climate risks, is vital.
- For MICs, the introduction of financial tools such as guarantees or swap lines can stabilize their economies, given MICs' susceptibility to capital reversals from global shifts.

Revamp Knowledge Delivery:

- An independent review of the WBG's knowledge outputs, like the often-criticized "Doing Business index," is nec-

essary. Additionally, the WBG should ensure its reports are more accessible and aligned with pressing issues, such as key challenges faced by countries like India.

Improve Advisory Services:

- The WBG needs to incorporate international expertise into its advisory services, offering member nations informed policy advice. Simultaneously, collaborating with local institutions will provide value while optimizing resource use.

Adjust Operational Model:

- Mirroring its client nations, a return to in-person operations by the WBG is crucial. This would boost engagement and responsiveness across its various offices, including places like New Delhi.

Mains point: The need for reforms in the WBG

6. The BRICS test for India's multipolarity rhetoric.

Context:

The BRICS (Brazil, Russia, India, China, and South Africa) summit is being held in South Africa.

The importance of BRICS:

- BRICS got stronger due to global changes in world politics and problems within the United Nations. **BRICS holds broader global representation than UNSC and G-7.**
- **Global institutions** have failed to bring global governance because they lack representation. BRICS steps in to fill this gap. Around 40 countries want to join BRICS reflects Global South's discontent with their global status.
- Hence, amid global uncertainty, countries seeking recognition could use BRICS to shape geopolitics.
- However, **BRICS and SCO might not lead to fully democratic global gover-**

nance due to conflicts and hierarchies. But they could start discussions for creating more inclusive global governance.

India stand in the global order:

- **India's current geopolitical decisions lack clarity.** India's position of being part of multiple groups like the Quad, G-20, G-7, BRICS, SCO, and the global South simultaneously, raises questions about its stand.
- **India joined non-Western groups due to undemocratic post-World War II institutions** like IMF and UNSC. But India isn't against the U.S./West.
- India is connected to BRICS, SCO, and the global South due to its development, geography and history. However, China's dominance in these groups creates issues for India.
- While India's trajectory aligns with **G-20, G-7, and the Quad**, gaining significant influence in these powerful forums is tough.
- Hence, India is caught between an emerging geopolitical divide where both sides acknowledge India's interests but India doesn't entirely align with either. This makes it more challenging for India to maintain equilibrium.

The challenges with India:

- India wants a world with many powerful countries working together in new ways. But it needs to be careful that its actions don't make China even stronger.
- While it's good to create new groups and promote de-dollarization, these changes could also help China become more powerful.
- **China's size, economy, the Belt and Road Initiative**, and diplomacy will likely shape groups like BRICS, which could be challenging for India due to its own limitations.
- When India works to make non-western groups and systems stronger, it unintentionally aids China's revisionist

agenda.

- Hence, India needs to balance two main objectives: advocating for a fair and inclusive global governance system while safeguarding its own interests.
- It's also essential for India to limit China's dominance in non-western groups, but also avoid isolating other global South nations who might support China's push to expand these forums.
- **BRICS now has five nations, and even with more joining**, China's influence might still stay strong. India joined BRICS for economic growth, but if it becomes political, India might get involved in unexpected issues, especially with China.

Way ahead:

- India faces the challenge of finding its place in both non-western forums like BRICS and SCO while limiting China's influence. It also needs to balance Western demands and maintain its position in groups like UNSC and G-7.
- India's relations with the US and the West grew due to China's actions and Indo-Pacific trade importance. While India joined BRICS for its gains, China's role complicates matters. Hence, India should be cautious about too much involvement in BRICS.

Mains point: Challenges with India in BRICS

7. A revived trilateral- Japan and South Korea are shoring up security.

Context:

The Japan, South Korea, and the US held a significant summit at Camp David, reinforcing ties **to address security and economic concerns in the Indo-Pacific**. These efforts are influenced by historical factors, China's actions, and shifts in global partnerships.

About Trilateral Summit at Camp David:

- Japan, South Korea, and the US met to deepen cooperation.
- The summit aimed at addressing security and economic concerns in the Indo-Pacific.
- Prompted by historical grievances, South Korean President Yoon Suk Yeol took initiatives to mend ties.
- Resulted in both nations lifting export controls and resuming high-level defence and economic talks.

The relationship between Japan and South Korea evolved:

Historical:

- The relationship was strained due to the Japanese occupation of Korea.
- A significant issue was Korean women forced into prostitution during this occupation.

Recent Changes:

- South Korean President Yoon Suk Yeol proposed a compromise on historical grievances.
- He made the first visit to Tokyo by a Korean leader in 12 years.
- Both countries lifted export controls against each other.
- They resumed high-level defence and economic talks, indicating improved ties and cooperation.

The impacts of these summits:

Indo-Pacific Security:

- The trilateral summit between Japan, South Korea, and the US can enhance security in the Indo-Pacific against potential threats.
- Japan desires greater engagement with the North Atlantic Treaty Organization (NATO).
- South Korea's arms export industry grew rapidly between 2017 and 2021, emphasizing its role in regional defence.

Impacts on India and Quad:

- Questions arise about India's capability and willingness to partner with the West.
- As the Quad prioritizes development, other regions are forming alternative, security-centric alliances.

Economic Security:

- Countries aim to diversify from China-centric supply chains for stability.**
- Japanese and South Korean companies express concerns about their supply chain vulnerabilities intersecting with both the West and China.
- These corporations believe that a trilateral partnership can protect them against US protectionist policies and other geopolitical risks.

Mains point: The Japan, South Korea, and the US held a significant summit at Camp David,

8. The U.K.-India relationship is alive with opportunity.

Context:

The status of trade, investment and cultural relationship between India and UK.

**The status of the trade and investment relationship between India and the UK:**

- The United Kingdom and India have a robust trading partnership.** The value of bilateral trade was £36 billion in 2022.
- India was the second-largest contributor of investment projects in the UK during the previous fiscal year. These projects amounted to 118. It generated

8,384 new jobs throughout the U.K.

- The UK is the sixth-largest investor in India.** It has infused \$34 billion into India through foreign direct investment between April 2000 and March 2023.
- U.K. enterprises are also actively generating employment opportunities and fostering growth. Presently, there are 618 U.K. companies operating in India.
- They collectively generated a turnover of approximately \$50 billion and employed around 466,640 individuals directly in 2021.
- Business relationships are growing stronger.** Recently, Tata Group selected the U.K. as the location for its inaugural gigafactory outside of India.
- Both countries are negotiating a free trade agreement.

The status of cultural relationship between the two countries:

- As per Prime Minister Narendra Modi, a "living bridge" exists between our nations. It is exemplified by our shared affinity for Bollywood.
- The U.K. holds one of the largest audiences for Bollywood outside of India.** It has served as the backdrop for iconic films like *Kabhi Khushi Kabhie Gham*, which featured scenes shot at **St. Paul's Cathedral and Blenheim Palace**.
- There exists a vibrant Indian diaspora in the U.K. numbering over 1.6 million. Indian students represent one of the largest groups of international students in the U.K.
- The UK has launched 'Alive with Opportunity', a **£1.5 million marketing campaign**. This campaign has been crafted to spotlight the strong connection between our nations and cultivate the ongoing exchange of people, ideas, and culture.

Mains point: India and UK bilateral relationship.

9. It's time for Africa - and India's G20 presidency is part of the opportunity.

Context:

The Africa's economic potential and urges worldwide cooperation to boost integration. The focus is on health, education, agriculture, industry, trade, infrastructure. The author also praises India's efforts to strengthen African ties.

About Africa's economic potential:

- **Rich Resources:** Africa has 30% of global mineral reserves, 12% of oil, and 8% of natural gas.
- **Population Growth:** By 2050, Africa will contribute over half of the world's projected population growth.
- **Young Workforce:** Africa boasts a young and growing workforce, promising future economic growth.
- **Consumer Base:** Rising disposable incomes indicate a growing consumer market.
- **Underutilization:** Currently, Africa contributes under 3% to global manufacturing and trade.
- **Agriculture:** About 70% of Africans work in agriculture, but there's room for growth with improved training and resources.
- **Trade Agreement:** The African Continental Free Trade Agreement (AfCFTA) aims to boost intra-continental trade.

The steps have been taken by India for the better utilization of Africa's potential:

India's Steps for Utilizing Africa's Potential:

- **G20 Advocacy:** Under its G20 presidency, India vocalized the need for the African Union's membership in the group.
- **Business-20 (B20) Action Council:** India established the B20 Action Council titled 'African Economic Integration: An Agenda for Global Business' to promote Africa's economic integration.
- **Focus on Inclusion:** The council aligns

with India's vision for heightened participation of Africa in the Global South.

• **Economic Recommendations:** Through the B20 Action Council, India aids in crafting recommendations for regional economic integration in Africa.

• **Strengthening Ties:** India's Prime Minister has been active in fostering a stronger relationship with Africa, emphasizing its importance in the global arena.

To effectively integrate the African continent:

- **Human Capital Development:** Prioritize health and education outcomes. The African Development Bank indicates a yearly need of \$26 billion for healthcare. More schooling leads to increased earnings.
- **Revitalize Agriculture:** Around 70% of the African population is in agriculture. Addressing gaps in finance, seeds, and fertilizers, and enhancing mechanization and value-addition is crucial.
- **Encourage Industrial Activities:** Complement natural resources with higher productivity activities, emphasizing the empowerment of micro and small enterprises. This is in line with the African Union's Agenda 2063.
- **Maximize AfCFTA:** The African Continental Free Trade Agreement needs to be fully implemented to improve competitiveness across the continent.
- **Strengthen Connectivity:** Boost both physical and digital infrastructures, focusing on roads, railways, and digital links for comprehensive connectivity across Africa.

Mains point: About Africa's economic potential:

10. India and the Northern Sea Route.

Context:

The article talks about India's increasing role in Arctic's Northern Sea Route (NSR) for cargo. It covers Arctic's sig-



nificance for India, Russia's nuclear ice-breakers for NSR, and India's involvement due to the **Chennai-Vladivostok Maritime Corridor project**.

The Arctic region significant to India:

- **Historical Engagement:** India's ties with the Arctic date back to the signing of the Svalbard Treaty in 1920. India also established a research station in the Arctic in 2008 and became an observer-State of the Arctic Council in 2013.
- **Climate Impact:** Changes in the Arctic climate can influence India's economic security, water security, and sustainability.
- **Resource Potential:** The Arctic might contain over 40% of global oil and gas reserves, along with reserves of coal, zinc, and silver.
- **Trade Route:** The Northern Sea Route (NSR) in the Arctic offers a shorter shipping route between Europe and Asia-Pacific, potentially saving up to 50% in distance.
- **Economic Benefits:** In 2023, India's cargo traffic at the Arctic's Murmansk port was 35% of eight million tonnes.

NSR (Northern Sea Route):

- **Definition:** The Northern Sea Route (NSR) is the shortest shipping route for freight transportation between Europe and Asia-Pacific countries.
- **Location:** The NSR spans four seas of the Arctic Ocean, starting at the boundary between the Barents and the Kara seas (Kara Strait) and ending in the Bering Strait (Provideniya Bay).
- **Distance:** The route measures 5,600 km in length.
- **Recent Events:** The 2021 blockage of the Suez Canal highlighted the NSR's significance as an alternative maritime route.
- **Navigation Challenges:** The Arctic Ocean remains icebound for most of the year, requiring icebreaking assistance for safe navigation.

The driving factors for India to participate in the NSR development:

- **Cargo Traffic Growth:** Cargo traffic along the NSR experienced a surge of around 73% from 2018-2022, with a volume of 34.117 million tonnes in 2022.
- **Energy Imports:** India's increasing im-

ports of crude oil and coal from Russia are facilitated by the NSR's reliability and safety.

- **Geographical Benefits:** India's major trade depends on sea transportation. The NSR offers a more efficient route, enhancing India's trade potential.
- **Chennai-Vladivostok Corridor:** The Chennai-Vladivostok Maritime Corridor (CVMC) could link with the NSR, shortening transport time. The CVMC is 10,500 km, a significant reduction from the 16,000 km St. Petersburg-Mumbai route.
- **Strategic Considerations:** With potential collective influence from China and Russia over the NSR, India's involvement can ensure balanced regional dynamics.

Way ahead:

- **NSR Development Plan:** Russia's plan for the NSR targets a cargo traffic of 80 million tonnes by 2024 and 150 million tonnes by 2030.
- **Russian Collaboration:** A Russian delegation met with the Indian business community, discussing the NSR development. They promised to provide key components for the route's year-round operation.
- **Indian Company Involvement:** Rosatom is encouraging Indian companies to participate in projects related to the NSR.
- **CVMC Project:** A workshop involving stakeholders from India and Russia for the Chennai-Vladivostok Maritime Corridor (CVMC) project is scheduled for October.
- **Economic Context:** All these developments are unfolding against the backdrop of Western economic sanctions on Russia, which might influence strategic and economic collaborations.
- These developments indicate India's continued interest and involvement in

Arctic and NSR projects.

Mains point: India's increasing role in Arctic's Northern Sea Route (NSR)

11. Express View on BRICS: In uncharted waters.

Context:

The issues of expansion of BRICS membership and challenges faced by the grouping.

The reasons behind the Chinese and Russian push for BRICS expansion:

- The China and Russia are looking to transform BRICS as a counter to US-led Multilateral system.
- Both Russia and China hope to create new strategic and diplomatic space for themselves through an expanded BRICS as both face Western sanctions and pressure.
- By admission of new states with authoritarian regimes China and Russia want to project authoritarian regimes standing upto western democracies.

The reasons behind countries for pushing their inclusion in BRICS:

- The countries of the global south want to gain strategic autonomy by their inclusion in BRICS.
- The countries from the global south want to stand up to western pressures by using the platform of BRICS.
- Lastly, countries eyeing for BRICS membership want to use BRICS to get their economic concerns addressed especially after COVID-19 and Ukraine war.

The arguments for and against BRICS Expansion:

- **Against:** it will make BRICS less efficient. There will be difficulty in reaching consensus on contentious issues and declarations, given the wide ranging economic and political differences between the member countries.

- For: it will put pressure on the west to end its prolonged neglect of the global south. BRICS can become a counter to groupings like G7 which are west dominated.

The existing Fault lines between the member states of BRICS:

- India and China are engaged in border disputes in eastern Ladakh.
- India has been advocating for resilient supply chains which aims at diversification of supply chains away from China.
- The China has been using the BRICS platform to target US while other members like India, South Africa and Brazil have deepened their engagement with US.
- the newly admitted members like Saudi Arabia and Iran have deep sense of suspicion and animosity despite Chinese efforts to ensure peace between them.

India's Role in the Expanded BRICS:

- India has allowed for expansion of BRICS but has insisted on finalization of membership criterion for expansion. India has asserted its heft in the recent meeting of BRICS.
- However, India will need to smartly play the role of balancer in the forum to prevent BRICS from becoming a Chinese-talk shop.

Mains point: The issues of expansion of BRICS

12. The new discourse of the Global South.

Context:

The changing definitions of "developed" and "developing" countries. The terms are becoming outdated as many nations, like India, are showing rapid progress. The term "Global South" is introduced, emphasizing cultural differences rather than just economic. The focus shifts towards sustainable living

and eco-friendly worldviews.



The problem with the terms "Developed" and "Developing":

Lack of Clear Definitions:

- The World Trade Organisation says it doesn't have definitions for "developed" and "developing" countries.
- The United Nations categorizes Europe, North America, Japan, Australia, and New Zealand as the "developed world", and the rest as "developing", but without a clear definition.

Questioned by Prominent Figures:

- Bill and Melinda Gates stated these terms have outlived their usefulness. Bill predicted almost no poor countries will exist by 2035.

Economic Inconsistencies:

- Countries like Germany, classified as "developed", face economic issues.
- Mexico, with a GDP above \$10,000, is considered "developing", but it's grouped with nations like Sierra Leone having a GDP under \$500.

Population vs. GDP:

- Latvia is "developed" with a GDP of \$30 billion and a small population, while India's larger GDP of \$3.75 trillion but huge population of 1.4 billion keeps it "developing".

India and China challenging:

India's Challenge:

- India is rapidly progressing, competing with many developed nations on economic and technological fronts.
- Examples include its significant GDP

growth, transformational economic reforms, infrastructure development (metros, airports, waterways), and achievements in space exploration with Chandrayaan-3.

- India's introduction of the term "**Global South**" shifts the focus from just economic development to cultural and sustainable aspects.

China's Challenge:

- Despite being a global superpower, China still positions itself as part of the "**developing world**".
- President Xi Jinping's statement at the BRICS summit in Johannesburg emphasizes China's affiliation with the developing world, potentially for political reasons.

Meaning of Global South:

- New Terminology:** It's a term some leaders use as an alternative to "**developing world**."
- Beyond Economics:** While the traditional labels focus on economic indicators, "**Global South**" emphasizes cultural and other differences.
- Sustainable Vision:** Countries in the Global South often have an eco-friendly worldview. For example, they prioritize sustainable living, ecological balance, and universal healthcare.
- Cultural Distinction:** The difference between Global South and Global North is more about cultural aspects than just economic or developmental ones.

Mains point: The Global South.

13. G20 ministers agree to map global value chains, link MSMEs.

Context:

Recently, a two-day G20 Trade and Investment Ministerial Meeting took place in Jaipur.

The important parts of outcome document from Trade and Investment Ministers of G20 nations:

- Comprehensive framework within the G20 context for the purpose of mapping out global value chains is suggested.
- The objective is to comprehend the existing issues and identify the necessary actions to enhance the inclusivity, sustainability, and resilience of these value chains.
- It focuses on MSMEs. The declaration from Jaipur emphasizes the imperative of reinforcing the capabilities of MSMEs.
- Due to their small scale, MSMEs face limitations in accessing critical information, financial resources, and market-related data points.
- A worldwide trade assistance platform, overseen by the International Trade Centre, will be consistently upgraded through consultation with UNCTAD and the World Trade Organisation (WTO).
- This evolution aims to make the platform more inclusive and to offer comprehensive data to MSMEs.
- The principles associated with the digitization of trade documents is important part of outcome document. The aim is to minimize the reliance on paper documents and remove obstacles that hinder the seamless movement of goods and services.

Prelims point: Trade and Investment Ministers of G20 nations:

14. India and Greece pledge to upgrade ties to become strategic partners.

Context:

The Prime Minister of India made an official visit to Greece. This was the first visit by an Indian Prime Minister to Greece in 40 years.



The key takeaways from the Indian PMs visit to Greece:

- Grand Cross of the Order of Honour:** Indian PM was honored with the Grand Cross of the Order of Honour by the President of Greece, making him the first foreign Head of Government to receive this award.
- PM visited the Tomb of the Unknown Soldier in Athens:** The Tomb of the Unknown Soldier is a war memorial located in Syntagma Square in Athens, in front of the Old Royal Palace. It is a cenotaph dedicated to the Greek soldiers killed during various wars.
- Upgrade to Strategic Partnership:** Both countries decided to elevate Greek-Indian bilateral ties to a "Strategic Partnership" level, focusing on expanding cooperation in political, security, and economic domains.
- Doubling Bilateral Trade:** Acknowledging the growth in bilateral trade, the leaders set a goal to double bilateral trade by 2030.

- The two-way trade between India and Greece has grown from \$507 million in 2016-17 to \$1.94 billion in 2022-23.
- Institutional Dialogue Framework:** They agreed to establish an institutional dialogue framework at the level of National Security Advisers to enhance collaboration in defense and security matters.
- Agricultural Cooperation:** An MOU was signed to facilitate sectoral cooperation in agriculture, including the creation of a Hellenic-Indian Joint Subcommittee on Agriculture.
- Mobility and Migration Partnership Agreement (MMPA):** Both leaders agreed the early finalization of a mobility and migration partnership agreement will be mutually beneficial, facilitating the free movement of workforce between the two countries.

Mains point: India and Greece.

15. China-Bhutan hold first meeting on 'delimitation' of disputed boundary.

Context:

China and Bhutan held the first meeting of the newly set-up joint technical team on the delimitation of their disputed boundary.



The Bhutan China Border Dispute:

- **In the north:** Pasamlung and Jakarlung valleys; Both of these places are culturally vital for Bhutan.
- **In the west:** Doklam, Dramana, and Shakhatoe, Yak Chu and Charithang Chu, and Sinchulungpa and Langmarpo valleys. These places are pasture-rich and strategically located in the Bhutan-India-China trijunction, lying close to India's Siliguri Corridor.
- In 2020, China made new claims on Bhutan's East in the Sakteng sanctuary.

The history of boundary talks between China and Bhutan:

- The boundary talks between Bhutan and China began in 1984, and the 24th round was held in 2016.
- The talks have largely focused on disputed areas to Bhutan's north, and to its west, abutting the Doklam

plateau. However, these have been stalled since 2016, especially after the 2017 Doklam stand-off.

- In 2021, Bhutan and China signed an MoU on the Three-Step Roadmap for Expediting the China-Bhutan Boundary Negotiations.

The present status:

- China and Bhutan has agreed to expedite and take simultaneous steps to implement the **Three-Step Road Map** signed in 2021.
- The two sides also agreed to hold the 14th Expert Group Meeting on the China-Bhutan Boundary Issues as soon as possible and maintain communication on holding the 25th Round of China-Bhutan Boundary Talk.

Mains point: The Bhutan China Border Dispute.

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ECONOMY

1. Recalibrating India's clean cooking strategy

Context:

The issues related to LPG adoption in India and need for alternate clean cooking fuels.

Central government efforts to improve LPG adoption in poorer and rural households

- The Grameen Vitrak Yojana was launched in 2009. With its help, the rural distributor base has grown from 18% to 60% of the total LPG distributor base today.
- The Pradhan Mantri Ujjwala Yojana has provided more than 9.5 crore new households with LPG connections since 2016.

Issues with LPG adoption in India

- LPG consumption saw an absolute reduction in FY23 after years of steady growth.
- As per Council on Energy, Environment and Water data, the share of Indian households using LPG as the primary cooking fuel had risen to 71% in 2020 from 33% in 2011.
- However, COVID-19 pandemic, the Russian invasion of Ukraine and the resulting volatility in crude and product prices on the other, have impacted universal use of LPG in Indian households.
- In 2020, subsidy for LPG consumption was withdrawn for all consumers. Average refill rates for active non-PMUY consumers are in slow decline. 40% of PMUY consumers get two or less refills in a year now.
- India's dependence on imported LPG

has steadily increased to over 64% in FY23 .

Way forward-

- India's clean cooking policy must adopt clean-cooking technologies. LPG-only strategy needs a relook. Electric cooking, including induction cooktops, can be adopted.
- Rural households have the potential to switch some of their cooking requirements to electricity. According to a study conducted by CEEW, cooking with electricity remains more cost-effective than using LPG even at a high tariff of ₹ 8 per unit of electricity.
- In urban areas, around 10% of households already employ electric appliances for their cooking needs. They can set an example for the larger transition in rural regions.
- One possible approach is gradually increasing LPG prices beyond a certain threshold. This strategy could displace LPG in higher consumption groups. It will create a demand for new e-cooking technologies and models, and trigger a domino effect of adoption.
- The initial demand from it could drive the growth of the domestic manufacturing ecosystem for e-cooking technologies.
- To support this transition, targeted assistance should be provided to manufacturers. They can be encouraged to focus on efficiency and design catering to the needs of Indian households.
- There is a requirement for financial support and business strategies that recognize the significance of India's clean cooking shift by taking into account its

positive impact on climate and air quality.

Mains Point: Issues related to LPG adoption in India and need for alternate clean cooking fuels.

2. Core comfort - On Infrastructure development in India

Context:

Output at India's eight core sectors strengthened in June.

Some facts and statistics related to core sector output

- The overall year-on-year growth in production estimated at a five-month high of 8.2%.
- Seven of the sectors, including steel and cement and electricity, achieved high growth. Steel was the best performer. Steel output was increased by 21.9%.
- The growth in Cement sector was in double-digit. It reflects the continuing momentum in demand.
- Steel grew 15.9% and 12.2%, respectively, over the April-June period in the fiscal first quarter. Infrastructure sector is key factor in growth of these two sectors
- As per Controller General of Accounts data, total capital expenditure by the Centre in June increased by 62% year-on-year to Rs. 1.10 lakh crore.
- Electricity growth was strongest in four months despite a cyclonic storm that impacted Gujarat and reduced the demand.
- Coal output also increased by 9.8% in June. The growth in first-quarter's production was 8.7%.

Areas of concern

- The country is still heavily dependent on crude imports for its overall fuel

needs. The crude oil production contracted by 0.6%.

· Crude oil, in addition to refinery products, carries the most significant weight of 28% on the index. It experienced a consecutive decline. It highlights the ongoing challenges faced by the entire oil sector due to regulatory inconsistencies.

Mains Point: core sector output

Prelims Point: core sector

3. Axe the oil windfall tax: It's outlived its rationale

Context:

Concerns with windfall tax

According to a recent government notification, India's windfall tax on petroleum crude has increased significantly to Rs. 4,250 per tonne from Rs. 1,600, and diesel now incurs a levy of Rs. 1 per litre, which was previously nil.

Windfall taxes justified, due to the following

- The windfall tax was first introduced in India's oil sector in mid-2022, shortly after the outbreak of the Russia-Ukraine war. At that time, it was considered justifiable as it aided in the fiscal recovery of the nation after the pandemic.
- Since the extra profits earned by the oil companies arose from external factors rather than any strategy, windfall taxes appeared reasonable and beneficial for the government.
- However, despite the economic recovery, these taxes persist, worsening the tax situation in India.
- Must Read: Explained | What is windfall tax and why are countries imposing it on the energy sector?
- Source: The post is based on the article "Explained | What is windfall tax and

why are countries imposing it on the energy sector right now?" published in The Hindu on 14th September 2022.

The finance minister has defended the windfall tax imposed by the Government on domestic crude oil producers by saying that it was not an ad hoc move but was done after full consultation with the industry.

Windfall Tax

- Windfall taxes are designed to tax the profits a company derives from an external, sometimes unprecedented event— for instance, the energy price rise as a result of the Russia-Ukraine conflict.
- These are profits that cannot be attributed to something the firm actively did like an investment strategy or an expansion of business.

Note: The United States Congressional Research Service defines a windfall as an unearned, unanticipated gain in income through no additional effort or expense.

Rationale behind imposing a windfall tax

- There have been varying rationales for governments worldwide to introduce windfall taxes, from redistribution of unexpected gains when high prices benefit producers at the expense of consumers, to funding social welfare schemes and as a supplementary revenue stream for the government.

Some other countries imposing Windfall Tax now

- Prices of oil, gas and coal have seen sharp increases since late 2021. This increase stems from a combination of factors including a mismatch between energy demand and supply during the economic recovery from COVID-19 further amplified by the Russian war in Ukraine.

- These rising prices meant huge and record profits for energy companies while resulting in hefty gas and electricity bills for household bills in major and smaller economies.
- Since the gains stemmed partly from external change, multiple analysts have called them windfall profits.

Issues with the windfall tax

1. Firstly, companies are confident in investing in a sector if there is certainty and stability in a tax regime. Since windfall taxes are imposed retrospectively and are often influenced by unexpected events, they can brew uncertainty in the market about future taxes.
2. Secondly, there is another argument about what exactly constitutes true windfall profits and how can it be determined. For instance, companies may argue that it is the profit they earned as a reward for the industry's risk-taking to provide the end user with petroleum products.
3. Thirdly, there is an issue of who should be taxed - only the big companies responsible for the bulk of high-priced sales or smaller companies as well— raising the question of whether producers with revenues or profits below a certain threshold should be exempt.

Concerns with these windfall taxes

1. First, these taxes are being levied even though price of crude has decreased below early war levels, representing normalcy.
2. Second, the fortnightly tax review on oil and diesel is perceived as a means to extract revenues from the sector. This state intervention results in business uncertainty and distorts not only the oil industry's operations but also India's energy outlook.
3. Third, state intervention also raises concerns about attracting investments for

the green transition in India, given the lack of policy stability. Hence, the state intervention to control retail fuel prices has failed to allow market forces to reshape the sector. Any such reform becomes more complex due to the frequent changes in windfall taxes.

Way ahead

1. First, taxes tend to become permanent. Therefore, it has been more than a year since the windfall taxes, and it requires them to be rolled out.
2. Second, the hydrocarbon sector should be protected from other taxes and integrated into the GST regime.
3. Third, a system of carbon pricing should be implemented in the oil sector. However, before implementing such a system, there is a need to address the current complex tax liabilities in the sector

Prelims Point: Windfall tax

4. Roadmap to making India a \$5 trillion economy

Context:

Government has informed the Lok Sabha about the steps taken to make India a \$5 trillion economy.

Roadmap of the government to make India a \$5 trillion economy

- Government's roadmap to achieve a \$5 trillion economy involves focusing on macro-level growth while ensuring comprehensive welfare at the micro level.
- The roadmap also includes promoting digital economy and fintech, technology-enabled development, energy transition, climate action, and relying on a virtuous cycle of investment and growth.

Some major steps taken by the government to make India a \$5 trillion economy

Reforms undertaken:

The major reforms include Goods and Services Tax (GST),

Insolvency and Bankruptcy Code (IBC), a significant reduction in the corporate tax rate,

Make in India and Start-up India strategies and Production Linked Incentive Schemes.

Increase in Capital Investment:

Government has focused on a capex-led growth strategy to support economic growth and attract investment from the private sector by increasing its capital investment outlay substantially during the last three years.

The Central Government's capital expenditure has increased from 2.15% of GDP in 2020-21 to 2.7% of GDP in 2022-23.

Union Budget 2023-24:

It has taken steps to sustain the high growth of India's economy. These include a substantial increase in capital investment outlay for the third year in a row by 33% to ₹10 lakh crore (3.3% of GDP). Direct capital investment by the Centre is also complemented by Grants-in-Aid to States for the creation of capital assets.

Mains Point: Some major steps taken by the government to make India a \$5 trillion economy.

5. From state visit to a more robust trade relationship

Context:

The historic visit of India's Prime Minister to Washington.

In this article author discusses the historic visit of India's Prime Minister to Washington. They highlight the growing U.S.-India partnership, especially in defense and technology. However, the

trade relationship, though improving, hasn't reached its potential. Both nations should prioritize creating a strong Free Trade Agreement to maximize benefits.

About India-US trade

Historic Visit:

India's PM 2023 visit to Washington strengthens U.S.-India relations.

Current Trade:

Exceeds \$120 billion.

U.S. Approach:

Shifted from traditional FTAs, emphasizing resilient supply chains and labor rights.

Enhancing Relations:

Resolved six WTO disputes during India's PM US visit; potential for a major Free Trade Agreement.

Agriculture Trades:

Exchanges like mangoes for India and cherries for the U.S. without an FTA.

Trade Potential:

By prioritizing, bilateral trade could reach \$500-\$600 billion by 2030.

U.S.'s current trade approach

Shift from FTAs: The U.S. has evolved away from Free Trade Agreements.

Supply Chain Focus: Emphasis on creating resilient supply chains.

Reshoring and Friend-shoring: Aim to bring production back to the U.S. or move to friendly countries.

Labor and Environment: Prioritizing labor rights and environmentally friendly production over traditional globalization.

Skeptics' Views: Many believe the U.S.'s goals could be better achieved with a revamped FTA strategy.

Can both countries enhance their trade

relationship

Resolve Disputes:

During recent India's PM US visit, six disputes under the World Trade Organization were settled.

Explore FTAs:

Both countries should consider major Free Trade Agreement negotiations.

Utilize Past Successes:

Examples include small trade deals like exchanging mangoes, pomegranates from India for U.S. cherries, hay, and pork.

Agriculture Opportunities:

India has shown willingness to open its agricultural market in exchange for concessions, as seen with Australia gaining access for wine, wool, and sheep meat.

Work Towards Major Agreements:

Initiating negotiations for a comprehensive Free Trade Agreement could cover a wider range of goods and services.

Stronger Leadership Mandate:

Trade needs more attention from both Biden and Modi administrations for better outcomes.

Set Ambitious Goals:

Aiming for \$500-\$600 billion in bilateral trade by 2030 is possible with a focused approach

Mains Point: About India-US trade

6. The trajectory of progress must change

Context:

Issues related to global economic development

The article explains the challenges faced by the global community and potential solutions to these challenges.

Challenges faced by the global community

- The state of global governance is concerning. The world is experiencing divisions and conflicts among nations, leading to wars. There are issues of rising inequalities. Migrants are risking their lives in search of safety and improved living conditions.
- The current path humanity is on is unsustainable. Economists often use statistical data to argue that poverty is decreasing and incomes are rising for everyone. However, it is essential for them to observe the ground realities.
- Earth is experiencing continuous warming. The current consumptive model of economic growth is unsustainable.
- Employment instability is on the rise, even in wealthy nations.
- In 2015, the world community adopted the 17 UN Sustainable Development Goals.
- Not all 17 issues are prevalent in every country. For instance, island nations face immediate life-threatening problems related to the oceans, while landlocked countries may not experience the same issues.

Some potential solutions to challenges faced by the global community

- More economic growth will not solve the global issues. Economic growth must transform into a sustainable and equitable approach.
- As per Einstein, persisting to address systemic issues with the same flawed methods that caused them is irrational. He advocated for a new paradigm in global governance.
- It is evident that a single global solution for environmental, societal, or economic challenges cannot be universally applied. Instead, tailored and localised solutions are necessary. One-size-fits-

all approaches cannot adequately address the diverse array of challenges we encounter.

- These solutions should encompass a combination of approaches to tackle economic, environmental, and social challenges collaboratively.
- The McKinsey Global Institute recently published a comprehensive report titled "Pixels of Progress: A granular look at human development around the world".
- It delves into the actual progress experienced on the ground. It goes beyond the conventional statistical methods and GDP.
- The report focuses on life expectancy and incomes, to assess the well-being of individuals. Surprisingly, the findings reveal that only 20% of the progress observed can be attributed to the country-level GDP growth.
- The vast majority, 80% of the progress, is intricately tied to local factors and specific conditions.

Approach of India for resolving the challenges faced by the global community

- As the chair of the G-20, India has put forward a vision of Vasudhaiva Kutumbakam. It aims to foster global unity and improve conditions for all individuals worldwide.
- India has also introduced an approach known as LiFE to the G-20. It advocates for synchronised efforts among various stakeholders at all levels, underpinned by collective actions across society.
- Principle 7 of LiFE emphasises the importance of acknowledging and enhancing the contributions of local communities, local and regional governments, and traditional knowledge in promoting sustainable ways of living.

Mains Point: Issues related to global economic development

7. Deep tech startups taking brave risks

Context:

The progress of startups and deep tech startups in India.

India progress in the area of startups

- In the past decade, the Great Indian Startup Boom has generated a thriving entrepreneurial ecosystem in India. It is led by young entrepreneurs and supported by the government's Startup India initiative.
- This phenomenon extends beyond metropolitan cities. Entrepreneurs from suburban and rural areas are adopting it.
- Presently, the government recognizes over one lakh startups. Nearly half of them are originating from Tier 2 and Tier 3 cities.

Programs launched by the Government to promote startups across the country

Startup India Action Plan:

It was unveiled in 2016. The Action Plan comprises 19 action items spanning across areas such as "Simplification and handholding", "Funding support and incentives" and "Industry-academia partnership and incubation".

Fund of Funds for Startups (FFS) Scheme:

It was established with a corpus of Rs. 10,000 crore, to meet the funding needs of startups. DPIIT is the monitoring agency and Small Industries Development Bank of India (SIDBI) is the operating agency for FFS.

Credit Guarantee Scheme for Startups (CGSS):

It is aimed at providing credit guarantee up to a specified limit against loans

extended by Member Institutions (MIs) to finance DPIIT recognised startups.

Support for Intellectual Property Protection:

It facilitates the startups to file applications for patents, designs and trademarks through registered facilitators in appropriate IP offices by paying only the statutory fees. Startups are provided with an 80% rebate in filing of patents and 50% rebate in filing of trademark vis-a-vis other companies.

International Market Access to Indian Startups:

It aims to help connect Indian startup ecosystems to global startup ecosystems through various engagement models.

Start-ups Intellectual Property Protection (SIPP) Scheme:

It facilitates the startups to file applications for patents, designs and trademarks through registered facilitators in appropriate IP offices by paying only the statutory fees.

The Government bears the entire fees of the facilitators for any number of patents, trademarks or designs, and startups only bear the cost of the statutory fees payable. Startups are provided with an 80% rebate in filing of patents and 50% rebate in filing of trademark vis-a-vis other companies.

Income Tax Exemption for 3 years:

Startups incorporated on or after 1st April 2016 can apply for income tax exemption. The recognized startups that are granted an Inter-Ministerial Board Certificate are exempted from income-tax for a period of 3 consecutive years out of 10 years since incorporation.

Faster Exit for Startups:

The Government has notified Startups as 'fast track firms' enabling them to wind up operations within 90 days vis-a-vis 180 days for other companies.

Startup India Hub:

The Government launched a Startup India Online Hub in 2017 which is one of its kind online platforms for all stakeholders of the entrepreneurial ecosystem in India to discover, connect and engage with each other.

National Startup Advisory Council**Startup India Seed Fund Scheme (SISFS):**

The Scheme aims to provide financial assistance to startups for proof of concept, prototype development, product trials, market entry and commercialization.

National Startup Awards(NSA)**National Mentorship Portal(MAARG)****Startup20 Engagement Group:**

It is a new engagement group initiated under India's G20 presidency. It aims to create a global narrative for supporting startups and enabling synergies between startups, corporates, investors, innovation agencies and other key ecosystem stakeholders

Deep tech startups progress in India

- The Startup movement has evolved beyond consumer Internet and e-commerce. It has now expanded to deep technology domains like space and remote sensing, artificial intelligence, robotics, biotechnology, drones, defense, telecommunications, semiconductors.
- IIT Madras's Research Park, has incubated over 200 deep tech companies valued at more than Rs. 50,000 crore. It includes those in space and aviation; C-CAMP, and the National Chemical Laboratory's Venture Centre.
- It demonstrates how science from publicly-funded institutions can be made accessible to citizens and consumers through startups.
- The industry has shown a clear inclina-

tion towards investing in deep-tech startups and acquiring well-established scaled technologies.

- This trend is supported by the acquisition of deep tech startups by prominent Indian legacy corporations. For instance, the Tatas acquired Saankhya and Tejas Networks, Reliance acquired Faradion, and Hero Motors purchased equity in Ather Motors.

Way forward

- The government should support the second phase of entrepreneurship, a Startup India 2.0. This support must come through two routes-
- There should be a significant increase in the availability of risk capital for deep tech startups. The government should prioritize these sectors and allocate more resources to the existing SIDBI Fund of Funds.
- The industry should redirect and enhance their research funds to support the financing of deep tech startups.
- There is a need to facilitate the widespread adoption of domestically developed technologies through mass procurement. More coordinated efforts across the entire government are required.
- Industry players and industry bodies can contribute by promoting the adoption of locally-made technologies.
- This can be achieved through collaborative efforts in incubators to co-create products and solutions, conducting rapid testing and certification processes, and providing support for large-scale procurement of innovative goods.

Mains Point: the progress of startups and deep tech startups in India.

Prelims Point: Deep tech startups

8. The contours of India's 'formal jobs' crisis

Context:

The issues related to employment and employment statistics in India.

The article explains the EPF numbers on employment in India. It also explains the issues related to employment and employment statistics in India.

Employment scenario in India as revealed by EPFO data

- The monthly enrolment data of the Employees' Provident Fund (EPF) typically indicates a rise in contributors.
- EPFO annual reports talk about the regular contributors. Regular contributors refer to employees who are enrolled in the EPF scheme and consistently make PF contributions throughout the year.
- EPF Organization's annual reports indicate that the number of regular contributors to the scheme has shown little to no growth. It has even declined in recent years in some stances.
- Between 2012 and 2022, the count of regular contributors witnessed a substantial increase from 30.9 million to 46.3 million.
- However, the growth in the number of regular contributors has significantly slowed down over the past five years. From 2017 to 2022, the count of regular contributors only marginally increased from 45.11 million to 46.33 million.
- This growth occurred during a period when overall EPF enrolments escalated from 210.8 million to 277.4 million.

Some inference from EPFO data on employment

- The number of individuals enrolled in the EPF is generally expected to be higher than the count of regular con-

tributors due to issues like duplication and outdated membership data.

- However, it is concerning that in recent times, the gap between these two figures has been widening.
- EPF data suggests that over the past five years, there has been a mere net creation of 1.2 million formal jobs.
- The divergence between EPF enrolments and regular contributors implies that a significant portion of EPF enrolments is associated with jobs of a temporary, subcontracted, or casual nature.

Challenges related to employment in India?

- India is witnessing a growth in employment opportunities, but most of these jobs are not formal, stable, or well-paid.
- Numerous highly qualified young individuals compete for a limited number of public or private sector job openings.
- The stagnation in formal employment can partly be attributed to the impact of the pandemic. The COVID-19 crisis led to a decline in the number of EPF contributors,

Issues related to employment statistics in India

- Earlier, the EPFO used to release monthly reports on regular contributors. However, when the media highlighted the decline in EPF contributors, the EPFO disputed its own data and ceased to publish the monthly data series.
- The Indian government has shown neglect towards other potential sources of formal employment and labor data.
- For instance, the Directorate General of Employment and Training (DGET) used to collect employment market information, but it hasn't been published since 2013.

- Historically, DGET data served as the original source of formal sector payroll employment data in India since the 1950s. The Reserve Bank of India relied on it for formal sector employment numbers and related calculations.

Mains Point: the issues related to employment and employment statistics in India

9. Adopt WHO-standard good manufacturing practices: Govt sets deadline for pharmas

Context:

Government of India has set a deadline for mandatory implementation of the Good Manufacturing Practices (GMP) in India pharmaceutical industries.

Good Manufacturing Practices (GMP)

- Good Manufacturing Practices (GMP) is the aspect of quality assurance that ensures that medicinal products are consistently produced and controlled to the quality standards appropriate to their intended use and as required by the product specification.
- In India, GMP was revised in 2018, bringing them on par with World Health Organisation (WHO) standards.
- Why has the government made it mandatory for Indian pharmaceutical industries to follow GMP?
- The Indian pharma industry is facing a credibility crisis. In 2022, the WHO had said that the deaths of dozens of children in Gambia and Uzbekistan were due to contaminated cough syrups manufactured by Indian drugmakers.
- In February 2023, blindness, severe eye infections and a death in the US were linked to India-made eye drops.
- In this context, making GMP mandatory would help restore India's image as the pharmacy of the world.

Some Pharma companies need to follow GMP

- Companies with a turnover of over Rs 250 crore will have to implement the revised GMP within six months.
- However, medium and small-scale enterprises with turnover of less than Rs 250 crore will have to implement it within a year.
- The companies will also have to introduce a GMP-related computerized system. These computer programmes will be designed to automatically record all the steps followed and checks done, which will ensure all the processes are followed.
- Those who do not comply with these directions will face suspension of license and/ or penalty.

Significance of these directions

- Currently, only 2,000 of the 10,500 manufacturing units in the country have been found to be compliant with the global WHO-GMP standards.
- Now, all will have to implement the revised GMP, ensuring quality medicines for the domestic market and abroad.

Mains Point: Good Manufacturing Practices (GMP)

10. Govt. kicks off contractual dispute settlement scheme

Context:

Government of India has launched the Vivad se Vishwas-II scheme for settling contractual disputes involving the government and government undertakings.

Vivad se Vishwas-II Scheme

Vivad se Vishwas-II Scheme was announced in the Union Budget 2023-24.

Aim:

To resolve the government's contractual disputes with private parties, clear the backlog of litigation and improve the ease of doing business.

Applicability:

The scheme will apply to all domestic contractual disputes where one of the parties is either the Government of India or an organization operating under its control.

Cases covered:

The scheme will cover cases where the court order was passed by 30 April 2023, and the arbitral order given by 30 January 2023.

Under the scheme, for court orders passed on or before 30 April 2023, the settlement amount offered to the contractor will be up to 85 per cent of the net amount awarded or upheld by the court.


For arbitral orders passed on or before 1 January 2023, the settlement amount offered is up to 65 percent of the net amount awarded.

Claims processed through:

Eligible claims will be processed only through the government e-marketplace.

Smooth settlement

The Centre launches a scheme to end disputes with suppliers by offering them a voluntary settlement amount



- The scheme applies to all domestic contractual disputes where the government is a party
- Govt. to offer contractors settlement amounts of up to 85% of net amount awarded by the court

■ FM Nirmala Sitharaman had promised in this year's Budget to introduce a settlement scheme

Mains Point: Vivad se Vishwas-II scheme

Prelims Point: Vivad se Vishwas-II scheme

11. Six years of GST: Compensation cess still needs to be sorted out

Context:

Issues related to GST compensation cess.

Some facts related to GST compensation cess

- The funding for GST compensation was sourced from a cess imposed on specific goods listed in a schedule to the 2017 Act. These mainly include tobacco, coal-based solid fuels, and fossil-fuelled motor vehicles.
- The schedule was also open-ended, allowing for the inclusion of any other supplies. This approach represented an exceptional statutory commitment to provide additional revenue.

Some facts and statistics related to shortage in cess collection

- Pandemic led to a significant increase in the required compensation while the collections from the cess declined. To address this discrepancy, the Centre resorted to special borrowing to cover the deficit in GST compensation.
- During the 49th meeting of the GST Council in February 2023, the outstanding payments for June 2022 amounting to Rs. 0.16 trillion, were announced.
- During the five-year statutory period, states received a total of Rs. 5.89 trillion in GST compensation, averaging Rs. 1.18 trillion per year.
- However, the average annual revenue from the cess was only Rs. 0.96 trillion. It is falling below the average annual compensation required.
- The cess collection for the entire financial year 2022-23 is totaling Rs. 5.76 trillion. It is still lower than the Rs. 5.89 trillion payout.
- The shortage in cess collection was not evenly distributed across all years.

There was a surplus in the pre-pandemic year 2018-19. Yet, Rs. 0.15 trillion of arrears remained unpaid until the beginning of 2022-23.

- The likely reason for this delay is the late supply of audited figures of state revenues.

Government's future plan for cess

- In September 2021, during the 45th meeting of the GST Council, it was proposed to extend the cess until March 2026 to cover the repayment of the Centre's special borrowing used to compensate for the pandemic years.
- In the most recent meeting, the GST Council recommended amending the Compensation Act rules to broaden the definition of taxable vehicles under the cess.

Way forward-

- GST Compensation Act does allow for a surplus in the compensation fund to be divided between the Centre and states in a specified manner. But, once its statutory function is fulfilled, it should be reclassified separately from the Compensation Act.
- There is a need to consider repurposing and renaming the compensation cess on items like tobacco, coal, and fossil-fuelled transportation as a Pigouvian levy on goods with negative health or climate impacts.
- However, the utilization of the proceeds from such a climate cess should be guided by experts working in India on climate action. Additionally, the process to track the effectiveness of these critical expenditures needs to be carefully designed.

Mains Point: issues related to GST compensation cess.

12. Why is the Biological Diversity Bill facing opposition?

Context:

Recently Parliament passed the Biological Diversity (Amendment) Bill, 2021.

Issues with the Bill

- The Bill provides exemptions for "codified traditional knowledge" and the AYUSH industry concerning benefit sharing. It deprives local communities of the advantages related to accessing biological resources.
- The lack of a precise definition for "codified traditional knowledge" opens the door to potential exploitation.
- This exemption is regressive because the legislation was initially enacted to guarantee "fair and equitable sharing of benefits."
- The Bill replaces criminal offences with monetary penalties. It raises concerns about potential resource exploitation.

Extent of the Act

- According to a 2022 investigation conducted by the Centre for Science and Environment, many States lack data on the funds received from companies and traders for access and benefit sharing.
- In cases where money was collected, it was not shared with local communities.
- A 2016 study conducted by legal researchers revealed numerous challenges in various States regarding the implementation of provisions of the Act, particularly those related to access and benefit sharing.

Industry about the Act

- The industry has expressed dissatisfaction with the regulations and has resorted to legal action seeking relaxation.
- For instance, in 2016, the Uttarakhand Biodiversity Board issued a notice to

Divya Pharmacy for violating the Act by using biological resources without prior notification to the Board.

- The company challenged the notice in the Uttarakhand high court, but the court ruled against them.
- In 2015, representatives from Gujarat's Ayurveda industry requested the central government to postpone the implementation of access and benefit sharing provisions, seeking relief for the sector.
- However, the then Environment Minister stated that the industry had to deposit an amount towards these provisions and no exemptions could be granted.
- The Bill explicitly mentions that stakeholders from various sectors, including the Indian system of medicine, seed, industry, and research sectors, expressed concerns about the need to simplify, streamline, and reduce compliance burden.
- The objective of the Bill is to create a favourable environment for collaborative research and investments.

Mains point: Biological Diversity (Amendment) Bill, 2021

13. Chawal Is the New Oil

Context:

About ban on the export of rice

Russia's decision to abandon the Black Sea grain deal is contributing to the global food price volatility. Further, India's ban on exporting certain varieties of rice is further exacerbating the situation as India has a 40% share of world rice exports.

Reasons for imposing a ban on the export of rice

Political Reasons:

There are political reasons like the up-

coming election which has made the government control the rising prices domestically.

Strategic Reasons:

The government is using export restrictions not only for managing domestic inflation but also as a leverage tool.

In 2022, despite the wheat ban, India made exceptions for discretionary export approvals to support neighboring and vulnerable countries.

As a result, Egypt, which imported 80% of its wheat requirements from Russia and Ukraine, became the largest recipients of Indian wheat.

This support from India in the midst of the crisis helped in improving the bilateral relations between the two countries.

Hence, India strategically utilized a commodity to safeguard its political interests and it is likely to adopt a similar approach for the recent rice export ban.

Impact of ban on farmers

- The ban may upset those farmers who benefit from high-priced exports.
- However, the government has taken this political risk because the number of large farmers with surplus for export or to sell under the MSP is relatively small compared to the majority of Indian subsistence farmers.
- Moreover, while the MSP offers protection to farmers during periods of low global cereal prices, export curbs serve as a trade-off during years of high global prices.

Way forward-

- Using essential commodities, including food for securing geo-political interest is not a new concept. Oil has been often used to secure geo-political interest by the OPEC countries in the response of

geopolitical events.

- Even the American President Eisenhower used food to support newly independent developing countries and gain their allegiance against communism.
- Hence, prioritizing critical international relationships through a focused export program offers India greater benefits than a free market approach in cereals trade.

Mains Point: Ban on the export of rice

14. Centre restricts laptop, PC and tablet imports; calls for license

Context:

The Government of India has imposed restrictions on imports of laptops, all-in-one personal computers and tablets.

The restrictions have been imposed under HSN Code 8471 on seven categories of electronic gadgets.

HSN Code 8471

The Harmonised System of Nomenclature (HSN) code is a classification system used to identify products for taxation purposes.

HSN code 8471 is used to identify devices that are designed to perform data processing tasks.

Exemptions provided under this order

- People who travel abroad can bring along one laptop, tablet, all-in-one personal computer, or ultra-small form factor computer in their baggage without import restrictions when returning to India. The exemption applies to items bought from e-commerce platforms and shipped via post or courier.
- An exemption is also provided for up to 20 items per shipment, particularly for research, testing, evaluation, repair, re-export, and product development.

The imports are permitted under the condition that they are used solely for their stated purposes and not sold.

Government imposed these restrictions due to

Strengthen local manufacturing:

With the curbing imports of these devices, the government aims to reduce reliance on foreign markets and encourage the growth of local manufacturing capabilities.

To boost PLI Scheme:

This move will give a direct boost to the Center's production-linked incentive (PLI) scheme for IT hardware.

Reduce Reliance on China:

The highest share of imports is in the category of personal computers including laptops, and palmtops, under which imports from China stood at \$558.36 million in April-May this year as against \$618.26 million in the year-ago period. China accounts for roughly 70-80 per cent of the share of India's imports of personal computers, laptops.

IRs. ts potential impact

This announcement is expected to impact companies that import bulk of their products from outside India. Tech giants like Apple will have to either start manufacturing their laptops in India or stop importing their gadgets to India.

Benefits of imposing licenses to import devices like laptops

Promote Domestic Manufacturing:

The government aims to strengthen local industries and reduce dependency on imports.

Curb Chinese Imports:

In 2022-23, personal computer imports stood at \$5.3 billion, with China being the major contributor. Reducing these imports can balance trade.

Economic Strategy:

By controlling imports, the government can influence the market, encouraging businesses to set up manufacturing units in India.

Job Creation:

Boosting domestic manufacturing can lead to more jobs for the local population.

National Security:

Reduced dependence on foreign tech may reduce potential cyber risks and protect sensitive data.

Limitations of imposing licenses to import devices like laptops

Disruption:

No prior warning to manufacturers can lead to sudden market disturbances.

Supply Shortages:

Immediate licensing requirements can cause a lack of available products.

Price Surge:

Limited supply often results in higher equipment prices for consumers.

Bureaucratic Hurdles:

Licensing introduces more red tape, slowing down business operations, similar to pre-1991 era challenges.

Cost Disadvantages:

Domestic manufacturing might not always be cost-effective, making products pricier.

Tech Ecosystem Impact:

India's IT services and startups, essential for "Digital India," may suffer.

Regressive Approach:

It reflects a return to older, restrictive policies, potentially hindering modern economic growth.

Global Trade Relations:

Such policies might strain relations with trade partners like China.

India has imposed these restrictions in accordance with the Agreement on Import Licensing Procedures under the World Trade Organization(WTO).

Note: In 2020 also, India had imposed restrictions on imports of pneumatic tyres used for cars, buses, lorries, scooters, and motorcycles,

Agreement on Import Licensing Procedures

- The WTO Agreement on Import Licensing Procedures says import licensing should be simple, transparent and predictable so as not to become an obstacle to trade.
- For example, the agreement requires governments to publish sufficient information for traders to know how and why the licences are granted.
- It also describes how countries should notify the WTO when they introduce new import licensing procedures or change existing procedures.

WTO reports say on Import Licensing

- As per Agreement on Import Licensing Procedures, all WTO members are required to notify their laws, rules and procedures on import licensing as well as changes to these regulations
- But the WTO trade-monitoring reports have identified import licensing as one of the main trade-restricting measures introduced by governments with 13 WTO members not submitting any notification on this as of end-2022.
- In 2022, the WTO members raised several new and recurring specific trade concerns regarding import curbs.

The European Union(EU) and the United States questioned Angola's import-licensing requirements, Egypt's

import licensing for certain agricultural products and Indonesia's commodity-balancing mechanism.

During India's latest Trade Policy Review in 2020, South Korea complained the import a licensing requirement by India for pneumatic tyres was causing "serious damage" to some firms doing business in India.

Way forward-

- Initiating conversation with the companies and establishing a six-month timeframe is a more constructive approach.
- International manufacturers are also cautious about China and seeking alternative options. Disrupting China's influence cannot be achieved abruptly. There exist more effective strategies to address national security apprehensions.
- Amendments to the PLI scheme are imperative. Emphasising local designs and incentivizing the relocation of component manufacturers to India should be prioritised. PLI agreements should incorporate a specified end date for high tariffs.
- India must adopt the manta of push export rather than stop imports.

Mains Point: imposed restrictions on imports of laptops.

15. Menaka Guruswamy writes on GST on online gaming: Taxing luck, not skill

Context:

GST on online gaming: Taxing luck, not skill

The article discusses a court case where Gameskraft, an online gaming company, challenges a large tax demand. The main issue is whether online games like rummy are based on skill (and not

taxable) or chance (taxable). The Karnataka High Court sided with Gameskraft, but the decision will be reviewed by the Supreme Court.

About Karnataka High Court's decision in Gameskraft

Case Background:

Gameskraft, an online gaming company, challenged a GST notice of Rs 21,000 crore.

Main Argument:

Gameskraft stated they merely provide an online gaming platform. Prize money is held in a trust and not owned by them.

Key Distinction:

The court differentiated between games of skill and games of chance.

Decision:

Online games like rummy, which are based on skill, aren't taxable like gambling activities.

Games taxes in India

Basic Principle:

Games of skill aren't taxed, while games of chance are taxable.

Relevant Law:

The CGST Act lists lottery, betting, and gambling as taxable under Entry 6, Schedule III.

Finance Act Definition:

Section 65B(15) of the Finance Act, 1994 defines "betting or gambling" as staking something of value, especially money, aware of the risk and hope of gain, based on game outcomes or chances of events occurring.

Court Interpretation:

Supreme Court judgments have differentiated between gambling activities and games of skill.

For examples:**Rummy:**

Viewed as a skill game due to memorizing card sequences, so not taxable.

Horse Racing:

Seen as a skill game because of trained horses and jockeys; betting is based on assessment.

Mains Point: GST on online gaming**Prelims Point: GST on online gaming****16. Govt. allows Indian companies to list on foreign exchanges through IFSC****Context:**

Govt. allows Indian companies to list on foreign exchanges

The finance minister has said that Indian companies can now directly list their shares on foreign exchanges operating at the International Financial Services Centre (IFSC) in Gujarat's GIFT City.

This move is aimed at enabling Indian companies to access global capital at better valuations.

FM has also inaugurated the Limited Purpose Clearing Corporation (LPCC) mechanism called AMC Repo Clearing Ltd. (ARCL) and the Corporate Debt Market Development Fund (CDMDF) in Mumbai.

About Limited Purpose Clearing Corporation (LPCC)

- The LPCC has been established to facilitate clearing and settling corporate bond repo transactions and promote an active repo market. This initiative aims to enhance liquidity in the corporate bond market.
- It will also enable market makers to obtain affordable funding for their inventory, assist bondholders in fulfilling their short-term liquidity requirements

without selling their assets, and provide entities with short-term surpluses a secure and efficient way to utilize their funds.

About Corporate Debt Market Development Fund (CDMDF)

- During market dislocations, the CDMDF will have access to Rs. 33,000 crore in capital.
- It will use this capital to buy and hold eligible corporate debt securities from participating investors, such as specified debt-oriented MF schemes, and subsequently sell these securities as markets recover.

**Prelims Point: Indian companies to list on foreign exchanges.****Mains Point: Indian companies to list on foreign exchanges.****17. Is India's sugar surplus leading to a crisis?****Context:**

Issues related to sugar production

India became the world's top sugar producer in 2021-2022, surpassing Brazil with a record of 359 lakh tonnes. However, the extensive use of resources in sugar production is depleting rapidly, leading to a potential crisis in the future.

Reasons behind excess sugar production

- The excess production is a result of policies and measures that encourage farmers to prioritize the cultivation of sugarcane.
- To ensure the welfare of sugarcane farmers, the Central government has implemented the fair and remunerative price scheme. This scheme establishes a minimum price that sugar mills must pay to the farmers.
- Moreover, state governments offer significant subsidies to incentivize the cultivation of sugarcane. These actions are motivated by political considerations to win votes in crucial rural areas.
- The surplus sugar production has resulted in a notable increase in exports. A record 110 lakh tonnes was exported during the 2021-2022 period.
- However, India's aggressive export promotion and domestic support strategies for farmers have raised concerns among other sugar-producing nations like Brazil, Australia.
- They filed a complaint with the World Trade Organization and accused India of violating international trade rules by offering excessive export subsidies and domestic support. The WTO ruled against India, and India's subsequent appeal was also unsuccessful.

Some efforts have been made by the government to address this issue

- The Indian government is diverting it to the production of ethanol. In the transport sector, the use of ethanol-blended petrol significantly reduces harmful emissions from vehicles.
- The government launched the EBP programme in 2003 to reduce crude oil imports and curtail greenhouse gas emissions from petrol-based vehicles.
- It started with the modest goal of

achieving a blending rate of 5%, but the target set for 2025 is 20%.

- The government also reduced the Goods and Services Tax on ethanol from 18% to 5% in 2021. In the same year, of the 394 lakh tonnes of total sugar produced, about 350 lakh tonnes were diverted to produce ethanol.

Excessive sugarcane cultivation impacts

- Sugarcane requires a substantial amount of rainfall, around 3,000 mm. But, in the top-growing States, the actual rainfall received is only 1,000-1,200 mm.
- The cultivation of sugarcane necessitates a significant amount of irrigation, with approximately two lakh litres of groundwater required for irrigating 100 kg of sugar.
- These States are already prone to drought and face stress on their groundwater resources. It is indicated by a 2022 report from the Central Ground Water Board.

Need to do

- There is a need for evaluating incentives that favour sugarcane cultivation over other crops and lead to a persistent surplus.
- Introducing fair and comprehensive subsidy schemes for various crops can encourage farmers to diversify their crops. It can achieve a more balanced distribution of cultivation, prevent monocultures, and ensure a fair income.
- In the long term, environmentally responsible sugarcane cultivation practices must be adopted, with a focus on groundwater conservation.
- Use of drip irrigation must be promoted. It can reduce water consumption by up to 70% compared to conventional flood irrigation methods.
- Investments are needed in water-saving

and management systems, including rainwater harvesting, wastewater treatment, and canal irrigation networks.

- The Central Ground Water Board conducts valuable research and gathers data. But, there are still gaps in understanding groundwater availability and distribution. Therefore, it is crucial to seriously consider investments in groundwater research.

Mains Point: Issues related to sugar production.

18. India's mining policy shift

Context:

Issues related to mining sector

Recently, Parliament passed the Mines and Minerals (Development and Regulation) Amendment Bill, 2023, in a bid to attract private sector investment in the exploration of critical and deep-seated minerals in the country.

Importance of minerals for India

- Various minerals play a pivotal role in a nation's manufacturing, infrastructure development, and progress.
- The shift towards clean energy in countries like India relies heavily on the accessibility of essential minerals like lithium, cobalt, graphite, and rare earth elements (REEs).
- These minerals are also indispensable for producing semiconductors utilized in smart electronic devices, defense and aerospace gear, telecommunications technologies.

India's critical minerals are imported

- The scarcity of such minerals in specific geographic regions leads to a need for imports. It creates vulnerabilities in supply chains and the potential for disruptions.

For Example, China has substantial ownership of cobalt mines in the Democratic Republic of Congo, responsible for 70% of global cobalt production.

- Prominent economies have recently taken measures to bolster their supply chain resilience for such minerals, and decrease their reliance on countries like China for supplies.
- India's dependence on imports for the majority of minerals on this list remains significant. India is entirely reliant on countries such as China, Russia, Australia, South Africa, and the United States for essential minerals like lithium, cobalt, nickel, niobium, beryllium.
- Even for deep-seated minerals like gold, silver, copper, zinc, lead, nickel, cobalt, platinum group elements, and diamonds, India's dependence on imports remains substantial.
- In the fiscal year 2022-23, India imported nearly 1.2 million tonnes of copper valued at over ₹ 27,000 crore.

Private sector vital for critical minerals exploration

- Research and the Centre for Social and Economic Progress (CSEP) highlight that India's distinctive geological and tectonic conditions offer a favorable environment for potential mineral resources.
- Only about 10% of India's Obvious Geological Potential (OGP) has been explored, and less than 2% of this has been extracted through mining.
- India has witnessed only a limited number of significant mineral discoveries over the past few decades.
- Majority of exploration projects are undertaken by the government entity Geological Survey of India and other Public Sector Undertakings (PSUs) like the Mineral Exploration Corporation Lim-

ited.

- Private sector involvement remains minimal. India's mining policy had previously excluded private-sector explorers from participating in the initial exploration of minerals in untapped areas. Moreover, companies did not enjoy appropriate incentives.
- The exploration process entails methods like aerial surveys, geological mapping, and geochemical analyses. So, it is a specialized, time-intensive, and financial activity. Less than 1% of examined projects ultimately progress into economically viable mines.
- PSUs were better suited for exploring surface and bulk minerals like coal and iron ore. However, they faced difficulties in dealing with deep-seated and crucial minerals.
- In countries such as Australia, private mining firms referred to as junior explorers take risks by utilizing their expertise and limited financial resources to conduct exploration.
- Following the identification of these prospects, these private enterprises can sell their discoveries to larger mining corporations.

India's mining policy conducive to private participation

- The Mines and Minerals (Development and Regulation) Act of 1957, has undergone several revisions since its inception, including recent amendments in 2015, 2020, and 2021.
- In 1994, amendments were made to the Act to enable interested parties to apply for mineral concessions through a First Come First Served (FCFS) approach.
- In 2015, amendments were made to the MMDR Act to enable private companies to participate in government auctions for Mining Leases and Composite Li-

cences (CLs).

- However, the inclusion of the Evidence of Mineral content (EMT) rule meant that only projects explored by the government were subjected to auction. It restricts the involvement of the private sector.
- The amendments also allowed private firms to register as exploration entities, with funding provided by the National Mineral Exploration Trust (NMET) for exploration activities. Despite these changes, private sector engagement remained limited.

Mines and Minerals Bill 2023 aim to encourage private players

- Critical minerals, in India and around the world, form the bedrock of contemporary technology. They are integral to the creation of products like solar panels, semiconductors, wind turbines, and advanced batteries used for storage and transportation. In essence, the shift towards renewable energy is impossible without these critical minerals. This is why securing their supply chain has become a top priority for leading economies.
- Therefore, to create a sustainable supply chain of critical minerals, government has moved amendments to Mines and Minerals (Development and Regulation) Act, 1957, by Mines and Minerals (Development & Regulation) Amendment Bill, 2023. Let's have a discussion on the availability of critical minerals in India and how the new bill will be helpful in maintaining the supply chain.

Critical Minerals

- Each country has its own classification of critical minerals depending on levels of economic development, industry requirements, national interests and security concerns, technology, market

<p>changes and natural resource endowment. For most of the countries, the criticality is judged by two main parameters, economic importance and supply risk. In Indian context also, the same two parameters were taken into consideration.</p> <p>As per the definition in the report by Ministry of Mines,</p> <p>Critical minerals are those minerals which are essential for economic development and national security, the lack of availability of these minerals or even concentration of existence, extraction or processing of these minerals in few geographical locations may lead to supply chain vulnerability and disruption.</p> <p>The seven-member Committee constituted by Ministry of Mines has identified a set of 30 critical minerals for India. These are Antimony, Beryllium, Bismuth, Cobalt, Copper, Gallium, Germanium, Graphite, Hafnium, Indium, Lithium, Molybdenum, Niobium, Nickel, PGE, Phosphorous, Potash, REE, Rhenium, Silicon, Strontium, Tantalum, Tellurium, Tin, Titanium, Tungsten, Vanadium, Zirconium, Selenium and Cadmium.</p> <p>Present status of critical minerals in India</p> <p>For the majority of the critical minerals, India is dependent upon other countries. For some of the critical minerals, India is 100% import dependent, as shown in the table below:</p>	2.	Cobalt 100%	China, Belgium, Netherlands, US, Japan
	3.	Nickel 100%	Sweden, China, Indonesia, Japan, Philippines
	4.	Vanadium 100%	Kuwait, Germany, South Africa, Brazil, Thailand
	5.	Niobium 100%	Brazil, Australia, Canada, South Africa, Indonesia
	6.	Germanium 100%	China, South Africa, Australia, France, US
	7.	Rhenium 100%	Russia, UK, Netherlands, South Africa, China
	8.	Beryllium 100%	Russia, UK, Netherlands, South Africa, China
	9.	Tantalum 100%	Australia, Indonesia, South Africa, Malaysia, US
	10.	Strontium 100%	China, US, Russia, Estonia, Slovenia
	11.	Zirconium(zircon) 80%	Australia, Indonesia, South Africa, Malaysia, US
	12.	Graphite(natural) 60%	China, Madagascar, Mozambique, Vietnam, Tanzania
	13.	Manganese 50%	South Africa, Gabon, Australia, Brazil, China
	14.	Chromium 2.5%	South Africa, Mozambique, Oman, Switzerland
	Sl. No.	Critical Mineral	Major
	Import dependency	Import Sources	
	(2020)	(2020)	
1.	Lithium 100%	Chile, Russia, China, Ireland, Belgium	

What are the Challenges of critical minerals supply?

Concentration of minerals:

The extraction or processing of critical minerals is concentrated in a few geographical locations, leading to import dependency and potential supply chain disruptions. For example, China owns most of the cobalt mines in the Democratic Republic of Congo, which produces 70% of the world's cobalt. China also has the largest reserves of Rare Earth Elements (REEs), followed by Vietnam, Brazil, and Russia.

As presented in the table above, India is 100% import-dependent on countries including China, Russia, Australia, South Africa, and the U.S. for the supply of major critical minerals.

High Cost:

Deep-seated minerals such as gold, silver, copper, zinc, lead, nickel, cobalt, platinum group elements (PGEs), and diamonds are harder and more costly to explore and mine compared to surface or bulk minerals. It forces India to import these minerals.

Global trade tensions, as seen in the case of US and China trade wars, have proved to be detrimental for the interest of India. It led to slow down of the global economy. In these tensions, industries face policy uncertainty, which discourage their expansion and is detrimental for their economic interest.

The pandemic caused disruptions in the supply chain, affecting global trade and the supply of critical minerals to dependent nations like India. It also led to a temporary shortage of semiconductors.

The Russia-Ukraine war highlighted the vulnerability of global supply chains, demonstrating that no country should be entirely dependent on another for essential items. Russia is a significant pro-

ducer of nickel, palladium, titanium sponge metal, and the rare earth element scandium, while Ukraine is a major producer of titanium.

Developing countries at loss:

While the developed countries get out of crisis, it is the developing countries that suffer most from any global incidence. For instance, after Russia - Ukraine war, China and Russia became strategic partners, developed countries have created Minerals Security Partnership (MSP) and G7's Sustainable Critical Minerals Alliance. Developing countries will have to choose among them.

Critical Minerals Need

1. They are essential for the transition to a clean energy economy. Critical minerals are used in a variety of clean energy technologies, such as electric vehicles, wind turbines, and solar panels. As the world transitions to a clean energy economy, demand for critical minerals is expected to grow significantly.
2. They are used in a variety of other products. Critical minerals are also used in a variety of other products, such as electronics, semiconductors, and medical devices. This means that a disruption in the supply of critical minerals could have a significant impact on a wide range of industries.
3. Critical Minerals are also used in smart electronics; defence and aerospace equipment; telecommunication technologies and so on.

Need of the Mines and Minerals Amendment Bill, 2023

For regulation, the MMRD Act classifies mining-related activities into:

- (i) Reconnaissance, which involves a preliminary survey to determine mineral resources,
- (ii) Prospecting, which includes exploring,

- locating, or proving mineral deposits, and
- (iii) Mining, the commercial activity of extraction of minerals.
- India has explored just 10% of its Obvious Geological Potential (OGP), less than 2% of which is mined, and the country spends less than 1% of the global mineral exploration budget. Most exploration projects have been carried out by the government agency Geological Survey of India and other Public Sector Undertakings (PSUs).
 - India's mining policy had kept private-sector explorers away from greenfield exploration of minerals for some years. It means they could only get licenses to further prospect and mine resources that had been explored by a government entity.
 - Union Minister of Mines Pralhad Joshi noted that while Indian PSUs were doing good at exploring surface and bulk minerals like coal and iron ore, they had not done well with deep-seated and critical minerals. It was due to the high cost and long duration of risky projects, along with the pressure to increase the supply of bulk minerals.
 - In Australia and other jurisdictions globally, private mining firms take risks to find potential mines. They are called known as junior explorers. Once mines are found, they can sell these to bigger mining companies, who then develop and run these mines.
- Mines and Minerals Amendment Bill, 2023 aims to tackle the challenges of Critical Mineral supply in India
- The bill allows private sector investment in the exploration of critical and deep-seated minerals in the country.
1. Firstly, the Bill excludes at least six previously mentioned atomic minerals from a list of 12 which cannot be commercially mined. Being on the atomic minerals list, the exploration and mining of these six – lithium, beryllium, niobium, titanium, tantalum and zirconium, was previously reserved for government entities.
 2. Secondly, The Bill introduces a novel license category aimed at fostering exploration by private sector players at the reconnaissance and prospective stages. It is termed an exploration license. This license will be awarded by State governments through competitive bidding. It will span for five years initially with the potential for a two-year extension. In these bidding rounds, qualified explorers will bid for a desired percentage of the auction premium. This premium will eventually be paid by a mining lease holder upon successfully exploiting a mine unearthed through State government-led exploration.
 3. Third, Allowing retention of part of the exploration area: It also specifies the maximum area for exploration; activities in up to 1,000 sq km will be allowed under a single exploration license. It also states that the licensee will be allowed to retain up to 25% of the originally authorized area after the first three years after submitting a report to the State government stating reasons for retention of the area. The MMRD Act currently requires exploration licensees to relinquish the entire exploration area after three years, unless they are granted a mining lease.
 4. Fourth, state government will grant the exploration licence through competitive bidding. While the central government will frame rules for exploration licensing.
 5. Fifth, the exploration licence will be issued for five years. A licensee may request for extension of up to two years.

6. Sixth, Auctioning of mining leases for critical and strategic minerals: The MMRD Act currently allows the state governments to auction mining leases for all minerals. The MMRD Amendment Bill gives the central government the power to auction mining leases for specified critical and strategic minerals, such as gold, silver, copper, zinc, lead, nickel, and cobalt.

Challenges with the bill

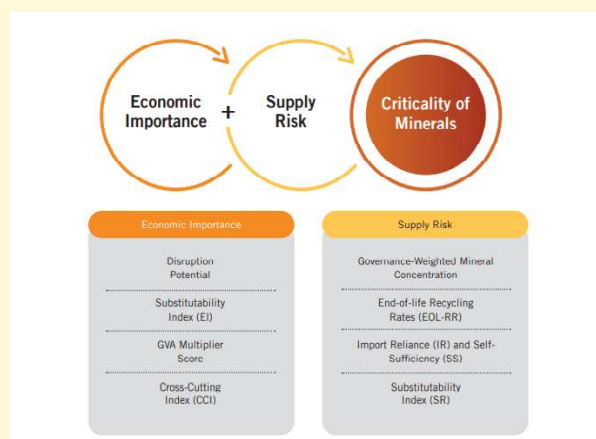
- **Gestation period:** The main way a private company with an exploration license can earn revenue is through a share of the premium paid by the miner. This only happens after a successfully discovered mine is auctioned and operational. This process could take years due to government clearance timelines. For example, Ghorabhurani-Sagasahi Iron Ore Mine, a greenfield captive mine, was auctioned in 2016. Despite being a bulk mineral, production only started in late 2021, nearly six years later, due to the time taken to receive necessary clearances.
- **Uncertain payment:** The explorer won't know how much revenue they'll receive as the auction premium will only be known when a mine is successfully auctioned.
- In a 2012 ruling, the Supreme Court observed that large capital investments go into discovering natural resources through exploration and mining contracts. Companies would only want to spend large amounts if they're assured of utilizing any discovered resources. In the new bill, only the government can auction what an explorer has discovered. This is unlike other global jurisdictions, where private explorers can sell their discoveries to miners, themselves.
Companies would be more willing to invest substantial sums if they were as-

sured of utilizing any resources they unearth.

The new policy only permits the government to auction what an explorer has discovered. This contrasts with practices in other global jurisdictions, where private explorers can sell their findings to mining companies.

Conclusion

Private players always get motivated by the profit they are going to make. If government want them to participate in the exploration of critical minerals in India, it needs to provide them certainty of the revenue stream from that investment, then only, india's efforts towards self-sufficiency will be successful.



Mains Point: Issues related to mining sector and critical minerals

Prelims Point: critical minerals

19. Ministry of Tourism has formulated a National Strategy and Roadmap for Medical and Wellness Tourism to boost Medical Tourism

Context:

Road map for Medical Tourism

The Ministry of Tourism in order to boost Medical Tourism in the country has formulated a National Strategy and

Roadmap for Medical and Wellness Tourism.

National Strategy and Roadmap for Medical and Wellness Tourism

Aim:

To provide an institutional framework, strengthening the ecosystem for medical and wellness tourism, developing a brand and ensuring quality assurance.

Key Pillars:

The Strategy has identified the following key pillars to promote India as a destination for medical value travel and wellness tourism.

These are:

- Develop a brand for India as a wellness destination
- Strengthen the ecosystem for medical and wellness tourism
- Enable digitalization by setting up Online Medical Value Travel (MVT) Portal
- Enhancement of accessibility for Medical Value Travel
- Promoting Wellness Tourism
- Governance and Institutional Framework

Some ongoing activities going on to promote Medical Tourism in India

- Firstly, the Ministry of Tourism releases global print, electronic and online media campaigns in important and potential markets overseas, under the 'Incredible India' brand-line, to promote various tourism destinations and products of the country. Digital promotions are also regularly undertaken on the theme of Medical Tourism.
- Secondly, in the case of e-Medical Visa and for e-Medical Attendant Visa, triple entry is permitted and extension may be granted up to 6 months on case to

case basis on merits of each case by the Foreigners Regional Registration Officers (FRRO)/Foreigners Registration Officer (FRO) concerned.

- Thirdly, the Union Ministry of Health is coordinating with other Ministries and stakeholders viz. Hospitals, Medical Value Travel (MVT) facilitators, Insurance Companies, NABH etc to promote medical value travel in the country.

Mains Point: Road map for Medical Tourism

20. It's time to double down on our digital expansion

Context:

Rapid growth of India's internet economy

The article discusses the rapid growth of India's internet economy. It highlights the uneven expansion and the need to broaden the internet base to reach everyone.

India's internet economy been growing at a strong pace

- The expansion of internet access, the affordability of connectivity are significant achievements. There is a rise in monthly Unified Payments Interface transactions. It has exceeded 10 billion with a value surpassing ¹ 15 trillion.
- The Government also supports policies focusing on data security. Privacy regulations are aimed at creating more equitable online markets. Additionally, our export policy aligns with e-commerce.
- The number of internet users has surged due to economical data tariffs. It has increased from 462 million in 2018 to 759 million users in 2022. This figure is anticipated to grow to 900 million by 2025.

Issues related to the internet economy in India

- According to World Bank data from 2021, our internet penetration rate lags behind the world average.
- According to this data, India was positioned at the 120th spot in 2021 in terms of internet penetration. The internet penetration rate is standing at 46%. This is below the global average of 63% and lags behind the mean for lower middle-income countries.
- In comparison, the UAE led the rankings with 100% penetration, followed by the UK at 97%, and the US at 92%. China, which has a penetration rate of 73%.
- The slower data speeds pose a hindrance, especially in case of new technologies like artificial intelligence. India's median fixed broadband speed of 53.2Mbps is slow in comparison to other places. In Singapore, the UAE, and even Chile, speeds exceed 200Mbps.
- Most concerning aspect is the unreliability of internet access, as indicated by our record of internet shutdowns.
- In 2022, the country experienced 84 sudden shutdowns. The rest of the world combined had 99, according to Access Now's count. This accounts for 45% of the total shutdowns globally.

Need to do

- It is essential to establish clear protocols for internet shutdowns based on thorough cost-benefit analyses.
- The vision of an internet economy worth \$1 trillion by 2030 is promising. India's strides in this area have indeed been impressive.
- However, there is still a need to substantially expand and stabilize our internet infrastructure. Taking prompt

action on multiple fronts is imperative.

Clearly, there's substantial work left to be done: a larger portion of the population needs to be brought online, and fewer individuals should be left dealing with frustrating buffering issues.

Mains Point: rapid growth of India's internet economy

21. How sweet is India's spot? - on economic policies of India

Context:

About India's Economic growth

In this article, the author discusses India's strong economic recovery and growth prospects. He emphasized the need for fiscal reforms, improved trade policies, better education, and increased private investment. The article also highlights India's geopolitical position, benefiting from US-China tensions, but warns against over-reliance on such advantages.

About India's Economic growth

Recovery Rate: Bounced back from a 6.6% GDP slump in FY21 to 9.1% and 7.2% in the subsequent years.

Exports:

Goods exports rose in 2021 and 2022, while service exports remain strong despite recent slowdowns.

Digital Boom:

Expanding digital infrastructure facilitates smoother nationwide transactions. It has facilitated low-cost transactions nationwide, which aids in the delivery of expanded government direct benefit programs.

Government Initiatives:

Increased spending on roads and infrastructure, aiding growth.

Monetary Policy:

RBI's restrictive stance for 15 months has lowered inflation below 6%. Correction in commodity prices (but not tomatoes), also contributed.

Growth projections:

The government and RBI project 6.5% growth in FY24.

A recent RBI paper stated India needs 7.6%-9.1% growth to be considered a developed country by 2047.

India's stand Geopolitically

India has strengthened ties with the US and its allies, remaining neutral in the Russo-Ukraine war.

India benefits from US-China tensions but should be cautious about relying on it.

Government spending affects on the Indian economy

Infrastructure Boost:

There is a noticeable strengthening of physical infrastructure, especially roads. This has been a result of increased government capex (capital expenditure).

Banking Stability:

Banks and companies' balance sheets have improved significantly, permitting more lending and borrowing.

Indian economy facing challenges like**Fiscal Concerns:**

Fiscal deficits and government debt levels are high. Debt/GDP ratio stands at 80%, surpassing the recommended (by the N K Singh report on fiscal responsibility) 60% target.

Despite resolving the "twin balance sheet problem", a resurgence in private investment is still awaited.

Export Slump:

Despite a surge in 2021 and 2022, goods exports experienced a recent decline.

International Trade Policies:

Recent trade decisions, like increased tariffs since 2016, have been counterproductive. India's late-stage withdrawal from the Regional Comprehensive Economic Partnership (RCEP) in 2019 was a setback.

Resurgence of import licensing restrictions, evident in sectors like laptops are not good for industrial growth.

Social issues:

Low learning outcomes in government schools require urgent attention. Improvement needed to cater to a skill-intensive global economy.

Concerning stats like female labor participation rates and youth unemployment compared to East Asian countries.

Some actions should be taken to address the**Fiscal Reforms:**

Reduce fiscal deficits and target a debt/GDP ratio closer to the recommended 60%.

Trade Policy Revamp:

Roll back the recent increase in customs tariffs. Consider re-engaging with at least one of the two Asian mega regional free trade agreements (FTAs). Remove unnecessary import licensing restrictions.

Educational Improvements:

Leverage digital infrastructure to boost learning outcomes in government schools.

Boosting Exports:

Enhance participation in global value chains by joining regional free trade agreements.

Investment Climate:

Ensure policy stability and transparency to attract more domestic and foreign investments.

Social Harmony:

Prioritize justice, law and order to encourage a conducive business environment.

Mains Point: About India's Economic growth**22. Will the Federal fund hike impact developing country debt?****Context:**

The US Federal Reserve has raised the federal funds rate

The US Federal Reserve has raised the targeted federal funds rate to 5.25-5.5%, a 25 basis points increase. This puts the rate at a 21-year high, surpassing the levels seen in 2001.

Federal Funds Rate

- The Federal Funds Rate plays a crucial role in the economy as it determines lending rates among banks.
- Following the global financial crisis, rates were near zero until 2015. However, since March 2022, there has been a steady increase in the rate, leading to concerns about the world economy's ability to withstand such a sharp rise.

US Fed increasing interest rates

Globally economies are in a recession due to high inflationary pressure. To combat this, the Fed, which is the central bank of the US, is taking aggressive steps such as an increase in interest rates (something which was not seen since the 1990s) to reduce the money supply flow in the economy.

Federal Funds Rate impacts on India

- Impact on Foreign capital: US Federal

Funds rate strongly influences the foreign capital inflow in India.

- When the Fed raises rates, foreign investors pull money away from emerging markets as higher rates give a boost to the dollar which erodes the shine of riskier equities.
- Impact on rupee: FPIs pulling money out of the equity and bond markets could weaken the rupee even as the dollar gets stronger with the rate hike.
- Highest Cost of Fund Mobilization from Overseas Markets: The rise in rates also means a higher cost of funds, and fund mobilization in overseas markets will be costly. The increase in the cost of funds may not only increase the cost of capital expenditure for India but will also strain the profit margins of companies.
- Impact on Inflation: India's inflation rate may accelerate as a result of the Fed rate hike. Depreciation of the rupee will increase the rupee cost of imported goods such as crude oil, chemicals and fertilizers, active pharmaceutical ingredients and electronics.

Mains Point: Federal Funds Rate impacts on India**23. India needs a new economic policy****Context:**

NSO has released the fourth-quarter GDP growth rate figures for 2022-23.

The National Statistical Office (NSO) has released the fourth-quarter GDP growth rate figures for 2022-23. The current NSO data, when compared to the previous year, present a more pessimistic outlook.

Further, analyzing NSO data since 2014-2015 yields three important conclusions.

Following conclusions can be made af-

ter analyzing NSO data since 2014-2015

1. First, the GDP growth rate has been decreasing each year since 2015-16, and it has now dropped in the fourth quarter to a level of 3.5%.
2. Second, this growth is similar to the Hindu Rate of Growth observed during the 1950-77 socialism era.
3. Third, the economic reforms taken under the leadership of P.V. Narasimha Rao and Manmohan Singh led to increase in GDP growth to 6% to 8% annually, from 1991 to 1996 and 2004 to 2014.

However, recent years have seen a worrying and ongoing drop-in GDP growth rates since 2016.

Some measures can be taken to boost the growth rate of GDP

1. First, abolishing personal income tax and eliminating the Goods and Services Tax (GST) are crucial steps to encourage investors and earners.
2. Second, the government should raise funds through indirect taxes and by printing currency notes, which can be circulated by paying wages to the employment generated in extensive public works.
3. Third, the government should set fixed-term savings interest at around 9% to boost middle-class purchasing power, and limit loan interest rates for small and medium industries to 6% to increase production and employment.
4. Fourth, India also requires a comprehensive new economic policy with clear objectives, priorities, a strategic approach to achieving goals, and a transparent resource mobilization plan.
5. Fifth, in India, the market system operates under rules and isn't entirely free. However, market capitalism thrives on incentives and capital, driving innova-

tion, factory productivity, and GDP growth. China also embraced this free market approach, despite being a totalitarian.

However, it doesn't imply full deregulation. Government intervention is needed for safety nets, affirmative action, addressing market failure, and ensuring a level-playing field.

Way ahead

Balancing public sector and deregulation, along with selling unprofitable units, boosting employment through affirmative action, and ensuring access to social security will help the poor in India.

This will also foster fairness in competition, ensures transparency, accountability, philanthropy, and corporate governance, legitimizing profitable operations that drive the market system.

Mains Point: GDP growth rate figures for 2022-23

24. China's economic slump may yet wash up on foreign shores

Context:

The current situation raises concerns over global imbalances arising out of China's declining economy.

Concerns with the Chinese economy

- China is facing multiple challenges. Recent reports indicate setbacks in its economic recovery, with notable declines in exports and imports, and even consumer prices falling in July, raising concerns over deflation.
- There is also a lack of demand in China which raises worries about the overall health of global economic conditions. The real estate sector is also a significant cause for concern, with Country Garden, once a major sales leader, now

facing instability.

- The solution to this involves enhancements in fiscal measures and a reduction in interest rates. Meanwhile, the global economy relies on the US to sustain growth.

US economy performance

- There are very less chances of recession or economic slowdown in the US. The job market in the US is doing well, and while prices are still higher than the goal set by the government, they might not go up much more.
- Recently, JPMorgan also said that a big economic decline is unlikely. People are less worried about smaller banks now.
- However, according to the chief US economist, the risk of the economy getting worse is still quite high. Hence, it would be a mistake if the current positive situation in the US led to overconfidence.
- For instance, in the late 1990s the US experienced a technology-driven economic boom, low unemployment, and mild inflation. During that time, Japan, once seen as a major economic competitor to the US, was struggling, along with many East Asian countries.
- This situation made people confident over the US economy. However, in 2001, the US experienced a recession, and this was followed by major European countries facing economic difficulties.
- Hence, a key takeaway from this is that while the US economy is performing, the US should also be concerned about the possibility economic challenges witnessed in other parts of the world.

Way ahead

Despite concerns about China, its central bank doesn't seem to be taking strong action to deal with the problem. At the same time, in the US, prices for things

are still quite high.

Hence, the global economic scenario raises worry and a suitable action is needed by both the countries to revive their economy.

Mains Point concerns over global imbalances arising out of China's declining economy.

25. DPIIT and Ministry of Rural Development jointly launch 'One District One Product' Wall at SARAS Aajeevika Store

Context :

A joint initiative of DPIIT and Ministry of Rural Development

Department for Promotion of Industry and Internal Trade (DPIIT), Ministry of Commerce & Industry has collaborated with the Ministry of Rural Development to launch One District One Product (ODOP) Wall.

One District One Product (ODOP) Wall

- ODOP Wall is a collaboration between One District One Product (ODOP) initiative and SARAS Aajeevika.
- This collaboration aims to drive consumers towards boosting sales and increasing the visibility of SARAS products. This will help in promoting indigenous crafts and artisans of rural SHGs women.

SARAS Aajeevika

SARAS Mela is an initiative by the Deendayal Antyodaya Yojana-National Rural Livelihoods Mission [DAY-NRLM], Ministry of Rural Development (MoRD).

Aim:

To bring the rural women SHG members formed under DAY NRLM under one platform to showcase their skills, sell and build linkages with potential market players at a fair price.

One District One Product (ODOP) initiative

- One District One Product (ODOP) is an initiative of the Department for Promotion of Industry and Internal Trade (DPIIT), Ministry of Commerce & Industry.
- It is aimed at fostering balanced regional development across all districts of the country. The initiative aims to select, brand, and promote at least One Product from each District (One District - One Product) of the country for enabling holistic socioeconomic growth across all regions.
- The ODOP Initiative has identified a total of 1102 products from 761 districts across the country.

Prelims Point: SARAS Aajeevika, One District One Product (ODOP) initiative.

26. Investor Education and Protection Fund Authority (IEPFA) and Common Service Centre (CSC) launches "Niveshak Sarathi"

Context:

To enhance financial literacy and awareness IEPFA and CSC launched Niveshak Sarathi

The Investor Education and Protection Fund Authority (IEPFA) and Common Service Centre (CSC) have jointly launched "Niveshak Sarathi" Vans in Delhi-NCR as part of the Azadi ka Amrit Mahotsav celebrations.

Niveshak Sarathi

- Niveshak Sarathi initiative aims to enhance financial literacy and awareness about fraudulent schemes.
- The vans are equipped with a TV screen showcasing investor awareness movies, a public address system, and informative brochures.
- The initiative included sessions con-

ducted by Village Level Entrepreneurs (VLEs) from IEPFA at key locations. Common Service Centre served as the knowledge partner for this campaign.

Investor Education and Protection Fund Authority (IEPFA)

- IEPFA was established by the Ministry of Corporate Affairs to manage the Investor Education and Protection Fund.
- It focuses on refunding shares, unclaimed dividends, matured deposits, and debentures to investors, among other responsibilities.

Common Service Centres(CSC)

- Common Services Centre (CSC) programme is an initiative of the Ministry of Electronics & IT (MeitY). It was launched in 2006. CSCs act as access points for delivery of various electronic services to villages in India.
- CSC e-Governance Services India Limited is a Special Purpose Vehicle (CSC SPV) incorporated under the Companies Act, 1956 by the Ministry of Electronics and Information Technology (MeitY) to monitor the implementation of the Common Services Centres Scheme.
- The Government launched the CSC 2.0 scheme in 2015 to expand the outreach of CSCs to all Gram Panchayats across the country. Under CSC 2.0 scheme, the aim was to set up at least one CSC in each of the 2.5 lakh GPs across the country by 2019.
- In 2016, CSC- Wi-Fi Choupal was initiated. It seeks to boost internet connectivity at the last mile by utilizing BharatNet infrastructure. It engages Village Level Entrepreneurs (VLEs) as Community Internet Service Providers.
- BharatNet project (previously known as National Optical Fibre Network (NOFN)) seeks to provide high speed

broadband connectivity to all gram panchayats across India.

Prelims Point: Common Service Centres (CSC), Investor Education and Protection Fund Authority (IEPFA), Niveshak Sarathi

Mains Point: Niveshak Sarathi

27. 'Vishwakarma scheme will aid 30 lakh artisan families

Context:

The Cabinet Committee on Economic Affairs has approved a new Scheme named "PM Vishwakarma".

PM Vishwakarma Scheme

Type: Central Sector Scheme

Aim:

- To strengthen and nurture the Guru-Shishya parampara or family-based practice of traditional skills by artisans and craftspeople working with their hands and tools.
- To improve the quality, as well as the reach of products and services of artisans and craftspeople and to ensure that the Vishwakarmas are integrated with the domestic and global value chains.

Coverage:

The scheme will provide support to artisans and craftspeople of rural and urban areas across India.

Eighteen traditional trades will be covered under the scheme. These include carpenter, boat maker, armourer, blacksmith, hammer and tool kit maker, locksmith, goldsmith, potter, sculptor, stone breaker, cobbler, mason, basket/mat/broom maker/coir weaver, traditional doll and toy maker, barber, garland maker, washerman, tailor and fishing net maker.

Duration of the scheme:

Five years (FY 2023-24 to FY 2027-28).

Key Features of the scheme:

- Artisans and craftspeople will be provided a recognition through PM Vishwakarma certificate and ID card.
- The scheme has a provision of credit support of up to Rs. 1 lakh (first tranche) and Rs. 2 lakh (second tranche) with a concessional interest rate of 5%.
- It also has a provision to provide skill upgradation, incentive for toolkit as well as digital transactions and marketing support.
- Skilling programmes will take place at both basic and advanced types. Participants will get a stipend of Rs. 500 per day while undergoing training.
- Beneficiaries will also receive up to 15,000 to buy modern tools.

It provides Rs. 13,000 crore over 5 years as concessional loans, mainly benefiting OBCs. Craftspeople with the relevant documents will be eligible for a loan of up to Rs 3 lakh.

Challenges with the scheme

Market Access:

The scheme focuses on preserving family-based traditional skills. However, the main obstacle is accessing markets because traditional practices often can't match modern costs.

Hence, to be economically effective, the scheme needs to connect these skills to market value chains.

Modern Job Skills:

- The scheme's soft loan approach will benefit many involved in traditional jobs, but India's economic progress requires modern job skills.
- Modern sectors align with the aspirations of young individuals from families with traditional occupations. However, Vishwakarma's approach isn't sufficient to create a workforce for a

modern economy.

Way ahead

- Preserving traditional skills is important for India's cultural heritage. Hence, India could learn from Japan's way of using fiscal resources and laws to keep their traditional skills alive while becoming a developed country.
- Vishwakarma can support traditional craftspeople, but its success in the long run will depend on making a market where they don't have to compete solely based on lower costs.

Prelims Point: PM Vishwakarma Scheme

28. Now, drones to monitor MGNREGA worksites

Context:

Rural Development Ministry may use drones to monitor MGNREGA worksites

The Union Ministry of Rural Development has asked States to use drones to monitor worksites under the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) scheme.

Drones can be helpful in monitoring MGNREGA Scheme

- Drones will be helpful in addressing complaints about corruption in MGNREGA works.
- These complaints vary from machines being used in place of the workers, many receiving wages without doing work, or works beyond the approved list being undertaken and so on.
- Drones will be especially helpful in such cases for real-time monitoring and for garnering evidence.

Government planning to deploy drones to monitor MGNREGA works

Drones will be used for four types of

monitoring:

1. surveying the ongoing works,
 2. inspecting the completed works,
 3. impact assessment and
 4. special inspection in case of complaints.
- Drones will be used by the ombuds person. According to the MGNREGA Act, there should be one ombudsperson per district who is responsible for registering suo moto complaints and disposing of them within 30 days.
 - State governments will provide the drones to ombudspersons as needed.
 - However, the Union government will not be providing the States with any extra funds to deploy these drones.
 - State governments are expected to draw the necessary funds from the administrative head, which is roughly 10% of a State's MGNREGA budget.
 - Instead of buying drones, States can hire drone-specializing agencies.
 - Government has also planned to form a centralized dashboard to store the videos and photos collected from the drones, for data analysis and reporting purposes.

Significance of these measures

- This will be the second big technological intervention introduced to keep a check on MGNREGA workers.
- From May 2022, the Union government has made it mandatory to capture attendance at all worksites using a specially-developed mobile-based application.

Mains Point: Technological intervention to keep a check on MGNREGA workers.

29. RBI launches web portal for searching unclaimed deposits

Context:

The Reserve Bank of India (RBI) has launched the UDGAM Portal.

About UDGAM Portal

UDGAM stands for Unclaimed Deposits – Gateway to Access information.

Purpose:

To aid users to identify their unclaimed deposits/ accounts and enable them to either claim the deposit amount or make their deposit accounts operative at their respective banks.

Developed by:

Reserve Bank Information Technology Pvt Ltd (ReBIT), Indian Financial Technology & Allied Services (IFTAS) and participating banks.

Coverage:

Initially, users would be able to access the details of their unclaimed deposits in respect of seven banks presently available on the portal.

The search facility for remaining banks on the portal would be made available in a phased manner.

Prelims Point: UDGAM Portal

30. Express View on RBI studies: Carrying hope

Context:

RBI's State of the Economy report

The National Statistical Office will soon release GDP growth estimates for the first quarter (April-June). The RBI predicts an 8% growth. Despite global slowdowns and a drop in exports, India's economy shows positive signs like increased private consumption and investment. However, some sectors,

like auto sales, are weak.

The major outcomes of the RBI's State of the Economy report

RBI's State of the Economy Report Outcomes:

GDP Growth Prediction:

The RBI expects 8% economic growth for April-June.

Global Recovery Status:

The global economic recovery is slowing down.

Export Situation:

Exports decreased by around 16% in July.

Merchandise exports were at a nine-month low of \$32.25 billion.

Positive Economic Indicators:

Private consumption and investment activity might balance the decline in exports.

E-way bill volumes showed strong growth.

FMCG sales increased.

Cargo at major ports and railway freight traffic rose in July.

Steel and cement consumption went up.

Areas of Economic Concern:

Automobile sales, excluding three-wheelers, are low.

More households/individuals are seeking MGNREGA work than last year.

Non-oil imports decreased, indicating weak domestic demand.

Uncertainty about how much investment will increase.

Investment Intention Study:

In 2022-23, plans for 982 projects with Rs 3.5 lakh crore were made.

In 2021-22, it was 791 projects worth Rs 1.96 lakh crore.

60% of these projects, funded by banks and institutions, are in infrastructure.

Major areas:

Power, roads, bridges, SEZs, biotech, and IT parks.

Uttar Pradesh, Gujarat, Odisha, Maharashtra, and Karnataka have more than half the project cost.

Future Investment Cycle:

Strong bank and corporate balance sheets suggest a good future for investment.

Mains Point: RBI's State of the Economy report

31. Why the RBI has directed lenders not to levy penal interest on borrowers

Context:

RBI has issued a fresh set of guidelines for banks on penal interest

The Reserve Bank of India (RBI) has issued a fresh set of guidelines for banks and other regulated entities (REs) on the imposition of penal charges on loan borrowers.

These guidelines have been issued after it was reported that many banks use penal rates of interest over and above the applicable interest rates in case of defaults / non-compliance by the borrower with the terms on which credit facilities were sanctioned.

RBI guidelines say

- According to RBI guidelines, penalties charged for default on interest payments or non-compliance of material terms and conditions of loan contract by the borrower would now be accrued as 'penal charges' instead of 'penal interest'.

To put it simply, lending entities would not be able to levy an ad-hoc additional penal rate of interest over and above the applicable rate of interest.

For perspective about penal interest:

Say the borrower's EMI payment for the month of April is Rs 1,000 at 10% interest rate. They default on making a timely EMI payment which subjects them to an additional interest payment of 24% per annum (or 2% per month) over and above the interest component (at 10% of principal amount) already payable that month.

- RBI guidelines direct that 'penal interest' (at 2% p.a. in the example) be replaced with an 'penal charge', with no additional component to the rate of interest.
- There shall be no capitalisation of penal charges, that is, it shall be levied separately and not be added to the principal outstanding amount.
- The quantum of penal charges must be proportional to the defaults or non-compliance of material terms and conditions of a loan contract up to a certain threshold.
- This is to be determined by the lending entities themselves and must not be discriminatory within a particular loan/product category.

Impact of these guidelines on consumers

- Supervisory reviews have indicated divergent practices amongst the regulated entities (REs) with regard to levy of penal interest/charges leading to customer grievances and disputes.
- Now, REs will have to disclose the quantum and reason for penal charges clearly to the customers in the loan agreement and most important terms and conditions/Key Fact Statement (KFS).

- These will also be displayed on the website of REs under interest rates and service charges section.

Mains Point: RBI

32. Amid trade slump, signs of investment pick-up

Context:

India's Trade and Investment Figures
India's merchandise exports have faced a decline. But the growth in imports of electronics and machinery suggests domestic demand and investments are picking up.

India's Trade and Investment Figures:

Decline in exports:

India's exports fell by 15.9%. This decline in exports appears broad-based and the slowdown in demand is not just stemming from the West, but also from emerging markets, especially the Asia-Pacific, India's largest regional export destination.

Imports Growth:

- India's exports has fallen. But the imports of electronics and machinery has hit a record high at \$4.7 billion. This suggests increased domestic demand and private investments.
- For instance, five out of fifteen key import categories saw growth. Electronics grew by 14.9%, and machinery reached a record monthly import of \$4.7 billion.

Trade Deficit:

The trade deficit in July rose to \$20.7 billion. Some economists caution that the trade deficit could grow more in the future due to rising commodity prices and export restrictions on agricultural products.

33. Govt planning skill training for 2 crore women under 'Lakhpati Didi' scheme

Context:

Government is planning skill development training for two crore women under the 'Lakhpati Didi' scheme.

Lakhpati Didi Scheme

Aim:

To provide skill development training to women to encourage them to establish micro-enterprises so that they can earn at least Rs 1 lakh annually.

Target:

Government's goal is to create two crore "lakhpati didis" (prosperous sisters) in villages through women self-help groups (SHGs).

Skills covered:

The women would be trained in skills like plumbing, LED bulb making and operating and repairing drones among others.

Initially women in around 15,000 self-help groups (SHGs) would be trained to fly and repair drones.

This training will not only create new avenues for income generation but also equip women with cutting-edge skills.

Prelims Point: Lakhpati Didi Scheme

Mains Point: Women empowerment initiative, Lakhpati Didi Scheme

34. Dollar Today, Rupee Tomorrow

Context:

Challenges and implications of making the Indian rupee an international currency

In this article author discusses the challenges and implications of making the Indian rupee an international currency, comparing it to dominant currencies

like the U.S. dollar. They argue that India should focus on economic growth and trade expansion, rather than rushing to internationalize the rupee.

Functions of a currency such as the rupee

The functions of a currency like the rupee are:

Medium of Exchange:

Used to buy and sell products within India.

Unit of Account:

Prices of products are set in rupees.

Store of Value:

People save and hold rupees for future use.

Example: When both a buyer and seller in India transact, they use the rupee for payment and set the product's price in rupees.

Role of international currencies

The role of international currencies includes:

Medium of Exchange:

Used for global trade between different countries.

Example: Over 80% of global trade transactions between 1999 and 2019 used the U.S. dollar.

Unit of Account:

Sets prices for international transactions.

Example: Most world trade prices are in dollars or euros.

Store of Value:

Held by central banks as reserves.

Example: Central banks hold 60% of their reserves in the U.S. dollar.

Dominance in Finance:

60% of international banking deposits and loans are in dollars.

Challenges of making the Indian rupee an international currency

Small World Trade Share:

India contributes less than 2.5% to global merchandise trade and less than 4% to world services trade. Most transactions use the dollar.

Limited Financial Transactions:

India's global financial transaction share is even smaller. Its corporate bond market is young, and public banks dominate.

Lack of Full Convertibility:

India hasn't fully adopted capital account convertibility, limiting the rupee's use in global financial transactions.

Foreign Exchange Reserves:

The Reserve Bank of India holds about \$600 billion in foreign currencies, primarily for rupee stability. Other countries might not store large rupee reserves.

Need to do

Focus on Growth:

Prioritize expanding the economy, trade, and foreign investment.

Avoid Premature Changes:

Don't rush to make the rupee fully convertible just to speed up its internationalization.

Natural Progression:

Let rupee internationalization follow as India's economic stature grows.

Prioritize Stability:

Ensure the rupee's stability without compromising major objectives.

Mains Point: Making the Indian rupee an international currency

35. What is RBI's new pilot for frictionless credit?

Context:

The Reserve Bank of India (RBI) has launched a pilot project in the form of a "Public Tech Platform for Frictionless Credit".

The project seeks to give digital information to lenders to expedite access to credit or loans.

"Public Tech Platform for Frictionless Credit"

- It aims to make borrowing easier for small and marginal borrowers. It will function as a digital hub for credit information, streamlining the loan approval process.
- The platform will include an open architecture, open Application Programming Interfaces (APIs), and open standards that enable the sharing of digital data with lenders by a variety of organisations, including governmental agencies, credit information providers, and digital identification authorities.
- The platform would be introduced in a pilot project on products like Kisan Credit Card loans, loans for dairy farmers, credit without collateral for MSMEs, and personal and home loans through participating banks.
- Lenders have the ability to get borrower information from places like Aadhaar e-KYC, digital land records, and even data about milk supply from specific dairy cooperatives

Frictionless credit

- Frictionless credit is a borrowing approach that seeks to streamline the lending process for consumers.
- Unlike the traditional credit systems, where individuals need to go through extensive paperwork, credit checks and lengthy approval procedures, friction-

less credit promises a smoother and faster experience.

Frictionless credit needed for

- Before granting a loan, there's a crucial process called credit appraisal. This process assesses the borrower's ability to repay the loan and stick to the loan agreement. It's especially important for banks because it affects their interest income and balance sheet.
- RBI has noticed that the information needed for this process is scattered among different entities like governments, banks, credit agencies, and digital identity authorities. This separation creates hindrances in frictionless and timely delivery of rule-based lending.
- To solve this, a new platform called "Public Tech Platform for Frictionless Credit" is being developed by Reserve Bank Innovation Hub, a wholly-owned subsidiary of RBI. This platform aims to make the lending process smooth and quick.
- As a step towards this, a pilot project for digitizing Kisan Credit Card (KCC) loans under ₹ 1.6 lakh was started in 2022. It tests a fully digital lending process without paperwork, even allowing loans to be given at people's doorsteps

Expected benefits of this platform

- Getting formal loans often involves multiple visits to the bank and lots of paperwork. This adds to the lender's operational expenses, which can then be passed on to borrowers. According to an RBI survey, processing farm loans used to take two to four weeks and cost about 6% of the loan amount.
- This platform will help in making this lending process smooth and quick. It will help in reducing costs, speed up the loan process, and make it scalable.

Mains Point: Frictionless credit

Prelims Point: Frictionless credit

36. How to fix holes in the financial safety net

Context:

Global financial system

The article explains the evolution of the global financial system and challenges faced by current financial architecture. It also explains the future of the global financial system.

The global financial system evolution

- The period before World War I was characterised by unrestricted movement of capital and fixed exchange rates tied to the gold standard. The gold standard's success depended on cooperation between major global economic powers.
- Following the interwar era, the gold standard was replaced by the post-1940s Bretton Woods system. The Bretton Woods conference led to the establishment of three significant international financial institutions: the IMF, World Bank, and later, GATT and WTO.
- Until the 1970s, the International Monetary Fund managed the global financial safety net (GFSN) through the Bretton Woods system. It was characterised by semi-fixed exchange rates and controlled capital movements.
- However, this system collapsed in the early 1970s. There were doubts about the sustainability of the US dollar's convertibility into gold at a fixed exchange rate and concerns about the availability of sufficient gold to match the increasing supply of US dollars.
- This collapse gave rise to the present framework of flexible exchange rates disconnected from gold, and relatively unrestricted capital accounts.
- The 1980s and 1990s were marked by frequent instances of balance of payments crises and macroeconomic insta-

bility in numerous emerging markets and developing economies.

- The open capital accounts in these economies led to volatility in capital flows. It contributed to an escalation in the frequency and severity of financial crises.
- From 1970 to 2011, there were a total of 147 systemic banking crises, 218 currency crises, and 66 sovereign debt crises, primarily occurring in EMDEs.
- During this time, the IMF remained the sole but largely ineffective observer of the Global Financial Safety Net. Substantial transformations have since occurred.
- The most significant event of the late 1990s was the Asian financial crisis. Many of the countries affected by this crisis felt that the conditionalities imposed by the IMF were too onerous, which led many to increase their foreign exchange reserves as self-insurance.
- Ten ASEAN member states plus China, Japan, and South Korea (ASEAN+3) founded the Chiang Mai Initiative (CMI) in 2000. In 2010, it became the "Chiang Mai Initiative Multilateralisation" (CMIM).
- The already existing ASEAN swap arrangements were expanded to facilitate bilateral currency swaps among all ASEAN +3 countries.

Global financial system transformed after the global financial crisis of 2008-09

- The 2008-09 North Atlantic Financial Crisis led to innovations in the Global Financial Safety Net. The US Federal Reserve set up bilateral swap lines with the major central banks in advanced economies along with a few emerging market economies.
- For euro-area countries, the European Financial Stability Facility was created as a temporary crisis solution in 2010.

It became the European Stability Mechanism in 2012, with a lending capacity of Euros 500 billion.

- A global network of bilateral swap lines has proliferated. The number of bilateral swap lines has increased from only a few in 2007 to 91 at the end of 2020. It amounts to a total of about USD 1.9 trillion.
- There are now seven regional financial arrangements with total potential resources available of almost USD 800 billion.

Issues related to the global financial system

- During the Covid crisis, the IMF lent USD 118 billion to 22 countries in the western hemisphere; USD 25 billion to 40 countries in sub-Saharan Africa.
- The above data illustrates that when more developed countries suffer from crises, the magnitudes of loans to them are much larger than similar crises in emerging economies.
- There has also been a perception that the conditionalities accompanying IMF programmes to advanced economies are less stringent than in emerging economies
- There has been a growing dissatisfaction with the distribution of quotas and voice in IMF governance with the increasing economic size of emerging economies
- The economic weight of emerging economies do not reflect adequately in the voting, quota, and governance structure of the IMF.

The future shape of the global financial system

1. The 16th review of quotas is currently ongoing. Many observers believe that there is little chance of the major member countries agreeing to the increased quota of emerging economies.

2. Without significant governance reform in the IMF being unlikely, its relative importance and effectiveness could get progressively eroded.
3. Thus, the GFSN of the future is likely to be a combination of different regional financial arrangements, bilateral swap lines, increasing foreign exchange reserves, and the IMF.

Options for India among transformations in the global financial safety net

- India is currently not part of any regional financial arrangements. In case of any macroeconomic and external crisis, it will have to rely on its bilateral swap lines, particularly with Japan, and the IMF.
- India should consider approaching the “Chiang Mai Initiative Multilateralisation” for potential membership.
- The pursuit of prudent macroeconomic policies encompassing fiscal, monetary, financial and development policies since the early 1990s, is the best financial safety net that India should aspire for.
- It should also continue to build adequate foreign exchange reserves for its self-insurance.
- It should be particularly careful in opening the capital account, especially to volatile debt inflows into its bond market.

Mains Point: Global financial system.

37. India, ASEAN agree to review goods trade pact by 2025 to fix ‘asymmetry’

Context:

India, ASEAN agree to review goods trade pact

India and the Association of Southeast Asian Nations (ASEAN) have agreed to

conclude the review of the ASEAN-India Trade in Goods Agreement (AITIGA) by 2025.

ASEAN-India Trade in Goods Agreement (AITIGA)

ASEAN-India Trade in Goods Agreement is a trade deal signed in 2009.

- The agreement covers trade in physical goods and products. It does not apply to trade in services.
- ASEAN and India signed a separate ASEAN-India Trade in Services Agreement in 2014. Along with ASEAN-India Investment Agreement, the three agreements collectively form the ASEAN-India Free Trade Area.

Need to review the ASEAN-India Trade in Goods Agreement (AITIGA)

Trade Deficit:

- In 2022-23, India's exports to ASEAN increased to \$44 billion from \$42.32 billion in 2021-22.
- However, imports grew faster as it jumped to \$87.57 billion in 2022-23 against \$68 billion a year ago.
- The trade deficit widened to \$43.57 billion in the last financial year, from \$25.76 billion in 2021-22. It was just \$5 billion in 2010-11.
- In this context, India's Commerce and Industry minister had said the trade agreement with ASEAN was an "ill-conceived" agreement and unfair to the Indian industry.

Other concerns of India:

India has been worried about the routing of goods from third countries in India through ASEAN countries members by taking the duty advantages of the agreement.

Mains Point: India, ASEAN agree to review goods trade pact

38. UP, Gujarat among top 5 states in new investments; Kerala, Assam at bottom

Context:

RBI study on total bank-assisted investment proposals

According to a study by the Reserve Bank of India (RBI), five states accounted for more than half of the total bank-assisted investment proposals made during the year 2022-23.

Key findings of the RBI study

- Overall investment plans shot up by 79.50% with a capital outlay of around 3.5 lakh- the highest since 2014-15.
- Significantly, this rise in new investments has happened at a time when the RBI hiked the repo rate.
- Pick-up in investments is largely due to the capital expenditure plans of the government.

State wise distribution of investments:

- Five states accounted for more than half of the total bank-assisted investment proposals made during the year 2022-23
- These five states are-
 1. Uttar Pradesh,
 2. Gujarat,
 3. Odisha,
 4. Maharashtra, and
 5. Karnataka.
- On the other hand, Kerala, Goa and Assam were at the bottom of the table in getting the lowest number of new investments.

Sectors which received investment:

- The investment in green field (new) projects accounted for the largest share of 93.1% in the total cost of projects financed by banks and Financial institutions (FIs) during 2022-23.

- Infrastructure sector comprising power, telecom, ports and airports, storage and water management, special economic zone (SEZ), industrial, biotech and IT park, and roads & bridges, remained the major sector accounting for 60% share in the total cost of projects during 2022-23.

Mains Point: RBI study on investment proposals

39. How India is becoming a young country but with an ageing workforce

Context:

Employment statistics of Indian economy

While addressing the nation on Independence Day, Prime Minister Modi made a special mention to India being a youthful nation and highlighted the opportunities that lay before India's youth.

India workforce is ageing

- The proportion of India's youth in workforce has declined from 25% in 2016-17 to a mere 17% by the end of the previous fiscal year in March.
- The percentage of individuals in workforce within the middle age group has decreased from 38% to 33% during the same timeframe. The oldest age bracket above 45 years has expanded its share from 37% to 49%.
- Just in the past seven years, the share of people 45 years and older has gone from one-third to almost one-half.
- The overall count of employed individuals has decreased from 41.27 crore to 40.58 crore. The most significant reduction has been observed in the engagement of young individuals.
- During 2016-17, the workforce included 10.34 crore people below the age of 30.

However, by the end of 2022-23, this figure had declined by more than 3 crores. It is just 7.1 crore.

- The employment level of those aged 45 and above increased, despite an overall decline in employment levels.

Factors explains the ageing workforce

- The youth are being pushed out of the job market.
- An effective method to monitor this trend is by examining the metric known as the "Employment Rate." The Employment Rate for any specific population or age group provides insight into the proportion of that age group or population that is employed.
- The population falling under the youth category saw an expansion from 35.49 crore in 2016-17 to 38.13 crore in 2022-23.
- While the "young" population grew by 2.64 crore, the count of employed youth declined by 3.24 crore. The youth of India encountered a significant 31% decrease in employment over the past seven years.
- This decline is evident in the considerable drop in the Employment Rate for this particular age group. It went from 29% to a mere 19%.
- The decrease in employment rates is the most modest among the oldest age category. Remarkably, this is the only age group where the total count of employed individuals has actually increased.
- In the age bracket of 25 to 29 years, the employment rate has seen an upward trajectory over the last seven years.
- However, this rise in the ER is not attributed to a greater number of individuals from this age group gaining employment. Instead, it is primarily due to a significant decline in the overall popu-

lation within this cohort.

Unexpected outcome

- India has observed a surge in youth unemployment in recent times. This implies that a considerable proportion of the youth who enter the job market struggle to secure jobs.
- India experiences a limited rate of labor force participation, particularly among women. India ranks among the countries with one of the lowest female labor force participation rates globally.
- The combined impact of a low labor force participation rate and elevated unemployment rates results in a deteriorating employment rate for India's youth.

Mains Point: Employment statistics of Indian economy

40. Nurturing capex- With foreign investments declining, it is necessary to maintain growth in government capital expenditure

Context:

Importance of maintaining capital expenditure to support economic growth

In this article, the author discusses the Indian government's new projects and their potential impact on the fiscal deficit. The author also emphasizes the importance of maintaining capital expenditure to support economic growth, despite challenges such as slowing tax revenue and declining foreign direct investment.

Indian government's new projects impacting the fiscal deficit

Impact on Fiscal Deficit

New Projects Cost:

The Union government unveiled projects costing Rs. 1.2 trillion, such as electric buses, railway enhancements,

expanding the Digital India footprint, and support schemes for artisans (Vishwakarma scheme), etc.

Current Year's Expenditure:

Not all the project expenses will affect this year's fiscal balance. Some costs are shared by the states, and only a fraction of the funds will be used before March 2024.

Pre-election Spending:

Additional schemes, such as extending free food grain supplies or increasing income support for farmers, could potentially widen the fiscal deficit beyond the projected 5.9 percent of gross domestic product (GDP) for 2023-24.

Revenue Shortfalls:

In the first quarter of 2023-24, the Centre's gross tax revenue growth was only 3%, compared to the annual 10% target. The net tax revenue declined by 14%.

Positive Impact of Capital Expenditure:

Government's capital expenditure rose by 59% in the first quarter, attracting more private sector investments, with approved plans rising to Rs. 3.53 trillion.

Challenges in maintaining capital expenditure to support economic growth

Fiscal Deficit Concerns:

With new projects worth Rs. 1.2 trillion, there's potential strain on the fiscal deficit.

Tax Revenue Shortfalls:

The Centre's gross tax revenue grew only 3% in the first quarter, missing the 10% annual target. Net tax revenue even declined by 14%.

Lower Disinvestment Receipts:

The expected revenue from dis-investments is lower than initially budgeted,

offsetting the potential gains from other sectors like the RBI.

Declining Foreign Investment:

Foreign investments fell 16% to \$71 billion in 2022-23 in comparison to 2012-13 and continued to decline by 22% in the first quarter of 2023-24.

Need to do

Prioritize Capital Expenditure:

Despite fiscal concerns, the government should aim for the projected ¹ 10 trillion capital spending for 2023-24.

Revenue Expenditure Control:

Focus on limiting revenue expenditure, which was projected to grow only 1.4% in 2023-24 over the ¹ 34.52 trillion in 2022-23.

Boost Domestic Investment:

Encourage private sector growth, given the current commitment of ¹ 1.72 trillion in investments.

Address FDI Decline:

Implement strategies to attract foreign investments, given the 16% drop in 2022-23.

Mains Point: importance of maintaining capital expenditure

41. Sunil Bharti Mittal writes: It's time for Africa - and India's G20 presidency is part of the opportunity

Context:

Africa's economic potential

In this article, author stresses Africa's economic potential and urges world-wide cooperation to boost integration. The focus is on health, education, agriculture, industry, trade, infrastructure. The author also praises India's efforts to strengthen African ties.

About Africa's economic potential.

Rich Resources:

Africa has 30% of global mineral reserves, 12% of oil, and 8% of natural gas.

Population Growth:

By 2050, Africa will contribute over half of the world's projected population growth.

Young Workforce:

Africa boasts a young and growing workforce, promising future economic growth.

Consumer Base:

Rising disposable incomes indicate a growing consumer market.

Underutilization:

Currently, Africa contributes under 3% to global manufacturing and trade.

Agriculture:

About 70% of Africans work in agriculture, but there's room for growth with improved training and resources.

Trade Agreement:

The African Continental Free Trade Agreement (AfCFTA) aims to boost intra-continental trade.

Some steps have been taken by India for the better utilization of Africa's potential

India's Steps for Utilizing Africa's Potential:

G20 Advocacy:

Under its G20 presidency, India vocalized the need for the African Union's membership in the group.

Business-20 (B20) Action Council:

India established the B20 Action Council titled 'African Economic Integration: An Agenda for Global Business' to promote Africa's economic integration.

Focus on Inclusion:

The council aligns with India's vision for heightened participation of Africa in the Global South.

Economic Recommendations:

Through the B20 Action Council, India aids in crafting recommendations for regional economic integration in Africa.

Strengthening Ties:

India's Prime Minister has been active in fostering a stronger relationship with Africa, emphasizing its importance in the global arena.

Should be done to effectively integrate the African continent**Human Capital Development:**

Prioritize health and education outcomes. The African Development Bank indicates a yearly need of \$26 billion for healthcare. More schooling leads to increased earnings.

Revitalize Agriculture:

Around 70% of the African population is in agriculture. Addressing gaps in finance, seeds, and fertilizers, and enhancing mechanization and value-addition is crucial.

Encourage Industrial Activities:

Complement natural resources with higher productivity activities, emphasizing the empowerment of micro and small enterprises. This is in line with the African Union's Agenda 2063.

Maximize AfCFTA:

The African Continental Free Trade Agreement needs to be fully implemented to improve competitiveness across the continent.

Strengthen Connectivity:

Boost both physical and digital infrastructures, focusing on roads, railways, and digital links for comprehensive con-

nectivity across Africa.

Mains Point: Africa's economic potential**42. India has an opportunity to lead the fourth industrial revolution****Context:**

The article explains the issues related to fourth industrial revolution in India.

Some facts about fourth industrial revolution

- Fourth industrial revolution is marked by the convergence of the physical, digital, and biological realms.
- It will deeply transform our lifestyles, occupations, and social interactions. This is driven by emerging technologies like artificial intelligence, the internet of things, and biotechnology.

India has potential to lead the fourth industrial revolution

- India possesses a well-established ecosystem of financial data through initiatives like the Unified Payments Interface and the Aadhaar platform.
- New platforms such as the one focused on logistics are on the horizon. These platforms will transform various sectors ranging from finance to logistics. It will establish a digital infrastructure capable of advancing the fourth industrial revolution.
- India has a substantial youthful population and an education system equipped to produce the necessary skill sets.
- Indian higher education institutions having young and talented minds. They are enthusiastic about making a global impact.
- India is a fertile ground for entrepreneurship. It has emerged as one of the world's fastest-growing startup hubs.

- These startups can be empowered to take the lead in the fourth industrial revolution by channeling resources into innovative technology.

Challenges in achieving the full potential of fourth industrial revolution

- There is insufficient public and private investment in research endeavors. Presently, India's allocation for research and development remains below 0.7% of its GDP.
- It is even lower than countries like Egypt and Brazil. In contrast, nations such as the United States, China, Israel, Japan, and South Korea allocate between 2% and 5% of their GDP towards scientific research.
- To tackle this issue, the government has recently introduced the Anusandhan National Research Foundation Bill, 2023, in the Parliament.

Way forward-

- It is crucial to invest in higher education. Equipping universities with state-of-the-art technology and research facilities to foster innovation and entrepreneurship is required. Transitioning from a time-bound education system to continuous learning is imperative.
- Facilitating ease of doing business is important. Entrepreneurs are the driving force behind the fourth industrial revolution. They require a favorable ecosystem.
- The fourth industrial revolution isn't solely about technology. It also revolves around people. It revolves around utilizing technology to enhance lives, generate opportunities, and construct a better future.
- Deregulation and support for private higher education are other pivotal measures. India universities necessitate assistance to innovate, adapt to evolving industry demands, and equip Indian

students with futuristic skills.

- Universities must cultivate a culture of research and innovation, foster collaborations with industry, and embrace novel technologies and teaching methodologies.

Mains Point: Fourth industrial revolution in India

43. Rajasthan's Gig and Platform Workers Welfare Act: empowering the young worker

Context:

Rajasthan Gig and Platform Workers Act

The author talks about Rajasthan Gig and Platform Workers Act, which benefits gig workers in India. It tackles problems like low pay and transparency. While praising its features, the author points out shortcomings and stresses effective implementation's importance.

The main features of Rajasthan Gig and Platform Workers Act

Unique ID for Workers:

Purpose:

To recognize each gig worker and ensure their rights and benefits aren't diluted or overlooked.

Impact:

This identification can serve as a foundation for all future benefits, making sure no worker is left out.

Transaction Fee:

The fee is introduced as a consistent source of revenue for a welfare fund dedicated to the gig workers.

Transparency:

With many companies, especially like Uber, using the "upfront pricing"

model, workers often aren't aware of the exact commission deducted. This fee calculation makes such details transparent.

Tripartite Welfare Board:

Composition:

A combination of government officials, company representatives, and the workers themselves.

Inspiration:

This model is inspired by the International Labour Organization's (ILO) framework. A similar structure was used by Maharashtra's Hamaal Panchayat to represent workers in the unorganized sector.

Benefits:

Such a board prevents any one party (like a single company) from having undue influence. It ensures that all stakeholders have a voice, reducing the chances of corrupt practices or biases.

Data Transparency:

Requirement:

Companies must share detailed transaction data, including the breakdown of charges and commissions.

Storage:

This data will reside in a database controlled by the government.

Accessibility:

Workers can access this data, ensuring they are aware of transaction details and promoting overall transparency in operations.

Issue with Rajasthan Gig and Platform Workers Act

Employee Misclassification:

- The Act avoids addressing the categorization of gig workers as "partners" or "aggregators".

- This classification has been a choice for companies, offering them protection against providing full employee benefits.

- Globally, there's a consensus that many gig workers fit employee definitions and should get associated protections.

Ambiguities in the Act:

- Certain areas in the Act are not clearly defined, leading to potential confusion in its execution.
- Areas like grievance resolution and data sharing need clearer guidelines for effective implementation.

Implementation Challenges:

- Companies like Uber have a history of resisting legal requirements.
- Ensuring these companies adhere to the Act's provisions will be crucial.
- Effective rules and systems need to be put in place to ensure the Act's objectives are met.

Need to do

- **Address Misclassification:** Clearly define gig workers' status, leaning towards employee recognition.
- **Clarify Ambiguities:** Create clearer guidelines for areas like grievance resolution and data sharing.
- **Establish Effective Rules:** Focus on rules and systems for executing the Act's provisions without loopholes.
- **Involve Workers in Implementation:** The worker mobilization that led to the legislation must continue during the Act's implementation phase.
- **Expand and Improve:** Use the Rajasthan Act as a model, refining it for adoption in other Indian states.

44. Pradhan Mantri Jan Dhan Yojana (PMJDY) – National Mission for Financial Inclusion, completes nine years of successful implementation

Context:

The Pradhan Mantri Jan Dhan Yojana (PMJDY) – the National Mission for Financial Inclusion – has completed nine years of successful implementation.

Impact of PMJDY

- PMJDY has been the foundation stone for people-centric economic initiatives. Whether it is direct benefit transfers, COVID-19 assistance, PM-KISAN, wages under MGNREGA, the first step of all these initiatives is to provide every adult with a bank account, which PMJDY has nearly completed.
- One in 2 accounts opened between March 2014 to March 2020 was a PMJDY account.
- Within 10 days of nationwide lockdown more than about 20 crore women PMJDY accounts were credited with financial assistance of Rs 500 per month for three months through DBT in each woman PMJDY account.

Achievements of PMJDY

Number of total PMJDY Accounts:

50.09 crore. Of which 55.6% account holders are women and 66.7% accounts are in rural and semi-urban areas.

Deposits:

Deposits have increased about 13 times.

Average deposit per account has increased over 3.8 times. Increase in average deposit is another indication of increased usage of accounts and inculcation of saving habits among account holders.

DBT transactions:

- About 6.26 crore PMJDY account holders receive direct benefit transfer (DBT)

from the Government under various schemes.

- Digital transactions in India have experienced remarkable growth due to various initiatives:
- The issuance of over 33.98 crore RuPay debit cards through the Pradhan Mantri Jan-Dhan Yojana (PMJDY).
- The installation of 79.61 lakh Point of Sale (PoS) and mobile Point of Sale (mPoS) machines.
- The introduction of mobile-based payment systems like UPI (Unified Payments Interface).
- Due to these initiatives, the growth is evident in the total number of digital transactions, which has surged from 1,471 crore in FY 17-18 to 11,394 crore in FY 22-23.
- Specifically, UPI financial transactions have seen substantial growth, increasing from 92 crore in FY 2017-18 to 8,371 crore in FY 2022-23.
- Similarly, the total number of RuPay card transactions at PoS and in e-commerce has risen from 67 crore in FY 2017-18 to 126 crore in FY 2022-23.

Jan Dhan Darshak App (JDD App)

- JDD App is a mobile application which provides a citizen centric platform for locating banking touch points such as bank branches, ATMs, Banking Correspondents (BCs), Indian Post Payment Banks etc in the country.
- The app is also being used for identification of villages which are yet to be covered by banking outlets within a 5 km radius.
- These identified villages are allocated to various banks by concerned SLBCs for opening of banking outlets. The efforts have resulted in a significant decrease in the number of uncovered villages.

Mains Point: Pradhan Mantri Jan Dhan Yojana success

45. Strategic Initiatives by Coal Ministry increase Availability of Domestic Coking Coal for Steel Production, Reduce Imports

Context:

The Ministry of Steel and the Ministry of Coal are taking up collaborative efforts to enhance domestic Coking Coal availability and minimize import reliance.

Coking Coal

- Coking coal also known as metallurgical coal is mainly used in manufacturing of steel through blast furnace route.
- Domestic coking coal is high ash coal (mostly between 18% – 49%) and is not suitable for direct use in the blast furnace.
- Therefore, coking coal is washed to reduce the ash percentage and is blended with imported coking coal (<9% ash) before utilization in the blast furnace.
- About 50 MT coking coal is imported by the country on an annual basis and the value of coking coal imported in FY 2020-21 was Rs. 45435 crore.
- Thus, increasing the supply of domestic coking coal would not only help in reducing the coking coal imports but also help in saving the forex and fortifying our foreign exchange reserves.

Mission Coking Coal

- Government of India has launched 'Mission Coking Coal' in August, 2021 to suggest a roadmap to augment the production and utilization of domestic coking coal in India by 2030.
- The mission envisions significantly reducing Coking Coal imports through a transformative measure under the

"Atmanirbhar Bharat" initiative.

- These measures encompass exploration, enhanced production, technological adoption, private sector involvement in coking coal blocks, establishment of new washeries, increased R&D activities, and quality enhancement.

The measures taken to increase production of Coking Coal

Auction of Coking Coal Blocks:

The Ministry of Coal achieved a significant milestone with the allocation of 16 Coking Coal Blocks. Out of which, 4 blocks were auctioned in 2022-23. This effort is projected to contribute a substantial 1.54 MT to Coking Coal production.

Revitalizing Abandoned Mines:

Bharat Coking Coal Limited (BCCL) has opened new avenues by inviting agencies and companies to undertake Coking Coal extraction from abandoned or discontinued BCCL-owned mines.

Strategic Collaboration with SAIL:

Steel Authority of India Limited (SAIL) and BCCL have signed an MoU for supply of 1.8 MT of washed Coking Coal to increase the availability of Coking Coal.

Innovative Greenfield Washerries:

The Ministry of Coal encourages the establishment of greenfield washerries or refurbishment of existing BCCL washerries to increase Coking Coal availability.

Mains Point: to enhance domestic Coking Coal availability and minimize import reliance. Mission Coking Coal

Prelims Point: Coking Coal

46. Aatmanirbhar Bharat Rozgar Yojana (ABRY) Surpasses Employment Generation Target

Context:

Aatmanirbhar Bharat Rozgar Yojana has exceeded its initial employment generation goals

Aatmanirbhar Bharat Rozgar Yojana (ABRY) has exceeded its initial employment generation goals showcasing its success in fostering job creation and recovery during the COVID-19 pandemic.

Aatmanirbhar Bharat Rozgar Yojana (ABRY)

Launched on: 1st October, 2020

Aim

To incentivize employers for creation of new employment and restoration of loss of employment during Covid-19 pandemic.

Benefits under the scheme:

Under the scheme, the government of India for a period of two years, is crediting both the employee's share (12% of wages) and employer's share (12% of wages) of contribution for establishments with up to 1000 employees.

For establishments with over 1000 employees, only the employee's EPF contributions (12% of wages) were covered in respect of new employees.

Eligibility for benefits:

An employee drawing a monthly wage of less than Rs. 15000/- who was not working in any establishment registered with the Employees' Provident Fund Organization (EPFO) before 1st October, 2020.

The employees who lost their job during Covid-19 pandemic and did not join any EPF covered establishment upto 30.09.2020.

Duration of the scheme:

The scheme commenced from 1st October 2020 and registration was open for eligible employers and new employees upto 31st March, 2022.

Achievements of the scheme:

The scheme had set a target to benefit approximately 7.18 million employees across India.

As of July 31, 2023, the ABRY has already achieved an enrolment of over 7.58 million new employees, surpassing its initial employment generation target.

Prelims Point: Aatmanirbhar Bharat Rozgar Yojana (ABRY)

ENVIRONMENT

1. Climate finance adds another layer of inequity to climate change

Context:

Investment in climate related activities
The article explains the position of various countries on carbon dioxide emissions, investment in climate related activities and climate vulnerability.

Some facts and statistics related to carbon dioxide emissions of various countries

- According to the Institute for European Environmental Policy, the target baseline for carbon dioxide emissions to restrict global warming to 1.5° Celsius is 2.3 tonnes per capita.
- However, the current global average emissions per capita have been twice this target. It has remained above 4.7 tonnes per capita since 2010. Notably, Africa and India have consistently maintained emissions below this target.
- China surpassed the global average in 2004 and steadily increased its emissions to 8 tonnes per capita by 2021. It is now at par with Europe and Oceania.
- The overall emissions of the UAE and the U.S. have declined. But these countries still had the highest emissions per capita. These are 21.8 tonnes and 14.9 tonnes, respectively.

Position of countries on investment in climate activities

- In 2019 and 2020, Sub-Saharan Africa led in climate-related investments. They allocate 1.3% of its GDP to such activities.
- East Asia and the Pacific followed closely with 1% of their GDP. South Asia allocated 0.9%. The U.S. and Canada had the lowest proportionate investment. They dedicate only 0.3% of

their GDP to climate-related initiatives.

- A significant portion of the funds for climate mitigation and adaptation in the Global South originates from international multilateral climate funds, including the Green Climate Fund and the Clean Technology Fund.
- These funds mainly come from economically developed countries. However, there have been some discrepancies in the disbursement of funds. For instance, since 2003, \$3.3 billion was approved for South Asia, but only \$1.3 billion was disbursed.

Position of various countries on climate vulnerability and debt stress

- Climate vulnerability index by country is calculated annually by the Notre-Dame Global Adaptation Initiative.
- It is calculated by a country's exposure, sensitivity, and capacity to adapt to climate change.
- The risk of debt distress is based on the International Monetary Fund's Debt Sustainability Framework reports.
- Sub-Saharan Africa has the highest number of countries facing debt distress. It is also the region most vulnerable to climate change.
- Generally, countries categorized as high risk or in debt distress are more susceptible to the impacts of climate change. In South Asia, three out of the eight countries fall into this category.

Mains Point: Investment in climate related activities

2. Nearly 50 MMT per annum of CO2 emissions can be averted through Green Hydrogen: New & Renewable Energy Minister

Context:

The Union Minister for New & Renewable Energy has informed Rajya Sabha about the Green Hydrogen.

Steps taken by the Government to promote Green Hydrogen**G20 Energy Transitions Ministers Meeting under India's G20 Presidency:**

At this meeting, the members discussed the importance of building a sustainable and equitable global hydrogen ecosystem that benefits all nations, and affirmed High level Voluntary Principles on Hydrogen.

These principles include promotion of free and fair trade of hydrogen produced from zero and low emission technologies and its derivatives.

National Green Hydrogen Mission**Aim:**

To make India a Global Hub for production, usage and export of Green Hydrogen and its derivatives.

Components:**The following components have been announced as part of the Mission:**

- Facilitating demand creation through exports and domestic utilization;
- Strategic Interventions for Green Hydrogen Transition (SIGHT) programme. The programme comprises two distinct financial incentive mechanisms to support domestic manufacturing of electrolysers and production of Green Hydrogen;
- Pilot Projects for green steel, mobility, shipping, decentralized energy applications, hydrogen production from biomass, hydrogen storage, etc.;
- Development of Green Hydrogen Hubs; Support for infrastructure development;
- Establishing a robust framework of regulations and standards; Research & Development programme; Skill devel-

opment programme; and Public awareness and outreach programme.

Strategic Interventions for Green Hydrogen Transition (SIGHT) Programme:

It is a major financial measure under National Green Hydrogen Mission. The programme consists of two distinct financial incentive mechanisms to support domestic manufacturing of electrolysers and production of Green Hydrogen.

Green Hydrogen production

- Green Hydrogen can be produced through electrolysis of water using renewable electricity, and from biomass through thermochemical and biochemical routes.
- The costs of the electrolysers and input renewable energy are the two major components of Green Hydrogen production cost.
- At present, there is very limited production of Hydrogen through renewable sources in the country.
- Several entities have announced plans to set up production facilities for Green Hydrogen/Green Ammonia in India. However, these are still at a preliminary stage.

Benefits of National Green Hydrogen Mission:

- The mission is expected to lead to development of 5 MMT Green Hydrogen production capacity per annum by 2030.
- It is estimated that nearly 50 MMT per annum of CO₂ emissions can be averted through production and use of the targeted quantum of Green Hydrogen.
- achievement of Mission targets is expected to reduce a cumulative ¹ 1 lakh crore worth of fossil fuel imports by 2030. This is likely to leverage over ¹ 8 lakh crore in total investments and create over 6 lakh jobs

Mains Point: National Green Hydrogen Mission

3. Endangered Himalayan vulture, bred in captivity for the first time in India

Context:

Captive breeding of the Himalayan vulture

Researchers have recorded the first instance of captive breeding of the Himalayan vulture (*Gyps himalayensis*) in India at the Assam State Zoo, Guwahati.

Captive breeding

- Captive breeding is the process of breeding animals outside of their natural environment in restricted conditions in farms, zoos or other closed facilities.
- The choice of individual animals that are to be part of a captive breeding population, and the mating partners within that population, are controlled by humans.

Himalayan vulture

- Himalayan Griffon vulture or Himalayan Vulture inhabits the higher regions of the Himalayas and the Tibetan Plateau.
- They can fly at an elevation of up to 5,500 metre with help of their wide and powerful wings.
- They generally feed on dead carcasses and would sometimes wait for a few days before eating the dead animal.

IUCN Status: Near Threatened

About Vulture Conservation Breeding Centres (VCBC):

Vulture Conservation Breeding Centres (VCBC) have been established by Bombay Natural History Society (BNHS) at Pinjore in Haryana, Bhopal in Madhya Pradesh, Rani in Assam and Rajabhatkhawa in West Bengal.

These centres are involved in conservation breeding of the white-rumped vulture (*Gyps bengalensis*), slender-billed vulture (*Gyps tenuirostris*), and the Indian vulture (*Gyps indicus*).

Prelims Point: Himalayan vulture, Captive breeding

4. Net zero emissions target

Context:

India's Greenhouse emissions and Net zero emissions target

Union Minister of State for Environment, Forest and Climate Change has informed Lok Sabha about India's net zero emissions target and the measures it has taken to address the rapidly growing environmental problems in the country.

India's Greenhouse emissions:

- India is an emerging economy whose priority is to achieve development and poverty eradication goals. Due to this, Greenhouse emissions are bound to increase.
- However, it is to be noted that India's historical cumulative emissions from 1850 to 2019 amount to less than 4 percent of cumulative carbon dioxide emissions of the world from the pre-industrial era, despite being home to 17% of the world's population.
- Hence, India's responsibility for global warming thus far has been minimal and even today its annual per capita emissions are only about one-third of the global average.

India's Net Zero Emissions Target:

At COP 26 in November 2021, India has committed to achieving net-zero emissions by 2070.

India's long-term low-carbon development strategy submitted to the UN is guided by principles of equity, climate justice, and the idea of Common but Differentiated Responsibilities and Respective Capabilities.

The strategy rests on seven key transitions to low-carbon development pathways.

These include

- 1) low-carbon development of electricity systems consistent with development
- 2) develop an integrated, efficient and inclusive transport system
- 3) promote adaptation in urban design, energy and material efficiency in buildings
- 4) promoting economy-wide decoupling of growth from emissions and development of an efficient, innovative low emission industrial system
- 5) development of carbon dioxide removal and related engineering solutions
- 6) enhancing forest and vegetation cover and
- 7) economic and financial needs of low-carbon development.

Steps taken by India to address the growing environmental problems in the country

- National Clean Air Programme (NCAP)
- PRANA Portal
- Commission for Air Quality Management in NCR and Adjoining Area (CAQM)
- India has moved from BS-IV to BS-VI norms for fuel and vehicles from 1st April, 2020.
- Sustainable Alternative Towards Affordable Transportation (SATAT) has been launched as an initiative to set up a Compressed Biogas (CBG) production plant and make CBG available in the market for use in automotive fuels.
- India has added ten wetlands to the List of Wetlands of International Importance (also called Ramsar Sites) within the framework of the Ramsar Convention, taking the total number of Ramsar Sites in India to 75, the highest in Asia,
- The government has taken a defining step to eliminate single use plastics. A ban has been imposed on identified single use plastic items from 1st July

2022.

- Desertification and Land Degradation Atlas of India
- Government has initiated the work of Circular Economy. Extended Producer Responsibility (EPR) rules have been notified for 4 categories of waste a) Plastic waste, b) Waste tyre, c) Batteries, and E-Waste.

Mains Point: India's Net Zero Emissions Target**5. Cheetah deaths are a setback for the re-introduction project but they do not signal a failure****Context:**

Issues related to Wildlife conservation. The cheetah was reintroduced by Prime Minister Narendra Modi in September 2022, reinforcing the government's commitment to conserving our natural heritage.

Factors led to the reintroduction of cheetahs in India

Unlike tigers, leopards and lions, the cheetah hunts by chasing its prey. Therefore, it removes the sick, old, as well as young from the population. It ensures the survival of the fittest and keeps the prey population healthy.

Several ecosystems in India do not have tigers. Cheetahs could serve as a flagship for conservation there.

The way forward for successful re-introduction of locally extinct species like Cheetahs

- There is a need to incentivize voluntary relocation of communities, similar to practices observed in tiger reserves.
- These efforts require a sustained allocation of resources to at least three to five sites over the long term, spanning 25 to 30 years.
- Most forest communities prefer to integrate into mainstream society, as it grants them access to various amenities

and opportunities.

- By implementing schemes prudently, the local people can benefit from community-based ecotourism, and an increase in real estate activities. These direct economic benefits can significantly contribute to the well-being of the local communities.
- A scheme is needed which can compensate for livestock predation and is transparent. If people benefit economically from having cheetahs in their neighborhood, they will be more tolerant towards the animals. Example is Saurashtra.
- India has approximately one lakh square kilometers of protected areas within the historic range of the cheetah.
- However, individual protected areas alone are insufficient to support a viable cheetah population in the long run. There is a need to adopt innovative approaches and manage cheetah populations from these sites as a metapopulation.
- This involves artificially moving animals between sites, ensuring demographic and genetic viability.
- Once the cheetah population reaches a sustainable level, they will naturally disperse and expand into larger landscapes dominated by human presence.
- This natural dispersal may lead to the exchange of individuals between various conservation sites. However, each of these sites would require significant investment, ranging from Rs 250 to 500 crore, for restoration as functional ecosystems.

Reason for some hope regarding reintroduction of cheetahs

- Critics pointed out that Cheetahs will have difficulty in killing deer, they will be trapped by poachers, killed by leopards and village dogs. Cheetah mortality was anticipated. But, no cheetah has

died of any of these causes.

- Some deaths were management related within enclosed protected bomas.
- Some cheetahs died due to septicemia caused by skin lesions that got infected by maggots. Southern Africa currently has a cold dry winter. Their physiological cycle is still tuned to the photoperiod of Southern latitudes.
- In Kuno, they experienced a hot and humid climate. Their winter fur accumulated moisture and the radio collars aggravated the condition making their skin itchy and delicate. Scratching resulted in wounds that were infected by maggots.

Mains Point: Issues related to Wildlife conservation.

6. Gamechanger for India's vultures: Experts laud Centre's move to ban aceclofenac, ketoprofen

Context:

Centre's move to ban aceclofenac, ketoprofen

Experts who work on vultures have welcomed the Centre's decision to prohibit for animal use the manufacture, sale and distribution of ketoprofen and aceclofenac. They said this move would be a gamechanger for India's vultures.

Ketoprofen and Aceclofenac

Ketoprofen and aceclofenac are both non-steroidal anti-inflammatory drugs (NSAIDs) commonly used to relieve pain, reduce inflammation and manage various conditions.

Ketoprofen and Aceclofenac banned due to

Ketoprofen and aceclofenac have been banned as they are harmful to cattle and can kill vultures too if they eat the carcasses of the animals that were administered with these two drugs.

Some other steps taken for Vulture conservation

- During 1980's, India had around 4 crore vultures and by the late 1990s, the vulture population started declining.
- In 2004, it was found that diclofenac was the cause of vulture deaths and that 97% of the population had been lost till then.
- That same year,, the Indian government along with other agencies came up with a Vulture Recovery Plan which recommended banning the veterinary use of diclofenac, finding its substitute and setting up conservation breeding centers for vultures.
- In 2006 the Vulture Recovery Plan was incorporated into the Action Plan for Vulture Conservation 2006.
- The use of diclofenac as a veterinary drug was banned in 2006. The Centre also restricted the vial size of diclofenac for human use to just three milliliters after it was found that people were using diclofenac meant for humans in cattle.

Prelims Point: Ketoprofen and Aceclofenac

7. Assam's Manas Tiger Reserve 63% short of sanctioned staff, Environment Minister told

Context:

Assam's Manas Tiger Reserve

The All India Tiger Estimation 2022 has indicated that Assam's Manas National Park and Tiger Reserve is moving from a low to high-tiger-density area.

This is bad news for the Manas National Park as it is almost 63% short of staff.

Manas National Park

Manas National Park is located in Assam. It is a UNESCO Natural World Heritage site, a tiger reserve and a biosphere reserve.

Manas is located at the foothills of the Eastern Himalayas.

Origin of name:

The name of the park originated from the Manas River. The Manas River is a major tributary of Brahmaputra River, which passes through the heart of the national park.

It shares a common border with the Royal Manas National Park of Bhutan.

Vegetation:

The monsoon forests of Manas lie in the Brahmaputra Valley semi-evergreen forests ecoregion.

The combination of Sub-Himalayan Bhabar Terai region with riverine succession leading up to the Himalayan subtropical broadleaf forests makes it one of the richest biodiversity areas in the world.

Fauna:

The Park is home to many endangered species like Assam roofed turtle, golden Langur, hispid hare, and pygmy hog. It is also famous for its wild water buffaloes.

Village:

There is only one forest village, Pagrang, in the core of the national park. Apart from this village 56 more villages surround the park.

Threats:

Manas National Park faces threats such as encroachment (for farm activity), impact from upstream hydroelectric projects in Bhutan, improper protection and management of grasslands, invasive plants as well as some amount of poaching.

Prelims Point: Manas National Park and Tiger Reserve

8. Vikram S Mehta writes on the climate crisis: The global way out

Context:

Growing global warming crisis and the challenges in addressing it

In this article discusses the growing global warming crisis and the challenges in addressing it due to political and social divisions. They mention a book by Duhaime suggesting the human brain can be conditioned for pro-environment actions. The author believes that, like the global response to Covid19, collaboration is key.

Challenges in addressing growing global warming crisis

Political and Social Divisions:

- The world is divided geopolitically, especially between the US and China.
- Escalating tensions and economic nationalism hinder global cooperation.
- The US Inflation Reduction Act and Europe's Carbon Border Adjustment Mechanism (CBAM) show a swing towards economic nationalism.

Economic Implications:

- Former US Secretary Henry Paulson warns against only focusing on solar and wind.
- Solar facilities can destroy forests.
- Mining can harm sensitive areas.
- Wind turbines have caused one million bird deaths.

Environmental Warnings:

- The World Meteorological Organization says July was the "hottest week on record".
- One year between 2024-2027 will exceed the 1.5 C temperature rise limit set at COP 21.
- Xinjiang saw a high of 52.2 C.
- Phoenix faced 19 straight days of above 43 C.
- Forest fires are increasing in southern Europe.

Natural Tipping Points:

- The North Atlantic Gulf stream is at risk of collapsing by the 2050s.
- Such a collapse would drastically

change global climates.

Need to do

Limit Global Warming:

Ensure global temperatures don't exceed 1.5 C above pre-industrial levels, as set in COP 21.

Renewable Energy:

Increase the share of renewables in the energy mix, as suggested by the president of COP28, Sultan Ahmed Al Jaber.

Innovate:

Scale up technologies like green hydrogen and carbon capture.

Financial Commitments:

Governments should meet their financial pledges towards climate action.

Holistic Solutions:

Avoid singular solutions like solely focusing on solar and wind, as they can have unintended environmental consequences. For example, solar facilities on forested land or wind turbines causing bird deaths.

Global Cooperation:

Collaborate internationally to address the crisis, as done during the Covid19 pandemic.

Brain Conditioning:

Leverage the "plasticity" of the human brain, as mentioned in Duhaime's book, to encourage pro-environment policies.

Avoid Destruction:

Refrain from projects that harm nature, such as mining in sensitive areas.

Mains Point: Growing global warming crisis and the challenges in addressing it.

9. 5% of birds in India are endemic, says Zoological Survey of India publication

Context:

Zoological Survey of India publication
Zoological Survey of India (ZSI) has released a publication titled "75 Endemic Birds of India".

key highlights from the publication "75 Endemic Birds of India"

Endemic birds:

- India is home to 1,353 bird species, which represents approximately 12.40% of global bird diversity. Out of these bird species, 78 (5%) are endemic to the country.
- The highest number of endemic species have been recorded in the Western Ghats, with 28 bird species.
- Some of the species recorded in the Western Ghats are the Malabar Grey Hornbill, Malabar Parakeet, Ashambu Laughing Thrush and White-bellied Sholakili.

Endemic bird species not sighted in last few decades:

- Of the 78 species, three species have not been recorded in the last few decades. They are:
- Manipur Bush Quail (*Perdicula manipurensis*), listed as 'Endangered' in IUCN Red List with its last recorded sighting in 1907;
- Himalayan Quail (*Ophrysia superciliosa*), listed as 'Critically Endangered' with its last recorded sighting in 1876 and
- Jerdon's Courser (*Rhinoptilus bitorquatus*), listed as 'Critically Endangered' with its last confirmed sighting in 2009.

Threatened Endemic Bird species of India:

- Of the 78 endemic species, 25 are classified as 'Threatened' by the IUCN.
- Three species (Bugun Liocichla or *Liocichla bugunorum*; Himalayan Quail or *Ophrysia superciliosa* and Jerdon's Courser or *Rhinoptilus bitorquatus*) are listed as 'Critically Endangered'.
- Five of the endemic birds are categorized as 'Endangered', and 17 as 'Vulnerable', while 11 are categorized as 'Near Threatened' on the IUCN Red

List.

Prelims Point: Endemic Bird species of India

10. Plight of the vaquita forces International Whaling Commission to issue first extinction alert

Context:

The International Whaling Commission (IWC) has issued its first 'extinction alert' on the Vaquita Porpoise.

Vaquita Porpoise

- Vaquita Porpoise is the world's smallest cetacean. It is also known as the "panda of the sea" for the distinctive black circles around its eyes, along with a proportionally large dorsal fin.
- The vaquita is unique among the porpoises as it is the only species of that family found in warm waters.
- A dark ring around the eyes is its most striking feature, along with a proportionally large dorsal fin.

Found in: It is only found in the northern-most part of the Gulf of California, Mexico.

IUCN Status: Critically Endangered

CITES: Appendix I

Declining population:

- The vaquita population has been declining continuously for decades due to bycatch in gillnet set to catch shrimp and fish including totoaba.
- Its numbers have fallen from a population of approximately 570 in 1997 to around 10 animals in 2018.

Porpoises

- Porpoises are among the smallest members of the cetacean family (whales, porpoises and dolphins).
- They are only distant relatives of dolphins (they last had a common ancestor roughly 15 million years ago). There are only seven species of porpoise; the most popular being the widely distrib-

uted harbour porpoise.

Prelims Point: Vaquita Porpoise, Porpoises

11. Mangroves offer a vital shield against climate change

Context:

The importance of mangrove forests in India

In this article author emphasizes the importance of mangrove forests in India for environmental protection, biodiversity, livelihoods, and climate change mitigation. He also urges for their conservation and responsible management, while highlighting the threats they face and successful restoration efforts.

Importance of mangrove forests in India

Natural Protection:

Mangroves act as barriers against erosion, storms, and cyclones. They provide over \$7.8 billion in flood protection benefits annually.

Biodiversity Hub:

India's mangroves are home to diverse species. The Sundarbans, the world's largest mangrove forest, shelters the Bengal tiger and Ganges river dolphin.

Livelihoods:

Mangroves support 900,000 fisher households in India, aiding artisanal fisheries and boosting local incomes. Tourism potential in regions like the Sundarbans is significant.

Environmental Filters:

Mangroves improve water quality by trapping sediments and pollutants, benefiting marine ecosystems.

Climate Change Combatants:

They sequester large amounts of CO₂, with global mangroves storing 22.86 metric gigatonnes, roughly half the yearly CO₂ emissions from various sources.

Mangrove forests facing threats

Rapid Disappearance:

Since 1996, global mangrove coverage has declined by 11,700-sq km, equivalent to three times the size of Goa. South and Southeast Asia are witnessing the most significant mangrove loss.

Human Activities:

62% of mangrove loss is due to farming, aquaculture, and infrastructure development.

Extreme Weather:

Though mangroves can recover from natural events like cyclones, human-induced changes, especially coastal modifications, can cause permanent damage.

Global Warming:

Rising temperatures and other impacts of climate change pose challenges to mangrove ecosystems.

Inappropriate Restoration:

Taking a cue from Sri Lanka's experience, planting the wrong seedling in unsuitable conditions can reduce plant survival chances by over 50%.

Economic Growth:

India's push for economic growth sometimes comes at the expense of environmental conservation, potentially threatening mangroves

What should be done?

Protection and Restoration:

Safeguard and restore mangroves to combat air pollution and secure coasts.

Community Involvement:

Engage local communities for sustainable livelihoods, as seen in the Sundarbans region.

Adopt Successful Models:

Emulate states like Gujarat, Maharashtra, and Odisha which have increased mangrove cover. Such as, establish dedicated conservation units

similar to Maharashtra's mangrove and coastal biodiversity conservation unit.

Government Initiatives:

Support efforts like MISHTI (Mangrove Initiative for Shoreline Habitats & Tangible Incomes), aiming to conserve mangroves across 13 states and Union territories.

Collaborative Approach:

Foster teamwork among government officials, scientists, and communities.

Mains Point: the importance of mangrove forests in India

12. Needed intervention - on Tiger conservation

Context:

The Wildlife Institute of India and the National Tiger Conservation Authority recently released the Tiger Census report.

Factors behind good performance of Madhya Pradesh in maintaining a healthy tiger population

- Madhya Pradesh, for the second time reported 785 tigers. It is about a fifth of the national count. The State reported a 50% rise in tigers since the last census.
- Madhya Pradesh has developed a strategy over time that actively involves the relocation of both tigers and their prey within the state.
- The objective of this approach is to establish a balance between the numbers of predators and their prey.
- During the past couple of decades, M.P. has effectively reintroduced species like barasingha into habitats like Satpura and Bandhavgarh, and gaur into the Bandhavgarh and Sanjay-Dubri tiger reserves.
- Additionally, they have successfully bolstered the populations of prey species like chital in regions such as Satpura and Sanjay tiger reserves,

Nauradehi, Kuno, and Gandhisagar wildlife sanctuaries by transferring them from areas with higher densities.

Issues with the current approach of the government towards conservation of animal species

- The principles of ecology stress the importance of relocating species to environments that are not overly unfamiliar to them, to prevent unintended adverse consequences.
- However, recent amendments to the Forest Conservation Act have introduced greater flexibility in diverting significant portions of forest land for industrial use.
- It could result in more fragmentation within protected areas and an increased reliance on the practice of relocating prey to sustain predator populations.
- This approach is increasingly at odds with India's conservation philosophy. This conservation philosophy avoids creating isolated and enclosed spaces. It encourages species to inhabit larger yet well-defined territories.

Way forward

- Government faces challenges in maintaining connected forest landscapes. Therefore, relying solely on nature to restore the balance between predators and prey becomes unrealistic.
- It's now crucial for more states to adopt proactive policies for managing prey populations. It involves leveraging scientific expertise and support from local communities near reserves.
- There is a need to shift from merely focusing on the numbers of carnivores. It is important to constantly improve the habitat required to sustain these animals.

Mains Point: Tiger Conservation

13. The Tasks That Will Protect India's Tuskers

Context:

Steps taken by Indian government for elephant conservation

Some facts about elephants in India

- India takes great pride in its substantial elephant population. There exist three distinct species of elephants.
- While elephants inhabit a total of 13 countries, it is noteworthy that India alone hosts over 60% of the worldwide wild elephant population.
- The elephant population within India is spread across various regions including the southern, northeastern, east-central, and northern parts of the country.

Some of the steps taken by the Indian government for conservation of elephants

- India has declared elephants as the National Heritage Animal. It grants them protection under Schedule I of the Indian Wildlife (Protection) Act, 1972.
- Project Elephant was initiated during 1991-92 as a centrally funded program. It aimed to safeguard and conserve elephants, their natural habitats and corridors.
- The elephant population in India has experienced a substantial increase, reaching approximately 30,000 individuals.

Protecting corridors-

- Elephant habitats and forests are intersected by roads and railway tracks. It forms obstacles for the movement of elephants and other wildlife. Obstruction caused by railways leads to habitat fragmentation.
- The government is consistently collaborating with state governments to mitigate the detrimental effects of existing railway lines on elephants and other wildlife.
- Recent developments include the iden-

tification of 110 critical sites spanning over 1,800 kilometers along existing railway lines.

- The Ministry of Railways has adopted measures such as constructing underpasses, overpasses, enforcing speed limits, establishing level crossings, and building ramps to facilitate elephant movement.

- The Ministry of Railways is actively engaged in coordination with the MoEF&CC.

- For instance, the Southern Railway has implemented inventive measures like constructing underpasses to reduce elephant fatalities on the Coimbatore-Palakkad route connecting Tamil Nadu and Kerala.

- Similarly, the Northeast Frontier Railway is in the process of building an elevated corridor in Assam's Deepor Beel to prevent elephant accidents.

- In states like West Bengal and Uttarakhand, pilot projects such as the Intrusion Detection System using optical fiber cables, seismic sensors for animal movement detection, and infrared thermal cameras have been initiated.

Minimizing human-animal conflict-

- India has established a formalised process known as Management Effectiveness Evaluation (MEE). It displays proactive engagement in evaluating its national parks, wildlife sanctuaries, and tiger reserves.

- MEE procedure has been initiated for elephant reserves located in various regions: Uttarakhand's Shivalik Elephant Reserve, Tamil Nadu's Nilgiri Elephant Reserve, Odisha's Mayurbhanj Elephant Reserve, and Assam's Kaziranga-Karbi Anglong Elephant Reserve.

- The Ministry has enhanced natural habitats through activities like augmenting water sources and planting fodder trees,

- as well as regenerating bamboo growth.
- To mitigate conflicts, specific areas of significant importance for elephants are designated as Elephant Reserves. Presently, a total of 33 ERs have been established across 14 states where elephants reside.
- India has initiated the creation of a genetic database specifically for captive elephants. This comprehensive database encompassing over 326 captive elephants has been developed and documented using the Gaj Soochna App.
- This DNA profiling initiative aims to counter the unlawful transfer of elephants between states or individuals.
- A comprehensive field manual designed for frontline staff to manage human-elephant conflicts has been introduced in multiple languages.
- The Ministry conducts Land Use Land Cover analysis of Elephant Reserves in various states.

Mains Point: Conservation of animal biodiversity

14. Scientists solve Manipur salamander 'puzzle'

Context:

Scientists discovered a new salamander species

In 2022, scientists explored the Khongtheng mountain range in Manipur to study *Tylostotriton verrucosus*, also known as the crocodile newt.

While exploring, they discovered a new salamander species named *Tylostotriton zaimeng* in Zaimeng Lake.

Tylostotriton zaimeng

Tylostotriton zaimeng is a salamander species in the Zaimeng Lake of Manipur.

Note: Salamanders are a group of am-

phibians typically characterized by their lizard-like appearance, with slender bodies, blunt snouts, short limbs projecting at right angles to the body, and the presence of a tail in both larvae and adults.

Named after:

Tylostotriton zaimeng has been named after Zaimeng, a mountain lake located atop the Khongtheng mountain range in Kangpokpi district of Manipur.

Zaimeng is the dialect spoken by the Liangmai people, a Naga tribe residing both in Nagaland and Manipur. Zaimeng in the Liangmai dialect means "puzzle" or "mystery".

Habitat:

The habitat of *Tylostotriton zaimeng* is confined to the Khongtheng mountain range in Manipur.

Features:

Tylostotriton zaimeng – was mistaken for its close relatives *T. himalayanus* and *T. verrucosus* until now.

However, researchers found that it had distinct characteristics that set it apart from its close relatives.

It was found to be a medium-sized salamander unlike any other. Its head is massive and wide, with a rounded snout and protruding supratemporal bony ridges, while a well-developed sagittal ridge adorns its crown.

Recommended conservation status:

Due to its isolation and limited distribution, the scientists have advocated inclusion of the new species in the IUCN (International Union for Conservation of Nature) Red List as a Vulnerable (VU) species.

Prelims Point: *Tylostotriton zaimeng*

15. Rising methane could be a sign that Earth's climate is part-way through a 'termination-level transition'

Context:

Heat-trapping methane in the Earth's atmosphere have been increasing rapidly and its

impact

Since 2006, the levels of heat-trapping methane in the Earth's atmosphere have been increasing rapidly.

Unlike the rise in carbon dioxide, this increase in methane appears to be due to biological sources rather than fossil fuel burning.

This could be due to natural climate cycles like El Niño, or it might indicate a significant shift in the Earth's climate.

Rise in Methane Levels:

- Methane is a much more potent greenhouse gas than CO₂, but it lasts slightly less than a decade in the atmosphere compared with centuries for CO₂.
- The rate at which methane is increasing in the atmosphere has accelerated recently.
- Methane had risen fast in the 19th and 20th centuries but plateaued by the end of the 1990s. This rise was driven by fossil fuel emissions, especially from gasfields and coal mines.
- Then in late 2006, the amount of methane in the air climbed fast. During the 2020s the growth rate has become yet faster, faster even than during the peak of gas industry leaks in the 1980s.
- This growth seems to be driven by new emissions from wetlands, especially near the equator.
- This is a result of climate change: increasing rainfall has made wetlands wetter and bigger while rising temperatures have boosted plant growth, providing more decomposing matter and so more methane.

Climate Terminations

- Climate terminations refer to periods of significant and often rapid climate change that mark the transition between glacial (cold) and interglacial (warmer) periods in Earth's history.
- These transitions involve substantial shifts in temperature, ice sheet extent, sea level, and other climate-related factors.
- During glacial periods, large ice sheets cover extensive areas of the Earth's surface, and global temperatures are lower. Interglacial periods, on the other hand, are characterized by warmer conditions, with reduced ice coverage and higher sea levels.
- Past climate terminations have been identified and numbered using Roman numerals (e.g., Termination I, Termination II), with higher numbers indicating more ancient events.

Methane and Climate Terminations:

- Methane spike marked shift in past Climate Terminations.
- It is worth noting that the methane levels have surged since 2006. There are also ongoing climate changes driven by human activities, particularly the emission of greenhouse gases like carbon dioxide.
- This human-induced climate change is leading to shifts in temperature, sea levels, and weather patterns that have significant implications for ecosystems, societies, and economies worldwide.
- This may be a signal that a great transition in Earth's climate has begun.

Mains Point: Methane and Climate Terminations

Prelims Point: Methane and Climate Terminations

16. Kanniyakumari's Matti is distinct with fragrance and honey-like taste

Context:

The Matti banana variety, native to Kanniyakumari district in Tamil Nadu was recently granted the Geographical Indication (GI) tag.

About Matti Banana variety

- Matti banana is a variety of banana native to Kanniyakumari district in Tamil Nadu
- It is also known as 'Baby Banana' owing to its nipple-like appearance.
- Unlike typical banana bunches that grow straight, the Matti's fingers exhibit a distinct wind-blown appearance.
- This banana has a sweet fragrance and honey-like taste.
- Local marriages are incomplete without this banana variety, mixed with payasam served in the feast.
- These bananas have low total soluble solids content (TSSC) which makes it suitable for a baby food.
- The corm extract from the fruit is also used as a jaundice cure.

Varieties of Matti Banana:

- 1) Nal Matti boasts a yellowish-orange colour and fine aroma
- 2) Theyn [honey] Matti's pulp tastes like honey
- 3) Kal Matti gets its name from the calcium oxalate crystals forming in its pulp and black dots on the skin
- 4) Nei Matti exudes the aroma of ghee and
- 5) Sundari Matti is facing extinction.

Prelims Point: Matti banana

17. Climate crisis has hit home

Context:

The severe climate changes in India, leading to disasters such as landslides and floods, and the impact on agriculture and living conditions.

The author emphasizes the need for policy changes and a stronger political will to address the environmental and climate crisis.

About the 2023 climate crisis in India.

Severe Weather Events:

- Devastating landslides in Himachal Pradesh resulted in 70 deaths.
- Uttarakhand faced extreme weather, leading to 13 casualties.
- Shimla, a popular tourist destination, severely impacted with 11 deaths in a temple.

Erratic Monsoon Patterns:

- The monsoon in India showed inconsistent behaviors. June had a 65% rainfall deficit, but by July's end, it changed to a 4.8% surplus. By August 18, a 6% deficit was recorded.

Three Distinct Dimensions of the Expanding Crisis in India:

Uncontrolled Development in Himalayan States:

The Himalayan states face risks due to unchecked development.

Thousands of lives are endangered.

The Union government hasn't shown intentions to revisit development models.

Two controversial environmental laws prioritize business and national security over environment.

Changes in Weather Impacting Livelihoods:

Altered weather affects crop patterns and food security.

Quality of living is compromised.

Anomalies in rainfall patterns are intensifying.

Policymakers must adjust policies to the changing climate.

Need for Social and Political Will:

Addressing the crisis requires strong political commitment.

The environment currently lacks priority in the political arena.

Should be done

Revisit Development Models:

Rethink unchecked development in Himalayan states.

Strengthen Environmental Policies:

Balance business and national security with environmental needs.

Adjust to Rainfall Anomalies:

Incorporate changing weather patterns into policies.

Upgrade Infrastructure:

Ensure it adapts to the changing climate.

Prioritize the Environment Politically:

Recognize its importance in the electoral arena.

Foster Political Will:

Address environmental challenges with urgency.

Engage the Public:

Generate social will to push for environment-centric policies.

Mains Point: About the 2023 climate crisis in India.

18. Gabon announces \$500 million debt-for-nature swap deal for marine conservation

Context:

Gabon has announced a \$500 million debt-for-nature swap.

In Africa, it is the largest such deal signed by any country to refinance its debt and conserve marine resources.

About Debt-for-nature swap

Debt-for-nature swaps allow heavily indebted developing countries to seek help from financial institutions in the developed world with paying off their debt if they agree to spend on conservation of natural resources.

Usually banks in developed countries buy the debts of such countries and replace them with new loans which mature later. These have lower interest

rates.

Debt-for-nature swaps works with

- A debt-for-nature swap can be multi-party or bilateral.
- The most common form of multi-party debt-for-nature deal is when a third-party institution – usually an international non-governmental organization such as Conservation International – buys part of a country's external debt from the institution that had bought it initially often at a discount. That organization then agrees to let the debtor country pay the debt off by investing a certain amount of local currency – usually significantly less than the face value of the original debt – in a biodiversity conservation plan.
- In a bilateral deal, a country which owns some of another country's debt agrees to discount it in exchange for the debtor country investing an agreed amount in a conservation plan. This frees the indebted country from having to pay off some of its debt and it can instead invest its own resources to preserve its biodiversity.

Significance of Gabon's debt for nature swap

- Gabon's debt for nature swap is the world's second-largest debt-for-nature swap.
- In May 2023, the world's first and largest debt swap to conserve oceans was signed by Ecuador.

Debt for nature swap could help South Asia in the following way

- The debt crisis in the Global South has raised the need for new solutions, and one promising approach is debt-for-nature swaps.
- These swaps are seen as important because developing countries face two interconnected challenges. Firstly, they need to borrow money from international creditors to support their devel-

opment plans. Secondly, they must adapt to the growing impacts of climate change and biodiversity loss.

- South Asia, in particular, faces significant challenges in this regard. Sri Lanka is still grappling with the consequences of poor financial management. Pakistan's economy, burdened with debt, is struggling to recover from the 2022 floods.
- The Maldives, Nepal, and Bangladesh are all dealing with rising food and housing costs, while India's economic growth has slowed considerably.

Mains Point: Debt-for-nature swap

Prelims Point: Debt-for-nature swap

19. Pacific islands face risk of drowning as sea levels rising faster than expected

Context:

The World Meteorological Organization (WMO) has released a report titled "State of Climate in the South-West Pacific, 2022".

Key findings of the report

Rising Sea Levels:

The report has issued a warning about rising sea levels in the Pacific Islands. They report that sea levels in this region are increasing at a rate of about 4 mm per year, which is slightly higher than the global average.

This poses a significant threat to low-lying islands like Tuvalu and the Solomon Islands, as it could lead to destructive floods, damaging agricultural lands and habitable areas.

Marine Heatwaves:

The report highlights the occurrence of long-lasting marine heatwaves in the area northeast of Australia and south of Papua New Guinea. These heat waves have had adverse effects on marine life and the livelihoods of local communities.

Disasters:

- The number of disasters reported in the region in 2022 decreased by around 39 per cent compared to 2021.
- The region reported 35 natural hazards compared to 57 in 2021, but the overall economic damages were 53% more than the loss in 2021.
- Nearly 98% of the economic loss has been due to floods. The economic losses associated with flooding in 2022 were more than four times the average over the past 20 years (2002-2021).

Mains Point: State of Climate in the South-West Pacific, 2022, WMO report

20. India announces definition of Green Hydrogen

Context:

The Ministry of New and Renewable Energy has notified the green hydrogen standard for India.

Definition of Green Hydrogen given by the Ministry of New and Renewable Energy

Green hydrogen is the hydrogen derived from renewable energy sources, either via electrolysis or biomass conversion.

The definition also encompasses green energy preserved in energy storage systems.

The emission thresholds that must be met in order for hydrogen produced to be classified as 'Green'

- The emission thresholds for production of hydrogen to be classified as 'green' are: Green hydrogen having a well-to-gate emission of not more than two kg carbon dioxide (CO₂) equivalent per kg hydrogen(H₂).
- The well-to-gate emission includes water treatment, electrolysis, gas purification, drying and compression of hydrogen.

- The scope of these standards encompasses both electrolysis-based and biomass-based hydrogen production methods.

Green Hydrogen projects certified by

The Bureau of Energy Efficiency (BEE) under the Ministry of Power will be the nodal authority for accreditation of agencies for the monitoring, verification and certification for green hydrogen production projects.

Mains Point: Definition of Green Hydrogen given by the Ministry of New and Renewable Energy

21. "What are the concerns about drilling in the North Sea?"

Context:

The U.K. Prime Minister Rishi Sunak approved new offshore fossil fuel drilling in the North Sea

The U.K. Prime Minister Rishi Sunak approved new offshore fossil fuel drilling in the North Sea, despite environmental concerns and the global push against climate change, raising questions about the U.K.'s commitment to climate change targets.

About history of drilling in North Sea.

The North Sea is between England, Scotland, and Europe.

The 1958 Geneva Convention allowed countries to explore their continental shelves.

The U.K.'s Continental Shelf Act started in 1964.

British Petroleum (BP) got the first licence in 1964.

BP found gas in 1965 and oil in 1970 in the North Sea.

Many companies joined exploration by the 1980s.

Production peaked in 1999 with 1,37,099 thousand tonnes.

By 2022, production reduced to 38,037

thousand tonnes.

Concerns about drilling in the North Sea

Environmental Impact:

Drilling in the North Sea intensifies the global threat of climate change. Activities associated with such drilling can lead to the warming of oceans, which, in turn, contributes to rising sea levels.

Risk to Marine Life:

Offshore drilling has direct detrimental effects on marine biodiversity. Coral reefs, shellfish, and broader marine ecosystems are also at risk due to the increased acidity in the waters. This acidic condition arises when carbon pollution from drilling activities settles into the oceans.

Climate Commitments:

The Climate Change Committee (CCC), in its 2023 report, highlighted that the U.K. is not adequately prepared for the implications of climate change. This report was based on evaluations from the Second National Adaptation Programme, spanning from 2018-2023, which showed a significant lack of preparation in climate adaptation.

Global Agreements:

The CCC report shows the U.K. lacks adequate climate risk preparation. The Climate Action Tracker claims the U.K. isn't meeting Paris Agreement standards, and new drilling plans exceed the recommended 1.5°C temperature rise limit.

Mains Point: Development vs Environment, concerns about drilling in the North Sea.

22. Hangul population in J&K sees uptick, wildlife dept elated

Context:

Hangul, the state animal of Jammu and Kashmir population increased slightly Hangul, the unique Kashmir stag and the state animal of Jammu and Kashmir

has experienced a slight increase in its population after a period of two years.

About Hangul

- Hangul is the state animal of Jammu & Kashmir. It is subspecies of Central Asian red deer endemic to Kashmir and surrounding areas.
- The last viable population of Hangul in the Indian sub-continent exists only in the protected Dachigam National Park, a vast mountainous 141 sq km sanctuary on the outskirts of Srinagar.

IUCN Status:

Critically Endangered

Indian Wildlife Protection Act:

Schedule I

Census:

A population census of Hangul species is conducted every two years.

Threats:

Habitat fragmentation and poaching, livestock grazing, predation, ecological threats and disturbed corridors and landscapes.

The population of Hangul according to the latest census

- The population of Hangul species has increased to 289 in 2023 from 261 in 2021, a 10% increase.
- The major factors which led to stabilization of the population of the Hangul are: One is the protection of its habitat in the form of Dachigam and another is the restricting of human movement inside the core area of the park to almost zero.

Prelims Point: Hangul

23. Gondia, Gadchiroli to host Maha's 1st elephant reserve

Context:

Maharashtra's 1st elephant reserve

- The Maharashtra state wildlife depart-

ment has proposed creating the Navegaon Elephant Reserve in an area in Gondia and Gadchiroli districts.

- This move aims to conserve wild elephants in the region, where around 23-25 elephants have been residing.

Significance of this proposal

At present, there are 33 elephant reserves in the country. If approved, Navegaon Elephant Reserve could become the 34th elephant reserve in India and the 5th largest in terms of area.

Elephant Conservation in India:

- Elephant has been recognised as a national heritage animal of India.
- India has the largest population of Asian elephants with nearly 30,000 wild and about 3,600 captive ones.
- Government of India had launched Project Elephant in 1991-92. The project was intended to provide financial and technical support to the elephant range states for the protection of elephants, their habitats, and corridors and address the issue of human-animal conflict. It also sought to promote the welfare of captive elephants.

IUCN Red List: Endangered

CITES: Appendix I

Wildlife (Protection) Act, 1972: Schedule I

Concerns:

- According to the Wildlife (Protection) Act (WLPA) 1972, a 'protected area' can be one of a 'national park', a 'wildlife sanctuary', a 'conservation reserve' or a 'community reserve'.
- Hence, in the eyes of the law, an elephant reserve is no different from forest land or revenue land.
- The activities that are prohibited in protected areas - including mining, oil and gas-drilling, dams, etc. - are permissible in an elephant reserve.

Prelims Point: Maharashtra's 1st elephant reserve, Elephant Conservation in India.

24. **Indu Bhushan and Soumya Swaminathan write: India's hidden adversary, lead poisoning**

Context:

The serious issue of lead poisoning in India

The author discusses the serious issue of lead poisoning in India, affecting many children. Despite global awareness, India's old paints, water-pipes, and certain jobs expose people to lead. The author suggests legislative changes, monitoring, cleanup of contaminated areas, and public awareness as solutions to protect future generations.

Lead poisoning a concern in India, because

High Exposure in Children:

A 2021 study found that about 20 crore children in India have blood lead levels exceeding the safe limit set by WHO.

Severe Health Impact:

Lead poisoning can lead to learning disabilities, neurological impairments, stunted growth, and organ damage. Children are especially vulnerable.

Economic and Social Impact:

The effects of lead poisoning account for a significant learning gap between rich and poor countries. Affected children might achieve less in education and work, impacting the nation's productivity.

Prevalent Lead Sources:

India has old paints and water-pipes releasing toxic lead dust. There's also exposure from informal recycling of lead-acid batteries and certain occupations.

Some others countries address this issue

U.S. Initiative with Gasoline:

The U.S. successfully reduced blood lead concentration by over 90% between 1976 and 1995 by eliminating lead from gasoline.

Paint and Water-pipe Regulations:

Globally, countries have introduced

strict standards to ensure paints and water pipes are lead-free, reducing exposure sources.

Bangladesh's Turmeric Solution:

Turmeric adulteration was a major lead source in Bangladesh. By introducing strict regulations and educating consumers between 2017 and 2021, they reduced lead-tainted turmeric from 47% in 2019 to 0% in 2021.

India can tackle this issue

Clear Legislation:

India needs a strong legislative framework defining health and safety standards, especially for manufacturing and recycling products containing lead.

Enforce Standards:

It's vital to strictly enforce regulations on paints and water pipes, given their contribution to lead exposure.

Monitoring System:

Establish a system for blood lead level testing. Introducing such monitoring in household surveys can help identify affected populations.

Identify Contaminated Sites:

Launch nationwide efforts to pinpoint lead-contaminated areas, prioritizing clean-ups near schools and residential zones.

Promote Sustainable Practices:

Establish waste management practices and electronic waste recycling programs to minimize lead contamination.

Inter-departmental Coordination:

Enhance collaboration between government agencies, NGOs, and international partners to address the issue cohesively.

Public Awareness:

Raise awareness about lead's dangers, targeting parents, workers in lead-related industries, schools, and healthcare professionals to ensure wide-reaching impact.

Mains Point: Lead poisoning

Prelims Point: lead poisoning

25. Cleantech, for an inclusive green future in India

Context:

PM address to the nation on Independence Day, about green economy

In his address to the nation on Independence Day this year, Prime Minister Narendra Modi talked about India showing the world how to combat climate change.

Concept of a green economy

- The concept of the green economy synchronises developmental progress with positive environmental results.
- For example, the construction of a solar park or a station for charging electric vehicles contributes to the growth of essential infrastructure in an emerging economy. It also addresses climate change.

Various cleantech initiatives in states to promote the green economy

- These efforts focus on providing access to clean technology solutions to support the livelihoods of the rural populace. For instance, in Andhra Pradesh, there are solar dryers that transform surplus tomatoes into sun-dried products.
- In Maharashtra, biomass-powered cold storage facilities assist lemon farmers in achieving profits three to five times higher than the original prices.

Potential of cleatech for the Indian economy

- The rural economy of India consists of around 120 million farmers and 34 million microenterprises. It faces issues like unreliable access to electricity and a heavy reliance on costly imported diesel.
- The clean technology solutions offer the potential to decrease India's diesel imports, and prevent the spoilage of perishable food items.
- It will improve opportunities for rural livelihoods. This presents an invest-

ment prospect valued at \$50 billion for investors and financiers.

- Research conducted by the CEEW indicates that merely 12 such clean technology solutions could potentially positively affect at least 37 million livelihoods, which corresponds to roughly 16% of the rural population.

Various aspects of a comprehensive strategy to promote a green economy in India

- Leverage existing government programmes- The Pradhan Mantri MUDRA Yojana that extends collateral-free loans for microenterprises can be used to enable the adoption of cleantech solutions.
- The Pradhan Mantri Formalization of Micro food processing Enterprises can be used to unlock support for solutions such as a solar dryer, an energy-efficient multipurpose food processor or a solar grain mill.
- The Agriculture Infrastructure Fund, which has only seen a 15% fund utilization against a target of ¹ 1,00,000 crore, can support the adoption of biomass-powered cold storage and beyond.
- Large-scale financing of cleantech solutions- It requires supporting bankers' capacity on credit assessment for cleantech.
- There is also a need to hedge their risks in the initial stages of the market through partial guarantees. Moreover, active engagement with financiers is important to structure loan products that are aligned with the cash flow scenarios of users.
- Adopting some of these principles helped 'Powering Livelihoods', to unlock 300-plus loans for cleantech solutions to women, self-help groups, farmer producer organisations and individual micro entrepreneurs in rural areas.
- Multi-actor partnerships- Partnership

between technology innovators, manufacturers, distributors and service providers, financiers, and market-linkage players to enable an overall ecosystem is required.

- Cleantech manufacturers often need help bringing their products to customers. The challenges faced include low product awareness, high customer acquisition cost, and low density of customers for such products in a given area.
- Users too struggle with limited after-sales service and market linkage of the final processed products.
- There is a need for a holistic ecosystem where distributors work with manufacturers to enable technology access at the last mile, service providers ensure after-sales services, and market-linkage players enable the connection to the market.

Mains Point: Cleantech

26. NIAS launches pilot project involving GEOAI and random forest tech to monitor air pollution in Bengaluru

Context:

NIAS launches pilot project to monitor air pollution in Bengaluru

At the India Clean Air Summit (ICAS), National Institute of Advanced Studies (NIAS), informed that it has launched a pilot project to monitor and predict the city's air quality.

India Clean Air Summit (ICAS)

India Clean Air Summit (ICAS) is India's premier event on air pollution.

Organized by:

Centre for Air Pollution Studies (CAPS) at the Center for Study of Science, Technology and Policy (CSTEP).

Aim:

To understand the impact of climate change on air pollution in the light of

Sustainable Development Goals (SDGs) and the actions required to deal with it.

About National Institute of Advanced Studies (NIAS)

National Institute of Advanced Studies (NIAS) is a premier institute in India engaged in interdisciplinary and multidisciplinary research in natural sciences, social sciences, arts and humanities. It was founded by J. R. D. Tata in 1988.

Located in: Bangalore

The project launched by NIAS to monitor and predict the city's air quality

- The pilot project has been launched in Bangalore. It combines geospatial artificial intelligence (GeoAI) and random forest technology to monitor and predict air quality in the city.
- The random forest algorithm combines data from various air quality monitoring stations to predict the Air Quality Index.
- GeoAI uses technology like artificial intelligence, satellite imagery, and mobile data to identify sources of air pollution.
- This project will soon be launched in cities like Delhi, Mumbai, Chennai, and Kolkata.

Mains Point: pilot project to monitor air pollution.

27. Centre approves Rajasthan's fifth tiger reserve in Dholpur-Karauli

Context:

New Tiger Reserve in Rajasthan.

The National Tiger Conservation Authority (NTCA) has approved the Dholpur-Karauli Tiger Reserve in Rajasthan.

This is India's 54th tiger reserve and Rajasthan's fifth tiger reserve after Ranthambore, Sariska, Mukundra Hills and Ramgarh Vishdhari.

Tiger Reserves notified

Tiger Reserves are notified by State Governments as per provisions of Section 38V of the Wildlife (Protection) Act, 1972 on advice of the National Tiger Conservation Authority.

Can tiger reserves be altered and denotified

- These processes are governed by Section 38W of the Wildlife (Protection) Act, 1972 whose provisions are as follows:
- Section 38 W(1) says that “No alteration in the boundaries of a tiger reserve shall be made except on a recommendation of the Tiger Conservation Authority and the approval of the National Board for Wild Life”.
- Section 38 W (2) says “No State Government shall de-notify a tiger reserve, except in public interest with the approval of the Tiger Conservation Authority and the National Board for Wild Life”.
- What is the status of tiger population in India?
- The number of tigers in India has increased from 2,967 in 2018 to 3,682 in 2022, an annual rise of 6%.
- Madhya Pradesh has the maximum number of tigers in the country (785), followed by Karnataka (563), Uttarakhand (560), and Maharashtra (444).
- The number of tigers in Rajasthan has increased from 32 in 2006 to 88 in 2022.

Prelims Point: Dholpur-Karauli Tiger Reserve

28. New specie, genus of snakes discovered in Western Ghats

Context:

Researchers has recently discovered a new species of snakes in Western Ghats. A team of researchers has recently discovered a new genus and species of colubrid snakes in Western Ghats. They

have named it ‘Sahyadriophis uttaraghathi’.

About Sahyadriophis uttaraghathi

Sahyadriophis uttaraghathi is a new genus and species of colubrid snakes.

Note: The Colubrid is the largest snake family. It contains approximately 2000 species. Many colubrids are technically considered venomous but very few are considered dangerous to humans.

Named after:

It has been named Sahyadriophis, a combination of the Sanskrit word for the Western Ghats ‘Sahyadri’ and the Greek word for snakes ‘Ophis’.

Found in:

It is found in the northern parts of the Western Ghats.

Features:

- These snakes are mostly active during monsoons and are often found near streams.
- Their diet primarily consists of frogs and their eggs. They are gentle in nature and rarely bite when handled.
- The juveniles bear a big blotch or a collar mark on the nape, which distempers as the animal grows.
- They can be differentiated from its southern counterpart – Sahyadriophis beddomei (Beddome’s Sahyadri keelback) – by a longer tail and higher number of scales on the tail’s underside, known as subcaudals.

Prelims Point: Sahyadriophis uttaraghathi

29. 7th GEF Assembly: Global Bio-diversity Framework Fund ratified

Context:

The Global Biodiversity Framework Fund (GBFF) was finally ratified and launched at the Seventh Assembly of the Global Environment Facility (GEF) in Vancouver, Canada.

Global Biodiversity Framework Fund (GBFF)

Aim:

To directly support global efforts to halt and reverse biodiversity loss by 2030, a goal agreed to by 196 countries as part of the Global Biodiversity Framework established at COP15.

Hosted by:

Global Environment Facility (GEF)

Funding:

Governments, non-profits, and the private sector can now contribute their funds to GBFF.

Fund allocations:

20% will be allocated to Indigenous Peoples and local communities (IPLCs)

36% of the fund's resources are aimed to support the most vulnerable people, small island developing states.

3% to LDCs (Least Developed Countries)

About 25% of the fund will be delivered through selected international financial institutions to increase resources through private sector involvement and ensure policies are streamlined.

Note: This is the first time there would be funds channeled to non-state actors like the indigenous communities.

First meeting:

The first GBFF Council meeting will be held in January 2024.

Prelims Point: Global Biodiversity Framework Fund.

30. How bees can monitor pollution for us – everything from toxic metals to antimicrobial resistance

Context:

Two new studies have used honey bees as biomonitoring tools to track contamination in urban environments.

Bees can be used to track contamination and antimicrobial resistance

- Cities are complex places with multiple activities, making it challenging to monitor the spread of contaminants, which poses health concerns.
- There's increasing evidence that many chemicals used in daily life have no "safe" exposure limit, raising concerns about contamination's impact on food, water, and human health.
- To measure this contamination, Honey Bees can help us. Honey bees constantly pick up contaminants from their environment while foraging.
- Analyzing their chemical composition offers insights into contamination levels in their foraging area.
- Moreover, bees can also help in assessing the spread of antimicrobial resistance genes, which can be ingested from water bodies.

Bees were used to track contamination and antimicrobial resistance for Several studies

Case in Nouméa:

Honey bees were used to map the impact of a local nickel smelter in Nouméa. Bees near the smelter showed elevated levels of metals associated with it, providing a sensitive marker of smelter contamination.

Sydney Study:

Bees in Sydney were used to map trace metals and identify factors contributing to metal pollution.

Antimicrobial Resistance (AMR):

Bees helped study the spread of antimicrobial resistance (AMR) genes in Sydney.

Hence, using honey bees as biomonitoring tools can help track contamination in urban environments, identify pollution patterns and contribute to more effective responses to environmental health challenges.

Prelims Point: Antimicrobial Resistance (AMR), biomonitoring

31. State of birds report 2023: Most species show dip, Indian Peafowl among those flourishing

Context:

The State of India's Birds, 2023 has been released.

About State of India's Birds Report, 2023

State of India's Birds Report is an assessment of the distribution range, trends in abundance and conservation status of 942 of India's 1,200 bird species.

Published by:

State of India's Birds Partnership, a group of 13 governments (including SACON, WII, ZSI) and non-governmental organizations.

Key findings of the State of India's Birds, 2023

Decline in birds:

Of the 338 species that had enough data to assess for long-term trends, 60% of the species showed long-term declines. Birds that feed on vertebrates and carrion (including raptors and vultures) have declined greatly, suggesting harmful pollutants in their food resources, a decline in prey availability, or both.

Endemic Birds:

Birds endemic to the Western Ghats and Sri Lanka biodiversity hotspots have rapidly declined in India over the past few decades. India is home to 232 endemic species, found nowhere else in the world.

Birds that live in open habitats are severely impacted:

Open habitats in India have been severely compromised by the spread of invasive, drought tolerant woody plants, as well as wind turbines and power lines, impacting several bird species. Of particular note is the Great

Grey Shrike, which has suffered a worrisome long-term decline of more than 80%.

Three Indian Bustard species face imminent extinction:

The three bustard species that breed in India – the Great Indian Bustard, Lesser Florican and Bengal Florican – face imminent extinction.

Migratory birds under greater threat than resident species:

Birds face many dangers during migration, from extreme weather events, to predation, starvation, and hunting/illegal killing.

Long-distance migrants have declined the most, by over 50% followed by short-distance migrants.

Some bird species are in abundance:

Several species like the Indian Peafowl, Rock Pigeon, Asian Koel, and House Crow are thriving and increasing in both abundance and distribution.

For instance, there has been a 150% increase in the abundance of peafowl across the country over the past decades.

Major threats to birds in India highlighted in the report

The major threats are:

1. Climate Change,
2. Urbanization,
3. Monocultures,
4. Energy Infrastructure,
5. ecosystem degradation
6. environmental pollutants.



Mains Point: State of India's Birds Report, 2023

32. Now, a bacteria that can eat methane. Can it reduce global warming? Researchers say it's possible

Context:

Research study has found that *Methylobacterium burkatense* 5GB1C a bacteria that can eat methane

A specific bacteria named *Methylobacterium burkatense* 5GB1C could help reduce methane emissions from places like landfills and oil wells.

Background:

- The rapid increase of the methane in the atmosphere creates great urgency to develop and deploy technologies for methane mitigation.
- One approach to removing methane is to use bacteria called methanotrophs for which methane is their carbon and energy source.
- Methanotrophs naturally convert methane to CO₂ and biomass, a value-added product and a co-benefit of methane removal.
- But methanotrophs grow best when the methane concentration is around 5,000-10,000 parts per million (ppm).
- However, methane levels in key emission sites are around 500 ppm. So the researchers screened a range of existing methanotrophs to identify those that consume such low methane (500 ppm) at significantly higher rates.
- They found that *Methylobacterium burkatense* 5GB1C performed the best at 500 ppm.

Methylobacterium burkatense 5GB1C

Methylobacterium burkatense 5GB1C is a bacterial strain that consumes methane.

It can grow at low methane concentrations ranging from 200-1,000 ppm. These features make this strain a promising candidate for methane removal technology.

Significance:

- Methane is a significant contributor to global warming. It is over 85 times more potent than carbon dioxide (CO₂) on a 20-year timescale. It is responsible for nearly 30 percent of the total global warming.
- Hence, this bacteria, if used on a large scale, could prevent 240 million tonnes of methane from entering the atmosphere by 2050.
- It can also help reduce the global temperature rise by about 0.21-0.22 degrees Celsius by 2050 by removing a substantial amount of methane.

Prelims Point: *Methylobacterium burkatense* 5GB1C

Mains Point: Methane eating bacteria

33. WCS-India report flags illegal trade of red sand boa

Context:

Wildlife Conservation Society (WCS)-India has released a report on Illegal Trade of Red Sand Boa

Wildlife Conservation Society (WCS)-India has released a report titled 'Illegal Trade of Red Sand Boa in India 2016-2021'.

Red Sand Boa

- Red Sand Boa commonly called the Indian Sand Boa is a non-venomous snake found throughout the dry parts of the Indian subcontinent.
- It is a primarily reddish-brown and thick-set snake that grows to an average length of 75 cm.
- Unlike most snakes, the tail is almost as thick as the body and gives the reptile the appearance of being "double-headed".

Important Facts about Red Sand Boa:

- 1) Largest of the sand boas in the world
- 2) Non-venomous and
- 3) Nocturnal and spends the majority of

its time under the ground.

Ecologically important:

Like other snake species, the Red Sand Boa also plays a significant role in the ecosystem by maintaining a healthy population between prey and predator. It feeds on rodents, lizards, and even other snakes.

IUCN: Near Threatened

Wildlife (Protection) Act, 1972: Schedule IV

CITES: Appendix II

Wildlife Conservation Society (WCS)-India report says on Red Sand Boa

- Red sand boa is now acknowledged as one of the most traded reptile species in the illegal trade market due to its demand in the pet trade, as well as for use in black magic.
- Around 172 incidents of illegal red sand boa trade were reported between the years 2016-2021.
- The highest number was recorded in Maharashtra often from urban areas.
- The report also highlights the role of social media in the illegal trade of the

species. For instance, YouTube serves as a buyer-seller-interface for red sand boas in India, and sometimes acts as a gateway to facilitate trade via WhatsApp.



Prelims Point: Red Sand Boa

SCIENCE AND TECHNOLOGY

1. Metagenome sequencing is transforming pathogen surveillance

Context:

Genome sequencing technologies have been useful in detecting the SARS-CoV-2 as the causative agent of COVID-19 as well as other diseases.

About Genome Sequencing:

- Genome sequencing is process of figuring out the order of DNA nucleotides, or bases, in a genome that make up an organism's DNA. The human genome is made up of over 3 billion of these genetic letters.
- Genome sequencing allows scientists to rapidly and accurately detect pathogens from various sources like wastewater, air, soil, and animals.

Different genome sequencing technologies that help in surveillance of COVID-19 and other diseases:

- Metagenomics** rapidly studies the virus's genetic information, without prior knowledge of the infectious agent. It helped in the detection of SARS-CoV-2 without going into the time-consuming microbiology route with the samples.
- In Nigeria, the technique helped in finding 13 viruses causing illness, discovered human blood-associated dicistrovirus 2, and linked pegivirus C to Lassa fever severity.
- CovidSeq assay** is another genome sequencing technology developed by scientists.
- GISAID** is an online repository on which scientists can store the genetic information of the SARS-CoV-2 virus. This shows that scientists are using

high-throughput genome surveillance activities.

Note: High throughput refers to sequencing techniques that can process a lot of DNAs simultaneously, even an entire genome all at once.

Application of genome sequencing:

- Genome sequencing helped scientists to control the mpox virus and it is now helping with avian influenza surveillance.
- Recently, experts have applied genome sequencing to quickly **detect lumpy skin disease in cattle and the rise of drug-resistant tuberculosis**, along with other applications. Similar efforts have been suggested for Zika and dengue.

UPSC Prelims point: Genome sequencing & Metagenomics

2. Not Just Moon: Isro's Aditya-L1, India's first Solar mission, reaches spaceport

Context:

India's first solar mission, Aditya-L1 is expected to be launched by late August or early September.

About Aditya - L1 Mission

- It is the first space-based Indian observatory to study the Sun.
- Aditya-L1 will be positioned 1.5 million kilometers away from Earth in a halo orbit around the L1 point. This location offers a significant advantage for observing solar activities and their impact on space weather in real time.
- Payloads:** The spacecraft carries **seven payloads** for studying the photosphere, chromosphere, and outer layers of the Sun (known as the corona) by using elec-

tromagnetic and particle and magnetic field detectors.

- -Out of seven payloads, four payloads will directly view the Sun and the remaining three payloads will carry out in-situ studies of particles and fields at L1.

UPSC Prelims point: Aditya -L1

3. Scientists detect 'microplastics' in human heart for first time: Report

Context:

- Scientists at Beijing Anzhen Hospital in China found microplastics in the heart tissues of patients who had heart surgery.
- They also found Polyethylene terephthalate, commonly used in clothing and food containers, as well as polyvinyl chloride (PVC), which is commonly used in window frames, drainage pipes, paint, and other applications.

The findings:

- Microplastics have been suggested to have an indirect role in conditions such as obesity, diabetes, and chronic liver disease by affecting the gastrointestinal tract.
- Hence, the discovery of microplastics in heart tissues is concerning. Further research is needed to understand how these microplastics enter the heart tissues and their long-term impact on health after heart surgery.

About Microplastics:

- Microplastics (0.1 to 5 000 μm) and nanoplastics (0.001 to 0.1 μm) are tiny plastic particles that have potential effects on the environment, animals and human health.
- Micro- and nanoplastics are generated from both primary and secondary sources.

- Primary sources are those that deliberately created micro- and nanoplastics for consumer and industrial uses, such as exfoliants in cleansers, cosmetics, as drug delivery particles in medicines, and industrial air blasting.

- Macroplastic products that disintegrate into micron-sized and smaller particles are the secondary source of micro- and nanoplastics. They occur both terrestrially and in the aquatic environment.

UPSC Prelims point: Microplastics

4. Russia's Luna-25 sends back first images from space

Context:

- Russia's Luna-25 spacecraft has successfully captured and transmitted its first images from space.
- Even though the Luna-25 was launched weeks after **Chandrayaan-3**, it could land on the Moon two days earlier.

About Luna 25 Mission:

Launched by: Russia

Aim: To execute a pinpoint landing near the moon's south pole, a region that has garnered scientific interest due to its potential for revealing critical insights into the moon's geological composition.

Objectives:

- To collect geological samples which will give scientists the opportunity to study this unexplored region of the moon.
- To find water or at least its building blocks which could aid in establishing human colonies in the near future.

Significance:

- Russia's Luna-25 mission is a bid to reclaim some of its prestige back as one of the leaders in space exploration.

- The last successful lunar mission was the Luna-24 probe launched by the Soviet space programme in 1976. This mission returned with geographical samples which showed the presence of water on the moon.
- Since the dissolution of the Soviet Union, Russia has tried to launch two landing missions to Mars—Mars-96 in 1996 and the Phobos Grunt in 2011. Both missions ended with the spacecraft crash-landing into the Pacific Ocean.

How could Luna-25 reach the Moon before Chandrayaan-3:

- Chandrayaan-3 was launched weeks before Russia's Luna-25 and yet the Russian spacecraft could land on Moon earlier.

The reasons for that are:

- **Firstly**, Luna-25 weighs much less than Chandrayaan-3, so that it can travel faster. Compared to Chandrayaan-3 weighing 3,900 kg, Luna-25 weighs just 1,750 kg.
- **Secondly**, Luna-25 can store more fuel, so it does not have any fuel efficiency concerns.

How is Luna-25 different from Chandrayaan-3:

- **Rover:** Apart from being lighter than the Indian mission, Luna-25 does not carry a rover. Chandrayaan-3 has a rover capable of moving around 500 meters.
- **Mission duration:** The India mission is built to last only one lunar day or 14 earth days. This is because it does not have a heating mechanism to keep the electronics safe from the extreme cold temperatures during the lunar night.
- The Russian mission, on the other hand, will work for a year, meaning it has a heating mechanism as well as a power source other than just solar panels.

UPSC Prelims point: Luna-25

5. 275 bird species counted during survey at Corbett Tiger Reserve

Context:

The findings of the survey conducted at Corbett Tiger Reserve has been released.

The survey at the Corbett Tiger Reserve:

- The survey was conducted by a team consisting of ornithologists, conservationists, volunteers from World Wide Fund (WWF) India, Tiger Conservation Foundation and Village Volunteer Protection Force.

Aim: To provide insights into the diverse bird species inhabiting at Corbett Tiger Reserve.

The key findings of the survey:

- About 275 bird species were counted during the survey.
- Two species namely **White-rumped vulture and Red-headed vulture considered Critically Endangered** by the IUCN have been documented in the survey.
- **Two endangered species** – Pallas's fish-eagle, Egyptian vulture were also counted by the researchers in the survey.
- **Four vulnerable bird species** – great hornbill, great slaty woodpecker, grey-crowned prinia and river tern – have also been counted in the survey.
- **Around 10 near-threatened bird species** – river lapwing, red-breasted parakeet, oriental darter, lesser fish-eagle, Himalayan griffon, great thick-knee, gray-headed fish-eagle, black-necked stork, Asian woolly-necked stork and Alexandrine parakeet – have also been found at the reserve.

6. MeitY Secretary launches the 'Graphene-Aurora Program'

Context:

- The Ministry of Electronics & Information Technology (MeitY) Secretary has launched the 'Graphene-Aurora program' at a function in **Maker Village Kochi, Kerala**.
- The program shall be implemented by Digital University Kerala with joint funding from MeitY and Government of Kerala and Industry partners.

India Graphene Engineering and Innovation Centre (I-GEIC):

- **To be established in:** Kerala
- **Purpose:** The centre shall fill the gap between R&D and commercialization by providing a complete facility to startup and industry.
- It shall also nurture the deep/emerging Graphene technology & innovation ecosystem that can guide, develop, implement and support SMEs and startups to commercialize developed graphene technologies for scale adoption.

Maker Village:

- Maker Village is a pioneering startup initiative of the Ministry of Electronics and Information Technology, Government of India with Indian Institute of Information Technology, Trivandrum as the implementation agency and Kerala Startup Mission as the supporting partner.
- It is India's largest electronic hardware incubator and ESDM (Electronics System Design & Manufacturing) facility.

About Graphene:

- Graphene is often referred to as a wonder material for its extraordinary electrical and electronic properties.
- Graphene was discovered in 2004 by Andre Geim and Konstantin Novoselov, who received the Nobel Prize in Physics for this in 2010.

selov, who received the Nobel Prize in Physics for this in 2010.

- **Features:** It is stronger than steel, very stretchable and can be used as a flexible conductor. Its thermal conductivity is much higher than that of silver.
- **Applications:** It can be used in touch screens, light panels and solar cells.
- It has a lot of additional applications such as: anti-corrosion coatings and paints, efficient and precise sensors, faster and efficient electronics, flexible displays, efficient solar panels, faster DNA sequencing, drug delivery and more.

UPSC Prelims point: Graphene technology

7. Meet 'Pibot,' the humanoid robot that can safely pilot an airplane better than a human

Context:

A team of engineers and researchers from the Korea Advanced Institute of Science & Technology (KAIST) is currently developing a humanoid robot named 'Pibot' that can fly an aircraft without needing to modify the cockpit.

About Pibot:

- Pibot is the world's first humanoid pilot.
- It can fly an aero plane just like a human pilot by manipulating all the single controls in the cockpit, which is designed for humans.

Key Features:

- It uses artificial intelligence and robotics to understand flight manuals and control the plane in real-time.
- Pibot's arms and fingers can control flight instruments even during turbulence. It has cameras to monitor the aircraft and manage controls.
- It remembers global flight charts for ac-

curate navigation and can handle emergencies.

- Pibot communicates with air traffic controllers and humans using voice synthesis, acting as a pilot or first officer.

UPSC Prelims point: Pibot

8. Scientists solve Manipur salamander 'puzzle'

Context:

- In 2022, scientists explored the Khongtheng mountain range in Manipur to study *Tylototriton verrucosus*, also known as the crocodile newt.
- While exploring, they discovered a new salamander species named ***Tylototriton zaimeng*** in Zaimeng Lake.

About *Tylototriton zaimeng*:

Tylototriton zaimeng is a salamander species in the Zaimeng Lake of Manipur.

Note: Salamanders are a group of amphibians typically characterized by their lizard-like appearance, with slender bodies, blunt snouts, short limbs projecting at right angles to the body, and the presence of a tail in both larvae and adults.



Source: The Hindu

- **Named after:** *Tylototriton zaimeng* has been named after Zaimeng, a mountain lake located atop the Khongtheng mountain range in Kangpokpi district

of Manipur.

- Zaimeng is the dialect spoken by the Liangmai people, a Naga tribe residing both in Nagaland and Manipur. Zaimeng in the Liangmai dialect means "puzzle" or "mystery".
- **Habitat:** The habitat of *Tylototriton zaimeng* is confined to the Khongtheng mountain range in Manipur.
- **Features:** *Tylototriton zaimeng* – was mistaken for its close relatives *T. himalayanus* and *T. verrucosus* until now.
- However, researchers found that it had distinct characteristics that set it apart from its close relatives.
- It was found to be a medium-sized salamander unlike any other. Its head is massive and wide, with a rounded snout and protruding supratemporal bony ridges, while a well-developed sagittal ridge adorns its crown.
- **Recommended conservation status:** Due to its isolation and limited distribution, the scientists have advocated inclusion of the new species in the IUCN (International Union for Conservation of Nature) Red List as a Vulnerable (VU) species.

9. INCOIS launches 'SAMUDRA' mobile app for seafarers and fishing community

Context:

Indian National Centre for Ocean Information Services (INCOIS) has launched a new mobile application named 'SAMUDRA'.

About SAMUDRA app:

- **Full Form:** SAMUDRA stands for Smart Access to Marine Users for Ocean Data Resources and Advisories.
- **Purpose:** To offer comprehensive information on all ocean related services,

useful for both seafarers and the fishing community.

- **Features:** The app empowers users with real-time updates and critical alerts on oceanic disasters such as tsunamis, storm surges, high waves, and swell surge alerts, for the individuals and communities to stay informed and take necessary precautions towards the protection of lives and property.
- **Significance:** The app will be especially beneficial to the fishing community as it disseminates Potential Fishing Zone (PFZ) advisories which will guide them to the probable fish aggregation locations.

UPSC Prelims point: SAMUDRA

10. Flood forecast app launched by Water Commission

Context:

The Central Water Commission (CWC) has launched an app, called 'Floodwatch'.

About Floodwatch App:

- **Purpose:** To forecast the chances of floods a day in advance.
- To provide a seven-day advisory on the chances of floods at various stations in the country where the CWC maintains its measurement gauges.
- **Source of data:** The app utilizes advanced technologies such as satellite data analysis, mathematical modeling and real-time monitoring to deliver accurate and timely flood forecasts.
- **Features:** The app has a map of India with coloured circles at water stations across the country indicating the current risk of flooding.
- A 'green' circle indicates 'normal'; yellow, 'above normal'; orange, 'severe'; and red, 'extreme'.

Clicking on the circle shows the water level at the station, the danger level and warning level. The warnings are in English or Hindi with an option for a voice-enabled prompt.

- The app will also provide State-wise/basin-wide flood forecast up to 24 hours or flood advisory up to seven days, that can be accessed via selecting specific stations.
- **Significance:** The app marks a significant step towards utilizing smartphones to provide the public with up-to-date flood situation data and accurate forecasts spanning seven days.

11. Indian scientist develops novel method to improve accuracy and precision of nanomechanical testing technology

Context:

- An Indian researcher has developed a new method to test nanomechanical properties of materials at very minute scales with high precision and accuracy.
- This new method significantly improves the precision and accuracy of **Nanoindentation Technique**.

About Nanoindentation Technique:

- Nanoindentation is a materials testing technique used to measure mechanical properties such as hardness, elastic modulus and other material responses at very small scales, often on the order of nanometers.
- The technique involves applying a controlled and localized force to a material's surface using a sharp indenter, typically a diamond tip, and then measuring the resulting depth of penetration.
- The nanoindentation technique is particularly valuable for studying materials at the micro- and nanoscale, where traditional macro-scale mechanical test-

ing methods are not suitable or accurate.

- **Applications:** Nanoindentation is used in a wide range of applications, including characterizing thin films, coatings, biomaterials, ceramics, polymers, metals and composites.
- It is also employed in research related to microelectronics, material development, quality control and failure analysis.

UPSC Prelims point: Nanoindentation Technique

12. President launches indigenously built warship Vindhyagiri

Source:

The President has launched the sixth vessel of the Project 17 Alpha Frigates, 'Vindhyagiri', a stealth ship of the Indian Navy.

About INS Vindhyagiri:

- INS Vindhyagiri is the sixth stealth frigate constructed under Project-17 Alpha.
- **Built by:** Garden Reach Shipbuilders and Engineers Ltd (GRSE) facility at Kolkata.
- **Named after:** The ship is named after the Vindhyagiri hills in Karnataka.
- **Significance:** Vindhyagiri pays a befitting tribute to the distinguished service of its predecessor, the erstwhile INS Vindhyagiri, the Leander Class ASW Frigate.
- The old Vindhyagiri in its nearly 31 years of service from 1981 to 2012 had witnessed various challenging operations.

About Project-17 Alpha:

- Project-17 Alpha is also known as the Nilgiri class frigate project. The project was launched by the Indian Navy in 2019.

- It involves the construction of seven new-generation stealth frigates for the Indian Navy using advanced technologies.

These frigates are being built by two state-run shipyards:

- **Mazagon Docks Limited (MDL)** is responsible for manufacturing four frigates – INS Nilgiri, Udaygiri, Taragiri and Mahendragiri.
- **Garden Reach Shipbuilders and Engineers Ltd (GRSE)** will manufacture the remaining three frigates, INS Himgiri, Dunagiri and Vindhyagiri.
- These ships are follow-on versions of the three Project-17 vessels, also known as the **Shivalik class frigates** in the Indian Navy.
- **Features:** The P17A ships are advanced missile frigates measuring 149 meters in length, weighing about 6,670 tonnes, and can travel at a speed of 28 knots.
- These are capable of neutralizing threats in all three dimensions of air, surface and subsurface.
- They are being built using a special stealth design that has radar-absorbent coatings and is low-observable, making it possible for them to approach without being seen by adversaries.
- Around 75% of the equipment and systems for these ships are sourced from local companies, including small and medium enterprises (MSMEs).

UPSC Prelims point: Project-17 Alpha

13. Kanniyakumari's Matti is distinct with fragrance and honey-like taste

Context:

The Matti banana variety, native to Kanniyakumari district in Tamil Nadu was recently granted the Geographical Indication (GI) tag.

Matti Banana variety:

- Matti banana is a variety of banana native to Kanniyakumari district in Tamil Nadu
- It is also known as 'Baby Banana' owing to its nipple-like appearance.
- Unlike typical banana bunches that grow straight, the Matti's fingers exhibit a distinct wind-blown appearance.
- This banana has a sweet fragrance and honey-like taste.
- Local marriages are incomplete without this banana variety, mixed with payasam served in the feast.
- These bananas have low total soluble solids content (TSSC) which makes it suitable for a baby food.
- The corm extract from the fruit is also used as a jaundice cure.

Varieties of Matti Banana:

- 1) **Nal Matti** boasts a yellowish-orange colour and fine aroma
- 2) **Theyn [honey] Matti's** pulp tastes like honey
- 3) **Kal Matti** gets its name from the calcium oxalate crystals forming in its pulp and black dots on the skin
- 4) **Nei Matti** exudes the aroma of ghee and
- 5) **Sundari Matti** is facing extinction.

14. Material consideration: On the LK-99 'superconductor' episode**Context:**

Recently, scientists found that the material called LK-99 is not a room-temperature and ambient-pressure superconductor.

About LK-99:

LK-99 has been claimed by South Korean scientists as a superconductor at room temperature and atmospheric pressure. However, currently scientists have discarded their claims.

Reasons behind discarding LK-99 as a superconductor:

- **First**, when superconductors get cold, they push away magnets, causing repulsion below their transition temperature. The South Korean video showed LK-99 partly repelling a magnet. However, **independent researchers found that the material was an insulator whose impurities could be magnetized.**
- **Second**, the South Korean scientists saw less resistance in LK-99 around 104°C, which could mean it's a superconductor. However, **researchers found that this drop occurred due to the copper sulphide impurities present in the material.**
- Hence, **as per the scientists, no formal confirmation aligns with the initial declaration** that this material can conduct electricity without resistance in regular conditions.

What lies ahead:

- The LK-99 case raises concerns over misunderstandings caused in the open science competition. However, this misunderstanding shouldn't stop open collaboration.
- Moreover, now, the burden lies on South Korean group to show evidence for their claim.

UPSC Prelims point: Superconductor**15. 9 more supercomputers to be added under National Supercomputing Mission, list of four current fastest machines in India****Context:**

- The Union Cabinet has recently approved an extension of the Digital India programme.
- The programme also proposes nine more supercomputers to be added un-

der the National Supercomputing Mission.

The National Supercomputing Mission:

- Firstly, the government launched the National Super Computing Mission in 2015.
- Secondly, the aim is to connect research and academic institutions to a Supercomputing grid all over the country. The grid consists of more than 70 high-performance computing facilities, It will increase the research capacities and capabilities in the country.
- Thirdly, these supercomputers will also be networked on the National Supercomputing grid over the National Knowledge Network (NKN). The NKN is another program of the government. NKN connects academic institutions and R&D labs over a high-speed network.

The fastest Supercomputers in India:

- India's fastest supercomputers are AIRAWAT, PARAM Siddhi, Pratyush and Mihir.
- **AIRAWAT:** It is installed at the Center for Development of Advanced Computing (C-DAC), Pune.
- It stands as India's largest and fastest AI supercomputing system, with a remarkable speed of 13,170 teraflops (Rpeak).
- It has been manufactured by Netweb Technologies.
- It ranked number 75 at the International Supercomputing Conference in Germany and was listed as such in the 61st edition of the Top 500 Global Supercomputing list.
- **PARAM Siddhi-AI:** It is installed at Center for Development of Advanced Computing (C-DAC), Pune. It is ranked at No. 131 position:
- It aims to serve as AI / HPC specific

Cloud Computing Infrastructure for INDIA subsuming academia, R&D institutes and start-ups.

- **Pratyush supercomputer:** This supercomputer is installed at the Indian Institute of Tropical Meteorology. It is a Cray XC40 machine. It is ranked at No.169 position.
- **Mihir supercomputer:** It is installed at the National Centre for Medium Range Weather Forecasting in Noida. It is also a Cray XC40 machine. It is ranked at No.316.

UPSC Prelims point: Supercomputer

16. Revolutionizing Animal Feed: TDB-DST partners with Chemlife Innovations for Innovative Bio-Trace Minerals Project

Context:

The Technology Development Board (TDB), part of the Department of Science & Technology (DST) has partnered with Chemlife Innovations Pvt. Ltd to launch **Innovative Bio-Trace Minerals Project.**

About Innovative Bio-Trace Minerals Project:

- **Aim:** The project aims to revolutionize the manufacturing of bio-trace minerals for animal feed particularly targeting the livestock and poultry/dairy sectors. These minerals are essential for animals' health.
- **Financial Support:** TDB is giving ₹ 84 lakh to this project which is a big part of the total cost.
- **Technology used:** Chemlife Innovations is using new technology called 'Accelerated Natural Bio Transformation' (ANBioT) to make these special minerals.
- The project also utilizes pupa proteins which are rich in hydroxy amino acids. This will be an economical alter-

native to imported ligands like yeast hydrolysate and Methionine hydroxy analogue (MHA).

- The project also contributes to the circular economy by repurposing silk-worm pupae meal, reducing waste from the silk industry.
- **Significance:** This project aligns harmoniously with the **National Livestock Mission**. The mission aims to enhance livestock productivity, optimize feed and fodder resources and infuse technology into livestock management.

UPSC Prelims point: Bio-trance materials

17. Gene-edited mustard: Less pungent, more useful

Source:

About GTR genes-edited mustard

Background:

- Oilseeds provide oil for cooking and protein-rich meals for animals. **Rape-seed-mustard** is a key Indian oilseed, constituting 42.6% of oil production and 30.3% of meal production.
- However, **its high glucosinolate levels create pungent taste and odor** in its products, making the oil less preferred by consumers and the meal unpalatable for the livestock.

Alternative is being adopted by the scientists for the rapeseed-mustard:

- **Scientists are trying to breed rapeseed-mustard along the lines of canola quality by lowering glucosinolate levels.** This will help in reducing the pungent taste and odor of the oil and meal.
- However, **these low-glucosinolate mustard lines face issues in large-scale farming due to vulnerability to pests and diseases.** Because glucosinolates also shield crops like mustard against pests and pathogens.

While lowering glucosinolates benefits oil and meals, it compromises the plant's overall defense. Therefore, **novel breeding research plays a crucial role** in addressing these challenges.

How does novel research breeding help in addressing these challenges:

- Novel breeding research involves glucosinolate production in leaves and pod walls, transported to seeds via **glucosinolate transporter (GTR) genes**. GTR1 and GTR2 classes encompass 12 genes responsible for this process.
- **For example,** CRISPR/Cas9 gene editing was used to modify 10 out of 12 GTR genes in '**Varuna**' Indian mustard.
- Targeted gene editing of the Varuna mustard variety resulted in seed glucosinolate levels below the 30-ppm of the canola-quality limit. Whereas other parts like leaves and pod walls had notably higher glucosinolates.
- This low-seed, **high-leaf glucosinolate** edited lines demonstrated defense responses better than the wild-type mustard, due to the high glucosinolate concentration in leaves and pod walls.
- Whereas **the low glucosinolate levels in seeds** will reduce the pungent taste and odor in the oil and meals, making it useful for both animals and humans.

Characteristics of this new GTR genes-edited mustard:

- **The new GTR genes-edited mustard lines are transgene-free,** meaning they are not genetically modified (GM) and lack foreign genes found in Bt cotton or GM hybrid mustard.
- **The low-seed high-leaf glucosinolate mustard lines are genome edited (GE),** different from GM or transgenic plants. **The final GE lines also do not possess the Cas9 protein and are devoid of transgenes.**
- Moreover, in India, strict rules gov-

erned by the Genetic Engineering Appraisal Committee (GEAC) under the Ministry of Environment oversee GM crop cultivation.

- But in March 2022, a new rule was introduced by the Ministry stating that GM plants without added foreign DNA don't require GEAC approval for field tests or commercial sale.
- This change means that clearance is now only required from an Institutional Biosafety Committee (IBSC).

What is the way ahead:

- India imports a substantial amount of edible oils, covering over 60% of consumption.
- Therefore, it's crucial to boost domestic oilseed production through breeding for improved yields, pest resistance, and quality, to curb foreign exchange outflow.

UPSC Prelims point: Gene edit

18. Chandrayaan-3 | ISRO releases images of the far side area of the moon

Context:

- Indian Space Research Organisation (ISRO) has released images of the far side of the Moon.
- The images were captured by the Lander Hazard Detection and Avoidance Camera (LHDAC) which is onboard the Chandrayaan-3 Lander.

What is the Far Side of the Moon:

The far side is also known as the dark side area of the moon as it is always hidden from the earth.

Why is it called Far Side of the Moon:

- Over billions of years, Earth's gravitational pull has brought the Moon's spin into sync with its orbit.
- It takes exactly 28 days for the Moon to complete one rotation, and the same

time to make one orbit around Earth. This leads to a phenomenon called "tidal locking".

- With the Moon's rotation and orbit keeping it forever in step with the Earth, only one part of it is visible from Earth at any time. The unseen part is called "far side of the Moon" also known as the dark side area of the moon.

Note: The term "dark side" can be misleading because it doesn't necessarily mean that this side is always in darkness. It experiences day and night like the near side but is not visible to us from Earth.

Significance of Far Side of the Moon:

- Because the far side of the Moon is shielded from radio transmissions from the Earth, it is considered a good location for placing radio telescopes for use by astronomers.

UPSC Prelims point: Chandrayaan-3

19. Hubble Space Telescope captures image of irregular galaxy ESO 300-16

Context:

The Hubble Space Telescope captured an image of the irregular galaxy named ESO 300-16.

About ESO 300-16:

- ESO 300-16 is an irregular galaxy. It is located at a distance of 28.7 million lightyears in the southern constellation of Eridanus.
- It is made of many tiny stars all clumped together, surrounded in a diffuse light. In the central, brightest part there is a bubble of blue gas.
- The galaxy is surrounded by mostly very small and faint objects, though there are bright stars above and to the left of it, and a string of galaxies nearby.

What is an Irregular Galaxy:

- An irregular galaxy is a galaxy that does not have a distinct regular shape, unlike a spiral or an elliptical galaxy.
- Irregular galaxies have unusual shapes, like toothpicks, rings, or even little groupings of stars.
- They range from dwarf irregular galaxies with 100 million times the Sun's mass to large ones weighing 10 billion solar masses.
- Irregular galaxies may hold significant amounts of gas and dust – essential ingredients for making new stars.
- **Formation:** Astronomers think these galaxies' odd shapes are sometimes the result of interactions with others.
- **For example,** one spiral galaxy passing another with a stronger gravitational pull could lose some of its material, become distorted, and morph into a new shape. Some, like gas-rich dwarf galaxies, may be new, formed by material pulled from such encounters **(or)** When galaxies collide, they create a larger, oddly shaped mashup. Some scientists theorize that some large irregular galaxies could represent an intermediate step between spiral and elliptical galaxies.

Hubble Space Telescope:

- It is a space-borne observatory named after "Edwin Powell Hubble-an astronomer", and is part of NASA's "Great Observatories program.
- It is a joint ESA, NASA project and was launched in 1990 into a low-Earth orbit 569 km above the ground.
- It is the largest optical telescope ever launched into space.

20. Researchers unveil 'demon particle' that can lead to making superconductors**Context:**

Researchers at the University of Illinois have discovered a **Demon Particle** that could lead to the making of superconductors that can operate at room temperature.

About Demon Particle:

- Demon is a "composite" particle made up of a combination of electrons, in a solid
- The Demon Particle was first theorized by **David Pines in 1956.**
- Pines predicted that electrons in a solid can do something strange. While they normally have a mass and an electric charge, Pines asserted that they can combine to form a composite particle that is **massless, neutral, and does not interact with light.** He called this particle a "**demon.**"
- Physicists have speculated that demon particle could play an important role in the characteristics of many metals. But they have never been able to confirm its existence until now.
- The researchers at the University of Illinois have now discovered a Demon Particle.

Significance of this discovery:

- Superconductors, which can conduct electricity without resistance, currently require extremely low temperatures, often below 100 degrees Fahrenheit.
- This discovery of the Demon Particle could lead to the making of superconductors that can operate at room temperature.

UPSC Prelims point: Demon Particle**21. Chandrayaan-3 | India lights up the dark side of the moon****Context:**

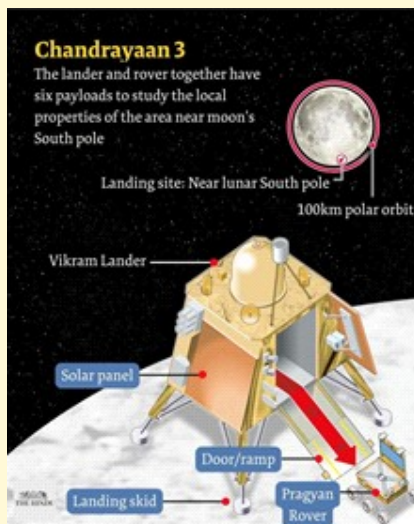
- The Lander Module (LM) of the Chandrayaan-3 Mission has made a suc-

successful landing on the Moon's surface.

- With this, India became the first country to land near the Moon's south pole and the fourth country after the erstwhile USSR, the U.S. and China to make a soft landing on the lunar surface.

Chandrayaan-3:

- Chandrayaan-3 is a follow-up to the Chandrayaan-2 mission. The mission has three main objectives which include: a) demonstrating a safe and soft landing on the lunar surface, b) demonstrating the rover's roving capabilities on the moon and c) performing in-situ scientific observations.



Source: The Hindu

About Soft Landing:

- Soft landing refers to the controlled descent and subsequent touchdown of a spacecraft on the lunar surface without causing significant damage to either the craft or its scientific instruments.
- It is achieved by reducing the spacecraft's speed gradually, allowing it to touch down gently.
- Such landings ensure a gentle interaction with the Moon's rugged terrain, enabling the collection of valuable data, exploration, and potentially serving as

a precursor to human missions.

- The landing site is near the south pole of the moon at 70 degrees latitude.

What happens after Chandrayaan 3 successfully lands on the moon:

- Spacecraft are often carrying certain instruments and experiments with them (called payloads) that observe and record what is happening in Space. This information is then relayed to Earth for scientists to analyze and study.
- The six payloads on the Vikram lander and rover Pragyan remain the same as the previous mission.
- There will be **four scientific payloads on the lander** to study lunar quakes, thermal properties of the lunar surface, changes in the plasma near the surface, and a passive experiment to help accurately measure the distance between Earth and the Moon. **The fourth payload comes from NASA.**
- There are **two payloads on the Rover**, designed to study the chemical and mineral composition of the lunar surface and to determine the composition of elements such as magnesium, aluminum and iron in the lunar soil and rocks.

UPSC Prelims point: Chandrayaan-3

22. LCA Tejas successfully test-fires Astra Beyond Visual Range air-to-air missile

Context:

The Light Combat Aircraft (LCA) Tejas has successfully test fired the Astra indigenous Beyond Visual Range (BVR) air-to-air missile.

About Astra:

- ASTRA is a state-of-the-art Beyond Visual Range (BVR) air-to-air missile.
- **Purpose:** To engage and destroy highly maneuvering supersonic aerial targets.

- **Developed by:** Defence Research and Development Laboratory (DRDL), Research Centre Imarat (RCI) and other laboratories of the DRDO.
- **Features:** Astra has a range of over 70 km and can fly towards its target at a speed of over 5,555 km per hour. The missile has all-weather day and night capability.

Astra Mk-1 Missile:

- The Astra Mk-1 is a beyond visual range(BVR) air-to-air missile (AAM).
- BVM missiles are capable of engaging beyond the range of 20 nautical miles or 37 kilometres. AAMs are fired from an airborne asset to destroy an airborne target.

Light Combat Aircraft (LCA) Tejas:

- LCA Tejas: It is a single-engine, fourth-generation, multirole light fighter aircraft designed by the Aeronautical Development Agency (ADA). Tejas was developed in collaboration with Hindustan Aeronautics Limited (HAL) for the Indian Air Force(IAF) and Indian Navy.

23. Next mission to Moon is with Japanese, more of Chandrayaan

Context:

ISRO is preparing for one more lunar mission. This one will be in collaboration with Japanese space agency, JAXA. This mission will be called **LUPEX or Lunar Polar Exploration Mission.**

About the LUPEX Mission:

- LUPEX is a joint mission of Japan Aerospace Exploration Agency (JAXA) and Indian Space Research Organisation (ISRO).
- **Aim: 1)** To explore lunar polar region suitability for establishing a base on the Moon for sustainable activities **2)** obtain knowledge regarding the availability of lunar water-ice resources and **3)** demonstrate lunar and planetary surface exploration technologies such as vehicular transport and overnight sur-

vival.

- **To be Launched in:** 2024-25
- **Contributions:** For the LUPEX mission, the launch vehicle and rover are supposed to be contributed by the Japanese agency while the lander will come from ISRO.
- **Proposed Instruments of LUPEX:**
- **Permittivity and Thermo-physical investigation for Moon’s Aquatic Scout (PRATHIMA):** It aims to detect and quantify water-ice mixed with lunar soil, achieving in-situ detection and measurement of water content.
- **Lunar Electrostatic Dust EXperiment (LEDEX):** It aims to detect the presence of charged dust particles and to confirm the dust levitation process in the volatile-rich polar region, and to estimate approximate dust size and flux of charged, levitated dust particles.

UPSC Prelims point: LUPEX Mission

24. Know your rover pragyan

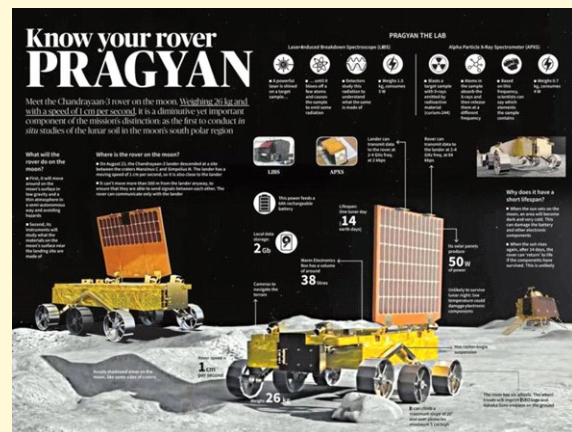
Context:

ISRO has released the much-anticipated video of the Pragyan rover ramping down from the Vikram lander and walking on the lunar surface.

About Rover:

A rover is simply a vehicle for exploring the surface of a planet or moon.

What is Pragyan Rover?



Source: The Hindu

- ISRO has deployed its lunar rover, named Pragyan as part of the Chandrayaan-3 mission. The rover's name 'Pragyan' is Sanskrit for wisdom.
- Pragyan has been assigned the task of carrying out a chemical analysis of the lunar surface in situ as it moves about in the highlands near the Moon's south pole.
- **It is equipped with two payloads:** APXS or 'Alpha Particle X-Ray Spectrometer' and the LIBS or 'Laser Induced Break-down Spectroscope'.
- APXS will be engaged in deriving the elemental composition of the lunar surface; while LIBS will carry out experiments to determine the elemental composition of chemical elements such as magnesium and aluminum etc. of lunar soil and rocks around the lunar landing site.
- **Cameras:** Pragyan Rover has two Navigation cameras fitted in the front of the rover to navigate the Rover in the lunar terrain.
- NAVCAM-Left & NAVCAM -Right. These cameras help in path planning and obstacle avoidance, to ensure that there is no rock, there is no obstacle, there is no pit etc. in the path.
- It is like a human being or robot having eyes, so wherever the rover is going to move there is a path planning which is done based on the stereo images from Navcams.
- **Lifespan:** Pragyan has a mission life of 1 lunar day, approximately equal to 14 Earth days. This will be the period over which the rover will try to fulfill its objectives.
- **Why does the Pragyan rover have a short lifespan:** When the sun sets on the moon, an area will become dark and very cold. This can damage the battery and other electronics components.

When the sun rises again, after 14 days, the rover can 'return' to life if the components have survived. But this is highly unlikely.

UPSC Prelims point: Rover Pragyan

25. Isro's solar odyssey

Context:

The Indian Space Research Organisation is all set to launch the Aditya-L1 mission, dedicated to studying the Sun. It'll be launched by ISRO's PSLV rocket from Satish Dhawan Space Centre SHAR in Sriharikota.

About the Aditya-L1 mission:

- The Indian Space Research Organisation intends to position the observatory within a **halo orbit** encircling the first **Lagrangian point (L1)** within the Sun-Earth system. It is situated approximately **1.5 million km from Earth**.
- The journey will span nearly four months, and the mission's planned duration extends to five years.
- **Lagrange points** are locations in space where the **gravitational forces** of two celestial bodies, such as the Sun and Earth, balance the centripetal force necessary for a small object to move synchronously with them.
- This phenomenon assists a spacecraft in **minimising fuel consumption** required to maintain its position.
- Among the **five Lagrange points**, three are **unstable (L1, L2, and L3)**, while **two (L4 and L5)** are stable.
- A satellite positioned in the **halo orbit** around the L1 point offers a major advantage related to **uninterrupted observation** of the Sun without encountering any **occultation or eclipse**.
- Through the Aditya L1 mission, ISRO scientists will scrutinise the **Sun's corona**, and comprehend the mechanisms

underlying the corona's unusually high temperatures.

- The mission's objectives also encompass investigating the **origins of solar wind** and its implications on the **heliosphere**.
- The observatory will delve into the study of **coronal mass ejections (CMEs)**, **massive ejections of plasma and magnetic fields** from the Sun's surface.

Why is ISRO taking this ambitious mission:

- The Sun functions as a **dynamic laboratory** for investigating various stellar phenomena. These include **nuclear fusion, magnetic field dynamics, and the generation of solar wind**.
- The examination of the Sun's interior using techniques like **helioseismology** provides valuable data for refining models of **stellar evolution**. These understandings contribute to our comprehension of the broader universe.
- Missions dedicated to studying the Sun shed light on its role in shaping the **potential habitability** of planets within our solar system.
- The fluctuations in the Sun's energy emissions can exert **long-term effects** on Earth's climate patterns. Scrutinizing these variations aids scientists in **enhancing climate models** and comprehending the **interplay between solar radiation and atmospheric processes**.
- Intense releases of electromagnetic energy and particles can temporarily disrupt the upper atmosphere of Earth. It can lead to **interference with signal transmissions**.
- **Coronal Mass Ejections** have the potential to cause **electromagnetic and ground-level electrical disturbances**, potentially harming power grids.
- **Preparedness and protective measures** can be taken by individuals and

organisations when provided with advance information about such events. The Aditya L1 mission represents a step toward this objective.

- Comprehending these processes offers insights into the realm of **plasma physics**.
- The data and information gathered from the Aditya L1 mission will have **practical implications for space operations and terrestrial technology**, ranging from optimising **satellite functions** to enhancing the **accuracy of GPS systems**.

26. Why did Chandrayaan-3 land on the near side of the moon

Context:

- The controlled descent of the Vikram lander of Chandrayaan-3 made it one of the closest approaches of a lunar mission to the moon's South Pole.
- However, like most of the lunar-landing missions before, Vikram too landed on the near side of the moon.
- Hence, China's Chang'e 4 mission is the only lunar mission to have successfully landed on the far side of the moon.

Moon's 'near' and 'far sides':

- **Near Side:** It refers to the portion of the moon – about 60% – that is visible to us. It is always the same side that is visible from Earth because the moon takes the same time to rotate about its axis as it does to circle around the Earth
- **Far Side:** It is also known as the dark side area of the moon. It is called the dark side as it is facing away from the Earth. In reality it is no darker than any other part of the Moon's surface as sunlight does in fact fall equally on all sides of the Moon.
- It is only 'dark' to us, as that hemisphere can never be viewed from Earth due to a phenomenon known as 'Tidal

Locking’.

- The ‘dark side’ was mysterious and its various topographical features were hidden until the Soviet spacecraft Luna 3 in 1959 photographed it and the Soviet Academy of Sciences released an Atlas of these images.
- Astronauts aboard the Apollo 8 mission of 1968 were the first humans to see the far side of the moon.

Is the dark side very different from the near side:

- **Firstly**, the near side is smoother and has more large volcanic plains called ‘Maria’ compared to the far side. On the far side, there are large craters, likely from asteroid impacts.
- **Secondly**, the near side has a thinner crust, which allows volcanic lava to flow and fill up craters over millions of years, creating flat plains. These plains make it easier for space missions as they offer a more even terrain for landers and rovers.

What is special about Chandrayaan-3 landing:

- The Chandrayaan-3 mission, while still on the near side, has managed to land Vikram the closest ever to the lunar South Pole. The coordinates of Chandrayaan-3 at 69.36 S and 32.34 E make it about 600 km away from the South Pole.
- The choice of being as close as possible to the South Pole was to get closer to a “permanently shadowed region” or where no sunlight ever reaches.
- This would mean increasing the chances of encountering frozen water-ice along with several “interesting deposits” that can reveal more about the moon and its harvestable resources.

UPSC Prelims point: Chandrayaan-3

27. New brain-computer interface device gives voice to paralysed

Context:

- Researchers have developed a brain-computer interface (BCI) that has enabled a woman with severe paralysis from a brainstem stroke to speak through a digital avatar.
- It is the first time that either speech or facial expressions have been synthesized from brain signals.

About Brain-Computer Interface (BCI):

- A Brain-Computer Interface (BCI), also known as a Brain-Machine Interface (BMI), is a technology that establishes a direct communication pathway between the human brain and external devices or computers.
- BCIs are designed to enable individuals to interact with and control these external devices using only their brain activity, bypassing traditional routes such as muscle movements or physical inputs.

Applications of Brain-Computer Interface (BCI):

- **Assistive Technology:** BCIs can empower individuals with paralysis or motor disabilities to regain communication and control over their environment.
- **Neurorehabilitation:** They are used in therapy and rehabilitation programs to help patients recover lost motor functions after injuries or strokes.
- **Research:** BCIs play a crucial role in neuroscience research, allowing scientists to study brain activity patterns and understand the brain’s functions better.
- **Enhanced Control:** BCIs have applications in fields like gaming, allowing players to control characters or devices using their thoughts.

Concerns related to Brain-Computer Interface (BCI):

- Some researchers have noted some concerns related to BCIs. For example, BCIs could be vulnerable to cyber attacks that expose brain data or interfere with a device's function.
- Reported costs of wearable BCIs range from hundreds to thousands of dollars, which may result in unequal access.
- Further, translation of brain signals to speech by a BCI could cause harm if it is not accurate. For example, inaccurate translation might indicate legal or medical consent that the person did not intend to give.

UPSC Prelims point: Brain-Computer Interface

28. New specie, genus of snakes discovered in Western Ghats

Context:

A team of researchers has recently discovered a new genus and species of colubrid snakes in Western Ghats. They have named it 'Sahyadriophis uttaraghathi'.

About Sahyadriophis uttaraghathi:

- Sahyadriophis uttaraghathi is a new genus and species of colubrid snakes.
- Note:** The Colubrid is the largest snake family. It contains approximately 2000 species. Many colubrids are technically considered venomous but very few are considered dangerous to humans.
- Named after:** It has been named Sahyadriophis, a combination of the Sanskrit word for the Western Ghats 'Sahyadri' and the Greek word for snakes 'Ophis'.
- Found in:** It is found in the northern parts of the Western Ghats.
- Features:** These snakes are mostly ac-

tive during monsoons and are often found near streams.

- Their diet primarily consists of frogs and their eggs. They are gentle in nature and rarely bite when handled.
- The juveniles bear a big blotch or a collar mark on the nape, which distempers as the animal grows.
- They can be differentiated from its southern counterpart – Sahyadriophis beddomei (Beddome's Sahyadri keelback) – by a longer tail and higher number of scales on the tail's underside, known as subcaudals.

29. Somatic genetic variants: A genomic revolution hiding inside our cells

Context:

Scientists have been aware of **Somatic Genetic Variations** for quite some time but there has been a recent surge in the volume of data related to these variations.

Somatic Cells:

- Somatic cells are the cells in the body other than sperm and egg cells (which are called germ cells).
- In humans, somatic cells are diploid, meaning they contain two sets of chromosomes, one inherited from each parent.
- DNA mutations in somatic cells can affect an individual, but they cannot be passed on to their offspring.

About Somatic Genetic Mutations:

- Humans have **23 pairs of chromosomes**, one from each parent, which carry our genetic information or blueprint.
- After fertilization, a single cell with 23 chromosomes begins dividing, ultimately creating nearly a trillion cells in the human body.
- During cell division, DNA is accurately

copied thanks to error-correcting proteins, but there's still a very low error rate (0.64-0.78 mutations per billion base pairs per division).

- An error that occurs in the DNA after birth but during development is called a **Somatic Genetic Mutation**.
- This occurrence of mutation is driven by the repeated 'copy-pasting' of the genome - which means **there will be more somatic genetic mutations the older an individual is and the higher the turnover of the tissue**. Turnover is the replacement of old cells with new ones.
- Sometimes, a somatic genetic mutation can render a cell fitter than others, which lead to the formation of tumours. These mutations are called *driver mutations*.

Importance of Somatic genetic variants:

- **Cancer signatures:** Somatic genetic variants play an important role in the development of cancers. We now know that somatic changes can cause a cancer to develop and that cancers can accelerate the development of somatic changes. So they can help with early detection, diagnosis, and prognosis.
- **Development of Genetic Diseases:** Many genetic conditions arise from somatic genetic variants. Obviously, these conditions are not inherited from either parent but are due to new genetic variations that have arisen during development. So the severity and distribution of the disease depends on how early or late during development the corresponding mutation occurred.
- **Beneficial in some cases:** In some instances, somatic changes can be beneficial in a genetic disease - by changing a deleterious change to a normal one, a phenomenon known as **revertant mosaicism**.
- For example, around 10% of cases of

Wiskott-Aldrich syndrome, a rare genetic immuno-deficiency, have been found to have revertant mosaicism, as a result alleviating the severity of the disease in many individuals.

Somatic Mosaicism across Human Tissues (SMaHT) Network:

- **Launched by:** U.S. National Institutes of Health
- **Aim:** To discover somatic variants, develop tools for study, and improve analysis for biological and clinical insights.
- **Investment:** The U.S. government has invested \$140 million to study somatic variants in post-mortem samples.

UPSC Prelims point: Somatic Genetic Mutations

30. World's first prototype of the BS 6 Stage II 'Electrified Flex fuel vehicle' launched

Context:

The Union Road Transport Minister has launched the world's first-ever prototype of the BS-VI Stage-II Electrified Flex Fuel Vehicle in New Delhi.

About Electrified Flex Fuel Vehicle:

- **Developed by:** Toyota Kirloskar Motor
- It is the **world's first BS 6 (Stage II) Electrified Flex Fuel vehicle** prototype.
- **The vehicle uses a mixture of fuel to drive the car.** It includes ethanol, a biofuel produced from energy crops like sugarcane, maize and rice and an electric power.

Significance of Electrified Flex Fuel Vehicle:

- **Firstly**, Electrified Flex Fuel Vehicle has both a Flexi Fuel engine and an electric power train. This gives it the ability to provide dual benefit of higher ethanol use and much higher fuel efficiency as is in case of a Strong Hybrid Electric Vehicle (SHEV), which can provide 30-

50% higher Fuel Efficiency as it can run 40-60% in EV mode with engine shut off.

- **Secondly**, it uses minimal advanced chemistry batteries. So, it also guards against possible Geo-political risks of battery raw material supplies.

The status of Ethanol Blending in India:

- Currently, India imports over 85% of its oil to fulfill its domestic demand, amounting to nearly Rs 16 lakh crore.
- By introducing ethanol blends with higher levels of fossil fuel, the government aims to cut this dependency on imports.
- Ethanol blending in India has increased by over 8 times. It has increased from 1.53 % in 2014 to around 11.5 % (March 2023) leading to savings in the import bills and also lowering of carbon emissions.
- The central government has set the target to achieve a 20% ethanol blend pan-India by 2025, which is expected to save Rs 35,000 crore annually in the oil import bill.

31. CSIR-CMERI Developed Compact Electric Tractor- CSIR PRIMA ET11

Context:

Central Mechanical Engineering Research Institute (CSIR-CMERI) has developed a compact electric tractor called **CSIR PRIMA ET11**.

Why was there a need to shift to Electric Tractors:

- Agriculture is the main livelihood for 55% of India's population, contributing significantly to the GDP and feeding 1.3 billion people.
- Tractors are vital for increasing agricultural productivity through mechanization.

CSIR CMERI has a history of designing and developing tractors, starting with SWARAJ in 1965, Sonalika tractor in 2000 and Krishishakti in 2009 for small farmers.

The shift towards electric tractors is crucial due to the environmental impact of traditional diesel tractors, which consume 7.4% of India's annual diesel and emit pollutants.

Electrification of tractors supports India's commitment to reduce carbon emissions and achieve Net Zero emissions by 2070, as announced at COP26.

What is CSIR PRIMA ET11:

CSIR PRIMA ET11 is an indigenously designed and developed Electric Tractor mainly to cater small and marginal farmers of India.

Developed by: Central Mechanical Engineering Research Institute (CSIR-CMERI)

Key Features: Made entirely with indigenous components and technologies.

Designed for agriculture with a focus on women-friendly features. For eg: All the levers, switches etc have been placed for easy approach to the women.

Can be charged using a home socket, providing more than 4 hours of field operation.

Equipped with efficient transmission, robust design, and hydraulic system for various tasks.

Utilizes state-of-the-art Lithium-ion batteries with deep discharge capability.

Features a V2L port for using tractor battery power for secondary application.

SOCIAL ISSUES

1. Our millennial attitudes are in uneven transition.

Context:

The findings from a survey on Indian millennials' views on population growth, family values, and social biases. It highlights their mixed feelings about India's demographic changes and persistent prejudices, especially towards the LGBTIQ+ community.

The major findings of the latest Mint YouGov-CPR biannual millennial survey:

Views on population:

- 33% see India's large population as a problem.
- 26% believe in India's demographic advantage; **40% are neutral.**
- Only 31% are proud of India being the world's most populous nation; 26% are embarrassed.

Economic Growth and Comparison to China:

- 49% of urban Indians believe India's population can be an asset with the right investments.
- Better education and factory jobs are viewed as essential for growth like China.
- China is seen as having done better in population control, job creation, and poverty reduction.

Marriage and Family Values:

- 35% of millennials and 38% of post-millennials view marriage as important, compared to 55% of pre-millennials.
- 49% believe in children living with and caring for elderly parents.
- 28% want parents to be independent;

23% believe parents need support but shouldn't live with children.

Social Biases:

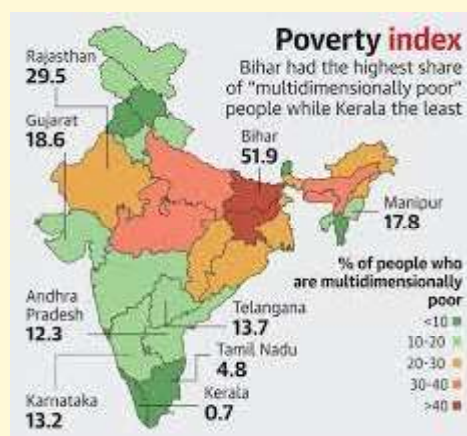
- 55% of parents want their children to marry the opposite gender.
- 50% prefer marital partners without disabilities; 42% want marriages within their religion.
- 21% are uncomfortable with an LGBTIQ+ neighbor.
- People from Uttar Pradesh and Bihar, unmarried men, physically disabled, and other faiths are also subjects of bias.

Mains point: population growth, family values, and social biases

2. Poverty declines, but battle not over.

Context:

The latest poverty numbers from the multidimensional poverty index (MDPI) for India for showed that about **415 million people have come out of poverty between 2005-06 and 2019-21.**



Some facts about MDPI:

- The MDPI encompasses health, educa-

tion, and standard of living. It utilizes the Alkire-Foster methodology for measurement.

- The standard of living aspect considers factors such as housing, cooking fuel, sanitation, drinking water, and assets, excluding income. Therefore, it doesn't rely on data from the National Sample Survey.
- In India, maternal health and access to banking have been incorporated as additional indicators in the MDPI.
- MDPI provides a comprehensive understanding of the nature of poverty, especially in a diverse country like India. Relying solely on measures of income poverty can be problematic.

Some significant revelation from the survey:

- The outcomes of the MDPI reveal **significant progress in poverty reduction, particularly in rural regions.**
- During the period between 2005-06 and 2015-16, around 280 million individuals emerged from poverty. 135 million people escaped poverty from 2015-16 to 2019-21.
- There has been a more rapid reduction in poverty within economically disadvantaged states
- There has also been a marked **decrease in poverty in Jammu & Kashmir and Ladakh.**
- The situation varies significantly across different parts of the country. Rajasthan demonstrated notable progress in terms of years of schooling and school attendance, Andhra Pradesh and Telangana did not fare as well.
- **Rajasthan faced challenges** in terms of access to cooking fuel, along with several other states like MP, Bihar, UP, Jharkhand, West Bengal, Assam, Odisha, and Haryana.
- Sanitation improvements played a sig-

nificant role in poverty reduction in economically disadvantaged states like Bihar, UP, MP, Jharkhand, Chhattisgarh.

- States like **UP, Bihar, Jharkhand, and Assam** showed improvements in electricity connections, with **Meghalaya lagging behind in this aspect.**
- Access to proper housing exhibited minimal improvements across most states in the country, indicating that a review of the PM Awas Yojana might be necessary.
- Nutrition remains a significant issue in India, with insufficient progress seen in most states.
- **Significant disparities also exist among districts in addressing poverty.** For instance, in Bihar, some districts have shown substantial improvements. However, districts continue to struggle in their anti-poverty endeavors.
- Among the districts that witnessed the largest decline in poverty between 2015-16 and 2019-21 are **Kalahandi (Odisha), Alirajpur and Barwani (MP), Udaipur and Barmer (Rajasthan), Maharajganj and Gonda (UP), and Dang (Gujarat).**
- The sole district where poverty increased was **Bijapur (Chhattisgarh).**

Way forward-

- There is a need to implement national programs effectively at the district and municipal levels.
- India still has the largest number of impoverished individuals globally, around 230 million in 2019-21. There is a need to **enhance their nutrition through improved meal programs in Anganwadis and schools.**
- **The COVID-19 pandemic** might have further increased poverty. It has pushed 300 million people in poverty.
- **The MDPI indicators** provide valuable insights on where to intensify the battle

against poverty. The struggle against poverty cannot be won solely through a top-down approach. It demands a concerted bottom-up endeavor.

Mains point: Measurement of poverty

3. Why is Bihar's caste-based survey facing legal challenges?

Context:

The Supreme Court is set to hear on August 18, petitions challenging the Patna High Court's verdict upholding the Bihar government's ongoing caste survey.



The 'caste-based survey':

- The State government has launched a two-phase caste survey in Bihar. It has stated that detailed information on socio-economic conditions would help create better government policies for disadvantaged groups.
- The survey is estimated **to collect socio-economic data for the population of Bihar**. The first phase of the survey involves a house listing exercise.
- **In the second phase**, data related to castes, sub-castes, and religions of all people is to be collected.

The need for a caste census:

- The Census, conducted at the beginning of each decade, only captures caste data for those classified as Scheduled Castes.
- Due to this limitation, there is no accu-

rate population estimate available for **Other Backward Classes (OBCs), various subgroups within the OBCs, and other castes.**

Despite this lack of clarity, the central government has definitively rejected the idea of conducting a socio-economic caste census. **It cites it as impractical, administratively complex, and burdensome.**

In 2011, the Union government initiated a caste survey through the Socio-Economic and Caste Census of 2011. However, the raw data collected from around 1.3 billion Indians was never disclosed publicly due to data inaccuracies.

Political analysts view the recent step taken by the Bihar government as an effort by coalition parties **to counter the Bharatiya Janata Party (BJP)'s Hindutva-oriented politics with a resurgence of Mandal politics.**

On August 13, 1990, the V.P. Singh government declared its intention to implement the recommendations of the Mandal Commission report, which **proposed a 27% reservation for Other Backward Classes.**

The Mandal Commission had estimated the OBC population at 52%. Nevertheless, there is ongoing debate regarding the accuracy of this estimate in the present day.

It is being challenged:

As per petitions in the Supreme Court, the State's order announcing the survey is unconstitutional. It is due to the fact that the exclusive authority to conduct a census lies with the Centre as specified in the Constitution.

The State Government lacks the independent jurisdiction to appoint District Magistrates and local authorities for collecting data without a notification issued by **the Centre under Section 3**

of the Census Act, 1948.

- The High Court's decision is flawed on the grounds that it contravenes the Puttaswamy judgment. It permits the State to gather personal information through an executive order.

Mains point: Issues related to river water disputes between states

4. WHO South-East Asia Region commits to further enhance efforts to end TB, adopt Gandhinagar Declaration

Context:

The WHO South-East Asia Region has committed to further accelerate efforts to end tuberculosis by 2030 with member countries adopting the Gandhinagar Declaration.

The Gandhinagar Declaration:

- The Gandhinagar Declaration was adopted by the WHO South-East Asia Region member countries at the meeting held to follow up on the progress made to end Tuberculosis (TB) in the region.
- The declaration calls for the establishment of high-level multisectoral commissions in each country to coordinate efforts and monitor progress toward ending TB and other diseases. **These commissions can also strengthen health systems and universal health coverage.**
- It also emphasizes the use of science and technology to provide equitable TB services accessible to everyone, regardless of social, cultural, or demographic differences.
- It underscores the need for resources to meet TB coverage goals and address underlying social factors.
- The declaration also urges WHO to continue prioritizing TB and providing leadership and technical assistance

for sustained progress.

About TB Cases in WHO South-East Asia (SEA) Region:

- The WHO South-East Asia Region has 11 Member States** - Bangladesh, Bhutan, Democratic People's Republic of Korea, India, Indonesia, Maldives, Myanmar, Nepal, Sri Lanka, Thailand, Timor-Leste.
- This region is home to 26% of the world's population. But about 43% of all TB cases in the world are in this region (according to the WHO Global TB Report 2021).
- In 2020, around 4.3 million people got sick with TB and about 700,000 died because of it. This is more than half of all the TB deaths globally, which were about 1.3 million in that year.
- they were in 2015.

Mains point: Gandhinagar Declaration

5. Don't pretend not to see caste

Context:

The deep-rooted casteism in India. There is a need to acknowledge and address it for genuine inclusivity. Article also highlights the struggles of Dalits, the importance of representation beyond reservations, and the significance of embracing and celebrating Dalit history in the Indian independence movement.



The incidents that show casteism is still present in India:

- **Denial of Caste:** Many claims to live in a casteless society, but incidents like discrimination against lower-caste individuals indicate its absence. Darshan Solanki's suicide, children beaten over drinking water, and men shot for riding horses suggest caste-based violence are some examples.
- **Reservation Debates:** Discussions about reservations on social media show underlying biases against reserved categories.
- **Professional Bias:** Some avoid doctors with lower-caste surnames, suspecting them of lacking merit.
- **Dalit Representation:** Dalits still struggle for representation in cultural and intellectual spaces, indicating systemic barriers.

The importance of De-casteing in India:

- **Genuine Inclusivity:** Acknowledging casteism is crucial for creating an inclusive society where everyone is treated equally.
- **Dalit Struggles:** Without addressing caste, the struggles and discrimination faced by Dalits continue.
- **Fair representation:** De-casting ensures fair representation of all communities in premier institutions, media, and cultural spaces.
- **Trust Building:** Addressing caste issues is vital for building trust among various communities.
- **Enriches national history:** Recognizing Dalit contributions to the Indian independence movement enriches national history.
- **Progress and Unity:** Overcoming caste barriers is essential for India's unified progress and realizing the vision of "sabka vishwas".

De-casteing to be achieved:

- **Acceptance:** Firstly, acknowledge the presence and impact of casteism in society, instead of denying or overlooking it.
- **Education:** Educate younger generations about the importance of seeing beyond caste and the value of inclusivity.
- **Representation beyond reservations:** Push for Dalit representation in cultural institutions, intellectual spaces, and media, beyond just reserved seats in politics.
- **Celebrate Dalit History:** Embrace and highlight the contributions of Dalits in the Indian independence movement and other spheres.
- **Promote Allies:** Encourage individuals from privileged castes to become allies, supporting marginalized communities in various spaces.
- **Build Trust:** Address and work on the distrust Dalits might feel towards the upper segments of society, fostering unity.
- **Policies Emphasizing Inclusion:** Formulate policies that emphasize diversity, inclusion, and equity, ensuring nobody is left behind.

Mains point: The deep-rooted casteism in India.

6. Needed, a well-crafted social security net for all.

Context:

Social security in India has largely been ignored by the policymakers. The article explains the measures needed to enhance social security schemes in India.

The various findings of the data:

- As per the Periodic Labour Force Sur-

vey **Annual Report 2021-22**, around 53% of India's salaried workforce lacks social security benefits.

- Further, only 1.9% of the poorest 20% of workers enjoy any such social security benefits. Similarly, only around 1.3% of active labor force members, who are gig workers, have access to social security.
- India's social security system is ranked very poorly, **securing the 40th position out of 43 countries in Mercer CFS's 2021 ranking.**

The concerns with the existing social security benefits schemes:

- The National Social Security Fund** for unorganized sector workers began with Rs. 1,000 crore, intended for workers like weavers and rickshaw pullers.
- However, this was insufficient compared to the required Rs. 22,841 crore. Additionally, an audit by the **CAG found Rs. 1,927 crore unutilized.**
- Similarly, the National Social Assistance Programme aimed to provide a Rs. 75 monthly pension to elderly individuals without earners at home.
- However, the Centre's contribution has **remained at Rs. 200 monthly since 2006**, lower than the daily minimum wage.
- Moreover, budget cuts have also impacted the implementation of the Mahatma Gandhi National Rural Employment Guarantee Act along with other schemes.

The social security scheme in Brazil:

- Brazil's General Social Security Scheme** offers income for workers facing income loss from accidents, disabilities, death, medical leave, family duties, unemployment, or imprisonment. Accessing benefits is easier in Brazil.
- India, with around 91% of its workforce in the informal sector, also needs an ac-

cessible social security scheme like Brazil's due to this large informal workforce.

The steps can be taken by India to enhance its social security schemes:

- The expanding employer and employee contributions within the Employees' Provident Fund Organisation (EPFO) system for formal workers.
- The informal workers who earn a decent income could contribute a part of their earnings.** This could motivate informal businesses to become more official and contribute more as well.
- The Code on Social Security in 2020 and e-Shram platform are important measures taken for social security. However, e-Shram makes informal workers register themselves, without motivating employers to encourage registration.
- The Code on Social Security (2020)** consolidated existing social security laws, primarily focusing on formal enterprises and did not cover informal ones.
- There is a need to fund social security for India's large workforce, beyond just construction and gig workers.
- This includes a nationwide labor card and expanding successful schemes to other types of workers. Special attention is also required for females and migrant workers.
- The Existing schemes** like the Employees' Provident Fund (EPF), Employees' State Insurance Scheme (ESI), and National Social Assistance Programme (NSAP) could be strengthened by increasing budgetary support and extending coverage.
- Administrative enhancements** are also needed due to overlapping responsibilities between the State and Centre.
- There is a need to raise awareness about social security benefits among workers.

Organizations like **the Self-Employed Women's Association**, running worker facilitation centers, could receive funding to carry out campaigns, particularly for women.

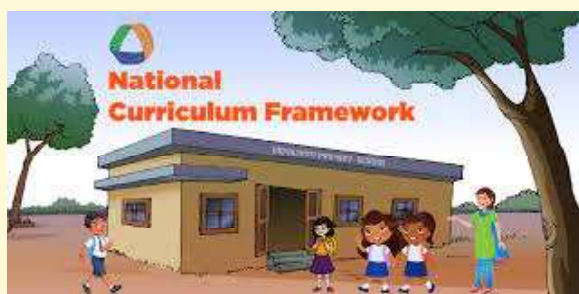
Mains point: Concerns with social security schemes in India.

7. Learning culture: The National Curriculum Framework (NCF).

Context:

Recently, Union Minister for Education and Skill Development & Entrepreneurship, released the National Curriculum Framework (NCF). It offers creative solutions to the weaknesses in the school-education system.

The highlights of the NCF:



- The NCF reduces curriculum load to promote critical thinking over rote learning by proposing board exams twice a year, offering a "best of two" results system.
- Ultimately, the idea is to allow "on-demand" board exams by permitting students to take exams on their own schedule, allowing them to appear in subjects they have finished and feel prepared for.
- The NCF also encourages greater flexibility in subject selection, allowing students to combine sciences and arts, as well as vocational education, fostering interdisciplinary skills that are highly sought after.

- These suggestions will address the stressful competitive exam-driven mode of school education.

The problem with the tertiary education system:

- Access to prestigious universities and institutes in India, particularly the IITs and IIMs depends on passing competitive exams. This has led to the proliferation of expensive coaching institutes.
- The introduction of **the Common University Entrance Test** for undergraduate admission is expected to exacerbate this situation.
- There is a significant gap between the number of students and the availability of quality institutions.
- For example, in 2022, approximately **900,000 students took the JEE**, but only 250,000 qualified, and the 23 IITs could only admit about 17,385 students, leaving many to enroll in various engineering colleges with varying reputations.
- **The intense peer and parental pressure is driving more students to suicide.** In 2020, the National Crime Records Bureau reported that 8.2 percent of student deaths in India were due to suicide, with over 34 student suicides occurring daily.

Way forward:

- There is a pressing need for a creative solution to address the socio-economic crisis in higher education.

Mains point: The National Curriculum Framework (NCF)

8. India's health research is not aligned with its disease burden.

Context:

The India's healthcare research does not align with its actual health challenges. It uses data to show discrepancies between diseases' impact on India's popu-

lation and the amount of research conducted on them.

heightened by concerns of multi-drug resistance.

Disability Adjusted Life Years (DALYs):

- Definition: DALYs is a measure used to gauge the overall disease burden on a population.

Global Threats Over Domestic Needs:

- Diseases like malaria (0.5% DALYs) and HIV/AIDS (1% DALYs) command 2.5% of India's research because of their global significance.

Components: It combines two aspects:

- Years of life lost due to premature mortality.
- Years lived with disability or reduced health.
- Usage: The World Health Organization employs DALYs to represent both mortality and morbidity in populations.

External Influences Skew Local Research:

- The research direction in India is influenced by the health priorities of high-income countries. Major scientific journals also play a role in this misalignment by emphasizing global north issues.

The issues with healthcare research in India:

- Mismatch in Research Priorities and Disease Burden:
 - A study by IISc in Bangalore and Leiden University revealed discrepancies between India's health research and the real disease challenges it faces.
 - While Diabetes Mellitus had 3.1% of DALYs, its research accounted for 7.5%.
 - Neonatal conditions made up 12.3% of DALYs but received only 1.3% of research attention.

Mains point: The India's healthcare research

Under-Researched Major Health Challenges:

- Cardiovascular diseases represent 16% of India's disease burden, yet only 5% of research focuses on them.
- In high-income countries, these diseases account for over 20% of DALYs but only 10% of research.

Disproportionate Attention to Certain Diseases:

- Cancer, making up less than 5% of India's DALYs, dominates research with 22% of publications.
- Tuberculosis aligns better: 7% disease burden with 5% research dedication,

MISCELLANEOUS ISSUES

1. Unhealthy prescription.

Context:

The National Medical Commission's regulation has stipulated that doctors can prescribe only generic drugs, failing which they would be liable to be penalised.



The issues related to the National Medical Commission's regulation on generic drugs:

- **The exclusive reliance on generic drugs** will contribute to weakening the nexus between doctors and pharmaceutical companies. But, the new policy alters the dynamics by shifting power to chemists and pharmacies
- **Even with the new regulations in place, pharmacists could easily offer pricier branded versions of prescribed drugs.** It can undermine the intended goal of the policy. This situation might strengthen the existing ties between pharmaceutical firms and pharmacy networks.
- The subpar monitoring standards in the pharma sector have contributed to the proliferation of sub-standard or counterfeit medicines.
- **The Indian Medical Association asserts** that only 0.1 percent of medicines undergo quality checks. The recent scandal involving contaminated children's cough syrups supplied to Africa exemplifies the lax enforcement of good manufacturing practices.

- **Experts within the pharmaceutical sector** acknowledge that there are generic drugs available on the market that have not undergone proper bioequivalence studies to assess their effectiveness.
- **Physicians are apprehensive** that the variable quality of generic medications might compromise the effectiveness of their treatments. It could lead to reputational damage.
- In medical institutions like hospitals and clinics, the risks could multiply if subpar generic drugs lead to suboptimal outcomes. In such situations, doctors may face physical assault from relatives of patients.

Mains point: Regulatory issues in healthcare sector

2. Vishwakarma scheme will aid 30 lakh artisan families.

Context:

The Cabinet Committee on Economic Affairs has approved a new Scheme named "PM Vishwakarma".



The PM Vishwakarma Scheme:

- **Type:** Central Sector Scheme
- **Aim:** To strengthen and nurture the **Guru-Shishya parampara** or family-based practice of traditional skills by

artisans and craftspeople working with their hands and tools.

To improve the quality, as well as the reach of products and services of artisans and craftspeople and to ensure that **the Vishwakarmas are integrated with the domestic and global value chains.**

Coverage: The scheme will provide support to artisans and craftspeople of rural and urban areas across India.

Eighteen traditional trades will be covered under the scheme. These include carpenter, boat maker, armourer, blacksmith, hammer and tool kit maker, locksmith, goldsmith, potter, sculptor, stone breaker, cobbler, mason, basket/mat/broom maker/coir weaver, traditional doll and toy maker, barber, garland maker, washerman, tailor and fishing net maker.

Duration of the scheme: Five years (FY 2023-24 to FY 2027-28).

Key Features of the scheme: Artisans and craftspeople will be provided a recognition through PM Vishwakarma certificate and ID card.

The scheme has a provision of credit support of up to ¹ 1 lakh (first tranche) and Rs. 2 lakh (second tranche) with a concessional interest rate of 5%.

It also has a provision to provide skill upgradation, incentive for toolkit as well as digital transactions and marketing support.

Skilling programmes will take place at both basic and advanced types. Participants will get a stipend of Rs. 500 per day while undergoing training.

Beneficiaries will also receive up to ¹ 15,000 to buy modern tools.

Mains point: The PM Vishwakarma Scheme

3. The importance of the Sulina Channel to Ukraine grain trade.

Context:

Sulina Channel has provided Ukraine with an alternative passage for its grain after Russia withdrew from the Black Sea grain deal.

The Danube River:

Danube is the second-longest river in Europe, after the Volga in Russia.

It flows through much of Central and Southeastern Europe, from the Black Forest into the Black Sea.

Near Romania, the river begins to spread out into its delta which has three major channels – **Chilia, Sulina and St George.**

Sulina Channel:



Source: New York Times

Sulina Channel is a 63 km long distributary of the Danube. It lies completely within the borders of Romania.

Of the three major channels of the Danube river, the Sulina Channel is the only one deep and wide enough for freight transport.

It is a sort of a riverine 'expressway' –

crucial for transport of goods from inland to the Black Sea.

The Sulina Channel be used for transporting Ukraine grain:

- Sulina Channel connects major **Ukrainian ports on the river to the Black Sea.**
- Hence, ships carrying grain from Ukraine leave from Ukrainian ports such as Izmail and Reni on the mainstream (or the Chilia Channel) and head to the port of Sulina, at the mouth of the Sulina Channel.
- From there, they head to Constanta, Romania's biggest seaport. Here the cargo is transferred to bigger ships that carry it out of the Black Sea into the Mediterranean through the Bosphorus straits. This route is under constant surveillance and protection of NATO.

Prelims point: Sulina Channel

4. Gaps in Births and Deaths Registration (Amendment) Act.

Context:

Registration of Births and Deaths (Amendment) Bill, 2023 has been passed by Parliament and has got the assent of the President of India.

The significant provisions of the Bill:

- The Bill makes it compulsory that the Registrar General of India maintains a national level database of births and deaths.
- The Chief Registrar of births and deaths in every State is required to maintain a State-level database of registered births and deaths 'using the portal approved by the Registrar General of India'.
- **These databases will provide information to update the National Population Register**, the Aadhaar database, electoral rolls, ration card, passport, and other databases at the national level, as may be notified.
- In the case of birth, the amendments

provide for collecting the Aadhaar number of the parents. Nothing is mentioned about the **Aadhaar number of the deceased.**

- The amendments mandate that for all deaths within medical institutions, a cause of death certificate must be forwarded to the Registrar of Births and Deaths. A copy should be provided to the closest relative.
- In cases of deaths that transpire outside of hospitals, the medical practitioner who attended to the deceased during their recent illness is responsible for issuing this certificate.

Some facts about central and State databases of births and deaths:

- **The responsibility of managing the registration lies with State governments.** The Registrar General of India's role is to coordinate and unify the registration system.
- The Registrar General of India will now also oversee the maintenance of the central database, alongside the existing functions.
- **The Chief Registrars in the States** are tasked with maintaining efficient databases to facilitate the issuance of birth and death certificates.
- **The national-level database** will primarily consist of State-level databases, with the possibility of slight deviations to accommodate additional data elements that certain States may incorporate.

The issues relating to the creation of a national-level database:

- The proposal suggests that the central-level database should be accessible to authorities managing databases for population registers, electoral rolls, Aadhaar numbers, ration cards, passports, driving licences, property registrations, as notified.
- If these entities need to access informa-

tion from the registered births and deaths database, they would be required to make modifications to the laws or executive orders that oversee their respective databases.

- **The Registration of Births and Deaths (RBD) Act** only requires a provision enabling the sharing of information from the database.
- **Introducing a specific collection of databases for parliamentary evaluation**, while also permitting potential future incorporations by the government, could be perceived as undermining the supremacy of Parliament.
- The subsequent inclusions to this list might raise more significant concerns than those originally approved by the legislative body.

The issues with the provision related to medical practitioners issuing death certificates:

- The attending medical practitioner might not always have arrived at a definite diagnosis before the person's passing.
- The forms used for recording the cause of death adhere to World Health Organization guidelines.
- If the deceased was under the care of a practitioner from the AYUSH systems of medicine, the recorded cause of death might not be applicable for cause of death statistics due to non-classifiable under the International Classification of Diseases.
- A person undergoing treatment for a particular ailment could die from an entirely different cause outside of a medical facility, where the attending medical practitioner wasn't available for consultation.
- In such cases, expecting the practitioner to issue a cause of death certificate becomes problematic.
- **While Section 17 of the Act prohibits**

the inclusion of the cause of death in any certificate issued under the Act, it now stipulates that the cause of death certificate should be furnished to the deceased's relative.

These provisions appear contradictory, as the cause of death entered in the death register is derived from the very cause of death certificate issued by the medical practitioner.

Mains point: Births and Deaths Registration (Amendment) Act

5. Department of Animal Husbandry & Dairying will receive a 25 million USD grant under Pandemic Fund for strengthening Animal Health System of India.

Context:

The G20 Pandemic Fund has granted \$25 million to India's Department of Animal Husbandry & Dairying to aid pandemic preparedness and response.



The G20 Pandemic Fund:

- **The G20 Pandemic Fund was established under Indonesia's G20 Presidency.**
- **Purpose:** To finance critical investments to strengthen pandemic prevention, preparedness, and response capacities at national, regional, and global levels, focusing on low- and middle-income countries.
- **Hosted by:** The fund is hosted by the World Bank with WHO as technical lead.

The Pandemic Fund work:

- The pandemic Fund secures money

from donors to be distributed to low and middle-income countries for various purposes.

- This includes disease surveillance, capacity building for critical health workforce, establishment of laboratories and emergency communication.
- **An intermediary agent will distribute these funds and also implement projects.** These implementing agencies include regional development banks such as Asia Development Bank, African Development Bank, and other international organizations.
- **The World Bank, WHO and a governing body** consisting of countries, philanthropic foundations and civil society organizations manage the pandemic fund collectively.
- Membership within the governing body includes both donors and recipients to ensure inclusiveness and maintain equal decision-making power between states.

Prelims point: The G20 Pandemic Fund

6. India, ASEAN agree to review goods trade pact by 2025 to fix asymmetry.

Context:

India and the Association of Southeast Asian Nations (ASEAN) have agreed to conclude the review of the ASEAN-India Trade in Goods Agreement (AITIGA) by 2025.

ASEAN-India Trade in Goods Agreement (AITIGA):

- **ASEAN-India Trade in Goods Agreement** is a trade deal signed in 2009.
- The agreement covers trade in physical goods and products. It does not apply to trade in services.
- ASEAN and India signed a separate ASEAN-India Trade in Services Agreement in 2014. Along with ASEAN-India Investment Agreement, the three agreements collectively form the ASEAN-India

Free Trade Area.

There is a need to review the ASEAN-India Trade in Goods Agreement (AITIGA):

- **Trade Deficit:** In 2022-23, India's exports to ASEAN increased to \$44 billion from \$42.32 billion in 2021-22.
- However, imports grew faster as it jumped to \$87.57 billion in 2022-23 against \$68 billion a year ago.
- **The trade deficit** widened to \$43.57 billion in the last financial year, from \$25.76 billion in 2021-22. It was just \$5 billion in 2010-11.
- In this context, India's Commerce and Industry minister had said the trade agreement with ASEAN was an "ill-conceived" agreement and unfair to the Indian industry.
- **Other concerns of India:** India has been worried about the routing of goods from third countries in India through ASEAN countries members by taking the duty advantages of the agreement

Prelims point: ASEAN-India Trade in Goods Agreement (AITIGA)

7. Medical prescription guidelines: Go for well-calibrated adoption.

Context:

The challenges and considerations of India's new medical guideline urging doctors to prescribe generic drugs over branded ones. He also emphasises the need for quality assurance, better infrastructure, and collaboration among stakeholders to ensure affordable and quality healthcare in India.

About India's new medical guideline:

- **Issue by:** On August 2nd, the National Medical Commission (NMC), which oversees India's medical sector, issued guidelines for registered medical practitioners. These guidelines cover various topics, including medical ethics.
- **Preference for Generics:** An important

instruction for registered medical practitioners is to recommend INN generics (International Non-Proprietary Name) rather than branded medications.

- **Promotion of Government Centers:** Urges patients to purchase drugs from government centres and generic pharmacy outlets.
- **Educational Aspect:** Doctors should inform patients about the equivalence of generics to branded drugs in terms of efficacy.
- **Quality Assurance:** Emphasizes the need to ensure the quality and standardization of INN generics.

The challenges of India's new medical guideline:

- **Trust in Quality:** Many doctors lack confidence in the quality and reputation of generic drug manufacturers. They've used branded generics for years and are hesitant to switch due to concerns about clinical outcomes.
- **Comparison with Western Markets:** Unlike the West, where generics must meet strict quality standards, India's criteria are less stringent, leading to doubts about drug equivalence.
- **Transfer of Drug Choice:** The guideline might shift drug choice from doctors to chemists. There's a fear that chemists might dispense pricier drugs for higher trade margins instead of cheaper generics.
- **Availability Issues:** Currently, generic drugs only account for 1-2% of the market share in India.
- **Quality Assurance:** India lacks adequate drug control inspectors and testing labs, making regular inspections of manufacturing facilities challenging.
- **Prescribing Challenges:** Generic drugs often come in fixed-dose combinations, making it hard for doctors to prescribe the right strength variations. Without the

flexibility found in branded medicines, doctors might find it challenging to match the exact needs of their patients using generics.

Way forward:

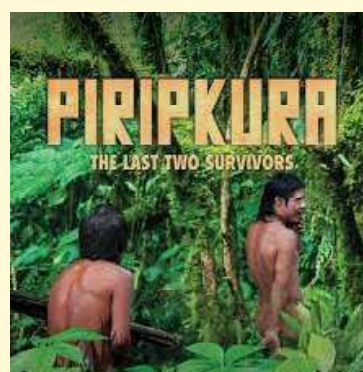
- **Enhance Trust:** Educate doctors on the quality of generic drugs and their manufacturing standards to build confidence in prescribing them.
- **Quality Control:** Increase the number of drug standard control inspectors and expand testing laboratories. Regular inspections of manufacturing facilities are crucial.
- **Improve Availability:** Expand the network of Jan Aushadi centres beyond the current 9,000+ to ensure easier access to generic drugs.
- **Review Trade Margins:** Evaluate and possibly regulate trade margins to ensure that cost savings from generics are passed on to consumers.
- **Open Dialogue:** Encourage discussions between the government, medical bodies, patient groups, and pharmaceutical industry to address concerns and collaborate on solutions.

Mains point: About India's new medical guideline:

8. Brazil found the last survivors of an Amazon tribe. Now what?

Context:

Recently, the last survivors of an Amazon rainforest tribe called Piripkura were found in Brazil.



The Piripkura Tribe:

- The Piripkura tribe is a small and indigenous tribe from the Mato Grosso region of Brazil.
- The tribe is known for their extreme isolation and efforts to maintain its traditional way of life.
- Their land lies within the Amazon rainforest, an area that is rich in biodiversity and crucial for the ecological balance of the region.

Population of Piripkura Tribe:

- The Piripkura tribe's population is estimated to consist of merely three individuals.
- Conducting an accurate census is complicated due to their isolation and unique circumstances.
- The Piripkura tribe people have faced significant challenges due to encroachment on their land by illegal logging, mining and other forms of land exploitation.

The other indigenous tribes residing in the Amazon Rainforest:

- **Yanomami Tribe:** They are a group of around 35,000 people who live in the northern part of the Amazon Basin in Brazil and Venezuela. They have a rich culture and deep spiritual connection to the forest, which is central to their daily life.
- **Kayapo Tribe:** They live in the central part of the Amazon Basin in Brazil. They are known for their elaborate body painting and beadwork.
- **Awa Tribe:** It is a tribe that resides in the northern Amazon Basin of Brazil. They are known for their musical traditions and vibrant dances.

Prelims point: The Piripkura Tribe

9. LCA Tejas successfully test-fires Astra Beyond Visual Range air-to-air missile.

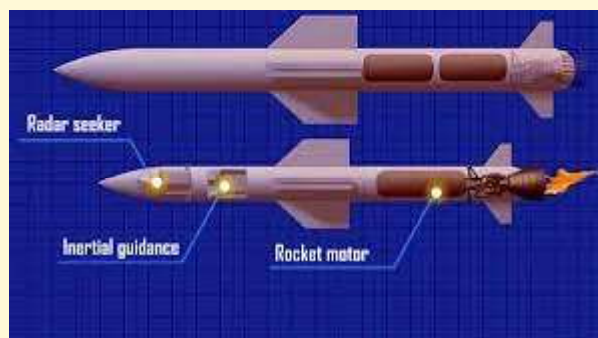
Context:

The Light Combat Aircraft (LCA) Tejas has successfully test fired the Astra indigenous Beyond Visual Range (BVR) air-to-air missile.

Astra:

- ASTRA is a state-of-the-art Beyond Visual Range (BVR) air-to-air missile.
- **Purpose:** To engage and destroy highly maneuvering supersonic aerial targets.
- **Developed by:** Defence Research and Development Laboratory (DRDL), Research Centre Imarat (RCI) and other laboratories of the DRDO.
- **Features:** Astra has a range of over 70 km and can fly towards its target at a speed of over 5,555 km per hour. The missile has all-weather day and night capability.

Astra Mk-1 Missile:



- The Astra Mk-1 is a beyond visual range(BVR) air-to-air missile (AAM).
- **Note:** BVM missiles are capable of engaging beyond the range of 20 nautical miles or 37 kilometres. AAMs are fired from an airborne asset to destroy an airborne target.
- **Developed and designed by:** The Defense Research and Development Organization(DRDO) for deployment on fighter jets like Sukhoi-30 MKI and Tejas of the IAF and the Mig-29K of the Navy.
- **Range:** 110 km.
- **Speed:** The missile can travel at speeds

more than four times that of sound and can reach a maximum altitude of 20 km making it extremely flexible for air combat.

Significance: AAMs with BVR capability provides large stand-off ranges to fighter aircraft. This can neutralize adversary airborne assets without exposing themselves to adversary air defence measures.

Light Combat Aircraft (LCA) Tejas:

LCA Tejas: It is a single-engine, fourth-generation, multirole light fighter aircraft designed by the Aeronautical Development Agency (ADA). Tejas was developed in collaboration with Hindustan Aeronautics Limited (HAL) for the Indian Air Force (IAF) and Indian Navy.

LCA Tejas Mk 1A is an advanced version of LCA Mk1. It is a supersonic fighter at all altitudes for air combat which can carry a payload of 3,500 kg and it is best suited for offensive air support.

Key Features: This Mk 1A is equipped with critical operational capabilities of Active Electronically Scanned Array (AESA) Radar, Beyond Visual Range (BVR) Missile, Electronic Warfare (EW) Suite and Air to Air Refueling (AAR).

Significance: It is the first "Buy (Indian-Indigenously Designed, Developed and Manufactured)" category procurement of combat aircrafts with an indigenous content of 50% which will progressively reach 60% by the end of the programme.

Prelims Point:Astra:

10. **National Judicial Data Grid : a database of orders, judgments and case details created as an online platform under the eCourts Project.**

Context:

About the National Judicial Data Grid.

The National Judicial Data Grid:

National Judicial Data Grid (NJDG) is a database of orders, judgments and case details of 18,735 District & Subordinate Courts and High Courts.

It was created as an online platform under the eCourts Project.

Features: Data is updated on the grid on a near real-time basis by the connected District and Taluka courts.

The grid provides data relating to judicial proceedings/decisions of all computerized district and subordinate courts of the country.

Case data is available for both civil and criminal cases with the ability to perform drill-down analysis based on the age of the case as well as the State and District.

Significance of the platform: NJDG works as a monitoring tool to identify, manage and reduce pendency of cases.

It helps in providing timely inputs for making policy decisions to reduce delays in disposing of cases and helps in reducing case pendency.

It also facilitates better monitoring of court performance and systemic bottlenecks, and, thus, serves as an efficient resource management tool.

Recognition: The World Bank has praised the National Judicial Data Grid in the Ease of Doing Business report for 2018. It has said that the grid has made it possible to generate case management reports, thereby making it easier to enforce contracts.

Prelims point:The National Judicial Data Grid.

11. **To enhance IAF efficiency, govt. to buy weapons locally.**

Context:

Defense Acquisition Council (DAC) has recently approved capital acquisition

proposals worth around ₹ 7,800 crore.

The projects approved by the Defense Acquisition Council (DAC):

- **Electronic Warfare (EW) Suite:** The DAC approved the procurement and installation of an Electronic Warfare Suite for Mi-17 V5 Helicopters. This will enhance the helicopters' survivability. The EW suite will be procured from Bharat Electronics Ltd.
- **Ground-Based Autonomous Systems:** These systems will be used by mechanized infantry and armored regiments for tasks like unmanned surveillance, delivering supplies, and evacuating casualties on the battlefield.
- **Light Machine Guns (LMG):** The induction of LMGs will strengthen the capabilities of infantry forces.
- **Bridge-Laying Tanks (BLT):** They will enable faster movement for mechanized forces.
- **Rugged Laptops and Tablets:** The DAC approved the procurement of rugged laptops and tablets for the Army under Project Shakti. These will be sourced domestically.
- **Weapons for MH-60R Helicopters:** To enhance the operational capabilities of the Navy's MH-60R helicopters, the DAC approved the procurement of weapons for these helicopters.

Prelims point: The projects approved by the Defense Acquisition Council (DAC).

12. Participation of Indian Air Force in Exercise Bright Star-23 at Cairo, Egypt.

Context:

Indian Air Force (IAF) is participating in Exercise BRIGHT STAR-23.

Exercise BRIGHT STAR-23:



Exercise BRIGHT STAR is a biennial multilateral tri-service exercise being held in Cairo, Egypt.

Aim: To practice joint operations planning and execution, fostering bonds between nations and enhancing strategic relations.

Participating countries: India, United States of America, Saudi Arabia, Greece and Qatar.

Significance: This is for the first time that the Indian Air Force (IAF) is participating in the exercise.

The other exercises between India and Egypt:

• **Exercise Cyclone-I:** It is a bilateral exercise between the special forces of the Indian Army and the Egyptian Army. The first edition of the exercise was held in Jaisalmer, Rajasthan in January 2023.

Prelims point: Exercise BRIGHT STAR-23

CSB IAS ACADEMY

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INTEGRATED PRELIMS CUM MAINS TEST SERIES

- ▶ Prelims **35** Tests
- ▶ Mains **63** Tests
- ▶ Before Prelims **21** Tests
- ▶ After Prelims **42** Tests
- ▶ Question papers are prepared by Balalatha Madam & Team



BALA LATHA MADAM

2004 (AIR-399), 2016 (AIR-167)

TOPPER IN POLITICAL SCIENCE OPTIONAL
IN 2016 (329/500)

PRELIMS TEST SERIES SCHEDULE 2024

TEST No.	DATE	SUBJECT	TEST No.	DATE	SUBJECT
1	01-10-2023	Polity (NCERT)	22	24-03-2024	Economy - 2
2	15-10-2023	History (NCERT)	23	31-03-2024	History + Polity Grand Test
3	29-10-2023	Geography & Environment (NCERT)	24	07-04-2024	Geography + Env. Grand Test
4	05-11-2023	General Science, S & T (NCERT)	25	21-04-2024	Economy Grand Test
5	19-11-2023	Economy (NCERT)	26	28-04-2024	Economy + S & T Grand Test
6	26-11-2023	Polity - 1	27	05-05-2024	CSAT - 3
7	03-12-2023	Polity - 2	28	12-05-2024	Grand Test - 1 Paper - 1 (GS)
8	10-12-2023	History - 1	29	12-05-2024	Grand Test - 1 Paper - 2 (CSAT)
9	17-12-2023	History - 2	30	15-05-2024	Grand Test - 2 Paper - 1 (GS)
10	24-12-2023	Polity Grand Test	31	15-05-2024	Grand Test - 2 Paper - 2 (CSAT)
11	31-12-2023	CSAT - 1	32	18-05-2024	Grand Test - 3 Paper - 1 (GS)
12	07-01-2024	Geography - 1 (India)	33	18-05-2024	Grand Test - 3 Paper - 2 (CSAT)
13	21-01-2024	Geography - 2 (World)	34	21-05-2024	Grand Test - 4 Paper - 1 (GS)
14	28-01-2024	History Grand Test	35	21-05-2024	Grand Test - 4 Paper - 2 (CSAT)
15	04-02-2024	Environment			
16	11-02-2024	Geography Grand Test			
17	18-02-2024	Economy - 1			
18	25-02-2024	Science & Technology			
19	03-03-2024	Environment Grand Test			
20	10-03-2024	CSAT - 2			
21	17-03-2024	S & T Grand Test			

MAINS TEST SERIES 2024

- ♦ Model answers and Hints will be provided after test.
- ♦ Each test will be followed by discussion by concerned Mentor.
- ♦ One to One interaction with subject-wise Mentors after answer sheet evaluation and feedback will be provided.

(BEFORE PRELIMS) 2024

TEST No.	DATE	SUBJECT
1	01-10-2023	General Essay-1
2	08-10-2023	GS-IV (Ethics-1)
3	22-10-2023	GS-IV (Ethics-2)
4	29-10-2023	General Essay-2
5	05-11-2023	General Essay
6	11-11-2023	GS-IV
7	19-11-2023	GS II - 1 (Polity & Constitution)
8	26-11-2023	GS II - 2 (Governance & Social Justice)
9	03-12-2023	GS II - 3 (IR)
10	10-12-2023	GS I - 1 (Indian Heritage, Art & Culture)
11	17-12-2023	GS I - 2 (Modern History, World History)
12	24-12-2023	GS-II
13	31-12-2023	GS I 3 (Indian Society)
14	07-01-2024	GS I - 4 (Indian Geography)
15	21-01-2024	GS I - 5 (World Geography)
16	04-02-2024	GS-I
17	11-02-2024	GS III - I (Economy-1)
18	18-02-2024	GS III - 2 (Economy - 2)
19	03-03-2024	GS III - 3 (S & T + Environment)
20	10-03-2024	GS III - 4 (Security Issues + DM)
21	17-03-2024	GS III

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AFTER PRELIMS) 2024

TEST No.	DATE	SUBJECT
Mini Test 1	16-06-2024	General Essay on National and International Issues
Mini Test 2	19-06-2024	General Essay on Socio & Economic Development Issues)
Test 1	21-06-2024	General Essay-1 (National & International, Socio & Economic Development Issues)
Mini Test 3	23-06-2024	GS-1 (Indian Heritage & Culture)
Mini Test 4	26-06-2024	GS-I (Modern History of India)
Mini Test 5	30-06-2024	GS-I (World History)
Test 2	03-07-2024	(GS I)-1 (Indian Heritage & Culture Modern History, World History)
Mini Test 6	04-07-2024	GS-I (Indian Society)
Mini Test 7	05-07-2024	GS-I (World Geography)
Test 3	07-07-2024	(GS I)-2 (Society, Indian and World Geography)
Mini Test 8	10-07-2024	Indian Constitution & Polity (Chap. 1, 2, 3)
Mini Test 9	12-07-2024	Indian Constitution & Polity (Chap. 4 to 9)
Test 4	14-07-2024	GS-II (Indian Constitution & Polity - Chap. 1 to 9)
Mini Test 10	17-07-2024	GS-II (Governance and Social Justice (Chap. 10 to 16))
Mini Test 11	19-07-2024	GS-II (IR - Chap. 17 to 20)
Test 5	21-07-2024	GS II-2 (Governance, Social Justice, IR)
Mini Test 12	24-07-2024	General Essay-2 (Philosophical)
Mini Test 13	26-07-2024	General Essay-3 (Literary Issues)
Test 6	28-07-2024	General Essay-2 (Philosophical, Literary issues)
Mini Test 14	31-07-2024	GS III (Economic Development - Chap. 1 to 5)
Mini Test 15	02-08-2024	GS III (Economic Development - Chap. 6 to 10)
Test 7	04-08-2024	GS III-1 (Economic Development - Chap. 1 to 10)
Mini Test 16	07-08-2024	GS III-2 (S & T)
Mini Test 17	09-08-2024	GS III-3 (Unenvironment & DM)
Mini Test 18	11-08-2024	GS III-4 (Security Issues)
Test 8	14-08-2024	GS III-2 (S & T, Envi., DM, Security Issues)
Mini Test 19	16-08-2024	GS IV-1 (Ethics, Integrity & Aptitude - Chap. 1,2 and Case Studies)
Mini Test 20	18-08-2024	GS IV-2 (Ethics, Integrity & Aptitude - Chap. 3, 4 and Case Studies)
Test 9	21-08-2024	GS IV - 1 (Ethics - Chap. 1 to 4 and Case Studies)
Mini Test 21	23-08-2024	GS IV (Ethics, Integrity and Aptitude - Chap. 5, 6) and Case Studies
Mini Test 22	25-08-2024	GS IV (Ethics, Integrity and Aptitude - Chap. 7) and Case Studies
Test 10	27-08-2024	GS IV Ethics (Chap. 5 to 7 and Case Studies)

GRAND TESTS

TEST No.	DATE	SUBJECT
Test 1	01-09-2024	General Essay
Test 2	02-09-2024	General Studies - 1
Test 3	03-09-2024	General Studies - 2
Test 4	04-09-2024	General Studies - 3
Test 5	05-09-2024	General Studies - 4
Test 6	08-09-2024	General Essay
Test 7	09-09-2024	General Studies - 1
Test 8	09-09-2024	General Studies - 2
Test 9	10-09-2024	General Studies - 3
Test 10	10-09-2024	General Studies - 4