CSB IAS ACADEMY

The road map to Mussorie..

CURRENT AFFAIRS

SEPTEMBER (16 to 30) 2023

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CULTURE AND HERITAGE

1. **Tagore's home Santiniketan added to UNESCO World Heritage List**

Context:

Santiniketan, the home of late Nobel laureate Rabindranath Tagore has been added to the UNESCO World Heritage sites list.

Santiniketan:

· Santiniketan is a town located in West Bengal's Birbhum district.

· The name of the city literally means the 'abode of peace'.It was named after a local dacoit Bhuban and was earlier called 'Bhubandanga'.

· **Established by**: It was originally an ashram built by Debendranath Tagore (father of Rabindranath Tagore) where anyone, irrespective of caste and creed, could come and spend time meditating on the one Supreme God.

· Later, Rabindranath Tagore envisioned it as a university town and established a school.It was called Brahmachary Ashram, and was later expanded into the Visva-Bharati University.

· **Features:** Distinct from the prevailing British colonial architectural orientations of the early 20th century and of European modernism, Santiniketan represents approaches toward a pan-Asian modernity, drawing on ancient, medieval and folk traditions from across the region.

· Santiniketan is also adorned with splendid sculptures, frescoes, murals, and paintings created by renowned artists such as Rabindranath Tagore, Nandalal Bose (one of the pioneers of modern Indian art) and Ramkinkar Baij (master sculptor and painter) among others.

· **Significance:** Visva-Bharati in Santiniketan is Bengal's only central university.The Prime Minister is the chancellor of the varsity.

UPSC Prelims point: Santiniketan

2. **Prime Minister launches 'PM Vishwakarma' Scheme for traditional artisans and craftspeople on occasion of Vishwakarma Jayanti**

Context:

The Prime Minister has launched 'PM Vishwakarma Scheme' for traditional artisans and craftspeople on the occasion of Vishwakarma Jayanti.

About the PM Vishwakarma Scheme:

· **Nodal Ministry:** Ministry of Micro, Small & Medium Enterprise.

· The Ministry of Tribal Affairs, would provide active support for implementation of the scheme for the wellbeing of the Vishwakarmas.

· **Type:** Central Sector Scheme

· **Aim:** To enhance the accessibility and quality of products and services offered by traditional artisans and craftsmen.

· **Coverage:** The scheme will provide support to artisans and craftspeople in rural and urban areas across India.Initially, 18 traditional trades will be covered.

· **Benefits under the scheme**: Under the scheme, the Vishwakarma workers will be registered for free through Common Services Centres using the biometric-based PM Vishwakarma portal.

· They will then be provided recognition through the PM Vishwakarma certificate and ID card, given skill upgradation involving basic and advanced training, a toolkit incentive of

Rs. 15,000, collateral-free credit support up to Rs. 1 lakh (first tranche) and Rs. 2 lakh (second tranche) at a concessional interest rate of 5%, incentive for digital transactions and marketing support.

What does Vishwakarma means:

· Vishwakarma, in Hindu mythology, is seen as the architect of the gods and was the divine carpenter and master craftsman who fashioned the weapons of the gods and built their cities and chariots.

· Some legends say he was the architect of the mythical city Lanka mentioned in the Hindu epic Ramayana and is also said to have made the great image of Jagannatha at Puri in Odisha.He is considered the patron deity of workers, artisans, and artists.

UPSC Prelims point: Vishwakarma scheme

3. Karnataka's sacred ensembles of Hoysalas inscribed on UNESCO world heritage list

Context:

The Sacred Ensembles of the Hoysalas has been inscribed on the UNESCO's World Heritage List.This will be India's 42nd UNESCO World Heritage Site.

About the Sacred Ensembles of the Hoysalas:

· Sacred Ensembles of the Hoysalas comprises three temples in Karnataka namely the Channakeshava temple in Belur, the Hoysaleshvara temple in Halebidu and the Keshava temple in Somanathapura.

· These temples were constructed during the 12th and 13th centuries by the Hoysala kings and are dedicated to deities Shiva and Vishnu.

Channakeshava temple – Belur:

· Chennakeshava Temple is also referred to as Vijayanarayana Temple of Belur.It is a 12th-century Hindu temple in Karnataka.

· It is located on the banks of Yagachi River (also called Badari River in historic texts), a tributary of Hemavati River.

· The temple was commissioned by King Vishnuvardhana in 1117 CE, on the banks of the Yagachi River in Belur also called Velapura, an early Hoysala Empire capital.

· The temple is devoted to Vishnu.

· The richly sculptured exterior of the temple narrates scenes from the life of Vishnu and his reincarnations and the epics, Ramayana, and Mahabharata.However, some of the representations of Shiva are also included.

Hoysaleshvara temple in Halebidu:

· Hoysaleswara temple also referred simply as the Halebidu temple is a 12th-century Hindu temple dedicated to Shiva.It is located on the banks of Dwarasamudra tank.

· The temple was built in 1121CE during the reign of the Hoysala King, Vishnuvardhana Hoysaleshwara.

· The temple is most well-known for the more than 240 wall sculptures that run all along the outer wall.

Keshava Temple- Somanathapura:

· Keshava Temple is a Vaishnava temple on the banks of River Kaveri at Somana-thapura, Karnataka.

· The temple was consecrated in 1258 CE by Somanatha Dandanayaka, a general of the Hoysala King Narasimha III.

· The temple is enclosed in a courtyard with a pillared corridor of small shrines (damaged).The main temple in the center is on a high star-shaped platform with three symmetrical sanctums (garbha-griha).

· The western sanctum was for a statue of Kesava (missing), the northern sanctum of Janardhana and the southern sanctum of Venugopala, all forms of Vishnu.

UPSC Prelims point: UNESCO World Heritage list

4.   A fresh canvas for Mewar Art

Context:

About Mewar Art

Mewari miniature painting:

· The Mewar school of miniature painting, renowned for vibrant colors and intricate narratives within a single frame, flourished from the 17th to the 18th century.

· **It originated from** south-central Rajasthan, parts of Madhya Pradesh, and Gujarat.

· **Rajasthan also hosts other miniature painting schools, such as** Marwar-Jodhpur, Kishangarh, Deogarh, and sub-Himalayan kingdoms like Chamba and Kangra. Each of these Indian miniature art schools had its distinct style.

Some of the famous miniature paintings of Mewar:

· The earliest dated manuscript associated with the Mewar school of Rajput painting is the **Chawand Ragamala series (1605), painted by the artist Nasiruddin.**

· **Another Mewari painting "A Royal Hunting Party" (1705-15)** reflects Mughal imperial painting influence in its composition and scene depiction. It features distinct elements of Mewari painting from that era, such as proportions of figures, vibrant colors, and stylized, less naturalistic perspective.

· **These paintings provide historical insights, including details like sword storage, turban styles, and the occasions celebrated during the depicted times.**

· Mewari miniature painting styles evolved to changing patron demands and artistic trends. **For example,** Sahibdin's work was highly creative and included a wide range of subjects, such as the Ragamala and Rasikpriya series, as well as epics like the Ramayana.

· **However, in the 18th century, political changes led regional kingdoms sought alliances,** which led to the creation of court scenes that depicted the king and the people around him.

The famous artists of Mewari school of painting:

· **Allah Baksh:** Allah Baksh, a notable Mewari painter during Maharana Jai Singh's reign (1653-98), is renowned for creating comprehensive depictions of the entire Mahabharata and including every shloka of the Gita.

· **He distinguished between the Mahabharata and Gita paintings:** the Mahabharata scenes are horizontal,

portraying the narrative's progression, while the Gita depictions are vertical and convey a sense of upward thrust.

· **In the Mahabharata series,** line drawings are found beneath most paintings, **while the Gita depictions** meticulously consider the chariot's placement and its connection to everyday elements.

· His Gita paintings show that the epic is not just about war but also about what is lost in war, including gardens, fountains, trees, and birds.

· **Sahibdin:** In the later half of the seventeenth century, during the reigns of Raj Singh and Jai Singh, **portraiture gained prominence in Mewar.** Sahibdin, renowned for portraiture, created notable works like the Rasikpriya series (1630), Gita Govinda (1628), and Ramayana (1649-53).

· **These portraits were characterized by a** limited color palette, minimal backgrounds, and the use of stippled greys for highlighting and shading.

Unique feature of Mewari paintings artists:

· **Mewari miniature painters rarely signed their works**, similar to European artists who didn't sign until the Renaissance. In Mewar painting, only a few names, like Nasiruddin, Manohar, Allah Bakhsh, and Mansur, have surfaced.

What lies ahead:

The distinctive style of Mewari painting has garnered global recognition, with people around the world appreciating these works, some of which are even being auctioned.

UPSC Prelims point: Mewar Paintings

INDIAN POLITY, POLICY AND INTERNAL SECURITY

1. Wrong Target – Life ban from polls for convicted netas is a bad idea.

Context:

An amicus curiae/judicial person appointed by the Supreme Court to help with a case about corruption in politics suggested that politicians convicted of crimes should be banned from running for office for life.

The rationale behind such a suggestion:

. Currently, convicted politicians are barred from running for office for six years.

. The rationale behind this suggestion is that the six-year ban violates constitutional principles, such as the right to equality, especially when civil servants in comparable situations face dismissal.

. This raises the question of whether politicians are given preferential treatment.

It has been the previous stand of the Supreme Court regarding the conviction of the politician:

. Section 8 of the Representation of the People Act prevents the criminalization of politics by specifying disqualification criteria.

. In the past, the Supreme Court has interpreted this law in a way that politicians must tell voters about any criminal cases they are facing, but the Court has avoided making any major changes to the law.

. However, in 2013, the Court struck down a provision that allowed convicted politicians to appeal their convictions before being disqualified.

. This means that politicians are now disqualified from running for office immediately after they are convicted of a crime, as seen in the case of Rahul Gandhi.
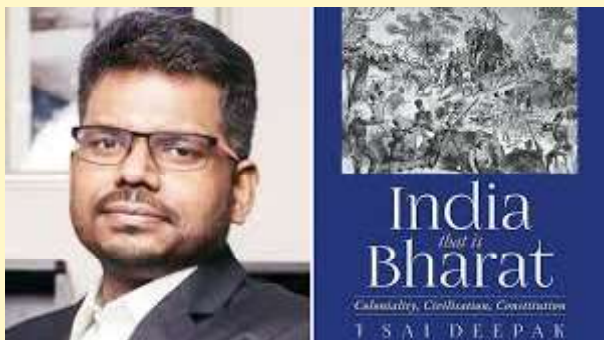
The way ahead:

. An analysis of affidavits filed by current members of Parliament found that 40% of them have outstanding criminal cases.

. This suggests that simply making the Representation of the People Act stricter will not solve the problem of criminalisation in politics, given the flaws present in the Indian criminal justice system.

. Further, increasing punishments for politicians convicted of crimes will only give the government more reasons to exploit the system to target its opponents. Therefore, there is no good reason to amend the existing law by citing equality concerns.

Mains point: About criminalization of politics

2. Disentangling the 2030 global renewable energy target.

Context:

The controversy surrounding an official G-20 summit invitation from Rashtrapati Bhavan that referred to the President of India as "President of Bharat."

The arguments in favor of using "Bharat" interchangeably with "India":

.   **Constitutional Reference:** Article 1 of the Constitution mentions "India, that is Bharat, shall be a Union of States," implying a dual recognition of the country's name.

.   **Historical Context:** The Constituent Assembly debates saw members like H.V. Kamath and K.T. Shah advocating for "Bharat." B.R. Ambedkar, in a compromise, added "that is Bharat" to the draft.

.   **Symbolic Significance:** Using "Bharat" could be seen as an attempt to reconnect with Indian roots and distance from colonial ties.

.   **Public Perception:** Some believe that the term "Bharat" resonates more with India's cultural and traditional identity than the English term "India."

.   **Legal Proposition**: Some senior advocates of the Supreme Court and other proponents suggest that a simple resolution in Parliament can officially recognize "Bharat" alongside "India."

The arguments against using "Bharat" interchangeably with "India":

Constitutional Provision:

.   Constitutional Discrepancy: Article 52 of the Constitution specifically mentions the title as **"President of India"** rather than **"President of Bharat."**

.   **Not Truly Interchangeable:** In Article 1, **"India, that is Bharat,"** indicates that **"Bharat"** serves as a clarification or translation of "India" and not an interchangeable term in the original text.

Historical Consensus:

.   During the Constituent Assembly debates, **"Bharat"** was added as a compromise, without suggesting it can be used interchangeably in the original Constitution.

Communication and Representation Concerns:

.   **Risk of International Ambiguity:** Using **"Bharat"** in international treaties and communications might confuse foreign entities, given the official recognition as the **"Republic of India."**

.   Potential for Public Misunderstanding: The unanticipated change in official communication, without clear explanation, has led to public uncertainty.

.   **Consistency in Official Communication:** To prevent misunderstandings and maintain clarity, a country should have one consistent official name in all forms of communication.

Mains point: India, that is Bharat,

3. **Jal Jeevan Mission remains a pipe dream.**

Context:

The article discusses the gap between the reported success of the Jal Jeevan Mission in providing tap water connections to households in Mahoba, Uttar Pradesh and the actual ground reality, where many households either lack taps or receive inadequate water supply.

The main issues with the Jal Jeevan Mission in Mahoba, Uttar Pradesh:

. **Data Discrepancy:** Official records show 100% tap connections in some villages, while ground realities, like in Asthaun and Luhari, contradict this.

. **Infrastructure Issues:** Many homes lack the necessary pipes and taps, as seen in Kunata village.

. **Supply Inconsistencies:** Even where taps exist, the water supply is inconsistent. Some receive water for only two hours.

. **Dependence on Old Sources:** Villages continue to rely on traditional sources like handpumps due to inadequate tap water supply.

. **Terrain Difficulties:** Laying pipes across Mahoba's uneven terrains is challenging, causing disruptions.

The future goals:

. **Water Treatment Plants:** Five large plants are being established to ensure a clean water supply to households.

. **Regular Quality Checks:** Water will be frequently tested for purity, and if not up to standards, supply will be halted for cleaning.

. **Full Water Supply by 2024:** The state aims for a full water supply by 2024, with a specific deadline for Mahoba set for November this year.

Prelims point: Jal Jeevan Mission in Mahoba

4. **IAF takes delivery of first C295: How this deal kicks off 'Make in India' scheme for military aircraft.**

Context:

The Indian Air Force (IAF) on Wednesday (September 13) received the first of the 56 C295 aircraft at the Airbus production site in Seville, Spain. It will replace its ageing Avro-748 fleet.

The C295 aircraft:

. The C295 is a versatile tactical transport aircraft capable of performing a wide range of missions.

. These missions include transporting troops and cargo, conducting maritime patrols, providing airborne warning, surveillance, and reconnaissance, facilitating medical evacuations, serving as a VIP transport, and assisting in airborne firefighting.

. The aircraft has the capacity to carry payloads weighing up to nine tonnes. It can accommodate up to 71 personnel while maintaining a maximum cruise speed of 260 knots. It is equipped for air-to-air refuelling.

. It is powered by two Pratt & Whitney turboprop engines. It can cruise at altitudes of up to 30,000 feet and can take off and land quickly on unpaved, soft, and sandy/grassy airstrips.

The timing for C295 arrival:

. In September 2021, India formally confirmed the procurement of 56 Airbus C295 aircraft at a total cost of Rs 21,935 crore.

. The initial 16 C295s will be assembled in Seville. The first aircraft is slated for delivery in

. The remaining 40 aircraft will be manufactured and assembled in collaboration with Tata Advanced Systems Limited located in Vadodara, Gujarat.

The significance of procurement of these aircrafts:

. Firstly, it will serve as a replacement for the ageing Avro fleet of the Indian Air Force (IAF), which was originally acquired back in the 1960s.

. This replacement will substantially enhance the IAF's capabilities in air transport. It will allow for the efficient

transportation of troops and materials to various regions within the country.

. This acquisition marks the initiation of India's **'Make in India'** Aerospace program within the private sector. It involves the domestic manufacturing of these aircraft.

. Until now, military aircraft production in India has been a monopoly of the state-owned Hindustan Aeronautics Limited (HAL).

. It will stimulate India's aerospace sector. It will generate approximately 15,000 highly skilled jobs and an additional 10,000 indirect employment opportunities over the course of the next decade.

The level of indigenous of the 40 C295:

. Except for major components such as the engine and avionics, Airbus will facilitate the transfer of manufacturing technology to Tata Advanced Systems Limited (TASL) for most other parts.

. This approach is expected to enable the production of 95 percent of the aircraft within India in the coming years.

. The aircraft will feature domestically developed radar warning receivers and missile approach warning systems created by Bharat Electronics Limited.

. The countermeasure dispensing system has been supplied by Bharat Dynamics Limited. The airframe of the medium transport aircraft comprises over 14,000 parts and components. 3,500 parts are manufactured by Tata each year.

. It is anticipated that the 32nd aircraft, set for delivery in the first quarter of 2029, will be a fully Indian-manufactured C295.

The current status of C295 manufacturing in India:

. The 40 C295 aircraft are intended for production in India at the Vadodara facility.

. Tata Advanced Systems Limited (TASL) has established a factory in Hyderabad, where the manufacturing of major airframe components will commence this year.

. Once the major sections of the aircraft are assembled at the Hyderabad facility, they will be transported to the Vadodara facility next year. There, they will be equipped with engines, avionics, and other crucial components.

. A training facility has been established in Agra, which is expected to become operational in late next year.

Prelims point:The C295 aircraft

5. **Not Old Habits in New House, please : Functioning of the Parliament.**

Context:

The special five-day Parliament session starting today will prioritize passing new laws and will not include a Question Hour.

The purpose of the special session of Parliament:

. The government plans to seek Parliament's approval for five bills, including three contentious ones on election commissioners, a new postal law, and press registration.

. The session will also bid farewell to the old Parliament building. MPs will reflect on the Parliament's 75-year history, identifying institutional changes for its future strengthening.

. Moreover, legislatures are essential for shaping a country's future through debate, as they are often called the **"grand inquest of the nation."**

. According to former Lok Sabha MP Somnath Chatterjee, Parliament's true greatness lies in the quality of its debates, not its physical structure.

. Thus, securing and enhancing the deliberative aspect of our Parliament requires both resources and constitutional changes.

To strengthen the nature of our Parliament:

. **Increasing the Budget:**
With the government's budget at ₹ 45 lakh crore and Lok Sabha's at just ₹ 850 crore, a substantial budget boost for both Houses is necessary to enhance the intellectual knowledge base for high-quality parliamentary debates.

. **Improving Research Quality:** A 2019 parliamentary panel report highlighted a decline in research quality and the lack of proper research support for MPs. The report recommended hiring domain experts to support the work of parliamentary committees.

. **Improving the Functioning of the Parliamentary Committee:** India's parliamentary committee system needs to evolve from isolation.

. **The National Commission for Reviewing the Constitution,** established during Prime Minister Atal Bihari Vajpayee's tenure, identified the need for a specialized parliamentary Committee on National Economy for major economic matters.

. India should also consider creating specialized committees like those in Sweden and Finland, such as one dedicated to constitutional issues.

. Finland has a unique **"Committee for the Future"** that deals with long-term challenges and opportunities. India should consider establishing a similar committee to plan for its future.

. **Changing the Rules of Lok Sabhya and Rajya Sabha:** Rules in Lok Sabha and Rajya Sabha should be updated to address challenges like the Covid pandemic. Many national legislatures worldwide switched to electronic or hybrid modes to continue their work during pandemic restrictions.

. **Changing the Sessions of the Parliament:** India's Parliament is seen as part-time, with the government determining session schedules. However, given India's size and governance challenges, there's a rising demand for year-round parliamentary sessions.

. This extended time would promote greater deliberation, consensus-building, and discussions on national issues.

. **Evaluating Role of MPs:** MPs are viewed as part-time lawmakers and full-time problem solvers for their voters. However, the anti-defection law limits their ability to express independent views during legislative duties.

. Hence, constitutional changes are essential to abolish this law and create an independent process for convening Parliament, enabling more debate time.

Way ahead:

. MPs must acknowledge that our rich parliamentary history can guide the future.

. While increased resources, rule adjustments, and constitutional changes can help, a fundamental shift in mindset is also crucial for transforming the parliamentary system.

Mains point: Measures required for effective functioning of the Parliament

6. The Cauvery Water Management Authority should act.

Context:

The article discusses the ongoing water-sharing dispute between Karnataka and Tamil Nadu regarding the Cauvery River. It highlights the necessity of a distress-sharing formula, recent developments in the Supreme Court,

and the roles of the Cauvery Water Management Authority (CWMA) and other relevant bodies.

The main issues with Cauvery River water sharing:

. **Historical Dispute:** The sharing of the Cauvery River water has been contentious since the Cauvery Water Disputes Tribunal's 1991 interim order.

Lack of Clear Guidelines:

. There's no detailed distress-sharing formula in the 2007 Tribunal order or the 2018 Supreme Court judgment.

. Both mentioned pro-rata sharing in distress times, but specifics are lacking.

State Perspectives:

. Tamil Nadu factors in the deficit in inflows to four Karnataka reservoirs and the rainfall pattern in three Cauvery catchment groups.

. Karnataka argues that water sharing should consider both the southwest and northeast monsoons.

. **Unclear Reservoir Status:** From June 1 to August 27, the four Karnataka reservoirs faced a 51.22% shortfall in inflows.

. **Authority's Stance:** Neither the disputing parties nor the Cauvery Water Management Authority has opposed the concept of distress sharing. The disagreement is on the formula's specifics.

The judicial bodies say:

. **Cauvery Water Disputes Tribunal (CWDT) 2007 Order:** The Tribunal did not provide much in its final order regarding distress sharing.

. However, it did mention that during two consecutive bad years of rain, the monthly schedule of water release should be relaxed.

. The suggestion was to operate all reservoirs in the basin in an integrated manner to **"minimize any harsh effect."**

. **Supreme Court Judgment 2018:** The Supreme Court also did not provide a clear guideline for distress sharing.

. The judicial bodies referred to the principle of pro-rata sharing in times of distress.

. **Current Scenario**: Neither the states involved in the dispute, nor the Authority has expressed opposition to the concept of distress sharing. The main disagreement is about the specifics of the formula.

Way ahead:

· **Transparency is Essential:** The CWMA and Cauvery Water Regulation Committee (CWRC) should publish their meeting proceedings online.

. Providing access to these records will help dispel misconceptions in both states.

· **Proactive Approach:** The CWMA, despite its establishment in 2018, hasn't made significant progress in five years. This needs to change.

. The Authority should not miss the current opportunity to address the issue.

· **Objective Decision Making:** The Authority comprises officials and technical experts.

· They should utilize their expertise to create a rational and objective distress-sharing formula.

· **Judicious Water Use:** Tamil Nadu should focus on the efficient and judicious use of water, regardless of the Supreme Court's decision on its water quota.

Mains point: The Cauvery Water Manage-ment Authority (CWMA)

7.   Simultaneous polls: do States have a say?.

Context:

The Union government on September 2 set up a committee under the leadership of the former President of India Ram Nath Kovind to look into the feasibility of simultaneous polls to State Assemblies and the Lok Sabha.

Three distinct methods outlined in Article 368 for making amendments in the constitution:

.   **Simple majority:** The amendments are made through a simple majority of members present and voting in each House of Parliament. These provisions are exempt from the scope of **Article 368.**

.   Examples of such provisions include amendments related to **Article 4** (pertaining to changes in the organization of States), **Article 169 (**concerning the abolition or creation of Legislative Councils in States).

.   **Special majority:** This entails the presence and affirmative vote of at least two-thirds of the members in each House of Parliament, along with the support of a majority of the total membership in each House.

.   **Special majority and ratification by states:** It necessitates both a '**special majority**' and the ratification by at least one-half of the State legislatures.

The entrenched provisions of the constitution:

.   The constitutional provisions that necessitate ratification for their amendment are explicitly detailed in Article 368(2). They primarily relate to the federal structure of the Constitution.

.   Any alteration in the provisions concerning the election of the President of India **(Article 54 and 55).**

.   Any modification in the scope of executive authority vested in the Union or State governments **(Article 73 and 162).**

.   Changes in the provisions governing the Union judiciary or the High Courts **(Articles 124–147 and 214–231).**

.   Amendments affecting the distribution of legislative and administrative powers between the

.   Union and the States **(Article 245 to 255)**.

.   Modifications to any of the Lists outlined in the Seventh Schedule.

.   Alterations to the representation of the States in Parliament **(Article 82).**

.   Amendments to **Article 368 itself.**

The debates in the Constituent Assembly regarding 'entrenched provisions':

.   B.R. Ambedkar supported the idea of requiring State ratification for the amendment of specific constitutional provisions. It ensures that the core federal structure of the Constitution remains intact.

.   Dr. Ambedkar, was not in favour of allowing the Central Parliament to amend articles related to administrative, legislative, financial, and the executive powers of the provinces, without granting any voice to the provinces or States.

.   He cautioned that allowing all constitutional amendments through a simple majority vote would undermine the principle of the separation of powers.

A constitutional amendment be struck down if not ratified:

.   **Kihoto Hollohan versus Zachillhu (1992)–** A challenge was made to the constitutional validity of the Tenth Schedule of the Constitution, which was introduced by the Constitution (Fifty-second Amendment) Act, 1985.

.   The challenge was based on the argument that the amendment had not been ratified by the States. The Tenth

Schedule included a provision, Paragraph 7. It sought to exclude the jurisdiction of all courts.

. The amendment brought about changes in the jurisdiction of the Supreme Court and the High Courts. This aspect required ratification by half of the States.

. A Constitution Bench of the Supreme Court upheld the overall validity of the Tenth Schedule but declared Paragraph 7 invalid due to the lack of ratification.

. **Union of India versus Rajendra N. Shah:**The Supreme Court ruled against certain provisions of the Constitution (97th Amendment) Act, 2011. The amendment had introduced Part IX B into the Constitution to regulate co-operative societies.

. The Court unanimously determined that this amendment should have been ratified by at least half of the State legislatures, since it dealt with a subject that fell under the exclusive authority of the States.

The viewpoint of the Law Commission:

. In August 2018, the Law Commission of India, headed by Justice B. S. Chauhan, issued a preliminary report. It stated that holding simultaneous elections is not feasible within the current framework of the Constitution.

. The Commission emphasised that a constitutional amendment of this nature would need ratification from at least 50% of the States.

The viewpoint of experts on amendments proposed by the Law Commission:

. According to P.D.T Achary , for simultaneous elections to occur, all existing State Assemblies, which currently have varying tenures, would need to be dissolved.

. **This could happen through two methods:** either the ruling government in a State voluntarily recommends dissolution, or there is a breakdown of constitutional machinery.

. However, the latter scenario is unlikely to occur for all States simultaneously.

. Only remaining option is for the Union government to amend Article 172. It states that every legislative Assembly of every State shall continue for five years from its first meeting unless dissolved earlier.

. P.D.T Achary states that amending this provision to synchronise State elections with Lok Sabha polls cannot be achieved without infringing upon the federal structure of the Constitution.

Mains point: The feasibility of simultaneous polls to State Assemblies and the Lok Sabha.

8. **M Venkaiah Naidu on One Nation One Election: Together, for the greater good.**

Context:

The concept of One Nation, One Election has been a topic of debate for several years.

The arguments in favour of One Nation, One Election:

. The Election Commission of India proposed synchronised elections in 1983 and 1999.

. In 2018, the NITI Aayog introduced the concept of One Nation, One Election.

. **Financial burden:**The Indian electoral system involves large costs during each election cycle. India's election machinery is in constant operation due to elections at various levels of government throughout the year.

. The expenses associated with conducting elections, security of polling

stations, deploying security forces, and logistics are substantial. In addition to the financial costs, there are logistical challenges and a strain on human resources.

- **Impact on governance:**Frequent elections demand a significant workforce. It includes police personnel, administrative staff from various departments, and educators like teachers and lecturers.
- This disrupts regular government functions and delays development projects. It also impacts the academic calendars of schools and colleges.
- **Political polarization**:Regular elections often contribute to political polarization since politicians are constantly engaged in election campaigning. They prioritize short-term gains over long-term policy planning.
- **Earlier experience:** India had experienced simultaneous elections during specific periods. Notably, elections held in 1952, 1957, and 1962, as well as in 1967 followed the One Nation, One Election principle.

The advantages of One Nation, One Election:

- **Improved governance:** Reduced election frequency would minimize disruptions in government operations. It will allow bureaucrats and elected officials to focus more on governance.
- **Promote national interest:** it promotes cooperation among political parties. When elections are synchronized, parties would be compelled to seek common ground and consensus on vital national and state-level matters.
- This could lead to more collaborative policymaking and a better, unified understanding of issues.
- **Political participation:** Such an approach would alleviate voter fatigue and encourage more active participation in elections. Voters frequently face multiple elections in a single year,

which can lead to weariness, apathy, and potential disengagement.

Mains point: One Nation, One Election

9. **Bench Strength – CJI must move fast to create permanent constitution benches, which will address one part of case pendency.**

Context:

Chief Justice of India Chandrachud has proposed the establishment of permanent constitution benches with varying strengths in the Supreme Court. This reform has been needed for a long time and should be prioritized.

The establishment of permanent constitution benches fulfill their purpose:

- **Article 145(3)** mandates that any case involving a significant constitutional question must be heard by a panel of at least five judges.
- Currently, there are 306 cases awaiting decisions from such five-judge benches and 135 cases awaiting nine-judge benches. This shows the importance of larger benches.
- An example of importance of larger bench is the 13-judge bench in the Kesavananda Bharati case established the "basic structure" doctrine, which has had a lasting impact on Indian law.

This reform challenging to implement until now:

- Establishing permanent constitution benches in India's Supreme Court has been challenging due to its extensive caseload of over 80,000 cases.

. Unlike the US Supreme Court, which primarily deals with constitutional matters, India's court handles a diverse range of cases, often seen as a **"people's court."**

. Further, when a nine-judge bench is formed to hear a constitutional matter, it takes up 26% of the court's sanctioned strength of 34 judges.

. Hence, challenge exists in balancing everyday legal concerns with constitutional issues, which requires a systematic approach rather than the Supreme Court simply prioritizing cases.

To reduce the burden on the Supreme Court:

. First, the subordinate courts in India need to take on more of the responsibility for hearing cases, especially cases involving bail.

. The Supreme Court of India has repeatedly found that the subordinate courts are not understanding the scope of its orders, which is putting more pressure on the Supreme Court.

. Second, expanding the scope of Indians' fundamental rights also requires the establishment of more constitution benches in the Supreme Court.

Mains point: About establishment of permanent constitution benches in the SC.

10. In these times, what meaning could a new Parliament have?

Context:

The article explains the socio-political changes introduced by the current government. It also explains the global trends towards degradation of institutions of modern democracy

The significance of a parliament building:

. A Parliament has a huge symbolic significance, instead of just being a concrete structure. It is the conceptual space where state power intersects with the concept of community. Coercion and consent are both parts of it.

. However, at this symbolic level, there has been a global trend of introducing substantial changes in the methods of popular governance.

The global trend across many democratic nations:

. **Rise of authoritarian populism :** Many democratic nations, including India, are shifting toward authoritarian populism. Power has concentrated in a single supreme leader who enjoys popularity among a dominant segment of the population.

. **Degradation of institutions:**Populist regimes lead to the degradation of the institutions of modern democracies. These institutions are used for promoting the supreme leader's agendas.

. Institutions crucial for the deliberative aspects of democracy, such as the media, universities, the judiciary, and the bureaucracy, are particularly targeted. The institution of Parliament is also impacted in this process. It often experiences marginalisation.

The institutions changed in current times as compared to institutions established after independence:

. **After independence:**The country inherited and established a set of

institutions that were not aligned with the longer history of Indian society and its traditional power structures.

. The elite in power during that era established institutions such as Parliament and the Constitution based on certain values.
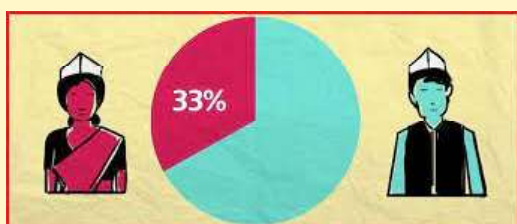
. **Current times:**The current elite in power wants to create new institutions that align with their own values.

Prelims point: The significance of a parliament building

11. India and the great power contest in West Asia.

Context:

The Constitution (**One Hundred and Twenty-Eighth Amendment) Bill,** 2023, which promises 33% reservation for women in the Lok Sabha, and in the Legislative Assemblies of States sheds the spotlight on the delimitation of electoral constituencies.

The past delimitation exercises taken by the government:

. Since the 1970s, the number of Lok Sabha seats has remained unchanged. The Constitution (Forty-Second Amendment) Act of 1976 froze the delimitation of Lok Sabha constituencies based on the 1971 Census, up until the Census 2001.

. In 2001, this deadline was extended to 2026 through an amendment to Article 82 by the Constitution (Eighty-Fourth Amendment) Act. Boundaries of electoral constituencies were redrawn in 2002. But, the total number of Lok Sabha seats remained the same.

The issues in conducting a fresh delimitation:

. **The freeze on delimitation:** It was imposed in 1976 to address the concerns of states actively involved in population control. They were facing the possibility of a reduction in their Lok Sabha seats.

. The allocation based on the 1971 Census remains unchanged despite India's significant population growth since then.

. Using 1971 figures to represent the present population contradicts the principles of the Constitution and distorts the essence of representative democracy.

. **Issues related to federalism and the representation of states:** The northern states have experienced faster population growth compared to the southern states.

. This means that Members of Parliament (MPs) from northern states represent more voters than their counterparts in the south.

. The delimitation has significant implications for both individual voters and states. Southern states may potentially lose some of their parliamentary seats once the delimitation exercise is completed based on current population figures.

. **Population data for the delimitation**:The 2021 Census was postponed due to the COVID-19 pandemic. The Union Home Minister has indicated that the next Census and subsequent delimitation will take place after the 2024 Lok Sabha elections.

. **Recent examples:** The recent delimitation process in Assam highlighted widespread concerns about altering district boundaries and renaming constituencies, potentially impacting the representation of specific communities.

Mains point: Issues related to delimitation process.

INTERNATIONAL RELATIONS

1. It's time for India and Africa to deal with food and security issues together.

Context :

The India's leadership in the G20 and its inclusion of the African Union, making it G21. The article discusses the challenges of food and nutrition security faced by India and Africa due to climate change. The strategies like open trade, investment in climate adaptation, promoting women's education, and improving sanitation to address these issues.

The challenges of food and nutrition security faced by India and Africa due to climate change:

. **High Undernourishment:** India and Africa, with 36% of global population, are home to 69.4% (503 million) of the world's undernourished people in 2020-22.

. **Child Malnutrition:** The regions account for 67.0% and 75.8% of malnourished children under five, suffering from stunting and wasting.

. **Trade Decisions:** India's recent restrictions on rice and wheat exports can adversely affect global food security, particularly hurting African countries.

. **Climate Change Costs:** Developing nations need $100 billion for loss and damage from climate change, crucial for mitigation and adaptation in these economies.

. **Rapid Population Growth**: With Africa's inclusion in G20, challenges intensify due to population growth, persistent poverty, and widespread undernourishment.

. **Nutritional Insecurity:** High rates of malnutrition in both regions necessitate agriculture policies that are nutrition-sensitive.

Way forward:

. **Keep Borders Open:** Ensure international borders remain open for agricultural trade. India exported 85 million tonnes of cereals in recent years, aiding global food security.

. **Financial Commitment:** Developed countries should provide $100 billion for climate change-induced losses. This can support climate mitigation and adaptation in developing nations.

. **Private Investments:** World Bank President Ajay Banga emphasized that private capital investments are crucial. Each dollar from developed nations should be matched by hybrid capital, potentially unlocking $6-7 billion for poorer countries over a decade.

. **South-South Collaboration:** India and Africa should engage in a comparative analysis to share strategies for sustainable agriculture and food systems.

. **Bio-Fortification:** Promote bio-fortification of staple crops. Examples include iron and zinc bio-fortified millet, rice, and beans, developed by CGIAR and ICAR.

. **Promote Women's Education:** Highlighted by ICRIER's study, educated women lead to better

nutritional outcomes. Increase female higher education by offering scholarships, which can help reduce dropouts.

. **WASH Initiatives:** Invest in Water, Sanitation, and Hygiene (WASH) programs. Like India's Swachh Bharat Abhiyan, which increased sanitation coverage, similar initiatives can help reduce malnutrition.

Mains point: The challenges of food and nutrition security faced by India and Africa due to climate change

2. India-Middle East-Europe Corridor: The way to a new world order.

Context :

India, the United States, Germany, Saudi Arabia, the UAE, Italy, and the EU have decided to establish the India-Middle East-Europe Economic Corridor (IMEC).

The India-Middle East-Europe Economic Corridor (IMEC):

. India Middle East Europe Cor**a network of transport corridors comprising railway lines and sea lanes to promote economic integration between Asia, the Arabian Gulf, and Europe.**

. **Project Details-**ridor is The proposed corridor will comprise of two separate corridors- the Eastern corridor and the Northern corridor. The Eastern Corridor will connect India to the Arabian Gulf and the Northern Corridor will connect the Arabian Gulf to Europe.

. **It will involve transit by ship between India and Saudi Arabia,** followed by a rail link to the UAE and likely to **Jordan** from where the shipment will move by sea to Turkey and further by rail.

. Along with the railway track, cables for energy and digital connectivity as well as a pipeline for clean hydrogen export will be laid.

. **Member Countries –** India, US, UAE, Saudi Arabia, European Union (EU), Italy, France and Germany.
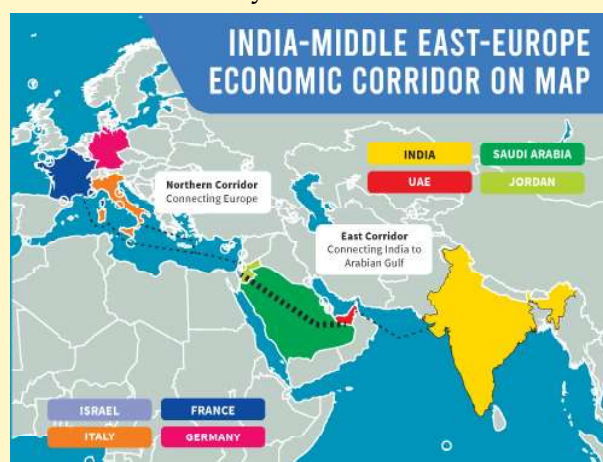
. **Part of –** It is part of the Partnership for Global Infrastructure Investment (PGII) which is a collaborative effort by **G7 nations** to fund infrastructure projects in developing nations. PGII is the **G7 bloc's counter to China's Belt and Road Initiative**. PGII is part of G7's vision of Build-Back-Better framework.

. IMEC comprises two corridors: an eastern one connecting India to the Arabian Gulf and a northern corridor linking the Arabian Gulf to Europe. Both ends of the IMEC corridor have robust port, rail, and road infrastructure.

. While India has a vast, integrated railroad network and mega ports in the east, in the west of the IMEC, the **Mediterranean Sea r**oute connects seamlessly to Greece, Italy, France, and Spain, with efficient rail and road links to Europe.

. IMEC has gained support from participating states and financial institutions like the World Bank, driven by promising returns.

. Its distinctive features include green initiatives like laying electricity cables and a clean hydrogen pipeline, aligning with global efforts to reduce greenhouse gas emissions and promote sustainability.

INDIA-MIDDLE EAST-EUROPE ECONOMIC CORRIDOR ON MAP

The significance of IMEC:

. IMEC is a new trade route that will connect Asia with Europe through the Gulf. It will be shorter and more efficient

than the current maritime route, which relies heavily on the congested **Suez Canal.**

. It links major ports in western India with major shipping ports in the Gulf, and then uses the Saudi rail network to transport cargo to the port of Haifa in Israel.

. From Haifa, cargo can be shipped to European ports on bulk container trains and post Panamax ships. Thus, IMEC will reduce transportation costs and delivery times for both Asian and European businesses.

. Further, IMEC can unite India, West Asia, and Europe for remarkable growth. India can lead regionally and assist neighboring economies by leveraging its expertise in rail and infrastructure for IMEC's development.

The challenges with IMEC:

. **IMEC requires infrastructure to facilitate cargo transport between ships and trains.** This involves constructing missing rail links, terminals, and inland container depots at major Gulf and Mediterranean ports.

. For instance, the missing rail link between **Saudi Arabia and Jordan** is a crucial challenge for the success of IMEC.

. The IMEC project will also require Jordan and Israel to build a missing rail link between them and for the port of Haifa to expand its capacity. This is critical to ensure seamless transport from Gulf ports to Haifa and onwards to Europe.

. IMEC's success also relies on a consistent standard gauge railway network. Hence, to enhance it, the focus should be on developing feeder rail routes connecting hinterlands that can integrate with the main corridor.

The course of action:

. IMEC has potential but requires substantial effort to become successful.

. In this regard, a working group should be created to prepare a detailed plan to tackle challenges, and participating nations must sign a comprehensive agreement with a clear timeframe.

Mains point:The India-Middle East-Europe Economic Corridor (IMEC):

3. **The 'mantras' that powered success at the G-20 summit".**

. **Context:** The India's role during its G-20 presidency, highlighting how it promoted multilateralism and consensus-building among member countries. It focused on issues like the Ukraine conflict, emphasizing India's approach to a multipolar world, support for the Global South, and its stance as a mediator in global affairs.

India promote multilateralism at the G-20:

. **Consensus on NDLD:** Despite initial disagreements on language and topics like Ukraine, all G-20 members agreed on the New Delhi Leaders' Declaration (NDLD) under India's leadership.

. **Bilateral Engagements:** Prime Minister Narendra Modi held bilateral meetings with various G-20 members, including visits to countries like Japan, Australia, the US, and others, fostering closer ties and ensuring support.

. **Addressing Global Politics:** By ensuring smoother discussions and consensus in the absence of divisive figures like the Russian and Chinese Presidents, India prioritized unity.

. **Western Bloc Compromises:** The western countries, for the sake of consensus and the importance of the G-20, agreed to remove direct references to Russia concerning the Ukraine war.

. **Promotion of Global South:** India actively championed the voice and significance of the Global South in global decisions, emphasizing its relevance in global forums.

. **Middle Path Approach:** By not taking hard stances or choosing sides, India's approach of following a "middle path" on global issues was evident, helping bridge differences between member countries.

India's middle-path approach benefit global relations:

. **Multipolar Advocacy:** India promotes a multipolar world, standing distinct from the U.S.'s unipolar vision and China's bipolar ambition.

. **U.S. Global Role:** Post-Cold War, the U.S. tried establishing a unipolar world. However, during the Trump era (2017-2021), its potential decline was evident as it exited several multilateral agreements like the Paris Accord.

. **China's Ascendancy:** China, marking the 10th anniversary of its Belt and Road Initiative, spent over a trillion dollars on infrastructure in about 90 countries, highlighting its growing influence.

. **China's Controversies:** China's rise also raised concerns due to actions during the COVID-19 pandemic, predatory financing in smaller countries, and territorial aggressions, including with India.

. **Global South's Significance:** The Global South, comprising over 125 countries, is gaining a louder voice on global issues, resetting priorities on topics like climate change and health.

Mains point: India promote multilateralism at the G-20

4.   The Indo-Pacific power play.

Context:

The US strategy in Indo-pacific to counter China

The US increasing its presence in the Indo-Pacific region to counter China:

. **Ties with Vietnam-** During US President Joe Biden's visit to Hanoi, the two countries elevated their Comprehensive Partnership to a more comprehensive and strategic level, known as the Comprehensive Strategic Partnership.

. Vietnam shares a sensitive land border with China and is involved in disputes over Chinese territorial claims in the South China Sea.

. However, it's worth noting that in the joint statement issued during the visit, Vietnam was cautious not to include language that might provoke China.

. **Ties with Philippines-** There has been a significant enhancement of the Philippines military alliance with the United States.

. This has enabled the US to regain access to its key bases in the Philippines, after a period of several years without such access. The US has been granted permission to use four additional bases in the country.

. In May 2023, new guidelines were issued for the 1951 treaty. It outlined more specific commitments by the US to address security threats to the Philippines. One notable provision now allows for joint patrols by US and Philippine forces in the EEZ.

. **Trilateral security framework-** It involves the United States, Japan and South Korea. Efforts to bring these two allies together in a truly coordinated trilateral alliance had been ongoing for some time.

. Recent events, such as North Korean leader Kim Jong Un's visit to Russia and the potential deepening of military cooperation between these two nations, have further fuelled concerns in Seoul and Tokyo.

. Under US sponsorship, the leaders of the United States, Japan, and South Korea adopted the Camp David Principles.

. These principles call for annual trilateral summits, the establishment of a hotline among leaders, intelligence sharing, and the conduct of annual military exercises.

. All three countries view the situation in **the Taiwan Strait** as a factor affecting regional peace and security.

. **Multi-tiered security framework in the Indo-Pacific region-** At the lowest level are partnerships, including those with countries like Vietnam, Singapore, and Thailand.

. The next tier includes **the Quad**, comprising India, the United States, Japan, and Australia. India holds a unique position within the Quad as it is not an ally but maintains strategic partnerships with each of the other member nations.

. At a higher level, there is a **trilateral military alliance** involving the United States, Japan, and South Korea.

. Finally, at the apex is **AUKUS.** It is an enhanced military alliance between the United States, the United Kingdom, and Australia.

. **AUKUS** is committed to empower Australia to become a nuclear submarine-capable nation, and operate in collaboration with the naval capabilities of the United States and the United Kingdom in the Indo-Pacific region.

ASEAN's approach towards Indo-pacific:

. Some individual nations, such as Laos and Cambodia, maintain strong alignment with China. Others are cautious about provoking China.

. Nevertheless, there are indications of a potential shift. **ASEAN nations** are currently conducting their inaugural naval exercises off the Natuna islands this month.

. These islands fall within **Indonesia's exclusive economic zone (EEZ)** but are also claimed by China through its disputed nine-dash line, which covers the entire South China Sea.

. This could be an early sign of ASEAN countries pushing back against China's exaggerated territorial assertions in the region.

The Indian approach towards Indo-pacific:

. India is increasingly embracing its role as a willing participant in the evolving US Indo-Pacific strategy. It has already finalized three foundational agreements that enhance interoperability between the armed forces of both nations.

. F**urthermore, India has secured two master ship repair agreements:** one with the US Navy and the Larsen and Toubro shipyard near Chennai, and another with the Mazagaon Docks in August.

. American naval vessels have begun using these ports for repairs and refitment. It would be relatively straightforward to extend these facilities to other members of the Quad.

Mains point: The Indo-Pacific region.

5. **With the G20-IMEC plan, the global order shifts to Eurasia.**

Context:

At the G20 Summit, President Joe Biden, joined by the leaders of India, Saudi Arabia, UAE, France, Germany, Italy, and the European Commission,

unveiled the multi-modal India-Middle East-Europe Corridor (IMEC).

Some facts about the India-Middle East-Europe Corridor (IMEC):

India-Middle East-Europe Corridor (IMEC)

. **The economic corridor consists of two main routes**. The first is an eastern route, which enables India to connect to the Arabian Gulf through sea routes. The second is the northern route that connects Saudi Arabia to Europe through Jordan and Israel.

. Collective Gross Domestic Product (GDP) of the IMEC nations totals approximately $47 trillion. This GDP represents approximately 40% of the world's total GDP.

The significance of India-Middle East-Europe Corridor (IMEC):

. **Shared vision for the Eurasian supercontinent:** It aspires to establish a route leading to a more interconnected transoceanic system, stretching from the Mediterranean region through West Asia to the vast Indo-Pacific.

. **Changing world order:** IMEC represents an implicit recognition from the West of the tangible consequences of the ascendance of non-Western powers and the undeniable shift of the world's economic and geopolitical center toward the East.

. It underscores the need to assign more substantial global leadership roles to India, Saudi Arabia, and the UAE in reshaping the future of Eurasia's economic and geopolitical landscape. Abu Dhabi, Riyadh, New Delhi, and

other emerging powers within Eurasia will hold significant influence in realigning the broader power dynamics across the supercontinent.

. **Emergence of a West Asian system:** Washington and Brussels might be inclined to present the IMEC as an alternative to China's Belt and Road Initiative. But, for Delhi, Abu Dhabi, and Riyadh, the IMEC represents the emergence of a West Asian system.

. Within this system, India, Saudi Arabia, the UAE, Oman, and Egypt are progressively coming together beyond areas such as energy, remittances, and shared ideology.

. IMEC serves as another effort to unite Saudi Arabia and Israel under a single transcontinental framework. It also contributes to ongoing US-supported endeavors to secure a normalization agreement between these two nations.

. **United States' Eurasian strategy in the post-US hegemony era:**Washington aims to shape a balanced power structure across the broader Eurasian landscape.

. The objective is to prevent a loose coalition of states, including China, Russia, and Iran, from dominating the supercontinent.

. Instead, the strategy involves strengthening the positions of countries like India, Saudi Arabia, and Japan. They should be enabled to exert economic and geopolitical influence and actively contribute to a balanced Eurasian power structure.

. **European Union's strategy in the new multipolar world:** It is the most ambitious endeavor to gain geopolitical significance and cohesion beyond the European continent in the new multipolar world.

. Major European nations like Rome, Berlin, and Paris, with London are aiming to align their efforts with the United States and Asian powers.

. They are going beyond occasional maritime exercises in the Indo-Pacific and are working on integrating their economic systems with high-growth markets in the East.

Way forward-

. For India, Saudi Arabia, the UAE, and other involved parties, the goal of achieving a balanced Eurasian structure does not imply forming a dual containment alliance against China and Russia.

. There is a need for conducting a pragmatic evaluation of each nation's motivations for involvement, progressing the project beyond a mere Memorandum of Understanding,

. It is necessary to tackle logistical and operational hurdles, and give precedence to electricity, digital connectivity, and clean hydrogen during the initial phases of the Corridor.

. The IMEC nations should take proactive measures to address potential security challenges that may arise due to the heightened Eurasian connectivity brought about by the corridor.

Mains point: Connectivity projects impacting the global politics

6. Five Eyes intelligence alliance backs Canada probe in Nijjar killing: What is it.

Context:

Canada's charge about India's involvement in the killing of Khalistani leader Hardeep Singh Nijjar was backed by the Five Eyes intelligence alliance.

The Five Eyes alliance:

. Five Eyes is an alliance comprising Canada, the US, the UK, Australia and New Zealand.

. These partner countries share a broad range of intelligence with one another in a unified multilateral arrangement.

. These alliance countries are also parties to the multilateral UKUSA Agreement, which is a treaty focused on joint cooperation in signals intelligence.

India-Canada Relations:

. Canada is home to nearly 1.4 million people of Indian ethnic or cultural origin, about 3.7% of the country's total population, according to the 2021 census.

· More than 770,000 people reported their religion as Sikhism, about 2% of Canada's population.

· In 2019, the Canadian government designated April as Sikh Heritage Month.

· India was Canada's 10th largest two-way merchandise trade partner in 2022 with more than $13.7 billion in trade.

Mains point: India-Canada Relations

7. Canada needs to see India – not just the diaspora.

Context:

Prime Minister Justin Trudeau has alleged that Indian agents killed Khalistani activist Hardeep Singh Nijjar this June. It has strained the relationship between the two countries.

The trajectory of the India and Canada relationship:

· **During the cold war:** During the Cold War, relations between Ottawa and New Delhi were fine. It was due to their shared Commonwealth status and aligned views on the significance of the

United Nations, multilateralism, and global development.

. However, differences emerged during Cold War conflicts in Korea, Hungary, and Vietnam. It strained the relationship. India's pursuit of a nuclear program created further issues.

Post cold war:

. **Since the 1980s:**Increasing Immigration from India improved the relations. However, there were limited opportunities for trade or security cooperation. So, no substantial diplomatic engagement could be established at that time.

. After, 1998, Significant efforts have been made to rejuvenate the relationship, when Canada rejected India's nuclear status.

. **Current status:**Today, the core of the relationship revolves around investment and trade.

. However, certain segments of the diaspora community hold strong negative sentiments towards India, reject its territorial integrity, and aim to fragment it.

The diaspora politics by the Canadian government causing strain in the India and Canada relationship:

. Canada has shown a softcorner for Khalistani groups and other diaspora elements. It is a characteristic feature of its foreign policy.

. Both political parties, Liberals and Conservatives, have kept a favorable attitude towards diaspora groups.

. This diaspora politics has prevented Canadian governments from separating national security and foreign policy priorities from short-term electoral pressures.

. The views expressed by pro-Khalistan groups have been a source of concern for the Indian government.

The approach of the current Indian government towards the diaspora:

. Diaspora engagement has intensified under the present government. There are efforts to encourage them to invest in India's economic development.

. Wealthy Non-Resident Indians (NRIs) play a crucial role in remittances, networks, and ideas flowing into India.

. Support from Diaspora have advanced India's strategic relationships with the United States and helped national initiatives like Make in India and Digital India.

The diaspora engagement by the current Indian government need careful management:

. During Indian PM's foreign visits, civil society groups were demanding attention to human rights. Recent pro-Khalistan protests in the US, UK, Canada, and Australia have turned contentious and violent.

. Caste discrimination is becoming an important issue within US firms, universities, and organizations.

. Digital technologies have transformed how Indian immigrants abroad interact with their homeland. It is leading to divisions in terms of political views, language preferences, and ideological affiliations, among diaspora.

. The rise of Transnational organisations like pro-khalistani groups, are posing a significant challenge to Indian foreign policy of a favourable approach to most diaspora groups.

The way forward:

. In recent times, Government of India has effectively conveyed to Canada that they cannot simultaneously have good relations with India while allowing anti-India separatist movements on their soil.

. **Constructive and Sustained Engagement:**India will have to build a constructive and sustained engagement with the Sikh diaspora, dispel the misinformation propagated by the Khalistani separatists and showcase the sense of contentment prevailing in Punjab.

. N**ew Framework of Cooperation:** There is a need to develop a new framework of cooperation that is more pragmatic and that emphasises on mutually beneficial areas, such as trade, energy, infrastructure and transport, for better Indo-Canadian relations.

. **Dehyphenation:** India and Canada must dehypenate their political contestations over the Khalistan issue and their trade and investment relations. Both the countries must look to be back on the trade negotiations table back soon to finalise the Free Trade Agreement (FTA) between the two countries.

. **Civil Society and Track II Diplomacy:**India and Canada must encourage civil society organizations and Track II diplomacy initiatives to foster people-to-people connections, dialogue and conflict resolution efforts.

. **Media and Public Diplomacy:** Promotion of responsible reporting to ensure that media coverage and public discourse accurately reflect the complexities of the relationship and the efforts being made to strengthen it.

Mains point: The India and Canada relationship.

8.   No BFFs Needed – India needs four things to secure strategic autonomy in foreign policy and more than one alliance.

Context:

Prime Minister Modi's statement that the Non-Aligned Movement (NAM) has fulfilled its purpose carries significance as it highlights India's shifting foreign policy direction.

India's foreign policy shifting:

. **India's non-alignment strategy** is transitioning towards obtaining strategic autonomy. This implies being more friendly to some countries than others, but not always allied with any one group.

. **India's strategic autonomy is driven by four factors such** as – 1) managing the China challenge, 2) securing supply chains in critical products, 3) achieving competency in critical technologies, and 4) diversifying defense platforms.

. This requires India to seek alliances in its own interest.

. For instance, while India needs a partnership with the US to counter China, it also requires maintaining friendly relations with Central Asian Republics to secure future energy needs.

India utilized its strategic autonomy in recent years:

. India imports defense equipment from countries with different geopolitical

positions, such as France and the US. India imported Russian crude oil despite Western sanctions, which greatly aided its economy.

. Similarly, India leading the Global South in the G20 gives it more flexibility in its dealings with big powers. Hence, strategic autonomy requires flexibility, and a strong economy and India is well-positioned to achieve it.

Mains point: About changing India's foreign policy

9. **BRICS is growing – and that doesn't hurt India's interests.**

Context:

The recent BRICS summit in Johannesburg, South Africa witnessed the joining of five major emerging economies.

Some facts about BRICS expansion:

. The group was formed in 2009. Initially it consisted of Brazil, Russia, India, and China, with South Africa joining a year later.

. **Six new members have been added:** Argentina, Egypt, Ethiopia, Iran, Saudi Arabia, and the UAE.

. There is also interest from several developing countries to join. It may lead to further expansions.

. Initially, there were indications that India and Brazil were not particularly enthusiastic about such an expansion.

. India was concerned that an expanded membership may bolster China's influence within the group.

. However, it appears that the selection of new members was driven more by political compromise than by agreed-upon criteria.

. Except for Iran, the new members have significant relationships with the West.

The developing countries want to join BRICS:

. They want to protect themselves in an increasingly uncertain world characterised by shifting political and security dynamics. There is a prevailing concern about their vulnerability to US sanctions.

. There may be an expectation that China will lead a shift towards an alternative global currency. It reflects growing frustration among developing countries that their interests and aspirations continue to be overlooked by developed nations.

. International institutions such as the UN and multilateral financial institutions like the IMF and the World Bank remain dominated by the G7. Major emerging economies are demanding a greater say in global governance.

The achievements of BRICS:

. **It has established the BRICS New Development Bank (NDB).** However, it conducts its business in US dollars, despite the group's stated objective of diversifying away from the dominant US currency.

. BRICS has also created a contingency reserve that member countries can tap into in case of balance of payments issues.

The comparison between BRICS and G7:

. Unlike the G7, BRICS lacks a strong ideological alignment and cohesiveness. The G7 has evolved over five decades. In contrast, BRICS has a relatively short history of just 15 years.

. It faces more internal disagreements among its members as compared to G7. The rivalry between India and China is a notable example.

. **The G7 is a closely-knit security alliance**. All its members are part of NATO and Japan is a US treaty alliance. In contrast, BRICS countries do not share a unified security perspective.

The Western countries claim BRICS undermining the established international order created by the West are hollow:

. Western nations themselves have been gradually weakening and disregarding the rules and norms of this order.

. This includes the gradual sidelining of the United Nations, the adoption of protectionist trade measures, and an attempt to shift the responsibility for a more sustainable energy transition onto developing nations.

. The application of the principles of the **"liberal international order"** has become selective.

. It is essential for the G7 to engage with these emerging powers to formulate a new set of mutually acceptable international rules.

The options for India:

. For India, a policy of active participation in multiple international groups has proven to be wise. Joining an expanded BRICS does not conflict with India's interests.

. India does not need to make an exclusive choice between BRICS, the Shanghai Cooperation Organisation, the Quad, and regular engagement with the G7.

. These engagements broaden India's diplomatic options and contribute to help India in an increasingly polarised global landscape.

Mains point: BRICS expansion

10. India and the great power contest in West Asia.

Context:

At the G-20 summit in New Delhi, United States President Joe Biden and others unveiled a United States backed infrastructure project to connect India, West Asia and Europe with shipping lanes, rail networks, pipelines and data cables.

The main components of Mr. Biden's strategy for West Asia:

. **Reducing friction between Middle East countries:** It is the continuation of the Trump policy. Trump wanted to bring together America's two key allies in the region, the Gulf Arab states and Israel. The purpose is to address shared geopolitical challenges, particularly related to the rise of Iran.

. **The Abraham Accords initiated transformation in Israel's relationships with countries like the United Arab Emirates.** This policy will fully succeed with a diplomatic agreement between Israel and Saudi Arabia.

. **The Biden administration believes that a Saudi-Israeli agreement can improve Arab-Israeli relations.** Also, it will strengthen the US position in the region without additional military commitments.

. **Strengthening US Presence in Middle East:** Mr. Biden wants to reassure America's friends and allies that the US remains actively engaged in West Asia.

. In 2012, leaders from India, Israel, the United States, and the UAE held a virtual summit. It has since evolved into the I2U2 Mini lateral.

. The I2U2 platform seeks to facilitate economic integration between West Asia and South Asia. It offers economic and technological solutions to the challenges faced by countries in the Global South.

The reasons behind the changes in US strategy for West Asia:

. The United States has shifted its focus away from West Asia by deprioritized its security commitments in the region. It is increasing its focus on Eastern Europe and East Asia. However, the following factors have brough the US back in the region:

. China is heavily reliant on imports for over 70% of its oil needs. It is increasing its engagement with West Asia.

. China has become the largest trading partner for **America's Gulf Arab allies** and a significant investor in the region. China wants to play a more substantial role as a peacemaker. Iran-Saudi reconciliation agreement shows it.

. Therefore, the US cannot simply exit West Asia. Otherwise, China will fill the vacuum.

The challenges in reengagement of US in the West Asia:

. **Rising trend of Independent foreign policies:** The U.S.'s deprioritization of the region has weakened its influence on its allies. This has created a security vacuum, prompting regional powers to pursue more independent foreign policies. For example, Saudi-UAE détente with Iran, ending the Saudi-led blockade of Qatar, and Arab reconciliation with Syria's Bashar al-Assad.

. Furthermore, Saudi Arabia and the UAE are making policies that are not entirely dependent on U.S. objectives. Their decision to join the BRICS grouping is illustrative of this trend. They are no longer willing to remain as client states, as they were during the Cold War and the unipolar world.

. **Reducing significance of Iran factor:** The rivalry between Iran and Israel remains the central geopolitical tension in West Asia. Gulf Arabs don't want to be entangled in the Iran-Israel rivalry. It would destabilise the region.

India's importance growing in the US policy for West Asia:

. For India, the competition between the U.S. and China in West Asia presents new opportunities for engagement. It wants to involve India as a stable partner in shaping new rules for economic engagement and integration. India appears willing to embrace this role. Which is proved by the following events:

. India's participation in Abraham Accords.

. Announcement of India-Middle East-Europe Corridor at G20.

. India's participation in the I2U2 minilateral.

The policy of India towards west Asia:

. India should grab this opportunity, but should not view it through the lens of another Cold War.

. India's policy towards the region should be based on the concept of multi-faceted engagement rather than appeasing or containing any major power. By that, it would avoid the repeat of its Afghanistan policy.

. India is already a part of the International North-South Transport Corridor. The potential **"Middle East Corridor "** would provide other economic opportunities.

. India should aim to play a significant geopolitical role in West Asia and its extended neighbourhood without disrupting its traditional balance.

Mains point: US strategy for West Asia.

11. Prachanda, the US, and China.

Context:

The article discusses Nepal's Prime Minister Prachanda's efforts to balance relations between China, the US, and India. This comes amid concerns about human rights violations, corruption, and international peace processes. It highlights Nepal's strategic geopolitical position and the external pressures and interests in its internal affairs.

Nepal's Prime Minister addressing at the United Nations General Assembly:

. Nepal's Prime Minister Prachanda spoke at the United Nations General Assembly about the progress in Nepal's peace process.

. He stated that completing the tasks of transitional justice is a top priority on his political agenda.

. Prachanda declared there would be no amnesty for serious human rights violations that occurred during the civil war in Nepal from 1996 to 2006.

. He sought goodwill and support from the international community to conclude the peace process.

Nepal balancing relations with India, China, and the U.S.:

. **Balancing Relations with India:** Prachanda made a diplomatic visit to India, highlighting efforts to maintain equilibrium in relations.

. Nepal is managing tensions with India, addressing concerns related to the open border and ongoing bilateral disputes.

. India's approach to Nepal is being closely watched, reflecting concerns about India's diminishing influence.

. **Balancing Relations with China:** Prachanda is set to visit China, symbolizing efforts to keep balanced ties amidst the MCC endorsement.

. He is expected to discuss waiving the $215 million loan, indicating concerns over dependency.

. Nepal's endorsement of the MCC compact indicates a shift in development partnership narratives with China.

. Balancing Relations with the U.S.:Nepal has strengthened relations with the U.S. through the endorsement of the $500 million MCC compact grant.

. This endorsement symbolizes a balancing act between U.S. and Chinese interests in Nepal.

. The geostrategic importance of Nepal has attracted U.S. interest, and the country is navigating these relations cautiously.

The perception from India:

. From India, there's a perspective that the union of major communist parties in Nepal could enable greater Chinese influence in the region.

. Indian leaders are contemplating aligning with U.S. strategies to counterbalance China's growing influence in Nepal.

. There's a realization of diminishing Indian influence in Nepal, and New Delhi is keenly observing Prachanda's diplomatic maneuvers with China.

. India is concerned about how cordially Prachanda is received in China and how boldly he represents Nepal's viewpoint during meetings with Chinese leaders.

. The deteriorating and changing aspects of India-Nepal relations, such as the open border and Gorkha recruitment issues, are also part of India's considerations.

Mains point: Nepal balancing relations with India, China, and the U.S.

12. Politicising exchanges.

Context:

Recently, Union Sports Minister Anurag Thakur cancelled his visit to China to

protest the last-minute denial of entry to three Indian Wushu players from Arunachal Pradesh.

The denial of entry to athletes a cause of concern:

. The three athletes were granted the necessary accreditation to travel along with the rest of the Indian team to the Games.

. The decision to prevent the athletes from travelling is punitive because digital accreditations, not visas, were required for their travel.

The other examples of China using the sporting event as a tool of foreign policy to counter India:

. China has issued stapled visas to Indian citizens from Arunachal Pradesh. In July, three wushu players from Arunachal Pradesh who were supposed to participate in the World University Games in Chengdu received stapled visas.

. In February of the previous year, Beijing selected the commander of the People's Liberation Army involved in the Galwan Valley clash as one of the torchbearers for the Winter Olympics.

China indulging in such types of practices:

. The recent action by China highlights the ongoing lack of trust in bilateral relations and the absence of effective communication channels to address long-standing issues.

. As per Indian stand, normalizing relations will not be possible until the disengagement process along the **Line of Actual Control** is completed and peace is restored in border areas.

Mains point: India and China bilateral relationship

13. **An economic corridor, the Israel link and the geopolitics.**

Context:

The 2023 summit of the G-20 under India's presidency went exceptionally well given the group's limited economic approach to the complex issues that the world faces

India achieved significant success at this year's G20 summit in early September:

. Incorporation of the African Union into the G-20.,

. A concrete proposal for clean energy cooperation through a biofuel alliance.

. **A substantial increase in aid for Asia-Africa initiatives.**

. the development of an economic corridor called **"India-Middle East-Europe Economic Corridor."** It will link India, West Asia, and Europe through an ambitious rail and shipping network.

. An unprecedented presence from the Middle East.

. **Issuance of the Delhi Declaration-** India was able to develop consensus for declaration despite the current fragmented international order and power dynamics.

. **It refrains from explicitly naming Russia for its actions in Ukraine.** However, it provides reference to the principles outlined in the United Nations charter and emphasises territorial sovereignty.

The significance of "India-Middle East-Europe Economic Corridor":

. This has the potential to reshape the geopolitics of the future. Its significance goes beyond merely challenging **China's Belt and Road Initiative.**

. U.S. President Joe Biden has described it as a **"real big deal,"** acknowledging its transformative impact on all parties involved and the global landscape.

Israel not receive such an invitation during the G20:

. It could have been challenging to arrange a meeting between Saudi Arabia's Crown Prince Mohammed bin Salman and Mr. Netanyahu without diplomatic normalisation.

. President Biden might have preferred an event without Mr. Netanyahu due to domestic political considerations, as he had avoided meeting him for the past eight months.

Mains point: The geopolitics

14. **Not Just Oil- New momentum in ties between India and Saudi Arabia could be a game changer.**

Context:

The article discusses growing friendly relations between India and Saudi Arabia. It mentions a recent visit by the Saudi Crown Prince to India, leading to many agreements between the two countries. Saudi Arabia is investing in India's energy and technology sectors. This improved relationship benefits both nations.

The new developments in India-Saudi relations:

. **Enhanced Bilateral Ties:** The Saudi Crown Prince, Muhammad bin Salman, recently visited India, marking his second state visit in four years, highlighting strengthened relations.

. **Economic Collaboration:** The nations have seen trade soar to $52.75 billion in 2022-23, with Saudi Arabia investing $50 billion in energy projects in India, including a Maharashtra refinery.

. **Strategic Initiatives:** India and Saudi Arabia have proposed the IMEC (India-Middle East-European Corridor) to rival China's Belt-Road-Initiative, aiming to enhance port-railroad connectivity between India, the Gulf countries, and the European Union.

. **Agreements Concluded:** Eight major MoUs were signed in diverse areas like finance, technology, and desalination during the bilateral meet.

. **Investment in Technology**: Saudi Arabia is diversifying its investments, pledging another $50 billion, and plans to open a Saudi Sovereign Wealth Fund office in Gujarat International Fin-Tech City.

This relationship benefit both countries:

Benefits to India:

. **Stable Trade Partner:** With trade at $52.75 billion in 2022-23, Saudi Arabia is a significant partner for India.

. **Enhanced Energy Security:** Saudi Arabia has been a reliable source of crude oil for India, addressing its energy needs.

. **Foreign Capital Influx:** Saudi Arabia's commitment to investing $50 billion in energy projects and another $50 billion in different sectors bolsters India's economy.

Benefits to Saudi Arabia:

. **Economic Diversification:** Collaborating with India supports Saudi Arabia's 2030 vision to develop a post-oil economy.

. **Enhanced Global Reach:** The proposed IMEC project and BRICS induction would increase Saudi Arabia's global influence and connectivity.

. **Access to Skilled Workforce:** Saudi Arabia values the role of Indian expatriates in its development.

15. G-20 diplomacy and a shifting world order.

Context:

Recently, India successfully conducted the G-20 meeting in Delhi.

Some facts about the Delhi declaration agreed during the G20 summit in Delhi:

. The New Delhi Declaration appears to encompass a wide range of topics that cater to various interests.

. It covers issues such as condemning terrorism, addressing climate concerns, tripling renewable energy capacity, promoting sustainable development lifestyles, and reforming multilateral development banks.

. It highlights India's contributions, such as digital public infrastructure and the Unified Payments Interface.

. The Declaration aligns with the prevailing sentiment within the G-20. It endorses Prime Minister Narendra Modi's vision of **"One Earth, One Family, One Future."**

. **Regarding the Ukraine conflict,** the declaration does not explicitly blame Russia. It seeks a resolution to the conflict. This sets the New Delhi Declaration apart from the Bali Declaration of November 2022, where Russia was condemned for its aggression in Ukraine.

India not be over-optimistic about G-20 outcomes:

. **China's reception of the Delhi Declaration is mixed.** It underscores that the G-20's primary purpose is economic cooperation. It is not a platform for addressing geopolitical and security issues.

. China acknowledges the establishment of **the India-Middle East-Europe Economic Corridor Plan.** But it cautions against its potential use as a geopolitical tool.

. **Some world leaders have not fully embraced the Delhi G-20.** The South Korean President cautioned about the current state of global affairs marked by geopolitical competition, rising inflation, and the ongoing conflict in Ukraine.

. China remains a dominant force in Asia, and India is a prominent target. India's growing economic strength and its membership in the Quad demand careful handling.

The nature of the G-20 undergone a transformation in recent years:

. **Earlier during the 2008-09 economic crisis,** G20 preferred to focus on global economic issues. It collaborated to prevent a global economic downturn. Now, it has shifted towards addressing global political conflicts with less emphasis on the global economic landscape.

. A covert struggle is unfolding between two opposing blocs aiming to reshape the global balance of power. One is led by Western nations and the other by China and Russia,

. The world is grappling with an "**emerging world disorder,**" marked by the resurgence of two antagonistic blocs.

. The stalemate in the Ukraine conflict has prompted the U.S. to bolster and expand NATO under its leadership. This development raises the prospect of a U.S.-equipped **"territorial force"** emerging in Ukraine.

. Beyond Europe, several non-NATO allies are being courted to join the U.S.-led alliance aimed at countering **"authoritarianism,"** represented by Russia and China.

. Japan and South Korea have already aligned with the Western alliance, and Australia has become a significant partner in the U.S.-led alliance in the Southern Hemisphere.

. Russia and China are deepening their **"strategic alignment."** Countries like North Korea are strengthening their ties with this bloc.

. China is leveraging its presence in the Pacific Ocean to openly challenge U.S. naval dominance in the region.

. Russia and Turkey have also strengthened their relationship. Russia is once again seeking to expand its influence in Africa.

The emerging world order impacting international politics:

. **The increasing number of new alliances will undermine the concept of non-alignment significantly.** It is becoming challenging for nations to maintain true non-alignment. Even groupings like BRICS are finding it difficult to sustain their neutral stance.

. The proliferation of relationships and the complex web of security agreements have severely restricted the scope for non-alignment.

. As rival blocs with conflicting visions of the international order grow stronger, the world faces an uncertain and gloomy future.

Mains point: The Delhi declaration

16. War in the Caucasus – Azerbaijan should respect the autonomy of the Armenian population.

Context:

Azerbaijan has recaptured Nagorno-Karabakh, an Armenian-populated enclave, with the help of Turkey. This shows the changing power dynamics in the Caucasus region where American, Russian, and Turkish interests collide.

The conflict about:

. The conflict originated during the final stages of the Soviet Union, when the majority Armenian-Christian population conducted a referendum to declare independence from Azerbaijan, which had a Shia majority.

. Until recently, **Nagorno-Karabakh was under the administration of Armenian separatists with support from the Republic of Armenia.**

. However, in 2020, Azerbaijan, with backing from Turkey, engaged in a conflict with Armenia, which is a Russian treaty partner.

. This conflict resulted in the capture of a significant portion of Nagorno-Karabakh by Azerbaijan. Despite Russia's role in brokering a ceasefire, it provided limited assistance to Armenia, and the ceasefire short-lived.

. Further, Azerbaijan blockaded the Lachin Corridor, the only road connecting Nagorno-Karabakh to Armenia, causing severe economic hardship for the enclave's 120,000 residents.

. Despite international criticism, Azerbaijan maintained control over the corridor and restricted the flow of goods and medicines.

. Recently**, Azerbaijan attacked Stepanakert, the capital of Nagorno-Karabakh,** forcing the separatists to cede full control of the enclave.

Azerbaijan to recapture Nagorno-Karabakh:

. First, Turkey supported Azerbaijan both politically and militarily, seeking a greater role in the Caucasus region.

. Second, Russia's engagement in Ukraine weakened its influence in the Caucasus, leaving Armenia dissatisfied with Moscow's lack of action during the conflict.

. Hence, recognizing this geopolitical advantage, Azerbaijan took control of the enclave.

The way ahead:

. Azerbaijan's recent takeover has caused a significant refugee movement into Armenia, accompanied by allegations of genocidal crimes.

. Hence, to peacefully **integrate Nagorno-Karabakh,** Azerbaijan must guarantee equal rights and respect autonomy for the Armenian population.

. Failure to do so may result in resistance from the Armenians, posing challenges for Azerbaijan's control over the region.

Mains point: About Azerbaijan recapturing Nagorno-Karabakh

ECONOMY

1.   PM congratulates RBI Governor for being rated "A+" in the Global Finance Central Banker Report Cards 2023

Context:

Global Finance Central Banker Report released.

The Prime Minister has congratulated RBI Governor Shri Shaktikanta Das for being rated "A+" in the Global Finance Central Banker Report Cards 2023.

Global Finance Central Banker Report Cards 2023

The Central Banker Report Cards has been published annually by Global Finance since 1994.

Purpose:

It grades the central bank governors of 101 key countries, territories and districts, including the European Union, the Eastern Caribbean Central Bank, the Bank of Central African States and the Central Bank of West African States.

Parameters:

The grades are based on a scale from A to F for success in inflation control, economic growth goals, currency stability, and interest rate management, according to a statement by Global Finance magazine.

An 'A' represents an excellent performance and an 'F' stands for an outright failure.

Note: Recently, RBI Governor Shaktikanta Das was also awarded the "Governor of the Year" at the Central Banking Awards 2023 in London.

Central Banking is a London-based international economic research journal.

Shaktikanta Das is the second RBI governor to receive this award after Raghuram Rajan, who was given the title in 2015.

Prelims Point: Global Finance Central Banker Report

2.   As UPI crosses 10 billion transactions-mark, a look at India's key foreign policy sell: Digital public infra

Context:

Implementation and adoption of India's DPI beyond the country's borders

Digital public infrastructure (DPI) has been a key part of the government's overall narrative about India throughout its G20 presidency.

During the G20 digital economy ministers' meeting in Bengaluru earlier this month, Prime Minister said that India is an "ideal testing lab" for solutions that can be replicated globally anywhere in the world.

Digital public infrastructure (DPI)

Digital public infrastructure (DPI) refers to blocks or platforms such as digital identification, payment infrastructure and data exchange solutions that help countries deliver essential services to their people, empowering citizens and improving lives by enabling digital inclusion.

India's Digital public infrastructure (DPI)

India's Digital public infrastructure (DPI) is known as India Stack. It is the name used to describe a collection of disparate technology products and frameworks. The components of this collection are owned and maintained by different agencies.

The overall architecture of India Stack has three key layers – identity, payments, and data management.

Digital Identity:

It is centered around Aadhaar, India's national identity program. It can be

used to remotely authenticate via two-factor or biometric authentication, receive digitally signed records such as driver's licenses, educational diplomas, and insurance policies, and sign documents or messages using a government-backed digital signature service.

Real-time fast payment system: UPI forms the second layer as it is designed to enable interoperability between money custodians, payment rails and front-end payment applications. The technology, which is in the custody of the National Payments Corporation of India (NPCI), has been licenced to several third-party private entities such as PhonePe, Google Pay and Paytm.

Data Management:

It focuses on creating a new model for data governance.It operates as per a policy called the Data Empowerment and Protection Architecture (DEPA), which at its core has the institution of a consent management system — which will allow the sharing of the information — with a view to provide better financial, health and telecom-related products and services to individuals and firms.

India Stack part of India's Foreign Policy

·   India has launched the Digital Public Infrastructure (DPI) partnership to enable countries, especially low and middle-income brackets, to learn from its experiences in harnessing technology to improve governance, and for social, economic, digital and sustainable development.

·   India also introduced the idea to form an alliance of countries called One Future Alliance which would allow like-minded nations to use technology to improve people's lives.

·   India signed MoUs with Armenia, Sierra Leone, and Suriname to share its successful digital solutions implemented at scale through the India Stack.

Draft Public Key Infrastructure (PKI) Mutual Recognition Framework has also been released by the Ministry of Electronics & IT, Government of India with an aim to take the lead on the subject of implementation and adoption of India's DPI beyond the country's borders

Mains Point: Digital public infrastructure

3.   The tax base is growing – government shouldn't waste the opportunity

Context:

The growth in India's tax base

The article discusses the growth in India's tax base, with more individuals and companies paying taxes, even during slow economic growth. However, despite the increased tax base, the tax to GDP ratio remains stable due to tax rate reductions and other policy decisions, leaving the government with limited additional revenue for its development goals.

Reasons for the growth in India's tax base

Direct Taxpayer Growth:

Companies paying tax surged by 43% from 7.46 lakh in 2014-15 to 10.7 lakh in 2022-23. Individual taxpayers saw a 65% jump from 5.38 crore to 8.9 crore.

Small Taxpayer Inclusion:

A significant portion of new taxpayers earn under Rs 5 lakh, making them an essential segment of the expanding tax base.

GST's Appeal:

Active GST payers increased from 1.2 crore in 2019 to 1.4 crore by 2023. The benefits of GST registration, like input tax credits, may have driven more businesses to pay direct taxes.

Formalization of Firms:

Approximately 22% of Indian firms are now formally engaged in tax-paying activities.

Economic Expansion & Formalization:

The growth in the tax base can be attributed to the economy's growth. The formalization of the economy has made tax evasion tougher.

Diverse Taxpayer Profile:

Not all taxpayers are active in the workforce. Retirees and those earning from interests or rentals also contribute, suggesting a broadened tax base beyond just the active labor force.

Challenges still present in India's tax system

Lower Tax Revenues:

Despite a broader tax base, the government has limited room to spend due to constrained tax revenues.

Stable Tax to GDP Ratio:

The growth in the number of taxpayers hasn't translated into a proportionate increase in the tax to GDP ratio.

Impact of Tax Cuts:

The corporate tax rate was cut from 30% to 22%. The resulting revenue loss was Rs 1.28 lakh crore in 2019-20 and Rs 1 lakh crore in 2020-21. The corporate tax to GDP ratio fell from 3.5% in 2018-19 to 3.1% in 2022-23.

Rise in Zero-Tax Individuals:

The number of individuals with zero tax liability grew from 2.9 crore in 2019-20 to 5.16 crore in 2022-23. The recent increase in the rebate limit to Rs 7 lakh might further this trend.

Reduced GST Rates:

The weighted average GST rate fell from 14.4% during its introduction to 11.6% in 2019 due to tax cuts in 2017 and 2018.

Mains Point: the growth in India's tax base

4. RBI's e-rupee could use UPI for a reformist leap

Context:

Issues related to digitalisation of banking system

Recently, State Bank of India has integrated UPI with e-rupee wallets designed for holding the RBI's central bank digital currency.

Some facts about UPI

· The UPI system is administered by the National Payments Corporation of India. It is a consortium of financial institutions.

· The UPI platform is built upon India's state operated Aadhaar system, which utilises biometric IDs to verify the identities of bank and telecom users.

Benefits associated with integrating UPI with e-rupee wallets designed for holding the RBI's central bank digital currency (CBDC)

E-rupee holders can now use UPI to conduct swift retail transactions by scanning QR codes. This integration is expected to provide increased liquidity to e-rupees. It could potentially transform UPI in the future.

Potential role of a CBDC with RBI's e-rupee

· it can be a novel medium for offering a fast, cost-effective, and secure alternative to cumbersome cross-border money transfers. Such adoption would also support economic growth, international trade, and financial inclusion.

· From a strategic perspective, using RBI's digital tokens for trans-border transactions could potentially serve as a barrier against the adoption of cryptocurrencies and capital flight.

Significant distinction between CBDC and UPI

· CBDC represents a direct claim on the currency issuer, RBI. These IOUs are backed by RBI's own guarantee, making them exceptionally secure.

· In contrast, UPI relies on the safety of commercial banks participating in the payment process.

Mains Point: Digitalisation of banking system

5. Use financial inclusion to reduce inequality and speed up growth

Context:

The contribution of B20 grouping for promoting financial inclusion

The article explains the contribution of B20 grouping for promoting financial inclusion and challenges in prompting financial inclusion.

Contribution of B20 for promoting financial inclusion

· The topic of financial inclusion has been a consistent part of the B20 discussions for an extended period. It all began at the Pittsburgh Summit in 2009 when the Financial Inclusion Experts Group (FIEG) was established.

· The Global Partnership for Financial Inclusion (GPFI) was formed at the Seoul Summit in 2011. It was followed by the introduction of a fundamental set of financial inclusion metrics at the Mexico Summit in 2012.

· The China Summit in 2016 led to the adoption of high-level principles for digital financial inclusion. At the Indonesia Summit in 2022, an implementation guide for this was provided.

Challenges in promoting financial inclusion

· According to the 2021 Global Findex Database from the World Bank, approximately 24% of adults world-wide lack access to formal financial accounts.

· Only 29% of adults choose to deposit their savings in a financial institution, and a mere 28% of adults borrow from a formal financial institution on a global scale.

· MSMEs are also facing growing disparities in obtaining financing. A publication by the World Bank titled "MSME Finance Gap: Assessment of the Shortfalls and Opportunities in Financing MSMEs in Emerging Markets" revealed it.

· As per the repost, 21% of micro-enterprises in developing countries face constraints due to loan application rejections or unfavorable loan terms. For small and medium-sized enterprises, this figure rises to 30%.

· Globally, women encounter various obstacles accessing basic banking services. It including restrictive social norms, limitations on mobility, lack of identification, and limited financial literacy. This gender disparity is evident in low-income and developing countries.

· For example, in Sub-Saharan Africa and the Middle East and North Africa, the gender gap in bank account ownership is 12 and 14 percentage points. It is twice the average gender gap in emerging economies and three times the global average.

· In case of digital payments, men with accounts in developing countries are typically 6 percentage points more likely than women to use digital payment methods.

· Women also face greater challenges in accessing emergency funds. According to the World Bank's Findex data from 2021, only 50% of women in developing nations claimed they could consistently access emergency cash, compared to 59% of men.

Way forward for financial inclusion

There are three main pillars to reduce barriers to financial inclusion.

1. The first pillar focuses on enhancing the ecosystem and facilitators that drive financial inclusion. Challenges such as a lack of innovation in financial services, low financial literacy, limited opportunities for capacity building, and gender-based exclusion can strain ongoing financial inclusion efforts.

To address this, the promotion of private sector engagement in financial inclusion through partnerships is necessary.

There is need for enhancement of individuals' and small enterprises' capacities through incubation and financial literacy programs, and the promotion of gender-inclusive financial services and initiatives.

2. The second pillar aims to expand the reach of financial products and services. Global insurance penetration remains low at 7% of GDP.

    There is also a need to accelerate financial inclusion for agricultural, rural, and migrant populations.

    This pillar concentrates on reducing the cost of capital for financial institutions, devising innovative distribution channels for service delivery, and promoting cross-border payments through protocol standardization.

3. The final pillar strengthens the consumer protection framework to uphold consumer trust in new digital products. It seeks to formulate policies that strike a balance between protection and innovation.

Prelims Point: B20 grouping, The Global Partnership for Financial Inclusion

Mains Point: the contribution of B20 grouping for promoting financial inclusion

6.   FM flags threats to financial system from crypto, tax havens

Context:

The finance minister has addressed the delegates at the Global Fintech Fest (GFF) 2023 being held in Mumbai.

Key highlights from the Finance Minister's address at the Global Fintech Fest (GFF) 2023

Global Financial Threats:

Cryptocurrency, drug mafias, tax havens, and cyber threats are significant global financial threats. Collaboration is needed to address these challenges effectively.

Cryptocurrencies offer opportunities but they also pose threats. Hence, efforts are needed to regulate and address issues related to crypto assets.

Fintech Industry:

Fintech industry in promoting financial inclusion and influencing India's financial landscape. Fintech's have played a substantial role in lending and reaching out to new customers.

The finance minister urged fintech companies to invest heavily in cyber-security measures, including advanced encryption, to protect user data and financial transactions. Security is crucial for building trust in the financial ecosystem.

Cross-Border Payments:

India's priority, under its G20 presidency, includes enhancing cross-border payment arrangements, especially considering the volume of remittances to the country.

Unclaimed Deposits:

According to RBI, balances in savings or current accounts which are not operated for ten years, or term deposits not claimed within ten years from the date of maturity are classified as unclaimed deposits.

Banking system alone is estimated to hold over Rs 35,000 crore in unclaimed deposits.

To facilitate the recovery of these unclaimed funds, the Reserve Bank of India (RBI) had recently launched UDGAM (Unclaimed Deposits – Gateway to Access information) central web portal.

Bracing for risks

Finance Minister Nirmala Sitharaman calls for a collaborative effort across the globe to counter rising financial threats

■ The FM cites drug mafias, tax havens, round tripping and tax evasion as serious threats to global finance

■ Ms. Sitharaman urges the fintech industry to invest heavily to protect user data and financial transactions

■ Fintechs in India are enhancing financial inclusion and influencing India's financial ecosystem, the minister adds

Mains Point: Global Fintech Fest
Prelims Point: Global Fintech Fest

7. UPI QR Code-Central Bank Digital Currency interoperability: How does it work and how do customers benefit?

Context:

Interoperability of Unified Payments Interface's

Several banks are enabling the interoperability of Unified Payments Interface's (UPI) Quick Response (QR) code with their Central Bank Digital Currency (CBDC) or e¹ application.

Interoperability

Interoperability is the technical compatibility that enables a payment system to be used in conjunction with other payment systems.

It allows system providers and participants in different systems to undertake, clear and settle payment transactions across systems without participating in multiple systems.

QR Code

A QR code consists of black squares arranged in a square grid on a white background, which can be read by an imaging device such as a camera. QR contains information about the item to which it is attached.

QR code is an alternate contactless channel of payments. It allows merchants or businesses to accept payments from their customers directly into their bank accounts.

UPI QR code-CBDC interoperability

Interoperability of UPI with the digital rupee means all UPI QR codes are compatible with CBDC apps.

Initially, when the pilot for the retail digital rupee was launched, the e¹ -R users had to scan a specific QR code to undertake transactions.

However, with the interoperability of the two, payments can now be made using a single QR code.

Benefits

· The interoperability of UPI and CBDC will ensure seamless transactions between a customer and merchant without having the need to switch between multiple digital platforms.

· It will allow a digital rupee user to make payments for their daily needs, such as groceries and medicines, by scanning any UPI QR codes at any merchant outlet.

· Even merchants are not required to keep a separate QR code to accept the digital rupee payments.They can accept CBDC payments on their existing QR code.

Interoperability will help in increasing CBDC adoption

Currently, UPI is a widely used payment method and the interoperability between it and the CBDC will propel the adoption of the digital rupee.

Mains Point: Interoperability of Unified Payments Interface's.

8. How to curb government's fiscal irresponsibility

Context:

Approach for effective fiscal control.

The article discusses how India's Fiscal Responsibility Law (FRBM Act, 2003) aimed to control government borrowing has been regularly bypassed. Due to a provision in the Indian Constitution, the government can easily amend the law using money bills, leading to consistent delays in achieving fiscal targets. The article suggests rethinking this approach for effective fiscal control.

Fiscal Responsibility Law (FRL)

FRL sets rules to control government borrowing and manage fiscal deficits.

Purpose:

Ensures that governments don't overspend today, preventing financial burdens in the future.

Global Examples:

Germany:

Their "debt brake" restricts annual government borrowing to 0.35% of GDP.

US:

They have a statutory debt ceiling which sets an upper limit on government borrowing.

India's Experience:

FRBM Act, 2003:

India's version of FRL aimed at controlling government borrowing and achieving fiscal discipline.

Goals:

One of the primary targets was to eradicate India's revenue deficit by March 31, 2008.

Delays:

Due to money bills, the deadline was shifted multiple times, finally settling on March 31, 2018.

Escape Clause:

This is a provision that allows temporary deviations from fiscal targets due to unforeseen events. However, the very concept of a money bill in India acts as a major escape clause, letting the government easily amend the FRL.

Evolution of Fiscal Responsibility Law in India:

Constitutional Backing:

Article 292 of India's Constitution allows the Union government to borrow, but Parliament must set limits.

Initial Measures:

An expert committee led by EAS Sarma paved the way for the Fiscal Responsibility and Budget Management Act (FRBM) in 2003.

The Vijay Kelkar Task Force worked on its implementation in 2004.

Amendments and Delays:

FRBM's original goal was to eliminate the revenue deficit by March 31, 2008.

Using money bills, this deadline was postponed multiple times: to 2009, 2015, and finally to 2018.

Issues with Money Bills:

The Finance Bill, being a money bill, can amend laws like the FRBM without full parliamentary scrutiny.

This loophole was used to dilute and delay fiscal targets under the FRBM Act, 2003.

A New Approach:

The FRBM Review Committee Report in 2017 proposed a new bill – the Debt Management and Fiscal Responsibility Bill – to address the challenges.

Need of Fiscal Responsibility Law

Excessive Borrowing:

Governments have a history of borrowing heavily, risking future financial health.

Election Driven Spending:

Governments might overspend to appease voters before elections, increasing future burdens.

Economic Stability:

To prevent the adverse impacts of excessive deficits on the economy, legal checks are necessary.

Constitutional Framework:

Article 292 of India's Constitution permits the Union government to borrow, but within limits set by the Parliament. An FRL defines those limits.

Accountability:

A structured law ensures government remains accountable for its financial actions and decisions.

Mains Point: Fiscal Responsibility Law in India

9.   Impact of RBI's lending guidelines

Context:

On August 18, the Reserve Bank of India issued guidelines enabling a borrower to transition from a floating interest rate-

based loan to one with a fixed interest rate.

Detailed guidelines by RBI

· This transition from floating interest rates to fixed interest rates will be based on a policy approved by the lending institution's board of directors. The policy must also specify how many times such a switch can occur during the loan's term.

· The lending institution must also provide full communication to the borrower about all relevant charges, service fees, and administrative costs associated with the transition.

· It is the responsibility of the lending institution to transparently inform the borrower, at the time of loan approval, about the implications of switching from a floating to a fixed interest rate.

· The borrower will now have the flexibility to choose between increasing the EMI, extending the loan tenure, or a combination of both.

· Furthermore, the regulator has requested that lending institutions provide borrowers with quarterly statements through appropriate channels.

· These statements should detail the principal and interest amounts collected to date, the EMI amount, the number of remaining EMIs, and the annualised interest rate for the entire loan term.

Differences between fixed interest rates and floating interest rates

· Fixed interest rates remain constant throughout the loan's tenure. Floating interest rates are subject to market fluctuations and base rate changes.

· Floating interest rates are often lower than fixed rates.

· Lenders prefer floating rate-based loans because they allow for better adjustments in response to changing market conditions.

· The advantages of floating rates can benefit borrowers by potentially increasing their savings. But, the downside is that it can also lead to higher costs in case of rising interest rates.

· Floating rate loans typically do not incur prepayment penalties, unlike fixed rate loans.

· Fixed-rate loans offer borrowers greater certainty and security. It facilitates better budget planning and financial management.

Mains Point: Fixed interest rates and floating interest rates.

Prelims Point: Fixed interest rates and floating interest rates.

10. RBI decides to discontinue I-CRR in a phased manner

Context:

The Reserve Bank of India (RBI) has announced that it would discontinue the incremental cash reserve ratio (I-CRR) in a phased manner.

Incremental cash reserve ratio (I-CRR)

I-CRR is an additional cash balance which the RBI can ask banks to maintain over and above the Cash Reserve Ratio (CRR).

Note: Cash Reserve Ratio (CRR) is the minimum amount of the total deposits which banks have to maintain as cash reserves with the Reserve Bank of India. It is an essential tool to maintain the health of the banking system. Banks cannot use this amount for lending or for any investment purposes.

Incremental cash reserve ratio (I-CRR) introduced due to

· The I-CRR was introduced on August 10, 2023 by RBI.

· I-CRR was announced as a temporary measure to absorb excess liquidity from the banking system.

· The level of surplus liquidity in the system surged because of the return of

Rs 2,000 banknotes to the banking system.

· RBI's surplus transfer to the government also led to increase in government spending and capital inflows.

Note: Last time, RBI imposed the I-CRR was in November 2016 to absorb a part of the surplus liquidity in the system following the demonetization of Rs 500 and Rs 1,000 banknotes on November 8, 2016.It was later discontinued from the fortnight beginning December 10, 2016.

Prelims Point: Incremental cash reserve ratio (I-CRR).

11.   Why the RBI has proposed setting-up a Self-Regulatory Organisation for fintech's

Context:

The Reserve Bank of India (RBI) Governor has called upon fintech entities to establish Self-Regulatory Organizations (SROs).

Fintech

· Fintech plays a vital role in offering convenient access to formal financial services, benefiting lower-income individuals.

· The fintech sector encompasses various digital-based financial services such as payments, UPI-based transfers, digital wallets, and small, short-term loans, effectively replacing traditional moneylenders.

· Fintech assesses borrowers' credit-worthiness using transaction data and collaborates with traditional financial institutions like NBFCS and banks.

· They have maintained reasonable default rates while generating significant revenue by serving the low-income segment.

· However, to maintain ethical and regulatory standards, fintech practices and processes need to align with established norms.

It is necessary to regulate fintech, because

· Fintech can charge excessively high interest rates, especially to borrowers with limited access to formal credit, which could lead to defaults. Mis-selling of loans is another concern due to incentive structures.

· Therefore, looking at potential concerns, the RBI has established a basic framework for a self-regulatory organization (SRO) and encouraged fintech to regulate themselves. However, if necessary, stricter regulations can be imposed later.

· Currently, an SRO offers the innovative fintech industry an opportunity to shape its own best

Self-Regulatory Organizations (SROs)

· SRO is a non-governmental organization that sets and enforces rules and standards relating to the conduct of entities in the industry (members) with the aim of protecting the customer and promoting ethics, equality and professionalism.

· SROs typically collaborate with all stakeholders in framing rules and regulations.

· Their self-regulatory processes are administered through impartial mechanisms such that members operate in a disciplined environment and accept penal actions by the SRO.

· Regulations by SRO supplement but do not replace applicable laws or regulations.

Need for an SRO

1.   Firstly, SROs could play a pivotal role in the fintech industry by promoting responsible practices and maintaining ethical standards.

There have been many instances where a few fintech players were involved in unethical practices such as charging exorbitant higher interest rates and harassment of borrowers for recovering loans.

2. Secondly, by proactively addressing issues like market integrity, conduct, data privacy, cybersecurity, and risk management, SROs can help build trust among consumers, investors and regulators.

Functions of SRO

Communication:

Acting as a link between members and regulatory bodies like the RBI.

Standards:

Setting industry benchmarks and promoting professional behavior.

Training:

Providing training and awareness programs for members.

Dispute Resolution:

Establishing a uniform grievance resolution framework.

Advantages of SRO

Expertise:

SROs are experts in their industries, providing valuable knowledge and insights to their members.

Ethical Standards:

They enforce ethical standards among their members, fostering trust in the industry.

Oversight:

SROs act as watchdogs, preventing unprofessional practices.

Mains Point: fintech entities to establish Self-Regulatory Organizations (SROs).

12. New currency, next steps-Global collaboration and cooperation on regulation of crypto-assets

Context:

Global collaboration and cooperation on regulation of crypto-assets

The article talks about differences in cryptocurrency regulations worldwide. It focuses on India's evolving approach and stresses the importance of international cooperation for efficient cryptocurrency regulation or prohibition. It also mentions an upcoming G20 meeting to discuss a plan for coordinated cryptocurrency regulations.

Current regulatory framework for cryptocurrencies in India

· In 2018, the RBI banned Indian banks from cryptocurrency transactions.

· In 2020, the Supreme Court of India overturned this ban.

· In the 2022-23 Union budget, India proposed:

· 30% tax on income from digital asset transfers.

· 1% TDS on cryptocurrency transactions.

· Finance Minister Nirmala Sitharaman emphasized the need for global collaboration for effective crypto regulation.

IMF and FSB View on Cryptocurrencies:

Comprehensive Policy Needed:

The paper highlighted the necessity for a "comprehensive policy and regulatory response" to address the financial stability risks posed by crypto assets.

Difficulty in Banning Cryptocurrencies:

Banning crypto might just shift activities to more friendly jurisdictions. A ban could push transactions out of a country's oversight, raising financial risks.

Regulation Over Ban:

Supervising licensed crypto-asset issuers and service providers can fill

information gaps. This approach aids in monitoring cross-border crypto activities.

Anti-money Laundering Standards:

The paper suggests implementing the Financial Action Task Force's standards that tackle money laundering and terrorist financing related to cryptocurrencies.

Global Coordination:

Emphasized the importance of worldwide coordination to address the borderless nature of cryptocurrencies.

Mains Point: cooperation on regulation of crypto-assets

13. India-Middle East-Europe mega economic corridor: What is the project and why is it being proposed?

Context:

The Prime Minister has announced the launch of the India-Middle East-Europe mega economic corridor.

India-Middle East-Europe Mega Economic Corridor

Aim:

To reshape the trade route between the Gulf, Europe and South Asia, connecting them by rail and sea links.

Features:

· The corridor will consist of two separate corridors — the Eastern Corridor, connecting India to West Asia/Middle East, and the Northern Corridor, connecting West Asia/Middle East to Europe.

· It will involve transit by ship between India and Saudi Arabia, followed by a rail link to the UAE and likely to Jordan from where the shipment will move by sea to Turkey and further by rail.

· Along with the railway track, the members want to lay a cable for energy and digital connectivity, as well as a pipe for clean hydrogen export.

Countries involved:

India, US, UAE, Saudi Arabia, European Union (EU), Italy, France and Germany.

Part of:

The corridor is part of the Partnership for Global Infrastructure Investment (PGII) — a collaborative effort by G7 nations to fund infrastructure projects in developing nations.PGII is considered to be the bloc's counter to China's Belt and Road Initiative.

Significance:

· The corridor will safeguard regional supply chains, boost trade accessibility, and enable a greater emphasis on environmental, social, and governance consequences.

· It will be designed to increase efficiencies, save costs, promote economic cohesion, create jobs, and reduce greenhouse gas emissions, leading to a radical integration of Asia, Europe, and the Middle East.

· The project will allow the countries involved to play a key role in the global connective tissue of commerce, of digital communications and of energy.

Mains Point: India-Middle East-Europe mega economic corridor.

Prelims Point: India-Middle East-Europe mega economic corridor.

14. India-UK hold 12th Economic and Financial Dialogue (EFD) in New Delhi

Context:

The 12th Round of Ministerial India-UK Economic and Financial Dialogue was held in New Delhi.

Key highlights from 12th India-UK Economic and Financial Dialogue

· UK-India Infrastructure Financing Bridge Initiative: India and the UK have launched the UK-India Infrastructure Financing Bridge Initiative.

· The initiative is co-led by NITI Aayog and the City of London Corporation.

· The bridge aims to harness collective expertise in planning and implementing major infrastructure projects in India.

· Indian companies to list on exchanges overseas: The United Kingdom has received the first confirmation from India that it would explore the London Stock Exchange (LSE) for overseas direct listing of Indian companies.

· Under the current regulations, Indian firms are not allowed to list directly on overseas exchanges. They can only list on foreign exchanges through instruments, such as depository receipts.

UK-India Green Growth Equity Fund

The India and UK Finance Minister has agreed on a USD 1.2 billion investment in green projects and renewable energy to boost India's green growth ambitions at the 11th India-UK Economic and Financial Dialogue.

Investments announced by India and the UK

· A $1-billion investment from CDC, the UK's development finance institution in green projects in India during 2022-26.

· A $200 million private and multilateral investment into the UK-India Green Growth Equity Fund for renewable energy and

· A Climate Finance Leadership Initiative (CFLI).

About UK-India Green Growth Equity Fund:

· It was established with investment from India's National Investment and Infrastructure Fund (NIIF) and Foreign, Commonwealth & Development Office (FCDO), Government of UK.

· The fund invests in scalable operating companies and platforms across renewable energy, energy efficiency, energy storage, e-mobility, resource conservation and associated value chains in India.

· The UK-India Green Growth Equity Fund is based in Mumbai and EverSource is the fund manager

About Climate Finance Leadership Initiative (CFLI):

It is aimed at mobilizing private capital into sustainable infrastructure in India. These investments will support India's target of 450 gigawatts (GW) renewable energy by 2030.

The initiative will be backed by the City of London Corporation and led by Bloomberg's CFLI.

Mains Point: Climate Finance Leadership Initiative

Prelims Point: Climate Finance Leadership Initiative

15. **May the twain meet: Look East as much as West for Indian exports**

Context:

India's goods exports contracted
India's goods exports printed 14.5% lower for the April-July period, having contracted for the sixth month on a trot in July.

Trade with the Asia-Pacific region (APAC) a matter of concern

· Between April and July, India's total goods exports contracted by 14.5%. Exports to the APAC region experienced a more substantial decline, down by 22.0%.

· Comparatively, the decline in exports to the United States and the European Union (EU) was lower at 11.5% and 4.8%, respectively.

· The slowdown in exports to the APAC region commenced earlier. In the fiscal year 2022-23, when India's overall goods exports saw increases of 6.9%. But, exports to APAC markets decreased by 11.2%.

· Most of these regions increased their imports from across the globe. Hence, India's export slump cannot be attributed to reduced regional demand.

· Furthermore, India's non-oil exports to the APAC region were down by 12.3% year-on-year in the past fiscal year. But, they increased to both the EU and the US.

· This suggests that the decline in India's goods exports to APAC was not solely due to lower exports of oil but was a broader issue.

· The region's share in India's goods exports had been diminishing for a long time. In fiscal year 2018-19, APAC accounted for 33% of India's goods exports.

· However, in fiscal year 2022-23, APAC's share had decreased to 26.6%, while the combined share of the US and EU had risen to 34%.

· The trade deficit with the region is also an issue. The APAC share in India's goods trade deficit was 49.6% in fiscal year 2018-19. It increased to 64.7% during April-July of this fiscal year.

Regional FTAs within the Asia-Pacific region are a cause of worry for India

· India is not a party to the Regional Comprehensive Economic Partnership. It is considered as the world's largest free trade pact.

· India is also not a party to other significant trade agreements in the broader Asian region, namely the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP) and the trade component of the IPEF.

· As tariffs among member countries within these agreements continue to decrease, India's potential for exports to the APAC region could encounter additional challenges.

Way forward-

· India should maintain its focus on the APAC region.

· The APAC region has a nominal GDP of approximately $32 trillion in 2022.

The APAC market surpasses both the US and the Eurozone.

· S&P Global anticipates that APAC will grow at approximately 4%. This growth rate trend is likely to persist in the foreseeable future.

· Therefore, India should explore ways to fully leverage the export potential of this region, particularly considering its geographical proximity.

Mains Point: Trade with the Asia-Pacific region (APAC)

16. A new direction for direct taxes

Context:

The latest data shows a decline in the government's direct tax collections.

The government's direct tax collections declined by 0.91% in the first four months of the current financial year. This is contrary to the Budget's projection of 11.36% growth for the full year.

Issues reported in the collection of direct taxes

4. First, there is a shortfall in direct tax collections despite healthy profits reported by India Inc. Corporation tax collections fell by 10%.

5. Second, personal income-tax collections grew by only 6.6%, much lower than the projected annual growth rate of 14%.

6. Third, The Union Budget for 2023-24 heavily relies on the growth of direct taxes. The shortfall in direct tax collections could jeopardize the government's ambitious capital expenditure plan.

Possible reasons behind the slowdown in direct tax collections

· Gradual cut in corporation tax rates and lower tax rates for individuals might be affecting collections. The effective tax rate for companies has come down from about 24.67% in 2014-15 to 22% in 2020-21.

· Tax concessions offered to individual taxpayers have been rising steadily.

· Companies earning over Rs. 500 crore have seen a decline in their effective tax rate from 23% to 19%.

· What should be done?

· There is an urgent need to understand why direct tax collections have not reflected the buoyancy in the Indian economy.

· The tax department's move to send notices to potential tax evaders may not be enough to address the issue.

Mains Point: Decline in the government's direct tax collections.

17. IICA and UNICEF jointly organize workshop on Business Responsibility and Sustainability Reporting (BRSR).

Context:

Indian Institute of Corporate Affairs workshop on Business Responsibility and Sustainability Reporting

Indian Institute of Corporate Affairs (IICA) has organized a workshop on Business Responsibility and Sustainability Reporting (BRSR) in collaboration with UNICEF and National Stock Exchange.

Business Responsibility and Sustainability Reporting (BRSR) framework

· The Business Responsibility and Sustainability Reporting (BRSR) framework was introduced by SEBI in 2021.

· The framework is a mandatory disclosure mechanism for top 1000 listed companies or businesses to report their performance on environmental, social and governance (ESG) aspects and demonstrate their commitment to responsible business practices.

The framework is based on the nine principles of the National Guidelines for Responsible Business **Principles:** BRSR is rooted in the nine principles outlined in the National Guidelines for

Responsible Business Conduct (NGRBC).

The nine principles are:

1. Businesses should conduct and govern themselves with integrity in a manner that is Ethical, Transparent and Accountable.

2. Businesses should provide goods and services in a manner that is sustainable and safe.

3. Businesses should respect and promote the well-being of all employees, including those in their value chains.

4. Businesses should respect the interests of and be responsive to all their stakeholders.

5. Businesses should respect and promote human rights.

6. Businesses should respect and make efforts to protect and restore the environment.

7. Businesses, when engaging in influencing public and regulatory policy, should do so in a manner that is responsible and transparent.

8. Businesses should promote inclusive growth and equitable development.

9. Businesses should engage with and provide value to their consumers in a responsible manner.

Conduct (NGRBC) which are

strengths of BRSR Framework

1. Firstly, it provides a comprehensive framework covering a wide range of sustainability topics, including governance, ethics, social respon-sibility, environmental performance,

and economic performance. This enables Indian companies to report on sustainability in a holistic manner.

2. Secondly, its alignment with global standards simplifies sustainability reporting for Indian companies to international stakeholders, who show increasing interest in sustainability performance.

3. Thirdly, being mandatory for the top 1,000 listed companies ensures a uniform standard, ultimately improving sustainability reporting across India.

Weaknesses of BRSR Framework

1. Firstly, BRSR can be complex and challenging to implement due to numerous requirements, making it difficult for companies to identify relevant ones.

2. Secondly, reporting requirements may lack clarity, leading to inconsistencies in reporting, mainly because the framework is relatively new and lacks sufficient implementation guidance.

Improvements needed to the BRSR Framework

1. Firstly, simplification and ease of implementation can be achieved by reducing requirements and offering clearer reporting guidelines and implementation support.

2. Secondly, enhancing clarity through more examples of reporting on various sustainability topics would benefit companies.

3. Lastly, expanding the framework to encompass additional sustainability topics like human rights and labor practices would enhance its comprehensiveness.

Mains Point: Business Responsibility and Sustainability Reporting (BRSR)

18. Banking investments – New norms will impart stability

Context:

RBI's new guidelines for investment in the banking sector.

The Reserve Bank of India (RBI) has recently released updated investment norms for the banking sector, aiming to enhance regulatory oversight.

The new framework aligns with global standards and best practices, aiming for a balanced approach to recognizing gains and losses in fair value.

About the New Guidelines

· The new guidelines require banks to categorize their entire investment portfolio into three categories:

1. Held-to-Maturity (HTM),

2. Available for Sale, and

3. Fair Value through Profit and Loss (FVTPL).

· This will exclude investments in joint ventures and subsidiaries while securities held for trading will fall under the FVTPL subcategory.

· The new framework introduces a dedicated trading book for banks and eliminates the previous limit on the held-to-maturity (HTM) portion of the investment portfolio.

· This change will give banks more flexibility in managing their investments, boosts demand for corporate bonds, and improve earnings stability.

· However, banks must be cautious with their investment portfolios under the new rules, as freely moving securities in and out of the Held-to-Maturity (HTM) category won't be allowed.

· Reclassification will be strict, needing approvals from the bank's board and the RBI, which will be seldom granted.

· Additionally, in any fiscal year, the sale of HTM securities cannot exceed 5% of the portfolio's opening value without RBI approval.

· The new framework also includes detailed rules for securities transfers between categories and clear guidelines for categorizing and valuing securities.

· Banks must establish an investment fluctuation reserve, which can be included in Tier-II capital and enhances the banking system's capacity to absorb losses.

· Overall, this framework is expected to enhance disclosure, contributing to greater stability in the banking system.

Need of new guidelines

· The current regulations for valuing investments in banks have been old and in place since 2000.

· Further, RBI's decision to come up with new guidelines has been due to the lessons learnt from the US, where inadequate investment regulation contributed to bank crises.

· Although Indian banks aren't facing the same risks, revising the regulatory framework based on experience will improve the Indian banking regulatory structure.

Mains Point: RBI's new guidelines for investment in the banking sector.

19. 4th G20 Sustainable Finance Working Group Meeting concludes in Varanasi with finalization of the G20 Sustainable Finance Report, 2023

Context:

The fourth and last meeting of the G20 Sustainable Finance Working Group (SFWG) under India's G20 presidency began in Varanasi, Uttar Pradesh.

G20 Sustainable Finance Working Group (SFWG)

Background:

· It was launched in 2016 during China's G20 presidency as Green Finance Study Group.

· In 2018, under the Argentinian Presidency, its scope was expanded and the group was renamed Sustainable Finance Study Group (SFSG).

· In 2021, G20 Finance Ministers and Central Bank Governors agreed to upgrade it into the G20 Sustainable Finance Working Group (SFWG).

Aim:

To mobilize sustainable finance to help ensure global growth and stability, and promote the transition towards greener, more resilient and inclusive societies and economies.

Purpose:

To advance international work to help scale up private and public sustainable finance and in doing so, accelerate the implementation of the Paris Agreement and 2030 Agenda for Sustainable Development.

Work done by SFWG during India's G20 presidency

The SFWG during India's G20 presidency has made recommendations on the following six areas:

(1) Mechanisms for Mobilization of Timely and Adequate Resources for Climate Finance;

(2) Policy Measures and Financial Instruments for Catalyzing the Rapid Development and Deployment of Green and Low-Carbon Technologies;

(3) Scaling-up the adoption of social impact investment instruments;

(4) Improving Nature-related Data and Reporting;

(5) G20 Technical Assistance Action Plan;

(6) Overcoming data-related barriers to climate investments.

G20 New Delhi Leader's Declaration 2023 has welcomed the work undertaken by the SFWG under India's G20 presidency

Prelims Point: G20 Sustainable Finance Working Group.

20. Govt launches Skill India Digital for transforming skill, education, entre-preneurship landscape of India

Context:

The Ministry of Skill Development has launched the Skill India Digital (SID) platform.

Skill India Digital (SID) Platform

Skill India Digital (SID) Platform is a Digital Public Infrastructure (DPI) for skilling, education, employment and entrepreneurship ecosystem of India.

It is a comprehensive digital platform aimed at synergizing and transforming the skills, education, employment, and entrepreneurship landscape of India.

Built by:

National Skill Development Corporation (NSDC) in collaboration with multiple industry players.

Part of:

The platform is part of the World Bank-assisted Skill Acquisition and Knowledge Awareness for Livelihood Promotion (SANKALP) programme

Key Features of the platform:

· The platform acts as a comprehensive information gateway for government skilling and entrepreneurship initiatives.

· It encompasses training programs from central and state governments, creating a centralized hub for skill development initiatives.

· All courses compliant with the National Skilling Qualification Framework (NSQF) will also be accessible on the platform.

· Additionally, the platform integrates with other government portals such as the UDYAM portal for micro and small enterprises and the Atma Nirbhar Skilled Employee Employer Mapping (ASEEM) portal.

· The platform also supports multiple Indian languages and ensures secure access with Aadhaar-based eKYC.

· It adopts a mobile-first approach, making learning accessible through handheld devices.

· It showcases individuals' skills and qualifications through Digitally Verified Credentials, offering secure and tamper-proof verification.

· Digital CVs with personalized QR codes allow potential employers or partners to easily access a candidate's portfolio, including skills, qualifications, experiences and achievements.

Prelims Point: Skill India Digital (SID) Platform

21. India's tea industry needs policy liberalization for rejuvenation.

Context:

The article explains the status of the tea industry in India and issues faced by it.

Some statistics related to the tea industry

The Indian tea industry holds a significant position on the global stage. It ranks as the second-largest tea producer worldwide.

The annual production of tea is 1.3 million tonnes. India is the third-largest exporter. It is generating approximately $1 billion in revenue each year.

Issues faced by the tea industry

· Approximately 85% of the tea produced is consumed domestically. India's per capita tea consumption is around 800 grams per year. It is one of the lowest in the world.

· India does not produce some of the newer tea categories, such as Kenyan yellow tea, which has gained popularity as a recent trend.

· Exports of tea have remained stagnant. The tea industry has faced downward price pressures.

· The number and acreage of large, regulated tea growers have either remained static or declined. Their market share has decreased from 60% to below 50% at present.

· The current highly regulated Tea Growers (RTG) model is outdated. Statutory requirements mandating labour housing, schooling, and various other facilities on the tea estate are no longer necessary or cost-effective.

· The existing tea auction model compels the transportation of tea to a limited number of auction centres and involves multiple cumbersome processes.

· This model not only consumes time but also adds an unnecessary cost of approximately Rs. 7-10 per kilogram to the tea sold. It results in a significant volume of unsold stocks. Only about 40% of the total tea production is sold through tea auctions.

Way forward for tea industry

· **Standardization and Classification:** There is a pressing need for standardization and classification of tea in India. Currently, there are reportedly around 800 types of tea manufactured or sold in the country.

· **Promoting Tea as a Health Drink:** Rather than focusing solely on supply, there should be a concerted effort to promote tea as a healthy beverage.

· **Conversion of the Tea Board:** The Tea Board should undergo a transformation into an entity dedicated to promoting tea consumption and exports. There is a need to relinquish its regulatory powers.

· **Industry-Managed Voluntary Tea Auction Centers:** The existing tea auction houses can be reimagined as voluntary tea auction centres managed by the industry. Tea producers interested in selling their products can do so voluntarily by paying a fee.

· **Establishment of Standardization Agencies:** There is a need for establishment of agencies tasked with developing and standardizing norms for the tea industry, following the model of the Indian Standards Institution (ISI).

· These agencies should also handle promotion and certification, like the functions of the Agricultural and Processed Food Products Export Development Authority (APEDA).

· **Diverse Marketing Channels:** Indian tea should be permitted to be marketed freely through various global channels, including direct sales, e-commerce, tea auction houses, commodity exchanges, and more.

· **Other reforms:** There is a need to modernize the RTG Tea-Estate Model and revamp the Tea Auction Model.

· It is now opportune to transform the Indian Tea Act of 1954, shifting its focus from regulation to a developmental and facilitative approach.

· All the existing mandates, such as compulsory labour housing and the mandatory requirement of selling 50% of tea through auction houses, should be eliminated.

Mains Point : Tea industry in India.

22. Empowering MSMEs for export success

Context:

Empowering MSMEs

The article discusses the potential of India's MSMEs in global trade, highlighting their challenges in scaling and exporting. It suggests reforms, like leveraging e-commerce and simplifying regulations, to help MSMEs capture a larger share of the global market and boost India's exports.

India's MSME potential in global trade

Significant Contributor:

MSMEs account for 27% of India's GDP and provide 110 million jobs.

Untapped Global Market:

Despite their domestic contribution, they tap into just a small fraction of the global market. For instance, India's toy market is valued at $1 billion, whereas the global market stands at $300 billion.

E-commerce Opportunity:

The rise of e-commerce platforms can help MSMEs access global customers. However, India's current e-commerce exports are only $2 billion, in contrast to China's 8% of total exports via e-commerce.

Export Potential:

If reforms are implemented, MSMEs could contribute over $100 billion towards India's targeted exports of $1 trillion by 2030.

Major challenges faced by MSMEs in India

Size Limitation:

85% of MSMEs, described as "dwarfs", have existed for over 10 years but still employ fewer than 100 employees, indicating limited dynamism.

Struggle in Global Market Access:

India's share in global merchandise exports is around 2%, with MSMEs contributing just 6% of Indian exports. Only about 1% of MSMEs are exporters, suggesting a challenge in capturing the global market.

Small Scale Impediments:

For a typical small business, navigating logistical, financial, and compliance complexities of exporting is difficult.

Regulatory Challenges:

Existing financial regulations put undue compliance burdens on MSMEs. For instance, a carpet stored in a US warehouse faces pricing limitations—it can't be discounted below 75% of the declared value if demand is low, or priced higher than 125% if demand is high. This reduces the flexibility MSMEs have in responding to market demands.

Lack of Simplified Export Processes:

MSMEs need to interact with multiple government interfaces for compliance processes, making exports cumbersome. There's no consolidated source of information for them. Even though a portal has been proposed to post the G20 meeting to gather information, integrating all compliance processes into this portal remains a pressing need.

Need to do

Separation of Roles:

Present regulations should be revised to let "exporter" and "product owner" be separate. This change can simplify collaborations between small enterprises and aggregators, allowing the latter to manage most compliance aspects.

Revise Financial Rules for Exports:

Financial regulations, formed in an era focused on controlling every dollar of foreign exchange, should be updated. These outdated rules impose a burden on MSMEs. An example is the limitation on dynamic pricing for goods like carpets stored abroad.

Introduce a "Green Channel":

To speed up Customs clearance for e-commerce exports, a "green channel" should be established. This has been successful in China since 2014.

Unified Trade Portal:

Launch a comprehensive trade portal that amalgamates all export-related information and processes. Currently, MSMEs lack a reliable source of export info and encounter multiple government touch points.

Mains Point: Empowering MSMEs

23. Navigating the evolving trade landscape

Context:

About changing Industrial policy

World trade is changing significantly, with the US and EU governments shifting their focus from traditional trade policies to industrial policies.

US and EU governments shifting their focus

US:

· The US initially embraced manufacturing outsourcing for profit but it

unintentionally boosted China as a global manufacturing hub.

· Hence, to counter China, the US imposed high import tariffs on Chinese goods during the Trump administration and targeted China's super-computer and AI industries under the Biden administration.

· Additionally, the US launched a major re-industrialization initiative promoting domestic production of semi-conductors, critical minerals, electric vehicle batteries, and medicines. Hence, the US shifted from prioritizing free trade to embracing industrial policy.

EU:

· In 2023, the EU introduced significant regulations like the Deforestation Regulation and Carbon Border Adjustment Mechanism, impacting global trade in agriculture and industrial goods.

· The EU provides subsidies to its own industries while it also scrutinizes subsidies given by other nations. This reflects the EU's aim to safeguard its economy and environment, potentially making it more challenging for other countries to compete.

Situation in India

· China's global dominance in electronics design and manufacturing increased due to the collaborations with Western firms like Apple. However, with the US seeking alternatives to China, India has emerged as a focus.

· In October 2022, US limited support for Chinese chip production below 16 nanometers. Consequently, Apple shifted some of its production to India.

· This shift has resulted in India's smartphone exports, exceeding $12 billion in 2022-23. A similar trend is anticipated in the semiconductor sector, particularly through partnerships with Micron.

· However, India must take more actions to boost manufacturing competi-tiveness and facilitate trade flows.

Actions can be taken by India

1. Remove arbitrage from manufacturing schemes like special economic zones, export-oriented units, and Customs bond manufacturing, which offer different tax benefits and import duty structures.

2. Sign only those FTAs that align with India's economic interests and avoid involvement in the Indo-Pacific Economic Framework, as it requires adherence to WTO Plus standards that might not be advantageous for India.

3. Prioritize the domestic laws related to digital trade, labor, environmental standards, agriculture, and tariffs before entering international commitments.

4. Take prompt and determined action against unfair climate taxes imposed by the EU by employing a carefully measured retaliation mechanism.

5. Reduce Customs duties, especially on imported goods, to stimulate manu-facturing and exports. While certain items crucial for the "Make in India" initiative may maintain higher tariffs, the overall trend should be toward lower duties to enhance the export potential of the small-scale sector.

· Streamline export processes using a single-window system through the National Trade Network (NTN).

· This integrated approach eliminates the need for exporters to engage separately with different departments, resulting in time and cost savings and empowering small businesses to participate in the export market.

· There is a need to address the issue of energy imports, which constituted 36.6% of India's total merchandise imports in FY2023 at a cost of $260 billion. Projections indicate this bill

could exceed $1 trillion by December 2026.

· Prioritize the removal of non-tariff barriers (NTBs) to boost India's exports. NTBs often lead to increased scrutiny or rejection of Indian products.

· Hence, to address this, India should upgrade domestic systems, engage in dialogues with partner countries, and be prepared to retaliate against unreasonable rules that obstruct Indian products.

Mains Point: Changing Industrial policy.

24. Salient features and Guidelines of PM Vishwakarma Scheme

Context:

Salient features and Guidelines of PM Vishwakarma Scheme

The Prime Minister has launched the PM Vishwakarma Scheme.

PM Vishwakarma Scheme

Nodal Ministry:

Ministry of Micro, Small & Medium Enterprise.

Type:

Central Sector Scheme

Aim:

To provide end-to-end support to artisans and craftspeople who work with their hands and tools.

Coverage:

The Scheme covers artisans and craftspeople engaged in 18 trades.

Benefits under the scheme:

Recognition:

Recognition of artisans and craftspeople through PM Vishwakarma certificate and ID card.

Skill Upgradation:

Basic Training of 5-7 days and Advanced Training of 15 days or more, with a stipend of Rs. 500 per day;

Toolkit Incentive:

A toolkit incentive of upto Rs. 15,000 in the form of e-vouchers at the beginning of Basic Skill Training.

Credit Support:

Collateral free 'Enterprise Development Loans' of upto Rs. 3 lakh in two tranches of Rs. 1 lakh and Rs. 2 lakh with tenures of 18 months and 30 months, respectively, at a concessional rate of interest fixed at 5%, with Government of India subvention to the extent of 8%.

Beneficiaries who have completed Basic Training will be eligible to avail the first tranche of credit support of upto Rs. 1 lakh. The second loan tranche will be available to beneficiaries who have availed the 1st tranche and maintained a standard loan account and have adopted digital transactions in their business or have undergone Advanced Training.

Incentive for Digital Transaction:

An amount of Rs. 1 per digital transaction, upto maximum 100 transactions monthly will be credited to the beneficiary's account for each digital pay-out or receipt.

Marketing Support:

Marketing support will be provided to the artisans and craftspeople in the form of quality certification, branding, onboarding on e-commerce platforms such as GeM, advertising, publicity and other marketing activities to improve linkage to value chain.

Recognition as entrepreneurs:

The scheme will onboard the beneficiaries on Udyam Assist Platform as 'entrepreneurs' in the formal MSME ecosystem.

Prelims Point: PM Vishwakarma Scheme.
Mains Point: PM Vishwakarma Scheme.

25. Managing flows – Govt's dependence on foreign funds should be limited

Context:

About JP Morgan's decision to include Government of India (GoI) bonds.

JP Morgan's recent announcement about including Government of India

(GoI) bonds in its emerging market government bond index has generated significant excitement in financial markets and the government.

For Indian bonds

· JP Morgan's decision to include Government of India (GoI) bonds in its emerging market government bond index is expected to result in $24 billion being deployed in GoI bonds, as India will have a weighting of 10% in the index.

· As more assets track this index over time, the inflow of funds is likely to grow, and other indices may also consider inclusion GoI bonds over time, encouraging even active fund managers to increase allocation to GoI bonds.

Implications for the Indian economy

· The increase in demand for GoI bonds will reduce the borrowing cost for the government. Lower yields on GoI bonds could also benefit states and corporations by reducing their borrowing costs.

· Additionally, the influx of foreign capital can help finance the current account deficit. These inclusions in international indices, which attract passive investment flows, are considered stable.

· Moreover, the Reserve Bank of India (RBI) began issuing GoI bonds to non-resident investors via the fully accessible route after a reference in the Union Budget 2020-21 indicated that certain bond categories would be fully open to foreign investors.

Risks associated

· There are risks associated with tapping foreign savings to finance the fiscal deficit, even if the debt is denominated in the domestic currency:

· Increased volatility in bond and currency markets: Even passive flows can exhibit significant volatility at times of macroeconomic instability. This could lead to heightened volatility in both bond and currency markets.

· Upward pressure on the currency: An increased level of debt flows could also put upward pressure on the currency, affecting the competitiveness of India's tradable sector.

· As a result, the Reserve Bank of India (RBI) may need to be more vigilant and intervene in the market to manage volatility.

Way ahead

· First, if the idea is to lower the cost of money, it can be achieved by reducing the general government budget deficit, which will reduce the demand on domestic savings and bring down the cost of money and inflation.

· Second, the fiscal deficit is usually higher in India than in its peers, which can crowd out the private sector. Increased foreign investment should not be seen as a way to run higher deficits. Instead, the government should be more disciplined.

· Third, India needs to import capital for investment, but it has favored direct equity investment due to its advantages. Any shift from this stance should be carefully considered.

Mains Point: Government of India (GoI) bonds.

26. Our chip-making game shows welcome realism

Context:

Semiconductor manufacturing

Recently, India's electronics and infotech minister Ashwini Vaishnaw talked about focus on the emerging segment that remains largely unexploited in semiconductor manufacturing.

Some facts about 'compound semi-conductors'

· It is the next major innovation. These chips are claimed to be more energy-efficient and offer superior thermal

conductivity. It enables faster processing speeds.

· However, their high production cost has limited their usage to specialized applications in fields such as telecommunications, power equipment, and automotive technology.

· This segment holds significant sales potential, but its growth trajectory will depend on factors such as the availability of raw materials and the enhancement of chip performance.

Strategic approach, focusing on a specific niche rather than competing with major chip manufacturers appear more realistic

· In emerging fields where all participants are still developing their capabilities, local chip producers in India have a better chance of attaining global competitiveness.

· In contrast, the silicon industry is already highly competitive. Substantial investments are being made in fabrication facilities in the EU, US, and China, primarily aimed at reducing reliance on imports from Taiwan.

Challenges in achieving global leadership in a specific niche

· The semiconductor industry is influenced by geopolitics. China has restricted the exports of gallium in response to tech restrictions imposed by the US.

· Gallium is a key component used in chip production and is found in bauxite and zinc ores. Other players like the Vedanta Group could potentially secure a supply source for gallium compound chips. However, the actual progress of locally produced niche chips in the chip-making process remains uncertain.

Mains Point: Semiconductor manufacturing

27. Explain Speaking: What's the link between GDP growth and employment in India.

Context:

State of Working India (SWI 2023) report released

The article discusses the concern that India's focus on growing GDP isn't leading to enough job creation, particularly quality jobs. It mentions the SWI 2023 report, showing that high GDP growth hasn't equated to substantial employment growth, especially for women, and quality jobs are lacking. Policymakers are advised to prioritize employment-focused strategies, including potentially exploring green manufacturing, to ensure more Indians secure stable, well-paying jobs.

About the State of Working India (SWI 2023) report:

Conducted by:

Azim Premji University's Centre for Sustainable Employment.

Data Utilized:

Uses official employent and unemployment data, including Periodic Labour Force Surveys (PLFS), National Family Health Surveys (NFHS), Census 2011, and Economic Census 2013, among others.

Focus:

Analyses the long-run relationship between GDP growth and employment in India, assessing impacts on different social identities: caste, gender, and religion.

State of Working India (SWI 2023) report say

Weak Relationship Between Growth and Employment:

The SWI 2023 report indicates that the connection between GDP growth and employment in India is weak. Growth in GDP doesn't assure proportional job creation.

Employment Elasticity Declined:

The report shows employment elasticity has consistently decreased between 1983 and 2017, meaning a 1%

rise in GDP results in less than a 1% increase in employment.

Shift to Self-Employment (2017-2021):

This period witnessed a surge in self-employment, often a result of inadequate hiring opportunities. In 2020-21, regular wage employment reduced by 2.2 million, while formal employment grew by 3 million and informal employment dropped by 5.2 million.

Impact on Different Groups:

The employment benefits of growth aren't equally shared among genders, castes, or religions. Notably, women have been majorly disadvantaged in recent times.

Job creation in India can be improved through

Enhance Labour-Intensive Manufacturing:

Some argue that India should intensify efforts in labour-intensive manufacturing to spur job creation, even if initially just for domestic consumption.

Pursue Diverse Growth Strategies:

The report suggests that India needs diversified growth strategies that focus not just on GDP growth but also on creating quality jobs and addressing employment elasticity.

National Employment Policy:

The development of a National Employment Policy, as outlined in the previous SWI report, can address both the demand and supply of labour and improve the quantity and quality of employment in India.

Explore "Green" Manufacturing:

There's a discussion about exploring opportunities in green manufacturing, allowing India to redo its industrial evolution.

Address Structural Issues:

Addressing structural issues in the economy related to caste, gender, and religion is crucial for equitable distribution of growth benefits.

Prelims Point: State of Working India (SWI 2023) report.

Mains Point: State of Working India (SWI 2023) report, link between GDP growth and employment in India.

28. Experts weigh in on criticism of GDP methodology

Context:

Flaws in India's GDP calculation method.

Critics have pointed out flaws in India's GDP calculation method since the 2011-12 base year revision from 2004-05. This article examines three experts' views to understand the methodology amid these criticisms.

Critics highlighting GDP methodology issues after the shift to the 2011-12 base year, even though discrepancies on the expenditure side and deflator issues existed in the 2004-05 series

· First, the old GDP method employed physical indices, capturing real GDP effectively, while the new approach relies on price indices, better suited for nominal GDP.

In the past, numbers were inflated for nominal GDP, while the new method deflates them for real GDP. However, categorizing GDP for multiproduct firms is challenging in the new method.

· Second, In India, production side GDP estimates are seen as the most comprehensive, while discrepancies are noted on the expenditure side. Hence, to mitigate discrepancies, supply-use tables (SUTs) can be employed.

· Third, critics' concerns seem unusual since the current GDP series is over 12 years old. The main issue should be updating the base year with recent indicators.

Ashoka Mody's suggestion to average GDP growth rates from both production and expenditure sides without

discrepancies, even though it hasn't done this previously

- First, unlike advanced countries like the US, India doesn't measure both sides of GDP independently, so averaging both sides isn't relevant for India.
- Second, averaging across production and expenditure estimates is not a viable option and proper reference should be given from the UN System of National Accounts that permit such calculations.
- Third, India has adopted the new system of national accounts, valuing GVA at basic prices and GDP at market prices.

Most sectors in India use the production approach for GDP calculation, but some rely on the income approach due to data challenges. Hence, balancing these methods can reveal discrepancies.

India's switch from factor cost to market prices as the GDP calculation methodology in the 2011-12 series results

- First, GDP was previously calculated at market prices, and GDP at factor cost is essentially GVA at basic prices, with minor differences related to taxes.
- Second, India has always reported GDP at market prices. In the 2011-12 series, it introduced GVA at basic prices, aligning with international standards, by separating production taxes and subsidies from other taxes and subsidies.

Further, GVA at factor cost includes taxes and subsidies not directly related to production.

- Third, it is difficult to say which measure of GDP is better as India adopted the new system of using GVA at market prices to conform to international standards.

Government claim that it first calculates real GDP in quarterly figures, suggesting that deflators' impact may be reduced

- First, the government calculates GDP using a mix of nominal prices and real prices, because the data that is available for different sectors is not always consistent.
- Second, quarterly GDP is difficult to calculate because not all data is available for every quarter. The government uses a method called the Benchmark Indicator Method to project the missing data.

This is primarily done for estimates at constant prices, which are then deflated to get current price estimates.

- Third, India has faced difficulties calculating GDP accurately due to problems with deflators. In the past, India used the WPI to measure inflation, but the rural and urban CPI is a better measure of inflation for households.

However, the WPI is still used most for measuring GDP, which means some of the problems with deflators will remain.

Centre fix the gaps in GDP calculation when it revises the base year from 2011-12

- First, the UN-prescribed method for GDP calculation uses SUTs, which are time-consuming to produce and cannot be updated quarterly. To mitigate classification issues, SUTs should be generated annually.
- Second, the government is enhancing GDP estimates with better data by shifting from the 2011-12 Employment and Unemployment Survey, conducted every five years, to utilizing the annual and quarterly Periodic Labour Force Survey (PLFS) starting from April 2017.
- Third, CPI and GDP base year revision is overdue. However, the existing methodology should be retained, but better databases like GST and MCA data should be used at national and state levels.

Mains Point: Flaws in India's GDP calculation method.

29. Centre softens angel tax rules

Context:

The new angel tax mechanism

The Finance Ministry has notified final rules outlining valuation methods for non-resident and resident investors under the new angel tax mechanism in the Finance Act 2023.

Angel Tax

Angel tax is levied when an unlisted company issue shares to an investor at a price higher than its fair market value (FMV).

Introduced in:

It was introduced in 2012 as a measure to prevent generation and circulation of unaccounted money, experts said.

It was called the angel tax as it initially applied primarily to Indian angel investors – usually high net worth individuals who invest in startups at a very early stage

Applicability:

Earlier, angel tax was levied only on investments made by resident or local investors. However, the Budget expanded its scope to cover non-resident investors.

Criticism:

Angel tax has been criticized by startups and investors, who argue that it discourages investments in startups as it is common practice to sell shares at a steep premium.

Easier rules

Govt. eases rules governing investments in start-ups by non-resident investors at a premium over fair market value

- The new rules notified by the Centre provide more flexibility to merchant bankers for the valuation of a company
- Until now, the valuation of equity shares could only be based on NAV and discounted free cash flow methods
- The new policy is expected to address practical difficulties faced by investors and firms due to lack of clarity on rules

Mains Point: Angel Tax
Prelims Point: Angel Tax

30. Government extends support under Scheme for Remission of Duties and Taxes on Exported Products (RoDTEP) till 30th June 2024

Context:

Government of India has extended support under the Scheme for Remission of Duties and Taxes on Exported Products (RoDTEP) till 30 June 2024.

Scheme for Remission of Duties and Taxes on Exported Products (RoDTEP)

Launched by:

Ministry of Commerce & Industry

Implemented since:

1st January 2021

Aim:

To provide a mechanism for reimbursement of taxes, duties and levies, which are currently not being refunded under any other mechanism, at the central, state and local level, but which are incurred by the export entities in the process of manufacture and distribution of exported products.

Coverage:

When the scheme was announced, it covered 8,731 items from most export sectors except for organic and inorganic chemicals, pharmaceuticals and iron & steel, which covered most engineering items.

However, the government later decided to extend the scheme to the excluded sectors as well.

Tax refund rate:

The tax refund rates under the scheme range from 0.5% to 4.3% depending on the sector and the product.

Prelims Point: Scheme for Remission of Duties and Taxes on Exported Products (RoDTEP)

31. What does a drop in household financial savings imply for India?

Context:

Issues related to savings and investment in the economy

The household financial savings data recently published in the latest issue of the RBI bulletin indicated that India's net household financial savings rate had declined to only 5.1% of GDP in 2022-23, the lowest in decades.

Factors behind the decline in financial savings rate

· It can largely be attributed to an increase of around 2% of GDP in financial liabilities in 2022-23 compared to both 2021-22 and 2019-20.

· The largest component of these liabilities by a considerable margin is bank loans. Borrowing from NBFCs comes in a distant second, followed by housing finance and insurance.

· Between the years 2020-21 and 2022-23, there has been a substantial decrease in the proportion of household borrowing from banks. The share of borrowing for housing finance has also decreased during this period.

· However, there has been a significant increase in the share of borrowing from NBFCs. It has surged from 2.4% in 2021-22 to 15.2% in 2022-23.

Following can be inferred from decline in the financial savings rate

· The decrease in net household financial savings primarily reflects an increase in the financial obligations of the household sector.

· This shift is a consequence of house-holds moving away from borrowing from traditional banks, and seeking loans from non-banking financial companies (NBFCs).

· Bank credit has experienced significant growth, a substantial portion of this expanded credit flow has been directed towards NBFCs, real estate, and personal loans rather than industrial purposes.

· Furthermore, the non-performing asset ratios of both private and public sector commercial banks have notably improved.

· It appears that there has been a substantial surge in the demand for loans from households. However, banks have adhered to strict lending criteria. These borrowers, who may not meet the stringent creditworthiness requirements, have turned to NBFCs.

· As a result, banks have managed to clean up their balance sheets while transferring the associated risk to NBFCs.

· However, it's crucial to recognize that the overall risk exposure of the financial sector has not decreased. In fact, it has increased due to the rising indebtedness of the household sector.

A substantial decrease in household savings rate due to

· The reduction in India's net household financial savings rate does not signify an abrupt decline in either the household savings rate or the domestic savings rate.

· In 2021-22, both rates stood at 19.7% and 30.2% of GDP, respectively. It is slightly higher than in 2019-20.

· A savings rate of 30.2% also surpasses that of many other emerging market and developing economies. However, it falls short when compared to the rates achieved during most of the past two decades

Mains Point: Savings and investment in the economy.

32. **Social bonds explained as NABARD raises Rs. 1,040 crore via its inaugural issue**

Context:

National Bank for Agriculture and Rural Development (NABARD) has issued its inaugural social bonds with a total size of Rs 1,040.50 crore.

About Social Bonds

A social bond is a type of financial instrument issued by governments, international organizations or corporations to raise funds for projects and initiatives that have a positive social impact on society.

These bonds are designed to finance projects that address various social issues, such as healthcare, education, affordable housing, poverty alleviation, and environmental sustainability.

First Social Bond:

The Pimpri Chinchwad Municipal Corporation (PCMC) in Maharashtra's Pune and United Nations Development Programme (UNDP) in 2020 co-created India's inaugural Social Impact Bond(SIB).

Sustainability Bond Framework

· NABARD recently announced a Sustainability Bond Framework.

· The framework seeks to finance and refinance new or existing eligible green and social projects.

· Eligible social projects include affordable basic infrastructure, access to essential services, affordable housing, employment generation, food security, socioeconomic advancement, and empowerment.

· Projects that promise energy efficiency including green buildings, energy storage, and smart grids, would also be eligible to get funding.

Prelims Point: Social Bond, Sustainability Bond Framework.

33. Keeping Small Finance Bank (SFBs) afloat

Context:

Some facts about Small Finance Banks (SFBs)?

The article explains the issues related to Small finance banks (SFBs).

Some facts about Small Finance Banks (SFBs)

They are designed to promote financial inclusion, serve as avenues for savings, and provide credit to small businesses, marginalized farmers, and the informal sector through technologically advanced, cost-effective operations.

Challenges faced by Small finance banks (SFBs)

Priority sector lending targets-

SFBs have a priority sector lending target set at 75 percent of their loan book, with a significant portion of it being unsecured loans. Meeting this target is challenging.

Alternative methods to bridge the gap, such as securitization or co-lending with non-banking financial companies, are not available to them.

In contrast, universal banks have a priority sector lending target of 42 percent of their loan book.

Higher cost of deposits-

Another concern is the higher cost of deposits for SFBs compared to universal banks. This higher interest expense increases their overall funding costs.

Banking license requirements-

Many initially saw SFBs as a stepping stone towards obtaining a universal banking license. The SFB operating guidelines mentioned their eligibility for transitioning to a universal bank after five years of operation. However, there is now a demand for a detailed roadmap for the application and conversion.

Raising of capital-

Several prominent private equity firms have invested in the small finance bank sector. However, considering the stock performance of SFBs, raising additional capital may not be straightforward.

Structural issues-

The structural issues had plagued the sector even before the pandemic. On the liability side, SFBs had limited savings and current accounts and heavily relied on bulk deposits and term deposits from cooperative banks.

On the asset side, a disproportionately large portion of their loans consisted of unsecured microfinance loans.

Way forward

· A paper titled "Performance of SFBs — An Early Reflection" in the RBI's August 2021 bulletin suggested that factors such as efficiency, leverage, liquidity, and banking business are crucial for SFBs' profitability.

· SFBs should also have a 42 percent target priority sector lending target. This change would help reduce the risk of concentration.

· As per Reserve Bank of India's Internal Working Group (IWG), SFBs should be listed "within six years from the date of reaching a net worth equivalent to prevalent entry capital requirement prescribed for universal banks," or "ten years from the date of commencement of operations," whichever comes first.

Mains Point: Small Finance Banks (SFBs).

34. We should join the WTO's investment facilitation talks

Context:

WTO's investment facilitation framework is a potential opportunity for India, Issues related to WTO

On 6 July 2023, over 110 of the WTO 164 members concluded text-based negotiations on the Agreement on Investment Facilitation for Development (IFA).

Some facts about IFA (Investment Facilitation Agreement)

· The primary goal of the IFA is to create a business environment that is favourable to investors.

· High-standard investment protection provisions have been included within international investment agreements. Their inconsistent interpretation by various arbitration panels has constrained the policy flexibility available to host countries to regulate in alignment with their developmental priorities.

For instance, India has terminated its older bilateral investment treaties (BITs) and is in the process of negotiating new agreements based on its 2016 Model BIT text.

India's approach towards investment facilitation

India does not fundamentally oppose the concept of investment facilitation. Recent India-UAE agreement in 2022 and the India-Brazil BIT in 2020, include provisions related to investment facilitation.

India is also a participant in the BRICS Understanding on Investment Facilitation and signed a similar mechanism with the EU in 2017.

India decided to not participate in the IFA (Investment Facilitation Agreement) talks, because

· India is against utilising the WTO as a platform for investment facilitation, as it holds the misconception that investment matters fall outside the WTO's mandate. Instead, India prefers bilateral negotiations for investment provisions.

· India perceives the IFA as part of a strategy by developed nations to initiate investment facilitation within the WTO, possibly followed by the introduction of contentious investment protection rules at a later stage.

· India opposes plurilateral agreements within the WTO, as they bypass the consensus decision-making process.

· India is against the inclusion of 'Most Favoured Nation' (MFN) provisions in the IFA due to past negative experiences, such as the repercussions faced after including an MFN provision in its Australia BIT.

WTO's investment facilitation framework is a potential opportunity for India, if

· New Delhi has opened up foreign investment in most sectors, and participation in the IFA could advance the goal of attracting foreign direct

investment (FDI). India is also a capital-exporting country, and involvement in the IFA could facilitate its overseas investments.

· India has ambitious aspirations for achieving a $5 trillion economy by 2025-26. Therefore, it is essential for the country to move beyond a mindset shaped by historical experiences, and actively engage in shaping the global economic framework.

Mains Point: IFA (Investment Facilitation Agreement).

Prelims Point: IFA (Investment Facilitation Agreement).

35. Renewable Energy Company IREDA gets upgraded from 'Schedule B' to 'Schedule A' Central Public Sector Enterprise

Context:

Categorization of CPSE's

Indian Renewable Energy Development Agency Ltd. (IREDA) has been upgraded from 'Schedule B' to the 'Schedule A' category of Central Public Sector Enterprises.

CPSE's grouped into different schedules

· The Department of Public Enterprises, Ministry of Finance has laid down criteria for initial as well as re-categorization of Central Public Sector Enterprises (CPSEs) into appropriate schedules.

· All CPSEs are required to be categorized into four schedules, namely, Schedule 'A', Schedule 'B', Schedule 'C' and Schedule 'D'.

· The categorization of CPSE has implications mainly for organizational structure and salary of Board level incumbents of the concerned CPSE.

About Indian Renewable Energy Development Agency Ltd.(IREDA)

· IREDA is a Mini Ratna (Category–I) non-banking financial institution under the administrative control of the Ministry of New and Renewable Energy (MNRE).

· It is a Public Limited Government Company established as a Non-Banking Financial Institution (NBFC) in 1987.

· IREDA has been notified as a "Public Financial Institution" under section 4 'A' of the Companies Act, 1956 and registered as NBFC with Reserve Bank of India (RBI).

Purpose:

It is primarily engaged in promoting, developing and extending financial assistance for setting up projects relating to new and renewable sources of energy and energy efficiency/conservation.

Motto:

ENERGY FOR EVER

Funding:

IREDA generates its revenue through the interest and principal repayments from the projects it finances, as well as by raising funds from the market and through borrowings.

IREDA elevation from 'Schedule B' to the 'Schedule A' category will help in

· The elevation of IREDA to the 'Schedule A' category opens the door for its upgradation from "Mini Ratna (Category– I)" to "Navratna" status.

· This will grant increased financial autonomy to IREDA, allowing the organization to make more strategic decisions to further its commitment to accelerating the adoption of renewable energy solutions across the country.

Prelims Point: Categorization of CPSE's.

ENVIRONMENT

1.   Seven years on, mission to clean the Ganga remains a work in progress

Context:

Achievements of National Mission for Clean Ganga (NMCG)

National Mission for Clean Ganga (NMCG) has been allotted Rs. 20,000-crore to conserve and rejuvenate the Ganga River. The article explains the achievements made by the Mission till now.

Achievements of NMCG

·   In seven years, NMCG has only managed to install sewage treatment plants (STPs) capable of treating 20% of sewage in five major Ganga states. This is projected to increase to 33% by 2024 and 60% by Dec 2026.

·   Based on an estimated 11,765 MLD sewage, NMCG aims to create sewage treatment plants with 7,000 MLD capacity by 2026 while states will contribute to the remaining capacity through their efforts and government initiatives.

·   As of July 2023, STPs capable of treating 2,665 million litres per day (MLD) have been commissioned and are now functional.

·   However, there have been delays in commissioning some of the plants due to problems with land acquisition and the need to revise the Detailed Project Reports (DPRs).

·   At present, Uttarakhand (36) has the highest number of STPs, followed by Uttar Pradesh (35) and West Bengal (11).

·   The Namami Gange Mission, a flagship initiative under NMCG, constitute approximately 80% of the project's total expenditure.

Consequences of these achievements

·   The number of dolphins in the Ganga River has increased from 2,000 to about 4,000. Dolphins can now also be found in new areas of the river and its tributaries.

·   Fishermen are also noticing more Indian carp, a type of fish that can only live in clean water. These all signs show that there has been improvement in the river water quality.

Way ahead

·   The Central Pollution Control Board (CPCB) uses a number of parameters to measure water quality, such as dissolved oxygen, biochemical oxygen demand, and faecal coliform.

·   However, these parameters vary widely along different stretches of the river.

·   Therefore, the NMCG is in the process of creating a river-water quality index, similar to the air quality index, to communicate better regarding the quality of river water.

Mains Point: Achievements of National Mission for Clean Ganga.

2.   The impact of food on climate

Context:

How agriculture affects climate change
The article talks about how agriculture affects climate change, comparing big industrial farming with small subsistence farming. It focuses on the problems caused by methane emissions from livestock and rice farming. It also notes that global policies avoid these problems because of strong meat and farming industries.

Agriculture and food consumption significantly affect the world's climate:

Emissions from Food Production:

In 2018, the food we produced was responsible for 11% of global greenhouse gas emissions.

Livestock's Role:

About 40% of these emissions come from livestock digestion. For example, the digestion process in cattle releases methane, a potent greenhouse gas.

Waste and Manure:

Livestock manure, either applied to fields or discarded, adds 26% to the emissions, mainly in the form of nitrous oxide.

Use of Fertilisers:

Synthetic fertilisers contribute an additional 13% to the emissions.

Rice Cultivation:

Growing rice, especially in waterlogged fields, results in methane emissions, accounting for 10% of agricultural emissions.

India's Livestock:

With the largest livestock population, India's methane emissions from livestock digestion constitute 8% of its total greenhouse gases.

Farmers are the first victims of climate change due to:

Cost and Infrastructure:

The increasing cost of agricultural inputs, combined with the lack of public infrastructure like irrigation, adversely affects their livelihood.

Food Import:

With rising food costs, governments often import from intensive farming systems, pushing local farmers out of competition.

Extreme Weather Events:

Farmers are directly impacted by events like floods, droughts, pest attacks, and unseasonal cold and heat, leading to lost crops and income.

Double Impact:

While dealing with the challenges of changing climate, they also grapple with the pressure from industrial-agricultural models.

Industrial farming differs from subsistence farming

Scale and Setup:

Industrial farming is large-scale with factory farms, while subsistence farming involves smaller landholdings.

Purpose:

Industrial farms produce for a broader market, whereas subsistence farming mainly serves personal or local consumption.

Chemical Usage:

Industrial operations use vast quantities of chemical inputs, whereas subsistence farming often uses fewer or organic inputs.

Ownership:

Industrial-agriculture can be corporate-driven, contrasting with the individual ownership in subsistence farming.

Livestock Handling:

In industrial farming, livestock is often kept in large, concentrated numbers for mass production. In contrast, subsistence farmers typically have fewer livestock, crucial for their personal sustenance and local economy.

International community reacting to emissions from the agriculture sector

UN's Stance:

The UN Framework Convention on Climate Change (UNFCCC) hasn't strongly addressed food production's impact on climate.

Netherlands' Initiative:

When the Netherlands tried to reduce nitrous oxide emissions, requiring major changes in farming, it faced massive protests, even leading to governmental changes.

New Zealand's Proposal:

The country considered a "burp" tax based on cattle numbers and feed, but faced resistance. As a result, the proposal was deferred.

Agriculture vs. Meat:

Globally, confronting the meat industry's impact on emissions remains challenging, with its influence comparable to the fossil fuel sector.

Mains Point: Agriculture and food consumption significantly affect the world's climate.

3. **Unabated global warming will wipe penguins off this planet.**

Context:

Global warming is making sea ice melt sooner in Antarctica

The article talks about how global warming is making sea ice melt sooner in Antarctica. This is causing baby emperor penguins to die. It says we should save animals even if it doesn't help humans directly.

Penguins in danger due to

Global Warming:

The main threat is global warming causing early sea ice melting in Antarctica.

Breeding Challenges:

Emperor penguins need sea ice to breed and raise their chicks. Without stable ice, chicks face risks:

Drowning:

Chicks aren't ready to swim until December. Melting ice leads to their premature exposure to water.

Freezing:

In 2010, after an unusual rainstorm, wet chicks froze before their feathers matured. Hundreds died as observed by geographer Peter Fretwell of the British Antarctic Survey.

Breeding Failures:

Research from Nature Communications, Earth and Environment revealed alarming data

In the Bellingshausen Sea, 19 out of 62 colonies failed to breed last year.

Penguins need consistent successful breeding. Young penguins have a high mortality rate, so continuous failures threaten colony survival.

We need to care penguins because of

Natural Ecosystem:

Penguins help us understand the balance and intricacies of the natural world.

Indicator Species:

Their struggles signal broader environmental issues, like global warming.

Food Chain Impact:

Losing sea ice affects krill, the base of the food chain in the Southern Ocean. This could lead to a collapse in fish populations that humans rely on for food.

Intrinsic Value:

As highlighted by Rachel Carson's "Silent Spring," creatures enhance life on Earth in intangible ways. Their mere presence adds to the world's richness.

Legacy for Future:

Protecting penguins ensures a diverse and vibrant ecosystem for future generations.

Mains Point: Penguins

4. **The northern plains of India is the most polluted region**

Context:

The Air Quality Life Index 2021 has been released.

About Air Quality Life Index

Released by:

Energy Policy Institute at the University of Chicago (EPIC)

Purpose:

It is a pollution index that quantifies the relationship between long-term exposure to particulate pollution and life expectancy.

Key findings of the Air Quality Life Index

Pollution and Life expectancy:

Pollution remains the foremost external threat to human health around the world.

Its impact on life expectancy rivals that of smoking, surpassing alcohol use, unsafe water, and even exceeding car crash injuries.

If the world were to permanently reduce fine particulate pollution (PM2.5) to meet the World Health Organization's (WHO) guideline, the average person would add 2.3 years onto their life expectancy.

South Asia:

South Asia is home to the four most polluted countries in the world and nearly a quarter of the global population.

Between 2013 to 2021, particulate pollution in South Asia surged by 9.7%, which is estimated to reduce life expectancy in the region by an additional six months.

Most polluted countries in the world:

Bangladesh, India, Nepal, and Pakistan where 22.9% of the global population lives are the four most polluted countries in the world.

In Bangladesh, people potentially lost an average of 6.8 years of life due to air pollution not meeting WHO guidelines.In contrast, the average person from the U.S. lost just 3.6 months.

China:

China stands out due to its success in reducing pollution by a staggering 42.3% from 2013 to 2021 and extending the average life expectancy of its population by 2.2 years.This reduction can be attributed to the country's policy initiatives to combat pollution in 2014.

India:

India is the second-most polluted country in the world in 2021.

The average Indian resident is set to lose 5.3 years of life expectancy if WHO guidelines remain unmet. In contrast,

cardiovascular diseases reduce the average Indian's life expectancy by about 4.5 years, while child and maternal malnutrition reduces it by 1.8 years.

Delhi is the world's most polluted city.If the PM2.5 level in Delhi is reduced to meet the WHO guideline, a resident in Delhi could gain 11.9 years in life expectancy.

Northern plains, which is home to over half a billion people and 38.9% of India's population, is the most polluted region.

The northern plains include the States and Union Territories of Bihar, Chandigarh, Delhi, Haryana, Punjab, Uttar Pradesh, and West Bengal.

In the northern plains, the average resident is set to lose about 8 years of life expectancy if pollution levels persist and policies do not succeed in reducing pollution to levels as prescribed by the WHO.

Global Efforts to Combat Air Pollution:

- Cities like Ljubljana, Accra, Seville, Bogota, and Medellin are adopting car-free zones, green spaces, and electrified public transportation.
- China is transitioning to clean energy and e-mobility.
- Indonesia launched a 'Carbon Efficient Farming' project to assess biomass and reduce CO_2 emissions.
- Thailand and Vietnam have initiated measures to decrease open straw burning.
- UNESCO introduced a carbon tax on flights and is investing in emission reduction.
- The World Air Quality Project provides real-time air quality data to residents.
- The "Virtual Meetings" project, in collaboration with UNEP, promotes environmentally conscious digital work.

India's Efforts to Combat Air Pollution:

- The PUSA Decomposer, created by IARI, uses biotechnology to address agricultural pollution.
- GRAP 3 (Graded Rapid Action Plan) is a state-level policy monitoring air quality in hotspots.
- Green War Rooms have been established for a focused approach.
- Innovative startups are transforming agricultural waste into useful products, reducing open field burning.

Need to do:

Acknowledge the Problem:

Recognize the severe impacts of air pollution, as 10 million global deaths were due to lung cancer in 2020.

Implementation:

Best practices for combating air pollution need to be effectively applied, not just discussed.

Learn from Successful Cities:

Adopt methods from cities like Ljubljana and Bogota that have prioritized health and environment.

Prioritize Health:

With 1.67 million deaths in India linked to pollution in 2019, health-focused policies are essential.

Innovative Solutions:

Support startups converting agricultural waste into valuable products, reducing sources of pollution.

Global Collaboration:

While UNESCO and UNEP have taken steps, a global cohesive effort is crucial.

Public Awareness:

Educate the public on the importance of clean air and their role in the solution.

Mains Point: Severe air pollution crisis, its health impacts

Mains Point: Air Quality Life Index

Prelims Point: Air Quality Life Index

5. Government proposes in SC tech panel to evaluate carrying capacity of 13 Himalayan States

Context:

SC tech panel to evaluate carrying capacity of 13 Himalayan States

The Ministry of Environment and Forest and Climate Change suggested steps to assess the accurate carrying capacity of 13 Himalayan States.

About Carrying Capacity

The carrying capacity is the maximum population size that an ecosystem can sustain without getting degraded.

Suggestions given by the Central Government to assess the carrying capacity of 13 Himalayan States

- The Union government has urged the Supreme Court to issue directives to all 13 Himalayan states and Union territories for immediately assessing the carrying capacity of mountainous regions.
- These 13 Himalayan states and UTs include Jammu and Kashmir, Ladakh, Uttarakhand, Himachal Pradesh, Arunachal Pradesh, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim, Tripura, Assam and West Bengal.
- States could constitute committees headed by their respective Chief Secretaries to collect information on the load-carrying capacity of their hill stations, cities and eco-sensitive zones.
- The Centre will then form a 13-member technical committee headed by the Director of the GB Pant National Institute of Himalayan Environment to evaluate the information collected by the States.

Some environmental challenges are faced in the Himalayan states

Population Growth:

The Himalayan States struggle to support an increasing number of residents without harming the environment.

Infrastructure Needs:

They need roads and buildings, but construction can damage the delicate ecosystem. For example, post the 2013 Uttarakhand floods, road-widening projects continued despite concerns.

Fragile Geography:

The region's unique topography makes development tricky. In January, land issues in Joshimath, Uttarakhand showed this.

Balancing Act:

There's a need to balance between development and preserving the environment. Himachal Pradesh's recent floods, caused by building on vulnerable mountains, are a case in point.

National Mission for Sustaining the Himalayan Ecosystem (NMSHE)

The National Mission for Sustaining the Himalayan Ecosystem (NMSHE) is one of the eight missions under the National Action Plan on Climate Change (NAPCC).

The mission is aimed at evolving management measures for sustaining and safeguarding the Himalayan glaciers and mountain ecosystem.

The measures include enhanced monitoring of the Himalayan ecosystem through establishment of the monitoring network, promoting community-based management, human resource development and strengthening regional cooperation.

Mains Point: SC tech panel to evaluate carrying capacity of 13 Himalayan States.

Prelims Point: National Mission for Sustaining the Himalayan Ecosystem.

6. How gene mapping almost all remaining kâkâpô will help NZ's rare night parrot survive

Context:

The genetic mapping will help conservation the kâkâpôs

The genetic mapping of almost the entire kâkâpô population has shed new light on specific traits that will help conservation biologists in their efforts to save the kâkâpôs.

About Kâkâpô

The Kâkâpô is a species of parrot found only in New Zealand.

IUCN Status:

Critically Endangered

Characteristics:

· They are the world's only flightless parrot, the world's heaviest parrot and also are nocturnal and herbivorous.

· It is also possibly one of the world's longest-living birds, with a reported lifespan of up to 100 years.

· They only breed every few years, triggered by the availability of certain forest foods such as the fruits of the native rimu tree.

· It is also the only parrot to have a polygynous lek breeding system (It is a mating system in which the male provides no parental care to its offspring).

Significance:

Kâkâpô was historically important to Mâori, the indigenous people of New Zealand.

Population:

Their population dropped as low as 51 during the 1990s.But thanks to the sustained efforts, the kâkâpô population is now up to 247 birds

Threats:

Kâkâpô suffer from diseases such as the fungal infection aspergillosis and many of their eggs are infertile.

Prelims Point: The kâkâpôs

7. Laws governing forests of the Northeast

Context:

Controversy about the new Forest (Conservation) Amendment Act, 2023 The article discusses concerns over the Forest (Conservation) Amendment Act, 2023, which allows diversion of forest land near India's borders without clearance. Special constitutional protections in Northeast India like Article 371A for Nagaland and 371G for Mizoram can restrict certain central laws, including forest-related ones.

Controversy about the new act

Amendment Details:

The Forest (Conservation) Amendment Act, 2023 is at the center of controversy. It permits the diversion of forest land within 100 km of India's international borders for projects without the typical forest clearance.

Area of Concern:

A significant portion of Northeast India, including states like Mizoram, lies within this 100 km range, making them directly affected by the amendment.

Mizoram's Opposition:

The Mizoram Assembly unanimously passed a resolution opposing this amendment, aiming to protect the rights and interests of its people.

Constitutional Protections:

Northeastern states like Nagaland and Mizoram have special constitutional protections (Article 371A and 371G) that can restrict certain central laws. This creates potential clashes with the new amendment.

Widespread Discontent:

It's not just Mizoram. States like Tripura and Sikkim, which are governed by the ruling party or its allies, also expressed concerns and opposed the 100-km exemption clause in the amendment.

Forest Conservation Act (FCA) relevance to Northeast India

The FCA, established in 1980, governs the diversion of forest lands for non-forest purposes.

Relevancies of FCA are:

Special Protections:

Northeastern states like Nagaland and Mizoram have constitutional protections (Article 371A and 371G) that can restrict some central laws.

Nagaland's Stance:

Although Nagaland once extended the FCA to government forests, it was later deemed non-applicable due to lack of resolution.

Mizoram's Position:

When Mizoram became a state in 1986, all Central Acts including FCA were extended to it, covering 84.53% of its notified forests

Other States:

The FCA is applicable in Meghalaya, Tripura, the Sixth Schedule Areas within these States, and in Arunachal Pradesh, Sikkim, and Manipur, with varying extents of FCA clearances.

Recorded Forest Area (RFA)

Definition:

RFA refers to lands that are recorded as forests, regardless of their official classification or ownership.

Coverage:

Over half of the Northeast region is categorized as RFA.

Types:

RFAs include notified forests and unclassed forests (forests not officially categorized).

Supreme Court Ruling:

In 1996, the court expanded "forest land" under the FCA to cover areas recorded as forests in government records, broadening the FCA's reach to unclassed forests.

Distribution in Northeast:

Percentages range, with Assam at 34.21% and Sikkim at 82.31%. Other states like Mizoram and Nagaland have 35.48% and 53.01% RFA, respectively.

FRA Act impact on Northeast region

The Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act (FRA) 2006 includes various forest classifications, from unclassified to national parks.

Rights Recognition:

FRA acknowledges specific rights under state laws, customary laws, and tribal traditions.

Northeast's Stance:

While FRA benefits Northeast due to sizable unclassed forests, only Assam and Tripura have implemented it. Other states claim it's irrelevant due to existing land ownership structures.

Mizoram's Shift:

Initially, Mizoram extended the FRA in 2009 but retracted in 2019, citing irrelevance as no claims for rights emerged.

Measures to Protect Forests:

FRA Implementation:

The Environment Ministry, in 2009, emphasized the importance of implementing the Forest Rights Act (FRA) and obtaining prior informed consent from the Gram Sabha before admitting a forest diversion proposal.

Role of District Collector:

The District Collector, who heads the committee issuing FRA titles, was tasked with ensuring FRA compliance during the forest clearance process.

Shift in 2022:

The Ministry's 2022 Forest Conservation Rules altered the process, asking states to ensure FRA compliance only after final approval for forest diversion.

State's Responsibility:

States can ensure mandatory FRA fulfillment and Gram Sabha consent before any forest land is handed over for non-forest purposes.

Tribal Affairs Ministry's Role:

This ministry can recognize and settle forest rights when forests are diverted, reinforcing legal security for forest-dwelling communities and forest protection.

Mains Point: Forest (Conservation) Amendment Act, 2023

8. **Biodiversity loss: 37,000 'alien species' introduced by human activities, says report**

Context:

IPBES repot on Invasive Alien Species Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES) has released a publication titled "Assessment Report on Invasive Alien Species and their Control''.

Invasive Alien species

Invasive alien species are plants, animals, pathogens and other organisms that are non-native to an ecosystem, and which may cause economic or environmental harm or adversely affect human health.

In particular, they impact adversely upon biodiversity, including decline or elimination of native species – through competition, predation, or transmission of pathogens – and the disruption of local ecosystems and ecosystem functions.

Key findings of IPBES report on Invasive Alien species

Number of Introduced Alien Species:

There are 37,000 alien species introduced by human activities worldwide.

Over 3,500 of these alien species pose significant global threats to nature,

economy, food security, and human health.

Most widespread invasive alien species:

The water hyacinth is the world's most widespread invasive alien species on land.

Lantana, a flowering shrub and the black rat are the second and third most widespread globally. The brown rat and the house mouse are also widespread invasive alien species.

Not all alien invasive species have negative impacts:

Not all alien species establish and spread with negative impacts on biodiversity, local ecosystems and species but a significant proportion do.

· About 6% of alien plants; 22% of alien invertebrates; 14% of alien vertebrates; and 11% of alien microbes known to be invasive pose major risks to nature and to people.

· Nearly 80% of the documented impacts of invasive species on nature's contribution to people are negative.

Impact of Invasive Alien species

Impact on Biodiversity:

Invasive alien species are a major driver of biodiversity loss, contributing to 60% of global plant and animal extinctions.

They are one of the five major direct drivers of biodiversity loss globally alongside land and sea-use change, direct exploitation of organisms, climate change, and pollution.

Economic Impact:

The annual costs of invasive alien species have at least quadrupled every decade since 1970, as global trade and human travel increased.In 2019, the global economic cost of invasive alien species exceeded $423 billion annually.

Impact on Food Supply:

The reduction of food supply is the most common impact of alien invasive species.For example, the European shore crab impacting commercial shellfish beds in New England or the Caribbean false mussel damaging locally important fishery resources in Kerala, by wiping out native clams and oysters.

Spreads Diseases:

Invasive alien species like Aedes albopictus and Aedes aegyptii spread diseases such as malaria, Zika and West Nile Fever.

Amplify impact of Climate Change:

Invasive alien species can also amplify the impacts of climate change.For example, invasive alien plants, especially trees and grasses, can sometimes be highly flammable and promote more intense fires.

Countries against Invasive Alien species

· Most countries (80%) have included targets related to managing invasive alien species in their national biodiversity plans.

· However, only 17% specifically address the issue in national legislation.Nearly half of all countries (45%) do not invest in management of biological invasions.

· Recently, countries have agreed to reduce the rate of introduction and establishment of invasive alien species by at least 50% by 2030 under Target 6 of the Kunming-Montreal Global Biodiversity Framework.

Mains Point: Invasive Alien Species

9.   **"TDB-DST supports M/s Eco Recycling Limited's Innovative "Recycling on Wheels Smart ER" to address India's E-waste Challenge**

Context:

To address India's E-waste Challenge Technology Development Board (TDB) is supporting M/s Eco Recycling Limited with Rs. 6 crores for their innovative e-waste management project called 'Recycling on Wheels Smart ER' which has a total cost of Rs.12 crores.

"Recycling on Wheels Smart ER" Project

Launched by:

M/s Eco Recycling Limited.

Purpose:

It is an innovative e-waste management project that focuses on improving e-waste management.

The project's workflow includes:

1) Pre-processing e-waste on a mobile facility
2) Scanning and serializing e-waste devices
3) Shredding the devices
4) Collecting shredded e-waste in secure bins and
5) Environmentally friendly disposal of the shredded e-waste.

Features of the project:

The project serves Special Economic Zones (SEZs) and R&D centers filling a crucial gap in e-waste management in India.

The project also offers skill development for informal sector workers and aligns with Extended Producer Responsibility (EPR) principles.

In its second phase, the project aims to extract precious metals from the shredded waste, contributing to a circular economy.

Significance:

The e-waste problem in India is a major concern with only 20% of the 3.2 million tonnes generated in 2019-20 being formally recycled.

The project addresses this e-waste crisis in India while promoting environmental sustainability and improving livelihoods.

Prelims Point: Recycling on Wheels Smart ER

10. **Explained | The global push to make ecocide a crime.**

Context:

Mexico is considering passing a law to make ecocide a crime.

Ecocide

· Ecocide is derived from Greek and Latin.It translates to 'killing one's home' or 'environment'.

· Such 'killing' could include port expansion projects that destroy fragile marine life and local livelihoods; deforestation; illegal sand mining; polluting rivers with untreated sewage.

· Legal Definition of ecocide: There is no accepted legal definition of ecocide, but a Stop Ecocide Foundation in 2021 prepared a definition of ecocide.

· It has defined Ecocide as the unlawful or wanton acts committed with knowledge that there is a substantial likelihood of severe and either widespread or long-term damage to the environment being caused by those acts.

Commonly cited examples of ecocide include:

Deforestation during the Vietnam War, the destruction of the environment during the Russian invasion of Ukraine, deforestation in Indonesia and the Amazon rainforest, oil pollution in the Niger Delta and the Chernobyl disaster.

The term 'ecocide' was popularized by Olof Palme when he accused the United States of ecocide at the 1972 UN Conference on the Human Environment.

Ecocide and International Law

· At present, the Rome Statute of the International Criminal Court (ICC) deals with four atrocities: genocide, crimes against humanity, war crimes and the crime of aggression.

· The provision on war crimes is the only statute that can hold a perpetrator responsible for environmental damage albeit if it is intentionally caused and during wartime situations.

Ecocide should be criminalized

· Over a third of the earth's animal and plant species could be extinct by 2050. Unprecedented heat waves have broken records worldwide. Changing rainfall schemes have disrupted flood and drought patterns.

· Deforestation of the Amazon, deep-sea trawling or even the catastrophic 1984 Bhopal gas disaster could have been avoided with ecocide laws in place.

· Ecocide laws could also double up as calls for justice for low- and middle-income countries disproportionately affected by climate change.

Some countries have criminalized ecocide

Ecocide is a crime in 11 countries, with 27 other nations mulling laws around criminalizing environmental damage that is wilfully caused and harms humans, animals and plant species.

The European Parliament voted unanimously this year to enshrine ecocide in law.

India's stance on ecocide

· Some Indian judgments have used the term 'ecocide' in passing, but the concept hasn't fully materialized in law.

· In Chandra CFS and Terminal Operators Pvt. Ltd. v. The Commissioner of Customs and Ors (2015), the Madras High Court noted: the prohibitory activities of ecocide have been continuing unbridledly by certain sections of people by removing the valuable and precious timbers.

· In an ongoing case, T.N. Godavarman Thirumulpad vs Union of India & Ors, the Supreme Court called attention to an "anthropogenic bias" and argued that "environmental justice could be achieved only if we drift away from the principle of anthropocentric to ecocentric".

· Hence, there is a need for India to align the existing environmental legislations with the concept of ecocide.

· One more critical challenge is to tackle problems of liability and compensation. For instance, the survivors of Bhopal gas tragedy are still fighting for compensation.

Prelims Point: Ecocide

Mains Point: Ecocide

11. Global Biofuels Alliance may be a key G20 takeaway under India's presidency

Context:

The Prime Minister may launch the Global Biofuels Alliance during the upcoming G20 summit.

Global Biofuels Alliance

Global Biofuel Alliance (GBA) is backed by the US, Brazil and India which are the leading biofuel producers and consumers.

Aim:

To facilitate cooperation and intensifying the use of sustainable biofuels, including in the transportation sector.

It will place emphasis on strengthening markets, facilitating global biofuels trade, development of concrete policy lesson-sharing and provision of technical support for national biofuels programs worldwide.

Membership:

The alliance will have a three-category membership structure bringing together member countries, partner organizations and industries.

Biofuels

· Biofuels are derived from a variety of biomass and considered a low-carbon, affordable and sustainable source of energy.

· According to estimates from the International Energy Agency (IEA), global biofuel production would need to triple by 2030 to put the world's energy systems on track toward net zero emissions by 2050.

· The Government of India is pushing biofuels such as ethanol blending of petrol and Compressed biogas (CBG) to reduce the economy's carbon footprint, dependence on imported oil and raise income of farmers.

· India achieved 10% ethanol blending of petrol in June last year and has a target of 25% blending by 2025.

· Under the 2018 SATAT Scheme, 5,000 CBG plants are to be built for an estimated annual production of 15 million tonnes of gas by next year. India currently has a total ethanol production capacity of 947 crore liters.

Prelims Point: Global Biofuels Alliance

12. Stocktaking calamity – on United Nations' Global Stocktake report

Context:

The United Nations' Global Stocktake report was released just ahead of the G-20 meet.

Purpose of Global Stocktake from the United Nations

· It outlines the extent of challenges facing the world's major economies. It will serve as a blueprint to guide discussions during the 28th Conference of Parties in Dubai.

· Its primary purpose is to provide an official assessment of the progress made by countries since 2015 in curbing greenhouse gas emissions.

· In that year, during the Paris Agreement, countries committed to limiting global emissions by more than 2°C and ideally restricting the rise to 1.5°C.

Some important takeaways from the global stocktake

· The report acknowledges that, despite making some progress, the world is currently emitting gases at a rate that will almost certainly exceed the limits agreed upon in Paris.

· The report emphasizes that reaching net-zero CO_2 emissions by 2050 requires much more ambitious action and support for implementing domestic mitigation measures.

· The emissions gap consistent with limiting global warming to 1.5°C in 2030 is estimated to be between 20.3 billion tonnes and 23.9 billion tonnes of CO_2.

· These are significant gaps that cannot be closed without a rapid expansion of renewable energy resources and a departure from fossil fuel sources.

Following developments took place at the recent G-20 summit on climate change

· Little progress has been made in terms of transitioning to cleaner energy sources.

· G-20 countries own 93% of existing coal power plants and 88% of planned ones globally.

· The G-20 Leaders Declaration formally acknowledged the requirement for significant financial commitments.

· It stated that there is a need for approximately USD 5.8-5.9 trillion in the period before 2030 to support developing countries and an additional USD 4 trillion per year for clean energy technologies by 2030 to achieve net-zero emissions by 2050.

· The report also emphasizes the importance of addressing deforestation and the adoption of electric vehicles as crucial components of a clean energy economy.

Prelims Point: Global Stocktake.

13. Climate phenomena and food security

Context:

And the necessity for India to adjust its agricultural practices and water

management in response to climate change.

The article discusses weather disruptions in India, focusing on the impacts of the Western disturbance and El Niño. They stress the significance of two types of water in agriculture and the necessity for India to adjust its agricultural practices and water management in response to climate change.

Weather disruptions are faced by India

Extended Western Disturbance:

This disturbance, which usually brings moisture to the western Himalaya and northern India during winter and spring, remained active late into the summer.

Landslides and Flooding:

These events resulted in significant infrastructure damage and loss of life in the western Himalaya and northern India.

Affected Population:

More than 25 lakh people were potentially impacted in an area estimated between 2,124 and 7,362 sq. km.

El Niño Phase:

Evidence showed an intensifying El Niño phase which could influence the southwest monsoon.

Northeast Monsoon:

Studies found that 43% of heavy rainfall events in the northeast monsoon, including the devastating 2015 Chennai floods, coincided with an El Niño.

Two types of water in agriculture

Green Water:

· This is rain-fed soil moisture.
· Used by food and cash crops.
· Transpires back into the atmosphere.
· Around half of the cultivated area in India depends on green water.
· 75% of India's daily diet water footprint is green water, highlighting the importance of rainfed agriculture.

Blue Water:

· Found in rivers, lakes, reservoirs, and groundwater.
· Basis for irrigation, drinking, and industry use.
· Maintains ecological flows in rivers.
· Dominant crops in irrigated areas, like rice paddy during the kharif season, use green water for about 35% of their needs.

Impacts of El Niño on India

Weakened Precipitation:

Climate-linked warming due to El Niño may weaken winter precipitation from the Western disturbance and shift it to more intense rain events.

Southwest Monsoon Influence:

An intensifying El Niño phase can potentially affect the southwest monsoon, though the relationship between them has changed over time.

Rainfed Agriculture:

El Niño affects rainfed agriculture by delaying rain starts, impacting sowing, and by causing higher temperatures that negatively influence plant growth and soil moisture.

Food Production:

In the 2015-2016 El Niño year, soybean production in India declined by 28% from the 2013-2022 average.

Northeast Monsoon:

43% of heavy rainfall events in the northeast monsoon, including the 2015 Chennai floods, coincided with an El Niño.

India's responce

Shift in Crops:

· Move towards less water-intensive crops like millets to reduce the vulnerability of the food system to phenomena like El Niño.
· Over 30% of blue water can be saved with such shifts, though saved water might be quickly used unless policies are in place.

Alternative Strategies:

· Adaptations and alternative crop strategies are now available, like switching to shorter growing cycle crops.

· Advisories to farmers are crucial for switching crops.

Utilizing Forecasts:

· Both the Centre and the States, along with farmers, should benefit from forecasts about phenomena like El Niño.

· Enhancements in short-term weather forecasts are vital.

Dam Management:

· There's a clear need for alternative management of dams and reservoirs to minimize flood disasters and protect aquatic ecosystems.

Governance Response:

· Emphasize sustainable water-sharing between humans and nature, rejuvenating rivers, and diversifying agro-food systems

Mains Point: Climate resilient agricultural practices and water management.

14. The New Delhi Declaration and Paris Agenda show a way forth.

Context:

The Paris Agenda for People and the Planet

At the end of June, a historic summit on international solidarity concluded the Paris Agenda for People and the Planet. African leaders amplified this dynamic by adopting the Nairobi Declaration during the first Africa Climate Summit in Kenya.

Some facts about the Paris agenda

· It envisioned a world without poverty, where the health of our planet is protected, and vulnerable nations are empowered to confront the challenges posed by climate change and conflicts.

· Achieving these objectives necessitates the mobilization of diverse financial resources and unity among nations.

Four principles that should guide the Paris agenda

1. It is imperative that no nation is compelled to make a decision between eradicating poverty and safeguarding and conserving the environment.

2. There is a need to recognize the varying needs of different countries. They should pursue diverse pathways to achieve the objectives outlined in the 2015 Paris climate agreement.

3. There is a pressing need for additional financial resources to aid vulnerable economies. It will enable them to elevate their populations out of poverty while simultaneously preserving the environment.

4. Tackling contemporary global challenges and mitigating inequality, will depend on the expansion of private capital flows to emerging and developing economies.

Way forward for the Paris agenda

· There is a strong need for a substantial financial stimulus. The world has already achieved the target of $100 billion worth of special drawing rights to be channeled to the world's most vulnerable countries, especially in Africa.

· Governments capable of providing additional SDR rechanneling mechanisms should contribute more.

· There is a need to enhance the efficiency of utilising these resources. It is crucial that each dollar lent by multilateral development banks (MDBs) is matched by at least one dollar of private financing.

· There is a need to enhance the timeliness and predictability of the debt restructuring coordination mechanism for low-income countries, commonly referred to

as the G20's Common Framework for Debt Treatments.

· Furthermore, discussions regarding its extension to lower-middle-income countries are imperative.

· Accelerating debt suspension in countries experiencing debt distress is also crucial.

· The G20 Common Framework has already yielded positive results in the cases of Chad and Zambia. It should be utilized more extensively.

· Countries should stand by each other in times of disaster. It necessitated the development of specific tools to bolster resilience, including the inclusion of a climate-crisis clause in debt contracts. All financial institutions and stakeholders must collaborate to fulfill it.

· Part of this collaborative effort should involve coordinating multilateral development banks (MDBs) and public development banks within the global network of development banks known as 'Finance in Common.'

· Cooperation regarding the energy transition can be achieved through the Climate Club, established by the G7 to fulfill the objectives of the Paris climate agreement.

· To meet our climate obligations, there is a need to explore new avenues for international taxation. Governments will need to crack down on financial flows that evade legitimate tax systems.

· Developing nations require equitable partnerships that empower them to add value by processing raw materials and critical minerals within their borders.

· There is a need for substantial replenishment of the International Development Association expansion of the IMF's Poverty Reduction and Growth Facility, and increased funding for the World Bank and other concessional facilities offered by the IMF.

· There is a need for a new international finance mechanism for forests to finance ecosystem services. It will be essential to mitigate or reduce various risks, particularly foreign-exchange risks, associated with such investments.

· To ensure that international commitments translate into tangible achievements, there is need for a joint working committee comprising international and regional organizations, countries, and civil societies to monitor this roadmap.

Mains Point: Paris agenda
Prelims Point: Paris agenda

15. **Fuel for thought – Mr Gadkari's statement reflects a valid policy concern**

Context:

Measures taken to reduce vehicular emission

The government is taking various measures to discourage the sale of diesel vehicles in order to control the mission.

Road Transport and Highways Minister Nitin Gadkari has also urged the automobile industry to move away from diesel vehicles, warning of increased taxes.

Some measures have been adopted by the government to discourage the use of diesel vehicles

1. First, it imposed a 28% GST rate on both diesel and petrol cars, with an additional 22% cess on sports utility vehicles (SUVs), making the total tax on such vehicles 50%.

2. Second, the government's fuel price reforms have reduced the price gap between diesel and petrol from around 16.78 rupees per liter to approximately 7.1 rupees per liter. As a result, the market share of diesel cars has decreased significantly from 48% to about 20%.

3.   Third, a committee recommended a ban on diesel four-wheelers in cities with over one million residents. However, it's unclear if the government has accepted this proposal.

Moreover, after the introduction of Bharat Stage-VI emission norms, major Indian automakers like Maruti, Hyundai, and Honda decided to halt diesel vehicle production.

More to do to control the emission

·   India, the world's third-largest carbon emitter, recognizes that road transportation, especially diesel vehicles, is a major source of emissions.

·   Hence, to combat this, promoting the transition to biofuels or electric transport is crucial. This shift may involve consumer-focused electric vehicle subsidies and rethinking green energy policies to reduce thermal energy reliance in the green revolution.

Mains Point: Measures taken to reduce vehicular emission.

16.   **Explained | What is a heat index and why is it important to measure?**

Context:

Iran recorded a scorching heat index of 70 degrees Celsius

Recently, Iran recorded a scorching heat index of 70 degrees Celsius (°C) in the coastal part of the country, a metric at which survival of life is difficult.

Heat index

Heat index, also known as apparent temperature, is a measure of how the temperature feels to humans.

Relative humidity is an important factor that determines heat index along with air temperature.

Heat Index calculation

·   The calculation of the heat index involves a complex formula developed by Dr. Robert Steadman in 1979.Dr. Steadman's formula considers a typical adult human of certain height and weight and incorporates the dew point.Dew Point is the temperature at which air cannot hold any more water vapour, and droplets of water begin to form.In his calculations, Dr. Steadman used 14 °C as the dew point in his calculations.

·   Some countries, like Canada, have their own indices to measure the heat index.

·   In 2024, India is scheduled to launch its own heat index to quantify the impact of heat on its population and generate impact-based heatwave alerts for specific locations.

Measuring the Heat Index important to

Impact on Health:

High humidity combined with high temperatures can lead to heat stress and heat-related illnesses. It's crucial to know when conditions are ripe for these health risks so that people can take precautions.

Safety:

Heat index values help determine the level of caution needed during hot weather. It provides guidance on when it's safe to engage in physical activity outdoors and when it's potentially dangerous, preventing heat-related illnesses and even fatalities.

Climate Change:

As temperatures rise due to climate change, we can expect more extreme heat conditions. Monitoring the heat index allows us to prepare, adapt, and implement strategies like early warnings, adjusted work schedules, and sustainable cooling solutions to cope with these extremes.

Prelims Point: Heat Index

17.   **Clean aviation will take more than just biofuels**

Context:

Biofuels for aviation sector

Union minister Hardeep Singh Puri recently said that the Global Biofuel

Alliance (GBA) could turn India into a major producer and exporter of sustainable aviation fuel (SAF).

Adoption of sustainable biofuels is the best option for the aviation industry to achieve carbon neutrality

· In 2022, aviation was responsible for 2% of all carbon emissions. It will increase rapidly unless the aviation industry discovers a way to reduce its carbon footprint.

· Developing electric planes on the scale of commercial jetliners remains a technological challenge. These planes would require exceptionally light-weight batteries. Creating an airframe design capable of taking off solely on electric power is a significant hurdle.

· Therefore, the industry's current best option for achieving carbon neutrality is the widespread adoption of Sustainable Aviation Fuels (SAFs), coupled with carbon capture techno-logies.

Challenges in achieving carbon neutrality through Sustainable Aviation Fuels

· One of the critical concerns is the capacity to supply SAFs. Traditional biofuels often rely on large quantities of agricultural produce, such as crops like sugarcane and corn,

· These crops are diverted from primary agricultural purposes like food production. As a result, there are limitations on the available output.

· There are alternative biomass sources for SAFs, including bio-waste like used cooking oil, forest residue, agricultural waste, and municipal refuse. However, ensuring an adequate supply of feedstock will still be a challenging endeavor.

· The production process for sustainable biofuels is lengthy and complex. It makes them more expensive than traditional jet fuel.

· SAFs have a lower energy density. It means that larger volumes are required to refuel aircraft. Similar to battery technology, these factors present significant hurdles to the widespread adoption of SAFs.

· The true test of SAFs will materialize when carbon trading gains significance. At that point, comprehensive track records will emerge

· Many questions the validity of SAFs' assertion of an 80% reduction in emissions, even under the best-case scenario.

More need to do

· The strategy is to begin with a small proportion of biofuel, perhaps as low as 1%. It should be mixed with regular jet fuel. There should be a gradual increase in bio-content as aircraft adapted for SAFs become more prevalent.

· The adoption of Sustainable Aviation Fuels (SAFs) will necessitate robust regulatory measures. This process has already commenced globally.

· Carbon offsets have gradually become a part of the equation through the Carbon Offsetting and Reduction Scheme for International Aviation established by the UN's leading authority in this sector.

· Indian airlines operating international flights will be required to adhere to these norms within the next five years.

Mains Point: Biofuels for aviation sector.

18. Ministry of Environment, Forest and Climate Change celebrates 29th World Ozone Day

Context:

The Ministry of Environment, Forest and Climate Change (MoEF&CC) has celebrated the 29th World Ozone Day.

World Ozone Day

World Ozone Day is celebrated on 16th September each year to commemorate the signing of the Montreal Protocol.

Aim:

To spread awareness among people about the depletion of Ozone Layer and the measures taken/ to be taken to preserve it.

Theme:

"Montreal Protocol: fixing the ozone layer and reducing climate change".

Ozone Layer

· Ozone Layer exists in the Stratosphere, between 10 KM and 40 KM above the Earth's surface.

· Ozone formed in the stratosphere called stratospheric ozone or good Ozone.Without the Ozone layer, radiation from the sun would reach earth directly, having ill effects on human health, i.e., eye cataract, skin cancer, etc., and adverse impacts on agriculture, forestry and marine life.

· Man Made chemicals containing chlorine and bromine reach the stratosphere and undergo a complex series of catalytic reactions, leading to destruction of ozone. These chemicals are called Ozone Depleting Substances.

Vienna Convention

· Vienna Convention is an international treaty on the protection of the Ozone Layer.It came into force in 1985.

· Under this convention, the Montreal Protocol came into force in 1987 to repair the ozone layer to protect the earth's Ozone Layer by phasing out production and consumption of Ozone Depleting Substances for end applications.

Montreal Protocol

About:

· The Montreal Protocol on Substances that Deplete the Ozone Layer is the landmark multilateral environmental agreement that regulates the production and consumption of nearly 100 man-made chemicals referred to as ozone depleting substances (ODS). When released to the atmosphere, those chemicals damage the stratospheric ozone layer, Earth's protective shield that protects humans and the environment from harmful levels of ultraviolet radiation from the sun.

· Adopted on 15 September 1987, the Protocol is to date the only UN treaty ever that has been ratified every country on Earth – all 198 UN Member States.

· India has successfully met the phase out targets of all the Ozone Depleting Substances as per the Montreal Protocol Schedule

India's achievements in implementation of Montreal Protocol

· India has been successfully implementing the Montreal Protocol and its ozone depleting substances phase out projects and activities in line with the phase out schedule of the Protocol.

· India has phased out Chlorofluorocarbons, Carbon tetrachloride, Halons, Methyl Bromide and Methyl Chloroform for controlled uses is in line with the Montreal Protocol phase out schedule.

· Currently Hydrochlorofluorocarbons (HCFCs) are being phased out as per the accelerated schedule of the Montreal Protocol.

· Hydrochlorofluorocarbons Phase out Management Plan (HPMP) Stage-I has been successfully implemented from 2012 to 2016 and Hydrochlorofluorocarbons Phase out Management Plan (HPMP) Stage- II is currently under implementation from 2017 and will be completed by the end of 2024.

Kigali Agreement

About Kigali Amendment

The Kigali agreement is an amendment to the Montreal Protocol. It aims to phase down hydrofluorocarbons (HFCs) by curbing both their production and consumption.

Target:

To achieve over 80% reduction in HFC consumption by 2047 which will curb a global increase of temperature by up to 0.5 degrees Celsius by the end of the century.

India:

India will complete its phase-down of HFCs in four steps from 2032 onwards with a cumulative reduction of 10% in 2032, 20% in 2037, 30% in 2042 and 80% in 2047.

About HFCs

· HFCs are entirely man-made. They are primarily produced for use in refrigeration, air-conditioning, insulating foams and aerosol propellants, with minor uses as solvents and for fire protection.

· HFCs were developed to replace stratospheric ozone-depleting substances (ODS) that are currently being phased out under the Montreal Protocol on Substances that Deplete the Ozone Layer.

· Though HFCs do not impact the ozone layer, many HFCs are very powerful greenhouse gases and a substantial number are short-lived climate pollutants with a lifetime of between 15 and 29 years in the atmosphere.

Implementation strategy of India to phase out HFCs

· National strategy for phase down of Hydrofluorocarbons will be developed after required consultation with all the industry stakeholders by 2023.

· Ozone Depleting Substances (Regulation and Control) Rules will be amended to allow appropriate control of the production and consumption of Hydrofluorocarbons to ensure compliance with the Kigali Amendment will be done by mid-2024.

Plans by other countries

Different countries have different phase down plans under the Protocol. The developed countries including the US, Canada, west European nations and Japan will reduce HFC use first, followed by China and then by 10 developing countries including India, Iran, Iraq and Pakistan.

Expected Benefits of HFCs Phasedown

Emission reduction: Hydrofluorocarbons phasedown is expected to prevent the emission of up to 105 million tonnes of carbon dioxide equivalent of greenhouse gases, helping to avoid up to 0.5 degrees Celsius of global temperature rise by 2100, while continuing to protect the ozone layer.

Scope for domestic manufacturing: There would be scope for domestic manufacturing of equipment as well as alternative non-HFC and low-global warming potential chemicals. In addition, there would be opportunities to promote domestic innovation for new generation alternative refrigerants and related technologies.

India has ratified the Kigali Amendment to the Montreal Protocol.

India will complete its phase down of production and consumption of Hydrofluorocarbons (HFCs) for controlled uses in 4 steps from 2032 onwards with cumulative reduction of 10% in 2032, 20% in 2037, 30% in 2042 and 85% in 2047.

India Cooling Action Plan(ICAP)

About ICAP:

India Cooling Action Plan (ICAP) was launched in 2019 the Union Minister for Ministry for Environment, Forest & Climate Change

The goal of ICAP is to provide sustainable cooling and thermal comfort for all while securing environmental & socio-economic benefits for the society

Objectives:

· Provide an integrated approach towards cooling and related areas

including reduction in the cooling demand, in order to reduce emissions.

· Assessment of cooling requirements across the sectors in the next 20 years and the associated refrigerant demand and energy use.

· Map the technologies available to cater the cooling requirement including passive interventions, refrigerant-based technologies and alternative technologies such as not-in-kind technologies.

· Providing skill training to RAC (Refrigeration and Air Conditioning) service technicians.

· Develop an R&D innovation ecosystem for indigenous development of alternative technologies.

Targets:

· Reducing cooling demand across sectors by 20-25% by 2037-38

· Reduce refrigerant demand by 25-30% by 2037-38

· Reduce cooling energy requirements by 25-40% by 2037-38

· Recognize "cooling & related areas" as a thrust areas of research under national S&T program

· Training & certification of 100,000 servicing sector technicians by 2022-23, synergizing with Skill India Mission.

Benefits:

· Thermal comfort for all – provision for cooling for EWS and LIG housing.

· Sustainable cooling – low greenhouse gas(GHG) emissions related to cooling.

· Doubling Farmers Income – better cold chain infrastructure – better value of products to farmers, less wastage of produce.

· Skilled workforce for better livelihoods and environmental protection.

· Make in India – domestic manufacturing of air-conditioning and related cooling equipment.

· Robust R&D on alternative cooling technologies – to provide the push to innovation in a cooling sector.

Prelims Point: World Ozone Day, Vienna Convention, Montreal Protocol, Kigali Agreement, About HFCs, India Cooling Action Plan(ICAP)

19. Green Tax, Black Mark – on EU' CBAM

Context:

EU's CBAM impact on Indian firms

Starting October 1, India's steel and aluminum exports to the European Union will face uncertainty and increased costs due to the Carbon Border Adjustment Mechanism (CBAM) introduced by the EU in April this year.

CBAM impact on Indian firms

The EU will roll out CBAM in two stages.

The first phase is the transition period. It commences on October 1, 2023, and runs until December 31, 2025.

· During this phase, Indian companies must provide extensive data related to production and emissions for products exported to the EU. The data requirements are exceptionally detailed.

· The EU has proposed substantial penalties for non-submission or incomplete data. It will be a challenge for many small and medium-sized firms.

Second stage will start from January 2026, the CBAM tax burden will be implemented. The estimated cost is equivalent to a tariff ranging from 20% to 35%. It will increase the cost of exports.

Some facts about CBAM

· Initially, CBAM will be applied to specific sectors such as steel, aluminium, fertilisers, electricity, cement, and hydrogen. However, the EU plans to progressively expand the scope of CBAM. By 2034, it will encompass all products from all countries.

- CBAM was introduced to address the issue of carbon leakage. It prevents EU companies from relocating to countries with less stringent emission regulations.

- The EU's Emissions Trading System sets emissions reduction targets for most power and industrial installations. Those exceeding the emissions limit are required to purchase emission allowances through auctions. Market determines the price of these allowances.

- CBAM aims to compel polluting companies to improve their emissions while deterring relocation by increasing the cost of imports.

Concerns related to CBAM

- CBAM essentially divides the world into two categories: CBAM-charging countries and others. Companies dealing with countries subject to CBAM must adopt cleaner technologies or face significant taxes, while trade with the rest of the world remains unaffected.

- This division is expected to disrupt existing global supply chains and lead to increased trade expenses.

- The tax imposed by CBAM exceeds the maximum tariff levels that countries are committed to under the World Trade Organization. Consequently, post-CBAM, WTO tariff commitments lose their significance for the EU.

- Moreover, FTAs will become one-sided. If India and the EU establish such an agreement, EU goods will enter India without duties, while Indian exports to the EU will still face taxes ranging from 20-35%.

Way forward for India

- Develop a calibrated retaliation mechanism (CRM)- For instance, in March 2018, when the US imposed import tariffs on India's steel and aluminium, India responded by increasing tariffs on 29 specific US products.

- This involved precise calculations to ensure that India collected equivalent revenue from US products as the US did from Indian steel and aluminium.

- Calibrated Retaliation Mechanism (CRM) offers several advantages, including swift implementation. India can easily adjust product lists and tariff levels to align with the actions of the EU. CRM could be used to counteract the impact of these schemes on Indian exports.

- Rename specific existing levies – India could reclassify certain duties as carbon taxes. It will allow companies to offset the tax paid in EU, reducing their overall tax burden.

- Other steps- Firms should consider hiring an energy auditor to prepare data in the format prescribed by the EU.

- In the long term, larger firms may contemplate establishing two production lines for the same product. One can cater to carbon tax markets like the EU, and the other to serve the rest of the world.

Mains Point: EU's CBAM impact on Indian firms.

20. **Environmental humanities: the need to expand our understanding of nature**

Context:

Importance of incorporating environmental humanities into mainstream academic conversations

The article discusses the importance of incorporating environmental humanities into mainstream academic conversations. It highlights the valuable narratives of marginalized communities in India and questions the traditional Western viewpoint on nature and the environment that has dominated for so long.

Role of Environmental Humanities:

Holistic Understanding:

It looks beyond just science to understand human and non-human interactions, promoting sustainable coexistence

Addressing Academic Bias:

Environmental humanities confront the bias against "soft sciences" in institutes that focus primarily on hard sciences.

Challenging Mainstream Views:

The discipline critiques the absence of discussions on human-nature interactions and social justice in mainstream environmental debates.

Incorporating Indigenous Insights:

It warns against a singular understanding of nature and stresses the value of multiple indigenous perspectives on the environment.

Embracing Diverse Narratives:

The field underscores the importance of marginalized community narratives, such as those of the Dalits and tribal groups, for a complete understanding of nature.

Recognizing Non-human Importance:

Environmental humanities shifts the focus from just humans, giving significance to non-humans in environmental discourse.

India view the relationship between the nation and nature

Intrinsic Connection: In India, nature is deeply entwined with society and culture, leading to a unique perspective of the nation through the lens of nature and ecology.

Two Predominant Perspectives:

Universal Ecology:

One view sees the nation as a place where nature is a common ecological reality for all citizens.

Diverse Affiliations:

The other view recognizes multiple perspectives defining the nation in connection to nature, emphasizing cultural ties and diverse notions about ecology.

Role of Ecological Nationalism:

It's used to justify either the utilization or restriction of natural resources, seeing nature as either a boon or a barrier for national progress.

Contesting Modern Utilitarian Models:

The authors credit today's environmental challenges to utilitarian progress models which extract resources, disregarding traditional Indian narratives.

Environmental Humanities can enhance our understanding of nature

Valuing the Environment's Agency:

By acknowledging the environment's intrinsic worth and agency, the field moves away from a purely utilitarian view of nature.

Highlighting Interplay Through Narratives:

The discipline enriches understanding by examining stories of rivers, landscapes, plants, animals, and community perspectives.

Tied to Social Justice:

It recognizes that environmental problems cannot be separated from social injustices and discrimination faced by marginalized communities.

Mains Point: environmental humanities.

21. **ICG Pollution-Control Vessel 'Samudra Prahari' carries out Pollution Response Table-Top exercise with Thai officials at Khlong Toei Port in Bangkok**

Context:

The Indian Coast Guard Ship Samudra Prahari, a specialized Pollution Control Vessel, has embarked on an overseas deployment to ASEAN countries.

This initiative was announced during the ASEAN Defence Minister Meeting Plus meeting in Cambodia in November 2022.

During this deployment, the ship is scheduled to make port calls in Bangkok (Thailand), Ho Chi Minh (Vietnam), and Jakarta (Indonesia).

About Samudra Prahari

Indian Coast Guard's Samudra Prahari is a specialized Pollution Control Vessel.

Key Features:

· The ship is equipped with state-of-the-art pollution response and control equipment including containment equipment like Hi-Sprint Booms and river booms to prevent spread of oil spill, oil spill recovery devices such as skimmers and side sweeping arms and storage devices in the Indian Exclusive Economic Zone.

· The ship is capable of unhindered oil recovery operations with storage capacity of 500 KL.

· The vessel is designed to operate twin-engine Advanced Light Helicopters and to operate and embark Chetak helicopter.

· The ship also has unmanned machinery operation capability also.

Prelims Point: Samudra Prahari.

22. China, U.S. and India absent at U.N.'s Climate Ambition Summit

Context:

The Climate Ambition Summit (CAS) held in New York

The Climate Ambition Summit (CAS) held in New York, as part of the United Nations General Assembly has been concluded.

Climate Ambition Summit

Convened by:

The United Nations Secretary-General at United Nations Headquarters in New York.

Purpose:

The Summit represents a critical political milestone for demonstrating that there is collective global will to accelerate the pace and scale of a just transition to a more equitable renewable-energy based, climate-resilient global economy.

Criteria for speaking at the summit:

The criteria for countries to be considered for a speaking slot at the summit were that they would be expected to

1) present updated pre-2030 Nationally Determined Contributions (as agreed in Glasgow)

2) updated net-zero targets

3) energy transition plans with commitments to no new coal, oil and gas

4) fossil fuel phase-out plans

5) more ambitious renewable energy targets

6) Green Climate Fund pledges and

7) economy-wide plans on adaptation and resilience.

Key highlights from the Climate Ambition Summit

The summit was marked by the absence of major economies whose actions significantly influence the future of global emissions.

For instance, China, the U.S and India — which collectively account for about 42% of global greenhouse gas emissions and are the top three emitters in that order — were all absent from the summit.

India's neighbor's Sri Lanka, Nepal and Pakistan were among the listed speakers at the summit. The European Union, Germany, France and Canada also attended the summit.

India's last Climate pledge

India last updated its climate pledges in 2022. Its pledges were:

1) reducing emissions intensity — or the volume of emissions per unit of gross domestic product (GDP) — by 45%

from 2005 levels by 2030, a 10% increase from what it agreed to in 2015

2) meet 50% of its electric power needs from renewable, non-fossil fuel energy sources — up from 40% committed at the Paris agreement and

3) create an additional carbon sink of 2.5 to 3 billion tonnes of Co2-equivalent [GtCO2e] through additional forest and tree cover by 2030.

Prelims Point: Climate Ambition Summit
Mains Point: Climate Ambition Summit

23. Swift death of the 'Green Consensus'

Context:

Green growth consensus

This article discusses how, between 2020-2023, global leaders aimed for "green growth" in economic recovery plans to combat climate change. However, by late 2023, this consensus seems fragile and potentially reversible due to various challenges and shifting political priorities in several countries.

Green growth consensus, after the pandemic

Global Leaders' Agreement:

After the pandemic, leaders worldwide leaned into greener recovery packages. For instance, Joe Biden's Inflation Reduction Act in the U.S. allocated almost $370 billion for clean energy.

China's Green Push:

President Xi Jinping targeted newer, less carbon-intensive sectors. By 2023, China stood responsible for nearly half of the world's low-carbon spending. The nation's ambition was for carbon emissions to peak before 2030.

European Union's Roadmap:

The EU quickly approved a $1.2 trillion roadmap for green investments over the next decade, funded by new carbon tariffs on imports and member states' contributions.

Developing Countries' Initiatives:

Countries like India, South Africa, Indonesia, and Vietnam initiated reforms. Notably, India aimed to triple its renewable energy by 2030 and targeted carbon neutrality by 2070.

Private Sector's Participation:

Businesses worldwide focused on decarbonisation. Investments favored projects with high environmental, social, and governance (ESG) scores.

Challenges to the green growth consensus

U.S. Political Turmoil:

The United States faces the risk of having a climate-sceptic leader by 2025, which could reverse current green policies. The Inflation Reduction Act is also potentially weakened by compromises and lacks a carbon tax.

European Implementation Issues:

Europe faces difficulties in green policy execution. Germany is reopening coalfields due to the Russian invasion, and there's a delay in the implementation of many provisions of the Green Deal due to objections from various sectors.

UK Policy Reversals:

The United Kingdom, after a narrow election victory, has reversed many green policies, prioritizing voter appeasement over environmental considerations.

China's Re-evaluation:

China is revisiting coal power due to power shortages and geopolitical conditions, approving new coal plants rapidly.

Depth of Global Commitment:

The global commitment to green growth is questioned, as it seems the focus is more on economic growth and job creation, revealing a hesitancy to make genuine sacrifices for climate action.

Mains Point: Green growth consensus.

24. Indian Standards on Biofuel to Aid GBA's Clean Energy Goals

Context:

The Bureau of Indian Standards (BIS) has released standards on Biofuels.

India's national standards body, The Bureau of Indian Standards (BIS) has released standards on Biofuels.

Purpose behind BIS releasing standards for different products

· BIS operates a Product Certification scheme for ensuring compliance to Indian Standards.

· Presence of BIS standard mark (popularly known as ISI mark) on a product indicates conformity to the relevant Indian Standard.

· Before granting license to any manufacturer, BIS ascertains the availability of required infrastructure and capability of the manufacturer to produce and test the product conforming to the relevant Indian Standard on a continuous basis.

· The BIS certification scheme is voluntary in nature. However for a number of products, compliance to Indian Standards made mandatory by the Central Government under various statutes in public interest.

Standards released by BIS on biofuels

· Bureau of Indian Standards (BIS) has released nine standards on biofuels to aid stakeholders including manufacturers, traders, and other entities dealing with biofuel or related matters.

· These standards related to use as blending components in motor gasoline, automotive fuels, aviation turbine fuel and Positive Ignition Engine Powered Vehicles – Specification.

· These new standards for Biofuel are in line with the objectives of Global Biofuel Alliance(GBA).

Note: BIS has also been working on a green diesel standard. The green diesel is derived from 2G feedstock including agro-residues like rice & wheat straw, cane trash, corn cobs & stover, cotton stalk, bagasse, Empty Fruit bunches, etc.

Steps taken by the government to promote use of ethanol

· The global ethanol market was valued at $99 billion USD in 2022, with an expected annual growth rate of 5% by 2032, presenting opportunities for Indian industries, job creation, and economic development.

· Currently, India heavily relies on fossil fuels for transportation, resulting in substantial petroleum imports. Ethanol blending can lead to significant cost savings.

· Indian Oil Manufacturing Companies (OMCs) are expanding ethanol production, and Indian vehicle manufacturers are developing ethanol-compatible engines.

· The government has introduced an interest subvention scheme to promote ethanol production using molasses and grain-based distilleries.

· Flex fuel vehicles, capable of using up to 85% ethanol are expected to enter the Indian market, following examples from the USA and Brazil.

Mains Point: Bureau of Indian Standards on Biofuels.

25. Union Minister flags-off 1st Green Hydrogen Fuel Cell Bus from Kartavya Path, New Delhi

Context:

India's 1st Green Hydrogen Fuel Cell Bus

The Union Minister has flagged off the 1st Green Hydrogen Fuel Cell Bus from Kartavya Path, New Delhi.

India's first Green Hydrogen Fuel Cell Bus

Developed by:

Indian Oil Corporation(IOC)

Working:

· The fuel cell utilizes Hydrogen and air to generate electricity to power the bus and the only by-product from the bus is water therefore making it possibly the most environmentally friendly mode of transportation as compared to conventional buses that run on diesel and petrol.

· The buses have also been equipped with four cylinders that have a capacity of 30 kg and can run the buses for 350 km. Re-fuelling time has also been cut down and it will now take 0-12 minutes for the four tanks to fill

Deployment:

Initially, 15 fuel cell buses will be deployed on specified routes in the Delhi NCR Region to establish the performance data under Indian operating conditions.

These 15 buses shall cover a cumulative 3 lakh kilometers to establish the efficacy, efficiency and sustainability of the complete value chain.

Significance:

· Green Hydrogen has the capacity to replace fossil fuel-derived feedstocks in industries like petroleum refining, fertilizer production, and steel manufacturing.

· Fuel cell technology powered by green hydrogen is emerging as a significant component of the e-mobility landscape.

Prelims Point: India's 1st Green Hydrogen Fuel Cell Bus.

26. Unified Registration Portal for GOBARdhan introduced by the Department of Drinking Water and Sanitation to streamline the registration of Compressed Bio-Gas (CBG) and biogas plants nationwide

Context:

Unified Registration Portal for GOBARdhan

The Department of Drinking Water and Sanitation has introduced a Unified Registration Portal for GOBARdhan to streamline the registration of Compressed Bio-Gas and biogas plants nationwide.

About GOBARdhan Initiative

· Galvanizing Organic Bio-Agro Resources Dhan(GOBARdhan) is an umbrella initiative of Government of India based on the whole of Government approach.

· It covers the entire gamut of schemes/ programmes/policies promoting the conversion of organic waste like cattle dung/ agri-residue etc to biogas/ CBG/ Bio CNG.

· Department of Drinking Water and Sanitation, Ministry of Jal Shakti is the coordinating department for GOBARdhan.

Unified Registration Portal for GOBARdhan

· Anyone who operates or intends to set up a biogas/ CBG/ Bio CNG plant in India can obtain a registration number by registering in this unified registration portal.

· The registration number is required to avail benefits/ support from other Ministries/ Departments.

GOI announcement in the Budget 2023-24 under GOBARdhan

· As per Budget Announcement 2023-24, 500 new 'waste to wealth' plants under GOBARdhan scheme will be established for promoting the circular economy.

· These will include 200 compressed biogas (CBG) plants, including 75 plants in urban areas, and 300 community or cluster-based plants.

· These plants will be established primarily by the private sector with support from stakeholder Ministries/ Departments.

Prelims Point: Unified Registration Portal for GOBARdhan

27. Green Hydrogen push will need to counter challenges

Context:

India's efforts to use green hydrogen

The article discusses India's efforts to use green hydrogen, a clean fuel, for buses. The government aims to make India a hub for this fuel, reducing reliance on imported fossil fuels and cutting emissions. However, producing green hydrogen needs a lot of water and electricity from renewable sources, which are challenges.

India's Green Hydrogen Mission

Objective:

To make India a hub for green hydrogen, a clean fuel.

Initial Steps:

Tested two buses running on green hydrogen with plans to introduce 15 more by year's end.

Ambitious Target:

Aims to produce 5 million tones green hydrogen annually by 2030.

Benefits:

· Reducing dependence on imported fossil fuels, saving Rs 1 lakh crore.

· Averting 50 million metric tonnes of greenhouse gas emissions.

Challenges in the production of green hydrogen

. **Renewable Energy Needs:**

India needs to add about 100 GW of renewable energy capacity every year to achieve its green hydrogen goals.

. **Water Scarcity:**

The production process requires 8-9 litres of water per kg of hydrogen, posing challenges in water-stressed areas.

. **Limited Electrolyser Capacity:**

The current global manufacturing capacity of electrolysers is around 10 GW, but India may need six to 10 times the world's current capacity to meet its 2030 target.

. **Safety Concerns:**

Green hydrogen is highly flammable, creating significant safety and transport challenges.

India planning to overcome these challenges through

. **Development and Investment:**

India is investing in the development of electrolyser technology to enhance green hydrogen production capacity.

. **Collaboration with Indian Oil Corporation:**

The government is collaborating with Indian Oil Corporation to leverage its proven capacities for the green hydrogen vehicle project.

. **Addressing Safety Concerns:**

Initial hydrogen-powered buses will not be carrying passengers to tackle the safety concerns due to hydrogen's highly inflammable nature.

. **International Partnerships:**

The government is seeking to forge partnerships with other nations to gain more expertise and access to markets.

Mains Point: India's efforts to use green hydrogen.

28. Green Ammonia Imported through VOC Port, Tamil Nadu for the first time

Context:

Uses of Green Ammonia

State-run V O Chidambaranar (VOC) Port located in Tamil Nadu has become the first port in India to handle green ammonia with the arrival of 20-inch tank containers loaded with the fuel from the Port of Damietta in Egypt.

Green Ammonia

Ammonia is a pungent gas that is widely used to make agricultural fertilisers. Green ammonia production is where the process of making ammonia is 100% renewable and carbon-free.

Process:

One way of making green ammonia is by using hydrogen from water electrolysis and nitrogen separated from the air.These are then fed into the Haber process (also known as Haber-Bosch), all powered by sustainable electricity.

In the Haber process, hydrogen and nitrogen are reacted together at high temperatures and pressures to produce ammonia, NH_3.

Uses of Green Ammonia

o   Energy storage:

Ammonia is easily stored in bulk as a liquid at modest pressures (10-15 bar) or refrigerated to -33°C. This makes it an ideal chemical store for renewable energy.

o   Zero-carbon fuel:

Ammonia can be burnt in an engine or used in a fuel cell to produce electricity. When used, ammonia's only by-products are water and nitrogen. The maritime industry is likely to be an early adopter, replacing the use of fuel oil in marine engines.

o   Direct usage of Green Ammonia in the fertilizer industry:

Green Ammonia can directly replace Grey Ammonia currently used in fertilizer plants without requiring any changes to existing infrastructure.

Prelims Point: Green Ammonia

29. Gujarat turns over new leaf, bans invasive tree species: 'Adverse impact'

Context:

Gujarat Government has banned the planting of Conocarpus trees

Gujarat Government has banned the planting of Conocarpus trees in both forest and non-forest areas due to their adverse impact on the environment and human health.

Earlier, Telangana had also banned the Conocarpus Trees.

Conocarpus Trees

·   Conocarpus is an evergreen species with dark-green shiny leaves.They are fast-growing and can be trimmed into various shapes, making them an attractive choice.

·   It is native to parts of North and South America, as well as parts of Africa.

·   These trees have been the popular choice in recent years for beautification of public spaces to residential societies and factories.

·   They are being grown as trees lining public roads as well as hedges along walkways in gardens and are amenable to be trimmed into various shapes.

However, Conocarpus trees have several adverse impacts.

For instance:

·   Firstly, pollen from the trees have been found to trigger health issues like cold, cough, asthma, and allergies.

·   Secondly, conocarpus trees penetrate deep into the ground and extend horizontally.On several occasions, it has come to the notice of the authorities that their roots damage underground electricity cables, communication lines, drainage lines and drinking water pipes.

·   Thirdly, the conocarpus tree absorbs more water from soil than other species and is a threat to groundwater

Prelims Point: Conocarpus trees

30. Assam Promotes Pipe Composting: A Unique Way Of Converting Biodegra-dable Waste Into Manure in Two Months

Context:

Benefits of Pipe Composting Technology

Assam is actively promoting Pipe Composting among its rural communities during the ongoing Swachhata Hi Seva campaign.

Pipe Composting Technology

· Pipe composting technology is a method of converting organic waste into compost using PVC pipes 8 – 10 inches in diameter and 1.25 metres in length. The pipes are placed vertically keeping them 25-30 cm inside the ground.

· Only degradable waste can be disposed of into the pipes including leftover food, fruit and vegetable peels, flowers, dung, agricultural waste, etc.

· Once in two weeks, a little cow dung and dry leaves are mixed with water and poured inside to accelerate the growth of the worms.

· This should remain closed so that rainwater does not enter the pipes. Compost manure can be removed by lifting the pipe after 2 months.

Benefits of Pipe Composting Technology

Efficient Waste Conversion:

It rapidly transforms biodegradable waste into valuable compost, contributing to waste reduction and environmental preservation.

Environmental Friendliness:

Pipe composting is eco-friendly, as it doesn't harm the environment.

Clean and Hygienic Environment:

It helps maintain a clean and hygienic environment within school campuses, promoting health and well-being.

Odorless and Fly-Proof:

This composting method is odorless and prevents the attraction of flies, ensuring a pleasant atmosphere.

Space Efficiency:

It doesn't require much space, making it suitable for places with limited area for waste management.

Sustainability:

The system is sustainable, as the same pipes can be used repeatedly, reducing the need for additional materials.

Educational Opportunity:

It offers a valuable educational opportunity for students to learn about decomposition science, the role of microorganisms and invertebrates, waste management, and sustainability, fostering environmental awareness.

Prelims Point: Pipe Composting Technology

Mains Point: Waste Management

31. **PM's call for Ek Tareekh Ek Ghanta Ek Saath could be world's largest voluntary effort for a cleaner India**

Context:

World's largest voluntary effort for a cleaner India

Government of India has launched 'Ek Tareekh Ek Ghanta Ek Saath' Initiative.

Ek Tareekh Ek Ghanta Ek Saath

· It is an initiative focused on hardcore cleanliness activities, specifically shramdaan (voluntary labor) for the purpose of promoting cleanliness and sanitation in India.

· The goal is to mobilize citizens to come together for one hour at 10 am on 1st October and work towards cleaning various public places.

· This effort is meant to pay tribute to Mahatma Gandhi, whose Jayanti (birthday) falls on October 2nd, and to honor his vision of a clean and hygienic India.

Significance:

This initiative will help in visible cleanliness and promote a cleaner and more hygienic environment across the country.

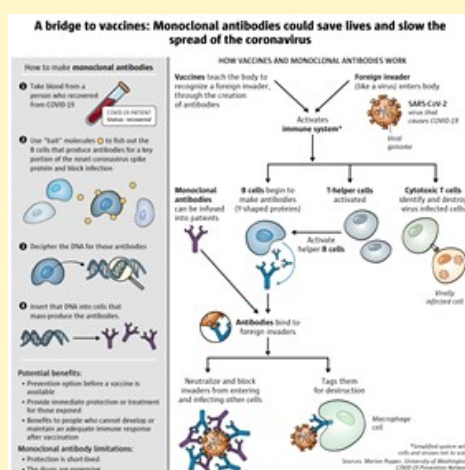**Prelims Point: Ek Tareekh Ek Ghanta Ek Saath**

SCIENCE AND TECHNOLOGY

1.   India seeks Australia's help in battle against Nipah virus

Context:

India has reached out to Australia seeking to restock monoclonal antibody doses to combat the Nipah virus.

Monoclonal Antibodies:

A bridge to vaccines: Monoclonal antibodies could save lives and slow the spread of the coronavirus

·   To fight a viral infection, our bodies create proteins known as antibodies. Monoclonal antibodies are artificial antibodies that mimic the activity of our immune systems.

·   They are produced through a process that involves extracting specific antibodies from human blood and then cloning them.

·   These monoclonal antibodies are designed to target a virus or a specific part of one — for instance, REGEN-COV2 is a cocktail of two monoclonal antibodies developed to target the Covid-19 spike protein.

·   The monoclonal antibodies bind to specific parts of the spike protein, blocking its ability to infect healthy cells.

·   **The government allowing the use of the monoclonal antibody for Nipah Virus:**

·   **First,** there is no effective treatment for the infection other than relieving the symptoms.Once infected, the mortality can be a very high 40 to 75%.To compare, even at the peak of the Covid-19 pandemic, the case fatality ratio (CFR) – proportion of people who die among those who test positive remained at around 3%.

·   **Second,** the monoclonal antibody has so far been used in 14 individuals globally and none of them died.

UPSC Prelims point: Monoclonal antibodies

2.   Odisha hit by two major disease outbreaks. All you need to know about Scrub Typhus, Leptospirosis

Context:

Odisha has been impacted from two disease outbreaks –Scrub Typhus and Leptospirosis–which have killed six people in the state so far.

About Scrub Typhus:

·   Scrub typhus, also known as bush typhus, is a disease caused by a bacteria called Orientia tsutsugamushi.

·   Scrub typhus is spread to people through bites of infected chiggers (larval mites).

·   People who frequently visit farmlands or forests are vulnerable to the infection.

·   Some of the common symptoms of scrub typhus include fever, headache, body aches, and sometimes rash.Symptoms of scrub typhus usually begin within 10 days of being bitten.

·   No vaccine is available to prevent scrub typhus.

Leptospirosis:

·   Leptospirosis is a potentially fatal zoonotic bacterial disease.

·   **Caused by:** The disease is caused by a bacterium called Leptospira interrogans, or Leptospira.

· **Vulnerable areas:** The disease is more prevalent in warm, humid countries and in both urban and rural areas.It affects an estimated 1.03 million people every year, killing around 60,000.

· **The carriers of the disease** can be either wild or domestic animals, including rodents, cattle, pigs, and dogs.

· **Symptoms:** High fever, headache, chills, vomiting, red eyes, abdominal pain, rashes, and diarrhea.

· Without treatment, Leptospirosis can lead to kidney damage, meningitis (inflammation of the membrane around the brain and spinal cord), liver failure, respiratory distress, and even death.

UPSC Prelims point: Scrub Typhus, Leptospirosis

3. **Union Health Minister addresses annual meeting of the Friends of the UN Inter-Agency Task Force on the Prevention and Control of Non-Communicable Diseases (NCDs) and Mental Health**

Context:

The Union Health Minister addressed the annual meeting of the Friends of the UN Inter-Agency Task Force on the Prevention and Control of Non-Communicable Diseases and Mental Health on the occasion of the 78th session of the UN General Assembly.

The United Nations Inter-Agency Task Force on NCDs (UNIATF):

· UNIATF was established by the UN Secretary-General in 2013 and placed under WHO's leadership.

· Its role is to bring the United Nations system and other intergovernmental organizations together to support governments to meet the NCD-related SDG targets which includes mental health.

· The Task Force supports governments to meet high-level commitments made at the United Nations General Assembly and the World Health Assembly, including the WHO Global NCD Action Plan 2013–2030.

· The task force reports each year to the Economic and Social Council of the United Nations.

The key highlights from the Union Health Minister address to UNIATF:

· Non-communicable diseases (NCDs) are a significant global health problem, responsible for about 74% of all deaths worldwide, and in India, they account for 63% of all deaths.This places immense pressure on healthcare systems and has a substantial socio-economic impact.

· India's approach towards tackling NCDs includes implementing the National Programme for Prevention and Control of Non-Communicable Diseases (NP-NCD).The strategy aims to provide standard care to 75 million people with hypertension and diabetes by 2025.

· For every individual, a single Ayushman Bharat Health Account Number (ABHA-ID) is being maintained and tracking of every single individual with NCDs is done through National NCD Portal.

· Ayushman Bharat has introduced Health and Wellness Centres (AB-HWCs) that offer population-level interventions for the prevention, screening, control, and management of five common NCDs i.e., hypertension, diabetes, oral cancer, breast cancer and cervical cancer.

· Pradhan Mantri Jan Arogya Yojana provides health assurance/ insurance coverage for secondary and tertiary care hospitalization. Rs. 5 lakh coverage per family per year is provided to over 600 million beneficiaries.

UPSC Prelims point: UN Inter-Agency Task Force

4.   Taking a giant leap for a new ethics in outer space

Source:

The author discusses the human instinct to explore and claim territories, like the race to the South Pole in the 1900s and current activities in Antarctica. They highlight the regulations in Antarctica and the need for similar rules in outer space. The author suggests India should lead in creating ethical space guidelines.

What is the human instinct to explore and claim territories in Antarctica?

· **Historical Race:** In the 1910s, explorers like Roald Amundsen and Robert Scott raced to be the first to reach the South Pole. Amundsen succeeded on December 14, 1911.

· **Territorial Claims:** Several countries, including Norway and Britain, have staked claims on Antarctica. For instance, Norway claimed an area named Dronning Maud Land.

· **Scientific Curiosity:** 12 countries, such as Argentina and the US, established over 55 research stations in Antarctica, highlighting the human urge for knowledge.

· **Peaceful Usage:** The Antarctic Treaty ensures that the continent is used for scientific research and peaceful purposes, showing a collective agreement on its value.

· **No Colonization:** Unlike historical colonies, there are no native residents in Antarctica, and resources aren't extracted for the mother country. However, the presence of research stations indicates an undeniable human footprint.

The regulations in Antarctica:

· **Treaty Initiation:** Following activities during the International Geophysical Year (IGY) in 1958, US President Dwight D. Eisenhower initiated an Antarctic Conference in 1959 with 12 countries active in Antarctica.

· **Nuclear Restrictions:** Argentina proposed banning all atomic explosions in Antarctica. Initially, the US suggested banning only unnotified tests, but eventually agreed to the complete ban.

· **Focus on Peace and Research:** The Antarctic Treaty emphasizes freedom of scientific research and mandates the peaceful use of the continent.

· **Demilitarization:** The treaty prohibits nuclear testing, military operations, economic exploitation, and further territorial claims.

· **Monitoring Systems:** Close monitoring systems are in place to oversee the activities of countries in Antarctica, ensuring its ecological integrity remains intact.

· **No New Territorial Claims:** The treaty restricts countries from making any new territorial claims in Antarctica.

Need for regulation in outer space:

· **Territorial Claims:** Like the race in Antarctica, there's potential for countries to claim territories in space, such as the moon.

· **Peaceful Use:** Like Earth's natural landmarks, outer space destinations should be used for peaceful purposes only.

· **Moon's Environment:** Regulations ensure that the lunar environment isn't disrupted or damaged.

· **Shared Resources:** The moon and its resources are humanity's common heritage, requiring collective decisions about their use.

· **Control and Territory:** Regulations help curb human desires for domination and first-arrival, promoting collaboration instead.

· **Avoiding Arms Race:** There's a pressing need to prevent militarization and arms races in outer space, ensuring safety for all nations.

The India's role be in space exploration:

· **Successful Missions:** With the achievement of Chandrayaan-3, India has proven its capability in space exploration.

· **Collaboration over Ownership:** India should view celestial bodies, like the moon, as partners in scientific advancement, not territories to claim.

· **Lead by Example:** India can set a pace for global space agendas, emphasizing collaboration and peaceful exploration.

· **Ethical Leadership:** Prime Minister Narendra Modi emphasized that Chandrayaan-3's success belongs to all of humanity. This perspective can guide India's future space endeavors.

· **Promote Peace:** India can champion the non-militarization of outer space, aligning with international treaties.

· **Address Space Debris:** India should advocate for and participate in efforts to manage and reduce space debris, ensuring outer space remains a safe environment for exploration.

5. **Northeast's mithun gets 'food animal' tag and its meat a leg-up**

Context:

· Food Safety and Standards Authority of India (FSSAI) has recognized Mithun as a 'food animal'.

· This will help farmers and tribal village communities as they can now sell mithun meat for commercial purposes.

· Until now, mithuns and their meat were sold only for very special occasions such as festivals or weddings.

About Mithun:

· **Scientific Name:** Bos frontalis

· **Habitat:** Mithun is a ruminant species of the Bovidae family found in Arunachal Pradesh, Nagaland, Manipur and Mizoram.

· It is also the state animal of both Arunachal Pradesh and Nagaland.

· **Characteristics:** Mithun is semi-domesticated and is reared in a free-range forest ecosystem. The animal is usually let loose in a community forest and has rarely required shelter or supplementary feeding except for salt.

· Since the soil in these parts is acidic and low in salt content,

Mithuns: From farms to the table

A KG OF MITHUN MEAT CAN FETCH ₹300 PER KG

Source: Indian Express

mithuns have an affinity for salt and are known to lick it off the hands of the farmers.

· **Population**: As of 2019, there are around 3.9 lakh mithuns in Arunachal Pradesh, Nagaland, Manipur and Mizoram.

· **Significance:** Mithun is traditionally reserved for special occasions, which has in present times come to also include feasts given by election candidates.

· **Initiatives:** Indian Council of Agricultural Research (ICAR) has launched the M-ANITRA app to register mithun farmers as "buyers" and "sellers" with the aim to help them do business at competitive prices.

UPSC Prelims point: Mithun

6. **C-DOT and CSIR-National Physical laboratory sign agreement for 'Development of NavIC based IST traceable Primary Reference Time Clock for Telecom Sector'**

Context:

· Centre for Development of Telematics (C-DOT) and CSIR-National Physical laboratory (NPL) has signed an

agreement for 'Development of NavIC based IST traceable Primary Reference Time Clock (PRTC) for Telecom Sector'.

· The agreement is signed under the Telecom Technology Development Fund (TTDF) scheme.

The Telecom Technology Development Fund (TTDF) scheme:

· Universal Service Obligation Fund (USOF), a body under the Department of Telecommunications, had launched the Telecom Technology Development Fund (TTDF) Scheme in 2022.

· **Aim:** To fund R&D in rural-specific communication technology applications and form synergies among academia, start-ups, research institutes, and the industry to build and develop the telecom ecosystem.

· To promote technology ownership and indigenous manufacturing, create a culture of technology co-innovation, reduce imports, boost export opportunities and create Intellectual Property.

· **Eligibility:** The following Indian entities are only eligible for support from this fund: 1) Domestic Company(ies) with focus on telecom R&D, Use case development 2) Start-ups / MSMEs 3) Academic institutions 4) R&D institutions, Section 8 companies with focus on telecom research and development among others.

· **Technology domains**: 1) 5G development under 'India 5G Stack' 2) 6G & Beyond technology development 3) IoT & M2M development 4) Other Telecom Technologies under various research programs 5) Entrepreneurship Cell (for early-stage Start-ups) and 5) Research Scholarship program.

7. Study throws light on how gravitational instabilities affect evolution of galaxies

Context:

A study conducted by the Indian Institute of Astrophysics (IIA) could help understand how gravitational instabilities are connected to galaxy evolution.

Study conducted by Indian Institute of Astrophysics (IIA) researchers:

· Researchers at the Indian Institute of Astrophysics (IIA) conducted a study to explore the connection between gravitational instabilities and galaxy evolution.

· They investigated how gravitational instabilities relate to star formation, gas content, growth time, and galaxy shapes.

· They compared these factors in nearby galaxies and studied 175 galaxies from the Spitzer Photometry and Accurate Rotation Curves (SPARC) database.

· They found that spiral galaxies like the Milky Way have higher star formation rates, lower stability, less gas, and faster gravitational instability growth. This suggests that gravitational instabilities in spirals quickly turn gas into stars, depleting gas reserves.

· Researchers then compared stability levels in nearby galaxies with those observed at high redshift, which are precursors to galaxies in the local universe.

· They found that galaxies with marginal stability levels experience intense, short-term star formation, depleting their gas reserves rapidly.

· Highly stable galaxies, on the other hand, have slower, long-term star formation, gradually converting available gas into stars.

The significance of this study:

· The study not only contributes to the understanding of gravitational instabilities but also emphasizes the need for future investigations into the impact of these instabilities on the

morphological evolution of galaxies across different redshifts.

8. Government comes out with a new set of National Awards in the field of Science, Technology and Innovation known as "Rashtriya Vigyan Puraskar"

Context:

The Government of India has come out with a new set of National Awards in the field of Science, Technology and Innovation known as "Rashtriya Vigyan Puraskar''.

Rashtriya Vigyan Puraskar Awards:

· **Objective:** To recognize the notable and inspiring contribution made by the scientists, technologists, and innovators individually or in teams in various fields of science, technology and technology- led innovation.

· **Eligibility:** Scientists/ technologists/ innovators working in government, private sector organizations or any individual working outside any organization, who have made distinguished contributions in terms of path-breaking research or innovation or discovery in any field of science, technology, or technology- led innovation shall be eligible for the awards.

· People of Indian Origin staying abroad with exceptional contributions benefiting the Indian communities or society shall also be eligible for the awards.

· **Categories:** The awards shall be given in following four categories:

· **Vigyan Ratna(VR)** award will recognize lifetime achievements & contributions made in any field of science and technology.

· **Vigyan Shri (VS)** award will recognize distinguished contributions in any field of science and technology.

· **Vigyan Yuva-Shanti Swarup Bhatnagar (VY-SSB)** award will recognize

& encourage young scientists up to the age of 45 years who made an exceptional contribution in any field of science and technology.

· **Vigyan Team (VT)** award to be given to a team of three or more scientists/ researchers/ innovators who have made an exceptional contribution working in a team in any field of science and technology.

· **Domains:** The awards shall be given in the 13 domains, namely Physics, Chemistry, Biological Sciences, Mathematics & Computer Science, Earth Science, Medicine, Engineering Sciences, Agricultural Science, Environmental Science, Technology & Innovation, Atomic Energy, Space Science and Technology, and Others.

· **Committee:** All nominations received for the Rashtriya Vigyan Puraskar awards shall be placed before the **Rashtriya Vigyan Puraskar Committee (RVPC)** to be headed by the **Principal Scientific Adviser (PSA) t**o Government of India and comprising Secretaries of Science Departments, members of Science and Engineering Academies and some distinguished scientists and technologists from different fields of science and technology.

· **Nominations and awards ceremony:** The nominations for the awards will be invited every year on **14th January** which would remain open till **28th February (National Science Day)** every year.

· These awards shall be announced on **11th May (National Technology Day)** every year.The Award Ceremony for all categories of awards will be held on **23rd August (National Space Day)**.All Awards will have a Sanad & a medal.

UPSC Prelims point: Rashtriya Vigyan Puraskar

9. Rare metal Vanadium, key for batteries, discovered in India's Gujarat

Context:

Vanadium, a rare metal, has been discovered from the Gulf of Khambhat in Gujarat.

Vanadium:

· Vanadium is a medium-hard, steel-blue metal. It rarely exists as a free element in nature but can be found in about 65 different minerals, including magnetite, vanadinite, carnotite and patronite.

· **Largest Producer:** Brazil is the world's largest exporter of vanadium followed by Russia and South Africa. Brazil alone is responsible for nearly one-quarter of the metal's global export market.

· China has the highest vanadium reserves in the world

Applications of Vanadium:

· **Vanadium is used primarily as an alloying element in Iron & Steel Industry** as it imparts toughness and strength to steel.

· **Modern applications of vanadium include** its use as vanadium secondary batteries for power plants and rechargeable vanadium redox batteries(VRB) for commercial applications.

· The main advantages of vanadium redox batteries(VRB) are 1) It can offer almost unlimited capacity simply by using sequentially larger storage tanks 2) can be left completely discharged for long periods of time with no ill effects 3) can be recharged by replacing the electrolyte if no power source is available to charge it 4) suffers no permanent damage if the electrolytes are accidentally mixed and 5) has also been shown to have the least ecological impact of all energy storage technologies.

· **Defence and aerospace:** Vanadium holds significant importance as a crucial raw material in strategic domains like defense and aerospace.

· For example, alloys combining vanadium with titanium and aluminum are employed in the manufacturing of components for jet engines and high-speed aircraft frames.

UPSC Prelims point: Vanadium

10. Creators Vs Algos-Generative AI poses a serious copyright violation risk

Context:

The article discusses a lawsuit against OpenAI by the Authors Guild. They accuse OpenAI of copyright violation by using and replicating creators' content without permission. This raises concerns about regulating generative AI globally.

The difference between earlier AI and Generative AI:

· **Earlier AI:** It mainly focused on pattern recognition. It did not create new content.

· **Generative AI:** Operates **in two steps**; **1)** it gathers extensive data (often without permission) and then **2)** synthesizes this data to create new content.

· Can mimic the style of original creations, **for example,** writing in a style similar to a particular author or artist.

· Developers like OpenAI are facing lawsuits from creative professionals, including authors and artists, for alleged copyright infringements.

· Examples include ChatGPT, which can generate content resembling the work of specific creators, potentially affecting their market value.

Implications:

· Generative AI has raised new concerns and challenges regarding copyright laws and regulations.

What should be done:

· **Formulate Unified Regulations:** A convergence of international regulations on generative AI is essential to

avoid a patchwork of interpretations by judiciaries in different countries.

· **Develop and Implement AI Regulations:** The EU is working on regulations requiring generative AI to publish summaries of copyright material used.

· **Take a Lead in Regulatory Efforts:** India, due to its role as a large creator of multilingual content, needs to lead in harmonizing independent regulatory efforts.

11. Fukushima N-wastewater controversy

Context:

Recently, the Japanese government revealed its intentions to gradually release over one million tonnes of contaminated water from the Fukushima nuclear plant into the ocean. It has raised a concern among the public, both domestically and internationally.

What are the concerns of the public:

· Various methods have been employed to treat the contaminated water. One of them is the **Advanced Liquid Processing System (ALPS)**, which eliminates **62 types of radioactive materials.** However, **tritium** is not removed during the treatment process.

· As per the Japanese government, the **concentration of tritium** in the treated water does not exceed **international standards set by the IAEA.** The concentration of tritium in the treated water is six times lower than the **World Health Organization's limit.**

· The **chemical extraction of tritium** from wastewater is virtually impossible because tritium is **chemically identical to hydrogen.**

· There is evidence suggesting that even exposure to low levels of radiation can have **adverse effects** on both human health and the environment.

· Tritium is **readily absorbed** by living organisms and **rapidly distributed** throughout their bodies via the bloodstream. Moreover, it can **cross the placenta. It can** lead to **developmental issues** in babies if ingested by pregnant women.

· Releasing the water appears to be the **only viable option** due to **limited space** around the Fukushima plant and the potential for leaks. Storing the water elsewhere throughout the country would significantly increase both **costs and the risk of leaks.**

How is this affecting regional politics:

· The Japanese Prime Minister and South Korean President publicly consumed seafood after the wastewater discharge began. This public act aimed to **bolster public trust** in the water treatment process.

· Transparency concerning the treatment and release process has been crucial, especially in Japan's relations with South Korea.

· For both Mr. Kishida and Mr. Yoon, the water discharge presents more of a **geopolitical challenge** than a **health issue. Historical tensions** still strain their relations today. However, both leaders have been working to **improve relations**.

· Japanese authorities have engaged with **regional counterparts,** such as South Korea, China, and Russia, to discuss the wastewater treatment and release plan since 2021.

Why has China adopted a hardline stance:

· China's response to the wastewater issue should be viewed within a **broader geopolitical context.**

· Recent Japan-China relations have been impacted due to China expanding its **military presence in the South China Sea.** This has fueled **nationalist sentiments** on both sides, making the wastewater issue significant.

· China is also monitoring the **deepening relationship** between South Korea and

Japan. China is uncomfortable with the **growing closeness** between South Korea and Japan. It aims to exploit the **strategic divisions** between the two.

12. NASA's OSIRIS-REx: First-ever asteroid sample to drop on Earth

Context:

The National Aeronautics and Space Administration(NASA) is preparing for the final phase of the OSIRIS-REx mission as the spacecraft is set to drop a capsule containing samples from the asteroid Bennu on Earth.

About the OSIRIS-REx Mission:

· OSIRIS-REx stands for Origins, Spectral Interpretation, Resource Identification, Security, Regolith Explorer.The mission was launched by NASA in 2016.

· **Aim:** To travel to a near-Earth asteroid named Bennu and bring a small sample back to Earth for study.

· **Significance:** It is the first U.S. mission to successfully collect a sample from an asteroid.

· **Note:** Japan is the only other country to bring back asteroid samples.It gathered samples of about a teaspoon in a pair of asteroid missions.

Source: Al Jazeera

About Asteroid Bennu:

· Asteroid Bennu is named after an Egyptian deity. It is as tall as the Empire State Building. It is located about 200 million miles away from the Earth.

· A team from the NASA-funded Lincoln Near-Earth Asteroid Research team in 1999 discovered the asteroid.

Why is the OSIRIS-REx Mission important:

· Samples like the one carried by the OSIRIS-REx mission are important because asteroids like Bennu can act as "time capsules" for the earliest history of our solar system.

· They can also preserve chemical signatures from a long time ago when the universe was a younger place.In fact, it is even possible that they contain samples of the ancient building blocks of life.

UPSC Prelims point: OSIRIS-REx

13. First ever drone exhibition cum display 'Bharat Drone Shakti 2023' inaugurated by Raksha Mantri at Hindan Air Force Station

Context:

First ever drone exhibition cum display 'Bharat Drone Shakti 2023' inaugurated by Raksha Mantri at Hindan Air Force Station".

Background:

· The Defence Minister has inaugurated the Bharat Drone Shakti-2023 exhibition at the Hindan Air Base in Ghaziabad, Uttar Pradesh.

· The minister also formally inducted the first C-295 MW transport aircraft into the Indian Air Force(IAF).

About Bharat Drone Shakti:

· Bharat Drone Shakt is a collaborative effort between the Indian Air Force and the Drone Federation of India (DFI).

· **Aim:** To present the full potential of the Indian drone industry with an impressive lineup of over 50 live aerial demonstrations.

· These demonstrations will encompass a diverse range of drone applications, including survey drones, agriculture drones, fire suppression drones,

tactical surveillance drones, drone swarms and counter-drone solutions.

The key highlights from Bharat Drone Shakti-2023:

· A compact drone system designed for easy transport on motorbikes was exhibited at the drone show.

· These motorbikes are equipped to carry unassembled drones, providing an efficient means of deploying technology across rural terrains.

About C-295 MW Aircraft:

· C-295 is a new-generation tactical airlifter in the light and medium segment.

· The aircraft will replace the ageing Avro aircraft of the Indian Air Force.

· It has been designed and built by Airbus, a European multinational aerospace corporation.

UPSC Prelims point: C-295 MW Aircraft

14.   Tackling the various myths within the field of microbiome research

Context:

A recent evaluation published in Nature Microbiology challenges the popular beliefs about microbes.

What are popular beliefs challenged by the evaluation published in Nature Microbiology:

· **The age of the field–** The notion about microbiome research is that it is a recent development. But scientists had already documented the advantages of bacteria like Escherichia coli and Bifidobacteria as far back as the late 19th and early 20th centuries.

· **The question of origin-** Joshua Lederberg, a Nobel laureate in medicine, is often credited for coining the term in 2001. But the researchers had employed the term in its current context over a decade earlier. Researchers Whipps J.M., Lewis K., and Cooke R.C. had utilised the term in 1988 to describe a microbial community.

· **The number of microbes-** There were widespread misconceptions pertaining to the scale of the microbiome. Number of microbial cells in a single gram of human faeces has been significantly overstated. According to the authors, the genuine figure falls within the range of 10^{10} to 10^{12} cells.

· **The mass of the microbiome-** Numerous research articles claimed that the human microbiota weighs between 1 to 2 kilograms. But its actual weight is approximately half a kilogram or even less.

· **From mother to child-** Contrary to certain beliefs, mothers do not transmit their microbiomes to their children during birth. While a few microorganisms are directly transferred during childbirth, they make up only a small portion of the human microbiota.

· **Danger associated with microbes-** Some researchers have proposed that diseases arise from unfavourable interactions between microbial communities and our cells.

· However, the evaluation suggests that the beneficial or harmful nature of microbes and its byproducts depends on the specific circumstances.

· The authors acknowledged that diseases have been linked to alterations in the microbiome's composition, and such changes could potentially exacerbate certain conditions such as inflammatory bowel disease.

· Therefore, attributing a particular microbial profile or modifications in it to a specific disease is "extremely challenging."

· **Standardised methods-** There is a prevailing belief that standardised methods are necessary for facilitating comparisons between various studies. However, as per evaluation there is no flawless methodology. Opting for a single universal approach would mean

overlooking the inherent limitations associated with that chosen method.

· **The culturable microbiome-** Many believe that cultivating microbes from the human microbiome in a laboratory setting is challenging.

· However, the authors say that scientists were able to culture a variety of microbiome species from the gut during the 1970s. They noted that the existing gaps in culture collections can be attributed to a historical lack of effort rather than inability to culture these microbes.

UPSC Prelims point: Microbiome technology

15. Green Ammonia Imported through VOC Port, Tamil Nadu for the first time

Context:

State-run V O Chidambaranar (VOC) Port located in Tamil Nadu has become the first port in India to handle green ammonia with the arrival of 20-inch tank containers loaded with the fuel from the Port of Damietta in Egypt.

About Green Ammonia:

· Ammonia is a pungent gas that is widely used to make agricultural fertilisers.Green ammonia production is where the process of making ammonia is 100% renewable and carbon-free.

· **Process:** One way of making green ammonia is by using hydrogen from water electrolysis and nitrogen separated from the air.These are then fed into the Haber process (also known as Haber-Bosch), all powered by sustainable electricity.

· In the Haber process, hydrogen and nitrogen are reacted together at high temperatures and pressures to produce ammonia, NH_3.

The uses of Green Ammonia:

· **Energy storage:** Ammonia is easily stored in bulk as a liquid at modest pressures (10-15 bar) or refrigerated to -33°C. This makes it an ideal chemical store for renewable energy.

· **Zero-carbon fuel:** Ammonia can be burnt in an engine or used in a fuel cell to produce electricity.When used, ammonia's only by-products are water and nitrogen.The maritime industry is likely to be an early adopter, replacing the use of fuel oil in marine engines.

· **Direct usage of Green Ammonia in the fertilizer industry:** Green Ammonia can directly replace Grey Ammonia currently used in fertilizer plants without requiring any changes to existing infrastructure.

UPSC Prelims point: Green Ammonia

16. Reform can address India's kidney transplant deficit

Context:

This article talks about the severe kidney shortage in India, where laws make kidney swaps and chains hard, leading to few transplants. It explains that swaps and chains could increase transplants, but strict rules and lack of coordinating authority limit them. The article suggests India should adapt successful international practices to help its citizens and reduce illegal kidney sales.

What are the ways a patient can obtain a kidney:

· **Deceased Donor:** A patient can receive a kidney from someone who has died, but limitations like the scarcity of donations and suitable infrastructure make this challenging.

· **Relative/Friend Donation:** A patient can receive a kidney from a compatible relative or friend, but finding a compatible donor is often problematic.

· **Kidney Swaps:** Swaps occur when two incompatible donor-recipient pairs exchange kidneys. For example, Sunita and Zoya, incompatible with their

respective spouses, can swap donors if compatibility is found, allowing transplants to occur.

· **Kidney Chains:** A kidney chain begins with an altruistic donor. This donor gives a kidney to a compatible recipient, whose incompatible donor gives to another compatible recipient, creating a chain of donations. The constraints in the current system, however, prevent the formation of such chains in most parts of India.

The reasons for kidneys shortage in India:

· **High Demand:** In 2022, over two lakh people in India needed a kidney, but only about 7,500 transplants were done, showing a stark shortage.

· **Prevalence of Chronic Diseases:** Chronic Kidney Disease (CKD) affects about 17% of India's population, mainly due to widespread diabetes, malnourishment, and poor living conditions, raising the demand for kidneys.

· **Stringent Regulations:** Strict laws in India limit kidney swaps to near-relatives in most states and prohibit kidney chains, except in Kerala, restricting the availability of kidneys for transplants.

· **Lack of Donations:** There is a scarcity of kidney donations from deceased donors due to specific conditions on the nature of death and the lack of infrastructure needed to collect and store kidneys.

· **Limited Compatibility:** Even when willing donors are available, like friends or relatives, often they are not a match in terms of blood type and tissue type, limiting the successful transplants.

· **Absence of Coordinating Authority:** The lack of a national authority for managing and coordinating swaps restricts the potential to find compatible matches and facilitate more transplants.

Further steps need to be taken:

· **Reform Regulations:** Laws limiting kidney swaps and prohibiting kidney chains need to be relaxed to enhance kidney availability.

· **Promote Swaps and Chains:** Encourage the implementation of kidney swaps and chains to maximize the utilization of available donors.

· **Altruistic Donations:** Permit altruistic kidney donations to initiate kidney chains, providing more patients access to compatible kidneys.

· **Enhance Infrastructure:** Improve the infrastructure to collect and store kidneys, making donations from deceased individuals more feasible.

· **National Coordinating Authority:** Establish a central authority for coordinating swaps and chains, allowing a more extensive and diverse pool for compatible matches.

· **Adopt International Practices:** Learn and incorporate successful regulations and practices from countries like Spain and the U.S. to facilitate more kidney exchanges and transplants.

17. **What is geospatial intelligence? A geographer explains the powerful melding of maps and data**

Context:

Geospatial intelligence has offered valuable insights to help governments and organizations to protect communities from natural disasters.

Geospatial Intelligence:

· Geospatial intelligence is the collection and integration of data from a network of technologies, including satellites, mobile sensors, ground-control stations and aerial images.

· The data is then used to produce real-time maps and simulations to help identify when, where and to what extent a threat is likely to emerge.

· Government officials, individuals or both can use this information to make informed decisions.

· The geospatial intelligence industry is projected to grow from a US$61 billion enterprise in 2020 to more than $209 billion in 2030.

Applications of Geospatial Intelligence:

· **Emergency Preparedness and Response**: Geospatial intelligence aids in monitoring and responding to disasters, like tropical cyclones, by providing information on their location and strength.

· It supports search-and-rescue efforts, assesses damage, and helps in resource allocation during emergencies.

· **Environmental Monitoring:** Geospatial intelligence monitors environmental factors like temperature, precipitation, and polar ice to anticipate disturbances.

· This data is crucial for preparing for events like heatwaves, which can impact human safety and security.

· **Conflict and Security:** Geospatial intelligence contributes to security by tracking and reporting on events like the Russian-Ukraine war through satellite imagery.

· Commercial satellite companies now provide vital public information, extending the role of geospatial intelligence in transparency.

· **Transportation and Logistics:** Geospatial intelligence enhances transportation, logistics, and global supply chains by utilizing GPS data.

· It provides real-time information on ship and cargo locations, improving efficiency and reliability.

· **Autonomous Vehicles and Urban Planning:**

· High-resolution imagery aids in the development of autonomous vehicles and smarter urban planning.

· It helps detect features on the ground, such as bicycle lanes and traffic direction, for safer and more efficient communities.

· **Use in development, implementation and evaluation of digital twins:** Digital twins are virtual representations of real systems – buildings or cities, for example – that mimic the systems' characteristics and can be updated in real time to reflect changing conditions in the systems.

· Digital twins are being used in many civilian and military settings to improve decision making. They are useful for modeling changes and predicting outcomes.

· Digital twins have been highly effective in conflict settings by simulating weather and terrain to help militaries and peacekeepers develop and enact strategies.

Significance of Geospatial Intelligence in today's world:

· The need for geospatial intelligence is more important than ever.

· Average temperature is projected to increase between 2 to 9.7 degrees Fahrenheit (1.1 to 5.4 degrees Celsius) by the end of the century.

· The global population is expected to reach 11 billion by 2100, and urban areas are becoming denser and more prone to disasters.

· Whether reconstructing the past, describing the present or anticipating the future, geospatial intelligence provides valuable information to help keep people and communities safe.

UPSC Prelims point: Geospatial Intelligence

18.   Inside the digital world of cookies

Context:

In the digital world, cookies enhance online experiences but pose privacy and security challenges. Their usage and regulation are evolving in the digital landscape.

About Cookies:

·   Cookies contain tiny amounts of data about users in text files that act like a website's memory.

·   As soon as we use a server, tiny amounts of data start getting stored inside a cookie.

·   The website uses it to identify users and their devices, which also stores these cookies.Whenever a user visits the same website, the cookies identify him/her and make it show relevant information.

What are the different types of Cookies:

·   **Session Cookies:** Temporary and disappear when you close your browser.They help websites remember your actions during a single visit.

·   **Persistent Cookies:** They are the digital equivalent of bookmarks. They stay on the device after your browsing session ends.

·   They remember the login information, language preferences, and even the ads you have interacted with.They are handy for a more personalized web experience.

·   **Secure Cookies**: These are only sent over encrypted connections, making them safer from prying eyes.Secure cookies are often used for sensitive data like login credentials.

·   **Third-Party Cookies:** Come from domains other than the site you're visiting and are used for tracking and advertising.

Various uses of cookies:

1)   **User Authentication:** They keep you logged in on websites 2) **Personalization:** Customize your experience based on preferences 3) **Shopping Carts:** Maintain items in your cart across visits 4) **Analytics:** Help websites gather data for improvements 5) **Targeted Advertising:** Display ads matching your interests.

The challenges associated with cookies:

·   **Privacy Concerns:** Privacy concerns arise as cookies could track your online behaviour, which, while often harmless, can sometimes encroach upon your digital privacy.

·   **Security Risks:** Poorly secured cookies can lead to data theft.

·   **User Consent:** Regulations require websites to seek approval for certain cookies. For instance, Digital Personal Data Protection Act 2023 necessitates websites to acquire explicit consent from users prior to collecting or processing their personal data via cookies.

·   **Third-Party Cookies**: Controversial due to privacy concerns.

·   **Data Overload**: Too many cookies can slow down your browser.

UPSC Prelims point: Digital Cookies.

SOCIAL ISSUES

1.   Mansukh L Mandaviya writes | Ayushman Bhav: May all be free of illness.

Context:

Recently, a new health campaign called Ayushman Bhav was launched by President Droupadi Murmu.

Some facts about the Ayushman Bharat scheme:

What is Ayushman Bharat Scheme?

- Its goal is to offer inclusive healthcare services to all individuals, regardless of their geographic location or financial situation.

- Ayushman Bharat represents a shift from a fragmented healthcare system to a more comprehensive, demand-driven approach.

- It encompasses preventive measures, health promotion, and healthcare delivery at primary, secondary, and tertiary levels through the establishment of health and wellness centers (HWCs) and the implementation of **the Pradhan Mantri Jan Arogya Yojana (PM-JAY).**

Some facts about Ayushman Bharat:

- Its core objectives include extensive coverage, raising awareness about PM-JAY, establishing health account IDs, and delivering healthcare services such as disease screenings and the management of various health conditions like tuberculosis, hypertension.

- The primary goal of Ayushman Bhav is **to extend its reach to over 6.45 lakh villages and 2.55 lakh gram panchayats.**

- The campaign will organize activities such as sewa pakhwada. It encompasses initiatives like organ donation drives, cleanliness campaigns, and blood donation initiatives.

- **Ayushman Sabhas are scheduled to convene on October 2.** Another round is planned before December 31.

- These gatherings will provide a platform for citizens to acquire knowledge about both diseases and voice their concerns regarding healthcare services.

- This initiative aims to promote social accountability within the healthcare systems and exemplify the principle of **"jan bhagidari se jan kalyan".**

- Activities during these assemblies will include distributing PM-JAY cards, showcasing accredited hospitals, creating Ayushman Bharat Health Account IDs, offering screening services, and organizing informative talks about various diseases.

- Participation is expected from various stakeholders, including MPs/MLAs, PM-JAY beneficiaries, beneficiaries of Ayushman Bharat Health and Wellness Centres, tuberculosis champions, and others to inspire community engagement.

- Ayushman Melas will be held weekly at 1.6 lakh Health and Wellness Centre in villages and also at community health centers. It will be organized by medical colleges at the block level.

- These Melas will provide specialized services such as ENT, eye care, and psychiatric care, build trust between the

community and the healthcare system, improve health-seeking behavior and literacy, encourage greater interaction with medical colleges.

. It will transform every village and urban ward into an **Ayushman Gram Panchayat or Ayushman Urban Ward.** It will foster comprehensive and sustainable development at the grassroots level.

. The mission aims to certify villages that achieve 100 percent coverage of selected schemes under each pillar.

. It includes the distribution of Ayushman cards, generation of Ayushman Bharat Health Account IDs, population-based screening, and testing and treatment for communicable and non-communicable diseases.

Mains point: Government health scheme and interventions.

2.   33% Fairer – Political returns on passing the women's reservation bill look very good now. Don't waste this chance.

Context:

The specific legislative agenda for the special Parliament session, which begins today, remains uncertain. However, one speculated item is a bill aiming to reserve one-third of Lok Sabha and state legislative assembly seats for women.

The reasons for the Parliament to consider a bill that allocate one-third of Lok Sabha and state legislative assembly seats for women:

. The country and its women have made a lot of progress since the first attempt to pass such a law in 1996. The strong opposition that every government has faced in trying to pass this law has also died down.

. Therefore, it is unlikely that there will be the same violent scenes of male MPs tearing up women's reservation bills as seen in the past.

. Further, the social and economic arguments for this reservation were strong even three decades ago. **The main difference now is that there is more political support for it.**

. Even the current ruling party has pledged to pursue a constitutional amendment for this reservation in both its 2014 and 2019 manifestos.

The current status of women's representation in legislative bodies in India:

. There has been a shift in Indian politics regarding women's reservation. This can be attributed to factors like the 2019 Lok Sabha elections, where women voted in higher numbers than men, a trend also observed in various assembly polls.

. **Women are now the focal point of numerous welfare programs,** and their issues are receiving greater attention.

. However, despite these changes, women's representation in legislatures remains low, ranging from 0% to 14%.

Way ahead:

. **The women's reservation bill was passed in the Rajya Sabha in 2010,** and that same year, the budget aimed for double-digit economic growth. However, double-digit growth has not been yet achieved.

. Therefore, recognizing the connection between strong economic growth and women's empowerment, policymakers should prioritize increasing women's representation in legislatures.

. A persistent discrimination against women imposes significant costs on India in both wealth and well-being.

Mains point: About representation of women in the legislative bodies

3. India is at a pivotal moment in its health-care journey.

Context:

The health challenges faced by India and achievement of India in the healthcare sector. It also explains the potential of AI in transforming the healthcare sector in India.

Significant health challenges faced by India:

. I**t is the world's diabetes capital.** Millions of people are suffering from conditions like hypertension.

. India's youth are increasingly affected by health issues like heart attacks, cancer, respiratory problems, and depression.

. If these non-communicable diseases continue to go unchecked, it's projected that the burden on India's healthcare system will reach nearly $4 trillion by 2030.

. This could result in a significant **"age tax"** on the country's demographic dividend.

The achievements made by India in the healthcare sector since the 1980s:

. **Key health metrics have seen significant improvements.** Infant mortality has decreased fourfold, and maternal mortality has decreased sevenfold. The average life expectancy of an Indian has increased by nearly 30%, from 55 years to over 70.

. **India boasts world-class healthcare infrastructure.** It has exceptional clinical talent capable of delivering clinical outcomes on a massive scale and at a fraction of the global cost.

. India's expertise extends to highly specialised areas such as organ transplants, cardiology, oncology, and more.

. India has emerged as a prominent global hub for Medical Value Travel, particularly in fields like oncology, orthopaedics, and robotic surgery.

. A noteworthy achievement in this journey is the introduction of proton beam therapy technology. It has established India as a regional leader in cancer treatment.

. **Robotic surgery has also gained popularity.** Indian hospitals have adopted robotic-assisted techniques for precision and quicker recovery.

The potential of AI in promoting the healthcare industry in India:

. **Artificial Intelligence (AI)** is rapidly revolutionising healthcare worldwide.

. The country possesses a vast pool of talented data scientists, engineers, and healthcare professionals who can drive innovation in AI-based healthcare solutions.

. **AI can have a significant impact in diagnostics.** AI-powered tools can enhance the accuracy and efficiency of medical diagnoses. It can lead to faster treatment decisions and improved patient outcomes.

. Additionally, AI can predict disease outbreaks, analyse healthcare data, and optimise treatment plans, expediting healthcare procedures and revolutionising drug discovery. This makes healthcare more personalised and effective.

Way forward-

. India must continue to invest in research and development in AI in healthcare. It must facilitate collabo-

rations between academia and industry and create an ecosystem that encourages innovation.

. India must prioritise community health, promote public-private partnerships, and invest in innovation and research.

. Public-private partnerships can create a favourable environment for Medical Value Tourism by jointly investing in infrastructure, promoting medical tourism, and establishing international healthcare accreditation bodies.

Mains point: Healthcare sector in India

4.   Facilitating degrees within a degree.

Context:

The India's new National Higher Education Qualifications Framework (NHEQF). It points out its shortcomings, complexity, and potential implementation issues. The article emphasizes the importance of clearer guidelines and more inclusive consultations to improve the higher education system.

Draft National Higher Education Qualifications Framework (NHEQF)

The issues of new National Higher Education Qualifications Framework (NHEQF):

. **Multiple Frameworks:** Instead of one consolidated framework, UGC prescribed both NHEQF and the National Credit Framework, causing confusion.

. **Omission of Key Disciplines:** Important disciplines like agriculture, law, medicine, and pharmacy aren't covered in the NHEQF.

. **Over-reliance on European Standards:** The NHEQF heavily references the European Bologna process and Dublin descriptors, which might not align with India's unique educational context.

. **Broad Purpose of Education Overlooked:** The framework seems more focused on qualifications than holistic education encompassing socio-cultural and politico-economic factors.

. **Elitist Approach:** Students with a four-year degree and high CGPA can directly pursue a PhD, which might lead to elitism.

. **Implementation Challenges:** Equating postgraduate diplomas with four-year undergraduate programs, and suggesting unrealistic study hours, creates practical hurdles.

. **Unclear Learning Outcomes:** The framework borrows heavily from European standards without adapting them for the diverse Indian disciplines.

Way forward:

. Integrate all existing guidelines into the NHEQF for clarity.

. Include disciplines like agriculture, law, medicine, and pharmacy in the NHEQF.

. Base the NHEQF on consultations with states considering India's education system diversity.

. Recognize the broader purpose of education, beyond just livelihood.

. Reconsider the direct path from a four-year degree with high CGPA to a PhD to ensure inclusivity.

. Address challenges like equating postgraduate diplomas with four-year undergraduate programs and clarify the duration of courses like B.Ed.

. Adapt and clarify learning outcomes for the diverse Indian disciplines, instead of heavily borrowing from European standards

5.   Union Health Minister addresses annual meeting of the Friends of the UN Inter-Agency Task Force on the Prevention and Control of Non-Communicable Diseases (NCDs) and Mental Health.

Context:

The Union Health Minister addressed the annual meeting of the Friends of the UN Inter-Agency Task Force on the Prevention and Control of Non-Communicable Diseases and Mental Health on the occasion of the 78th session of the UN General Assembly.

The United Nations Inter-Agency Task Force on NCDs (UNIATF):

- **UNIATF was established by the UN Secretary-General in 2013** and placed under WHO's leadership.
- Its role is to bring the United Nations system and other intergovernmental organizations together to support governments to meet the NCD-related SDG targets which includes mental health.
- The Task Force supports governments to meet high-level commitments made at the United Nations General Assembly and the World Health Assembly, including the WHO **Global NCD Action Plan 2013–2030.**
- The task force reports each year to the Economic and Social Council of the United Nations.

The key highlights from the Union Health Minister address to UNIATF:

- **Non-communicable diseases (NCDs)** are a significant global health problem, responsible for about 74% of all deaths worldwide, and in India, they account for 63% of all deaths.This places immense pressure on healthcare systems and has a substantial socio-economic impact.
- India's approach towards tackling NCDs includes **implementing the National Programme for Prevention and Control of Non-Communicable Diseases (NP-NCD).**The strategy aims to provide standard care to 75 million people with hypertension and diabetes by 2025.

- For every individual, a single Ayushman Bharat Health Account Number (ABHA-ID) is being maintained and tracking of every single individual with NCDs is done through National NCD Portal.
- **Ayushman Bharat has introduced Health and Wellness Centres (AB-HWCs)** that offer population-level interventions for the prevention, screening, control, and management of five common NCDs i.e., hypertension, diabetes, oral cancer, breast cancer and cervical cancer.
- **Pradhan Mantri Jan Arogya Yojana** provides health assurance/ insurance coverage for secondary and tertiary care hospitalization. Rs. 5 lakh coverage per family per year is provided to over 600 million beneficiaries.

Prelims point:The United Nations Inter-Agency Task Force on NCDs (UNIATF)

6. **Silent killer – India must get more people to keep blood pressure under control.**

Context:

Recently, the World Health Organization (WHO) has released its first report on hypertension.

The key findings of the report:

Globally: Hypertension is a global issue, affecting one in three individuals, and it is often inadequately controlled in four out of five cases.

- This highlights the lack of effective measures taken by countries to manage this major risk factor for cardiovascular diseases like heart attacks and strokes.
- Uncontrolled blood pressure, even below 140/90, is risky, especially for

people with **diabetes, obesity, and habits like tobacco and alcohol use.**

India: In India, the WHO report from 2019 data shows that 188 million adults aged 30-79 have hypertension, but only 37% are diagnosed, 30% are treated, and just 15% have their hypertension under control.

. Women seem to have slightly better rates of diagnosis, treatment, and control compared to men.

. Stroke rates in India are high, with a fatality rate of 18%-42%. In 2019, heart attacks were the top cause of death and disability in the country.

The reasons behind rising hypertension cases in India:

. Research indicates that consuming more than five grams of salt daily is linked to 17%-30% of hypertension cases.

. Although member States are obligated **to achieve a 30% reduction in average population salt intake by 2025**, India has not fully adopted the WHO's recommendations to reduce salt consumption.

. A 2021 study in four Indian States found high salt and sugar levels in packaged foods, highlighting the importance of mandatory front-of-pack nutrition labels, food reformulation to reduce salt, and public awareness efforts.

The steps has India undertaken to address hypertension:

. India has made progress in managing hypertension through the India Hypertension Control Initiative (IHCI).

. As of March 2021, 48% of patients at primary health centers and 55% at health wellness centers achieved blood pressure control under this program.

. Hence, expanding this initiative and maintaining effective blood pressure control should be the essential goals.

Prelims point:The World Health Organization (WHO) has released its first report on hypertension.

7. **Fourth Gender Samvaad was co-organized by Deendayal Antyodaya Yojana-National Rural Livelihoods Mission ((DAY-NRLM) and Institute for What Works to Advance Gender Equality (IWWAGE).**

Context:

The fourth Gender Samvaad was co-organized by Deendayal Antyodaya Yojana-National Rural Livelihoods Mission (DAY-NRLM), Ministry of Rural Development and Institute for What Works to Advance Gender Equality (IWWAGE).

Gender Samwaad:

. Gender Samvaad is co-organized by Deendayal Antyodaya Yojana-National Rural Livelihoods Mission **(DAY-NRLM)** and Institute for What Works to Advance Gender Equality **(IWWAGE).**

. **Aim:** To establish a shared platform to generate awareness on DAY-NRLM's gender interventions across the country with a focus on hearing voices from the states and of SHG members.

Deendayal Antyodaya Yojana-National Rural Livelihoods Mission (DAY-NRLM):

. **Deendayal Antyodaya Yojana –** National Rural Livelihoods Mission **(DAY-NRLM)** was launched in 2011 by the Ministry of Rural Development.

. It aims at mobilizing about 9-10 crore rural poor households into Self Help Groups (SHGs) in a phased manner and provide them long-term support such that they diversify their livelihoods, improve their incomes and quality of life.

About National Rural Livelihoods Mission (NRLM):

. **Deendayal Antyodaya Yojana –** National Rural Livelihood Mission (DAY-NRLM) is one of the self-employment programmes of the Government of India.

. It seeks to organize about 10 crore households into Self Help Groups (SHGs) and link them to sustainable livelihood opportunities.

. **It focuses on building their skills and making available financial, technical, and marketing resources at a grassroots level.** In order to achieve its objectives, the Mission focuses on four core areas namely: (a) Social mobilisation and promotion of sustainable community institutions of the rural poor; (b) Financial inclusion of the poor; (c) Sustainable livelihoods; (d) Social inclusion, development, and convergence.

. The Mission was launched in 2011 with support from the World Bank to improve the livelihoods of poor rural people and boost the rural economy.

. The NRLM utilized the ecosystem of SHGs in these rural districts to execute the Mission. In 2015, the gover

The Institute for What Works to Advance Gender Equality (IWWAGE):

. **IWWAGE** is an initiative of LEAD, an action-oriented research centre of IFMR Society (a not for profit society registered under the Societies Act).

. Aim: To build on existing research and generate new evidence to inform and facilitate the agenda of women's economic empowerment.

. **IWWAGE is supported by the Bill & Melinda Gates Foundation.**

Mains point: Deendayal Antyodaya Yojana-National Rural Livelihoods Mission (DAY-NRLM)

8.   **Arogya Manthan 2023 to mark 5 years of Ayushman Bharat PM-JAY and 2 years of Ayushman Bharat Digital Mission.**

Context:

The National Health Authority (NHA), Ministry of Health and Family Welfare (MoHFW) is organizing **'Arogya Manthan'** to celebrate five years of Ayushman Bharat Pradhan Mantri Jan Arogya Yojana (AB PM-JAY) and two years of Ayushman Bharat Digital Mission (ABDM).

Ayushman Bharat – Pradhan Mantri Jan Arogya Yojana (AB-PMJAY):

. **AB-PMJAY was launched in 2018.**It is the world's largest Government funded health assurance scheme.

. **It provides health assurance of up to Rs.5 Lakh per family per year** for secondary and tertiary healthcare hospitalizations.

. It is a completely cashless and paperless scheme.The benefits under AB-PMJAY are portable across the country.

. There is no cap on family size, or age or gender.The beneficiary families under the scheme have been identified from the **Socio Economic Caste Census (SECC) of 2011** on the basis of select deprivation and occupational criteria across rural and urban areas.

Ayushman Bharat Digital Mission(ABDM):

. **ABDM was launched in 2021.**It aims at creating a secure online platform based on open, interoperable digital standards.

. This will enable access and exchange of health records of citizens with their consent through services such as the issuance of Health ID, Healthcare Professionals Registry, Health Facility Registry and Health Records.

. This will boost the adoption of digital technologies in healthcare, thereby making quality healthcare more accessible and affordable.

Mains point:Ayushman Bharat – Pradhan Mantri Jan Arogya Yojana (AB-PMJAY).

MISCELLANEOUS ISSUES

1.   Union Minister for Jal Shakti Jointly Launches Swachhata Hi Seva 2023 Campaign.

Context:

Union Minister for Jal Shakti and Union Minister of Housing and Urban Affairs jointly launched the pan-India Swachhata Pakhwada – Swachhata Hi Seva (SHS) 2023 campaign.

The Swachhata Hi Seva (SHS) campaign:

.   Swachhata Hi Seva (SHS) campaign is being celebrated from 15th September to 2nd October this year under the joint aegis of Department of Drinking Water and Sanitation, Ministry of Jal Shakti and Ministry of Housing and Urban Affairs.

.   Focus: The campaign will focus on achieving a visibly higher order of cleanliness across local bodies through the spirit of voluntarism and shramdaan as well as on the welfare of SafaiMitras.

.   All Ministries and Departments will be organizing swachhata drives across offices, public places, heritage sites, river fronts in both rural and urban areas.

.   **Theme for 2023:** Garbage Free India.

The activities that will be organized under SHS- 2023:

.   **Swachhata Hi Seva –** Fortnight long Cleanliness Drives: As a part of this, all Government of India Ministries, PSUs,

State Govts. and local bodies will be organizing massive cleanliness drives across various locations.

.   **Indian Swachhata League 2.0: I**t aims to mobilize youth groups at scale to take sustained ownership for swachhata across beaches, hills and tourist spots.

.   The swachhata league will act as a catalyst for triggering action by the youth of the city towards the vision of garbage free cities under the Swachh Bharat Mission.

.   **SafaiMitra Suraksha Shivir:** These will be organized by various cities across the nation.

.   These Shivirs (camps) are aimed at saturating welfare schemes for sanitation workers and their dependents and to improve their well-being and quality of life.

.   The objective of the shivir is to target all sanitation workers in Solid Waste Management (SWM) & Used Water Management (UWM).

.   The key activities will focus on mass awareness, preventive health checkups, yoga shivirs and extending entitlement of various welfare benefits of central & State Schemes in convergence with various ministries.

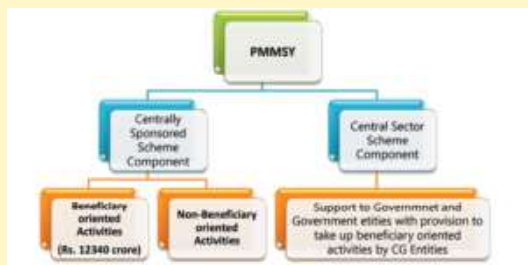**Mains point: The Swachhata Hi Seva (SHS) campaign**

2.   Department of Fisheries organizes event on 3rd Anniversary of Pradhan Mantri Matsya Sampada Yojana in Indore.

Context:

The Union Minister for Fisheries, Animal Husbandry & Dairying has launched Matsya Sampada Jagrukta Abhiyan on the occasion of completion

of three successful years of implementation of Pradhan Mantri Matasya Sampada Yojna(PMMSY).

Pradhan Mantri Matasya Sampada Yojna(PMMSY):

. **Pradhan Mantri Matsya Sampada Yojana i**s a scheme to bring about the Blue Revolution through sustainable and responsible development of the fisheries sector in India.

. **Objectives of the scheme:** Harnessing of fisheries potential in a sustainable, responsible, inclusive and equitable manner Enhancing fish production and productivity through expansion, intensification, diversification and productive utilization of land and water.

. **Modernizing and strengthening of the value chain :** post-harvest management and quality improvement.

. Doubling fishers and fish farmers incomes and generation of employment.

. Enhancing contribution to Agriculture GVA and exports.

. Social, physical and economic security for fishers and fish farmers.

. Robust fisheries management and regulatory framework.

. **Duration of the scheme:** The scheme is being implemented in all States and UTs for a period of 5 years from FY 2020-21 to FY 2024-25.

Matsya Sampada Jagrukta Abhiyan:

. **O**rganized by: Department of Fisheries.

. **Aim:** To disseminate information and knowledge about 9 Years of achievements of the Government of India by

highlighting success stories of the beneficiaries and reaching out to 2.8 crore fish farmers and 3477 coastal villages.

The success stories of Pradhan Mantri Matasya Sampada Yojna(PMMSY):

. Shri F.Laldingliana from Mizoram switched to aquaculture when he merely earned Rs 30,000 per year and now practices fisheries on his 2 ha land with 19 ponds.

. Smt. R. Murugeswari from Tamil Nadu practices seaweed cultivation and the subsidy received under PMMSY helped her with funds for maintenance of rafts, meticulous net cleaning.

Prelims point:Pradhan Mantri Matasya Sampada Yojna

3. **Govt launches Skill India Digital for transforming skill, education, entrepreneurship landscape of India.**

Context:

The Ministry of Skill Development has launched the Skill India Digital (SID) platform.

The Skill India Digital (SID) Platform:

. Skill India Digital(SID) Platform is a Digital Public Infrastructure(DPI) for skilling, education, employment and entrepreneurship ecosystem of India.

. It is a comprehensive digital platform aimed at synergizing and transforming the skills, education, employment, and entrepreneurship landscape of India.

. **Built by:** National Skill Development Corporation (NSDC) in collaboration with multiple industry players.

. **Part of:** The platform is part of the World Bank-assisted Skill Acquisition and Knowledge Awareness for Livelihood Promotion (SANKALP) programme

Key Features of the platform:

. The platform acts as a comprehensive information gateway for government skilling and entrepreneurship initiatives.

. It encompasses training programs from central and state governments, creating a centralized hub for skill development initiatives.

. All courses compliant with the National Skilling Qualification Framework (NSQF) will also be accessible on the platform.

. Additionally, the platform integrates with other government portals such as the UDYAM portal for micro and small enterprises and the Atma Nirbhar Skilled Employee Employer Mapping (ASEEM) portal.

. The platform also supports multiple Indian languages and ensures secure access with Aadhaar-based eKYC.

. It adopts a mobile-first approach, making learning accessible through handheld devices.

. It showcases individuals' skills and qualifications through Digitally Verified Credentials, offering secure and tamper-proof verification.

. Digital CVs with personalized QR codes allow potential employers or partners to easily access a candidate's portfolio, including skills, qualifications, experiences and achievements.

Prelims point: The Skill India Digital (SID) Platform

4. 600 self-neutralizing 'Vibhav' anti-tank mines with safety mechanism inducted into Army.

Context:

Indian Army has inducted six hundred indigenously manufactured self-neutralizing anti-tank mines known as **"Vibhav".**

Vibhav:

. Vibhav is an indigenously manufactured self-neutralizing anti-tank mine.

. **Developed by:** Indian Army in a joint venture with the Defence Research and Development Organisation (DRDO).

. **Purpose:** It is designed to provide mobility kill against all enemy armoured vehicles.

Key Features:

. Vibhav is constructed from modern plastic material, providing strength and durability for storage, handling, and use in various field conditions.

. It can be deployed either manually or mechanically.

. It incorporates a range of safety and activation mechanisms to ensure safe handling, effectiveness against targets, and reliability.

. It features integrated explosive, mechanical, and electronic safety components, prioritizing operator safety.

. The mine includes an **electronic anti-handling and anti-lift device (EAHALD)** that remains active for 120 days once armed.

. It has a storage life of 10 years and does not require any special storage conditions.

Prelims point: Vibhav

5. Army likely to complete inducting 114 Dhanush guns by 2026.

Context:

The Indian Army is on track to complete the induction of 114 Dhanush artillery guns by 2026, with one regiment

already operational.The Pralay missile is also in advanced stages of induction.

Dhanush:

. Dhanush is a 155 mm, 45-calibre towed artillery gun with a range of 36 km.

. The gun has demonstrated a range of 38 km.

. The gun is an upgrade of the existing 155 mm, 39-calibre Bofors FH 77 gun.

. The Advanced Weapons and Equipment India Limited, carved after corporatisation of the Ordnance Factory Board is now manufacturing the Dhanush guns.

A Pralay missile:

. **Pralay is a quasi-ballistic surface-to-surface missile.**The missile is designed to destroy enemy radar, communication installations, command centres and airfields.

Prelims point: Dhanush

6. **Panel suggests GPS trackers to reduce overcrowding in prisons.**

Context:

The Parliamentary Committee on Home Affairs has released a report titled **'Prison-Conditions, Infrastructure, and Reforms'.**

The status of Prisons in India:

. According to the Prison Statistics published by **the National Crime Record Bureau for 2021,** there are 1,319 prisons in India with a total capacity of 4,25,609 prisoners.The actual inmates are 5,54,034 which shows that the occupancy capacity rate is 130.2%.

. Of the total inmates, the number of undertrial prisoners is 4,27,165 and the number of convicted prisoners is 1,22,852.

. The occupancy of women prisoners has been increased and the prisons are understaffed by approximately 30% of the required strength.

. Uttar Pradesh has the highest number of undertrial prisoners, accounting for 21.21% of the country's total while Delhi has the highest percentage of undertrial prisoners, comprising 91% of its total inmate population.

. Prisons are understaffed by approximately 30% of the required personnel.

The key recommendations given by the Parliamentary Committee on Home Affairs:

. **Use of Technology:** Bail is often denied for three primary reasons: concerns that the undertrial prisoner might influence or intimidate witnesses, attempt to flee the country or commit additional crimes.

. To overcome this problem, the panel said that technology can be used to produce cost-effective bracelets or anklet trackers that can be worn by the prisoners who have procured bail and are out of prison on bail.

. However, this method should be used on a voluntary basis after procuring the consent of inmates.

. **Overcrowding of jails:** The panel recommended that prisoners from overcrowded jails may be transferred to other jails with vacant cells in the same State or other States.

. **Lack of jamming capability:** The panel highlighted the inadequate jamming capabilities in many State Prison Departments, with some only able to block 2G and 3G network signals.This lack of jamming technology has led to the frequent smuggling of mobile

phones into prisons, posing a potential security hazard.

Mains point:The status of Prisons in India

7.　South of the Godavari"
Context:

The five southern states of India (Andhra Pradesh, Karnataka, Kerala, Tamil Nadu, and Telangana) have outperformed other regions in various factors. However, these states still face concerns in their representation.

Some of the achievements of the southern states:

. **Economic Growth:** Southern states in India have experienced substantial economic growth and increased their share of national economic activity from just over a fifth in 1981 to 30% today.

. There is a significant disparity in per capita income between southern states and economically poorer northern states.

. For instance, Karnataka's per capita income is over five times higher than Bihar, Telangana's is four times that of Uttar Pradesh, Kerala's is double that of Assam, and Tamil Nadu's is twice that of West Bengal.

. The economic disparity between southern India and other regions is growing due to faster economic growth, lower population growth, and higher tax revenues in the south.

. The southern states contribute a significant portion of the central GST revenue but receive less than a sixth of the total central transfers to states.

. **Better Socio-economic Indicators:** The southern states exhibit superior socio-economic indicators, including higher life expectancy, better literacy rates, and lower fertility rates compared to their northern counterparts.

. In certain southern states, fertility has even dropped below the replacement rate, potentially leading to a population

decline in the south, while the north continues to grow.

. **Better Private Sector Investments:** Private-sector investments in emerging industries such as solar panels, electric vehicles, mobile phones, and electronic components are predominantly centered in the southern and western regions.

. This results in migration from economically challenged eastern areas to the more affluent west and south in search of a job.

The concerns present with the Southern states:

. First, the upcoming census and subsequent delimitation of parliamentary seats will impact the southern states of India. Currently, they have almost a quarter of parliamentary seats but only a fifth of the population.

. After delimitation, they may get fewer new Lok Sabha seats due to their successful population control efforts.

. This has raised concerns about the potential shift in politics, possibly favoring a more Hindi-centric language policy, with a Lok Sabha dominated by northern states.

. Second, southern states are also concerned about sending more tax money to the northern and eastern states without receiving sufficient returns.

The way ahead:

. Southern states are governed by distinct political parties compared to the north India. Along with other concerns, differences in ruling parties could lead to a growing political divide, an increase in regional, economic, linguistic, and socio-political disparities.

. Hence, to prevent this, the government should consider offering concessions like greater regional autonomy or maintaining the status quo in the Rajya Sabha.

. Southern states should also acknowledge the importance of the northern market for their economic interests.

Mains point: concerns with increasing disparities between Southern and Northern states.

8. **Indian naval ship Sahyadri participates in the maiden India-Indonesia-Australia Trilateral Maritime Exercise.**

Context:

Indian Navy's indigenously built warship INS Sahyadri has participated in the maiden trilateral Maritime Partnership Exercise with the ships and aircraft from the Royal Australian Navy (RAN) and Indonesian Navy.

The purpose of this Trilateral exercise:

. The trilateral exercise aimed to bolster the partnership between India, Australia, and Indonesia, fostering a collective effort to enhance stability, peace, and security in the Indo-Pacific region.

. It also offered an invaluable opportunity for the participating navies to share their knowledge and expertise.

INS Sahyadri:

. INS Sahyadri is the third ship of the indigenously designed and built Project-17 class multi-role stealth frigates.

. It was built at Mazagon Dock Ltd, Mumbai.

The other exercises between India and Indonesia:

. **Exercise Samudra Shakti:** It is a bilateral maritime exercise between India and Indonesia.It aims to strengthen the bilateral relationship, enhance mutual understanding and interoperability in maritime operations between the two navies.

. **Exercise Garuda Shakti**: It is an annual military exercise between the Indian and Indonesian Army. It is conducted on a reciprocal basis and its first edition was conducted in the year 2012 in India.

. **IND-INDO CORPAT:** It is a bi-annual coordinated naval patrol exercise conducted along the International Maritime Boundary Line (IMBL) by the Indian and Indonesian Navy.

The other exercises between India and Australia:

. **Exercise AUSTRA HIND:** It is a bilateral training exercise between the Indian Army and the Australian Army.

. **Exercise Pitch Black:** It is a biennial multilateral air combat exercise hosted by the Royal Australian Air Force(RAAF) since 1981.The Indian Air Force had taken part in the exercise for the first time in 2018.

. **AUSINDEX:** It is a biennial bilateral maritime exercise between the Indian Navy and Royal Australian Navy(RAN). The first edition of the exercise took place in 2015.

Prelims point: Trilateral exercise

9. **National Education Policy 2020 | Multiple entry, exit option in higher studies may not suit India: House pane**
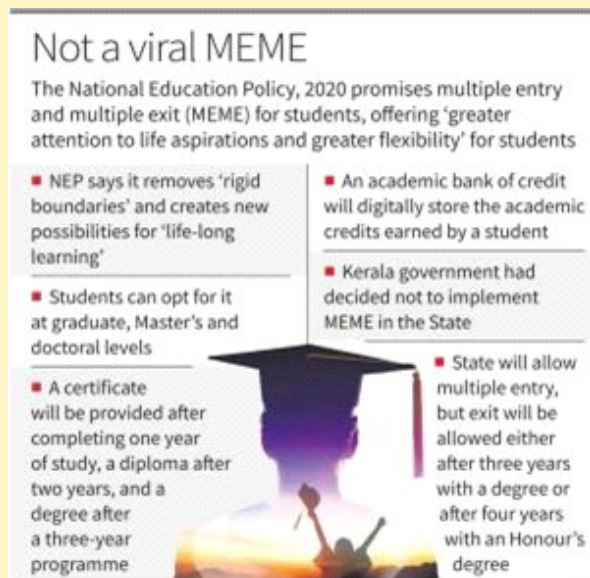
Context:

The Parliamentary Standing Committee on Education has released a report titled **'Implementation of the National Education Policy, 2020 in Higher Education'.**

. The committee has advised the Union government to hold discussions with stakeholders before implementing the option of multiple entry and multiple exit (MEME) under the national education policy(NEP).

Multiple entry and multiple exit (MEME):

Not a viral MEME

The National Education Policy, 2020 promises multiple entry and multiple exit (MEME) for students, offering 'greater attention to life aspirations and greater flexibility' for students

■ NEP says it removes 'rigid boundaries' and creates new possibilities for 'life-long learning'

■ An academic bank of credit will digitally store the academic credits earned by a student

■ Students can opt for it at graduate, Master's and doctoral levels

■ Kerala government had decided not to implement MEME in the State

■ A certificate will be provided after completing one year of study, a diploma after two years, and a degree after a three-year programme

■ State will allow multiple entry, but exit will be allowed either after three years with a degree or after four years with an Honour's degree

. National education policy(NEP) proposes Multiple entry and multiple exit (MEME).

. The system allows students to drop their course and resume it at a later stage as and when they desire or deem it worth pursuing.

. This arrangement will prove to be helpful for those students who cannot continue their studies due to financial, social or any other reason and desire to resume their studies when the conditions become favourable in due course of time.

The challenges in implementing MEME according to the Parliamentary Standing Committee:

. **Predicting Student Flow:** MEME looks like a flexible system which is being operated by western educational institutions effectively.But it might not work well in the country.

. This is because in India, with its high population, it is challenging for insti-tutions to predict how many students may exit or join midway.This uncertainty could disrupt the pupil-teacher ratio.

. **Uneven Distribution of Institutions:** The uneven geographical distribution of higher educational institutions, especially in rural areas could create obstacles in implementing MEME effectively.

The recommendations given by the committee to implement MEME effectively:

. Develop comprehensive guidelines and a well-defined framework for MEME options, including specific eligibility criteria, credit transfer mechanisms providing a clear road map for students pursuing different exit points.

. Conduct wider consultations with universities, institutions, regulatory bodies, and stakeholders to address the challenges and difficulties associated with MEME implementation.

The Kerala Government implementing MEME:

. The Kerala government has decided not to implement MEME in colleges and universities in the State.

. The curriculum document of the State had said that the government would allow multiple entry, but exit will be allowed either after three years with a degree or after four years with honours degree.

Prelims point: National education policy

10. **India Achieves Major Sanitation Milestone As 75% Villages Are Now ODF Plus under Swachh Bharat Mission – Grameen**

Context:

India has achieved a significant milestone under the Swachh Bharat Mission (Grameen) Phase II, with 75% of its villages now attaining the ODF Plus status.

Swachh Bharat Mission (Grameen) Phase II:

. Swachh Bharat Mission Grameen (SBMG) was launched in 2014.

. It is the world's largest sanitation campaign that led to the construction of over 100 million individual house-hold toilets over a five-year period, taking sanitation coverage from 39% in 2014 to 100% in 2019.

. More than 6 lakh villages declared themselves Open Defecation Free (ODF) by 2nd October, 2019.

. Having achieved ODF status SBM-G Phase II was launched in 2020-21 with the objective of transforming all the villages from ODF to ODF Plus.

. An ODF Plus village is one which has sustained its Open Defecation Free (ODF) status along with implementing either solid or liquid waste management systems.

. The major components of the Phase-II of SBM-G are Sustaining Open Defecation Free Status (ODF-S), Solid (Bio-degradable) Waste Management, Plastic Waste Management (PWM), Liquid Waste Management (LWM), Faecal Sludge Management (FSM), GOBARdhan, Information Education and Communication/Behavior Change Communication (IEC/BCC) and Capacity Building.

. SBM-G Phase-II has set the ambitious target of making all villages ODF Plus by 2025.

The status of Swachh Bharat Mission (Grameen) Phase II:

. Three-fourth of the total villages in the country i.e 75% villages have achieved ODF Plus status under Phase II of the Swachh Bharat Mission (Grameen).
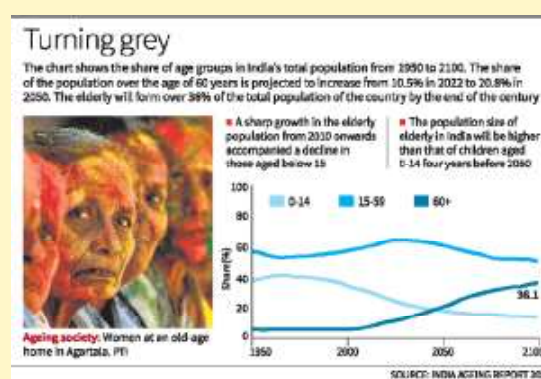
. The top performing States/UTs which have achieved 100% ODF Plus villages are – Andaman & Nicobar Islands, D&N Haveli, Goa, Gujarat, Himachal Pradesh, Jammu & Kashmir, Karnataka, Kerala, Ladakh, Puducherry, Sikkim, Tamil Nadu, Telangana, and Tripura.

. Among States/UTs – Andaman & Nicobar Islands, Dadra Nagar Haveli & Daman Diu, Jammu & Kashmir and Sikkim have 100% ODF Plus Model villages.

Prelims point:Swachh Bharat Mission (Grameen) Phase II:

11. India ageing, elderly to make up 20% of population by 2050: UNFPA report

Context:

The India Ageing Report 2023 has been released by the United Nations Population Fund (UNFPA) and the International Institute for Population Sciences (IIPS).

India Ageing Report 2023:

. India Ageing Report 2023 represents a thorough review of the living conditions and welfare of older individuals in India.

. The report is based on the latest data available from the Longitudinal Ageing Survey in India (LASI), 2017–18, Census of India, Population Projections by the Government of India (2011–2036) and World Population Prospects 2022 by the United Nations Department of Economic and Social Affairs.

The key findings of the report:

- **Elderly Population Growth:** India's elderly population is growing significantly, with a projected 41% increase in the decadal growth rate. By 2050, the share of elderly individuals in the total population is expected to double, reaching over 20%.

- **Elderly vs. Children:** It is anticipated that by 2046, the elderly population will surpass the population of children (aged up to 15) in India.

- **Elderly Poverty:** More than 40% of the elderly in India are in the poorest wealth quintile, and about 18.7% of them live without an income. This level of poverty may negatively impact their quality of life and healthcare utilization.

- **Aging Beyond 80:** The report predicts a 279% growth in the population aged 80 and above between 2022 and 2050, with a predominance of widowed and highly dependent very old women.

- **Life expectancy:** In India, a man aged 60 years can live another 18.3 years, while women can live 19 years. Apart from this, it also depends on the different life expectancy of the states. In Kerala and Himachal Pradesh, women can have up to 4 years more than men.

- **Sex Ratio Among the Elderly:** The sex ratio among the elderly has been increasing since 1991, indicating more elderly women than men.

- For instance, in 1991, there were 930 elderly women per 1,000 men. After this, the ratio started to change and will continue to do so. The report estimates that by 2031, there will be 951 men for 1,078 women.

- **Gendered Poverty:** Poverty among the elderly is often gendered, with older women more likely to be widowed, living alone, without income, and dependent on family support.

- **Regional Variations:** There are significant regional variations in the elderly population's absolute levels and growth. Southern and select northern states have a higher share of the elderly population, while central and northeastern regions have younger populations.

The recommendations given by the report:

- Special focus should be there on older persons in disaster-preparedness plans that are formulated henceforth.

- There is a lack of credible data on various issues related to the elderly in India and more could be done by including questions on relevant and emerging issues related to older persons in the upcoming data collection exercises of the National Sample Survey, the National Family Health Survey, and the Census of India, respectively.

- Government must work on increasing awareness about schemes for older persons, bring all Old Age Homes under regulatory purview and focus on facilitating in-situ ageing to the extent possible.

- Government should encourage the creation and running of elderly self-help groups.

- Government should also encourage in situ (at home) ageing as much as possible by creating short-term care facilities like creches or day-care facilities, citing better care when elderly people live with their respective families.

Prelims point: The India Ageing Report 2023