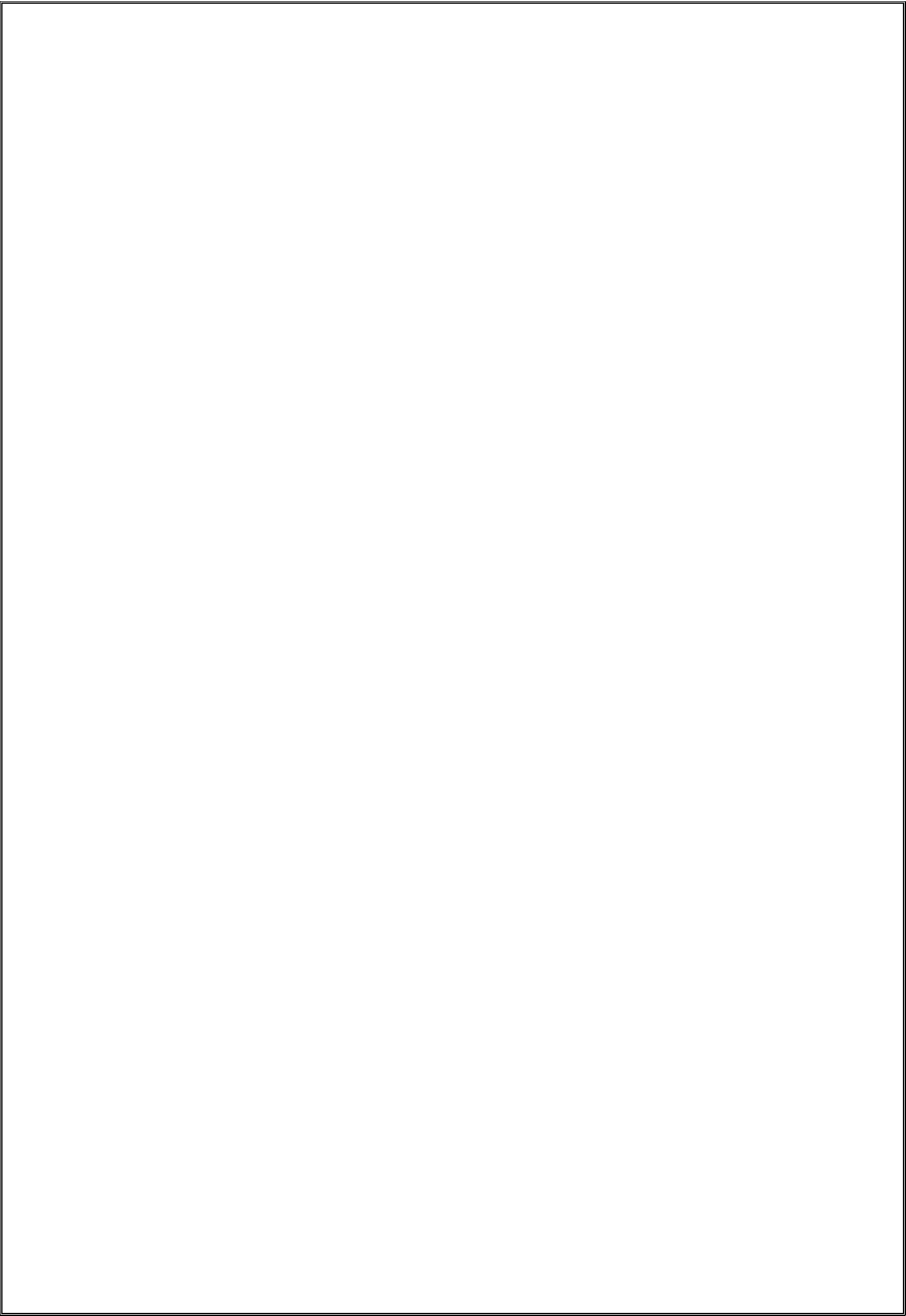




UNIQUE IAS ACADEMY

No.5/45 NVN Layout, New Siddhapudur, Gandhipuram, Coimbatore - 44

UPSC CURRENT AFFAIRS DECEMBER- 2023



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UNIQUE IAS ACADEMY

HISTORY, ART AND CULTURE

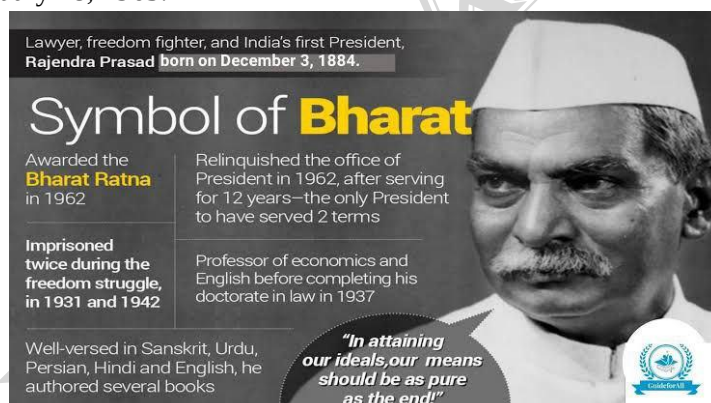
1. DR. RAJENDRA PRASAD

Context:

- Recently, the President of India has paid tributes to Dr. Rajendra Prasad, the first President of India on his birth anniversary.

Who Was Dr. Rajendra Prasad?

- Dr. Rajendra Prasad was born in Zeradei, Siwan, Bihar on 3rd December 1884.
- He was associated with Mahatma Gandhi during the Champaran Satyagraha (1917) in Bihar.
- Dr. Prasad reacted strongly to the Rowlatt Act of 1918 and the Jallianwala Bagh massacre of 1919.
- He called for non-cooperation in Bihar as part of Gandhi's non-cooperation movement.
- Played a significant role in the Salt Satyagraha in Bihar in 1930, leading to his imprisonment.
- He officially joined the Indian National Congress in 1911, during its annual session held in Calcutta.
- Joined the Interim Government in 1946 as the Minister of Food and Agriculture. and gave the slogan of "Grow More Food".
- He served as the first President of India from January 26, 1950, when the country adopted its constitution, until May 13, 1962, holding the record for the longest-serving President.
- On January 26, 1950, he was elected India's First President. His tenure as the President for over 12 years makes him the longest-serving President in the history of India.
- Dr. Prasad was awarded the Bharat Ratna in 1962. He authored several books, including "Satyagraha at Champaran," "India Divided," and his autobiography "Atmakatha."
- Passed away on February 28, 1963.



2. UNESCO RECOGNITION TO GUJARAT'S GARBA DANCE

Context:

- Recently, the United Nations Educational, Scientific and Cultural Organization (UNESCO), during its 18th session of the Intergovernmental Committee in Botswana, officially added Gujarat's iconic Garba dance to its esteemed Representative List of Intangible Cultural Heritage (ICH) of Humanity.
- The Garba dance form is the 15th cultural item from India to make it to the UNESCO list. Kolkata's Durga Puja was the last one added in 2021.

What is the Garba Dance?

- Garba is a form of Gujarati folk dance that is performed during the nine-day Hindu festival of Navratri, which celebrates the victory of good over evil.
- The name Garba comes from the Sanskrit word for womb, implying life and creation.
- Garba dances celebrate fertility, honor womanhood, and pay respect to any of an array of mother goddesses.
- The dance also customarily marks a girl's first menstrual cycle and, later, her imminent marriage.

- The dance is performed around a centrally lit lamp or a picture or statue of the Goddess Shakti, who represents the feminine energy of the universe.
- Garba is accompanied by rhythmic music, singing, and clapping. The dance can be performed by anyone, regardless of age, gender, or social status.
- Modern Garba is heavily influenced by Dandiya Raas, a dance traditionally performed by men. The merger of these two dances has formed the high-energy Garba dance that is seen today.
- Garba fosters social equality by diluting socio-economic, gender, and rigid sect structures.
- It continues to be inclusive and participative by diverse and marginalized communities, strengthening community bonds.

What is UNESCO Intangible Cultural Heritage (ICH)?

About:

- UNESCO ICH is a term that refers to the practices, representations, expressions, knowledge, skills, and cultural spaces that are recognized as part of the cultural heritage of a community, group, or individual.
- UNESCO defines ICH as “the mainspring of humanity’s cultural diversity and its maintenance a guarantee for continuing creativity.”
- In 2003, UNESCO adopted the Convention for the Safeguarding of the Intangible Cultural Heritage (ICH), signifying a commitment to protect, promote, and transmit the diverse expressions of human culture.
- The convention establishes two crucial lists for ICH.
- Representative List: Showcasing the global diversity of ICH, this list raises awareness of its significance and importance.
- Urgent Safeguarding List: Identifying threatened ICH, this list calls for immediate measures to ensure its survival.

Examples of ICH:

- Languages, oral traditions, literature, and poetry.
- Performing arts, such as music, dance, and theatre.
- Social practices, rituals, and festive events.
- Knowledge and practices concerning nature and the universe.
- Traditional craftsmanship, such as pottery, weaving, and metalwork.



3. ASI'S STANCE ON RELIGIOUS PRACTICES AT MONUMENTS

Context:

- A recent report on 'Issues relating to Untraceable Monuments and Protection of Monuments in India' presented by a parliament committee recommends significant changes in the Archaeological Survey of India's (ASI) approach towards religious activities at protected monuments.
- Earlier, in May 2022, prayers at the 8th century Martand Sun Temple in Jammu and Kashmir sparked concerns from the ASI, operating under the Ministry of Culture, citing a violation of regulations.

What is the Current Policy on Worship at ASI Monuments?

- As of now, the ASI allows worship and rituals only at monuments where such traditions were ongoing at the time the ASI took custody.
- The best-known example of a living ASI monument is the Taj Mahal where namaz is held every Friday.
- Other notable living monuments include three mosques in Kannauj, the Roman Catholic Church in Meerut, the Nila Mosque in Delhi's Hauz Khas Village and several Buddhist monasteries in Ladakh.
- This restriction aims to preserve the historical and cultural integrity of the monuments.
- No religious rituals can be conducted at non-living monuments where there has been no continuity of worship since it became an ASI-protected site.
- The policy decision prohibits the revival of worship in cases where it was not in practice at the time of protection or has been abandoned for an extended period.
- Out of the 3,693 centrally protected monuments and archaeological sites managed by the ASI, around a fourth (820) include places of worship, while the rest are considered non-living monuments where no new religious rituals can be started or conducted.
- These sites encompass a diverse range of religious structures, such as temples, mosques, dargahs, and churches.
- The Martand Sun Temple, commissioned by King Lalitaditya Muktapida of the Karkota dynasty, was once a thriving place of worship. However, it was destroyed in the 14th century.
- ASI took control in the 20th century for conservation, no puja or Hindu ritual was being held there. Recent pujas in 2022, led by devotees, were deemed a violation of ASI norms for non-living monuments.

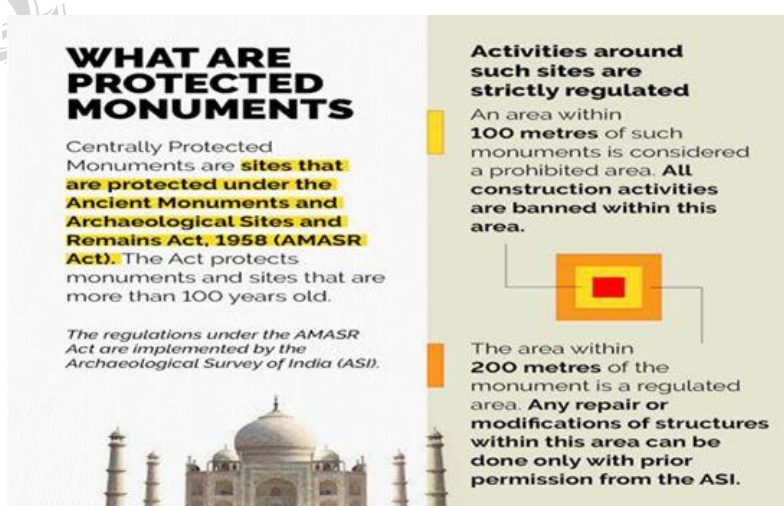
What are the Committee's Recommendations on Worship at ASI Monuments?

Recommendations:

- The committee suggests exploring the possibility of permitting prayers and worship at ASI-protected monuments with religious significance.
- This potential shift in policy raises questions about its implications for various religious sites.
- Recommends that the Ministry of Culture and ASI conduct surveys to identify monuments promptly and make the results public, stressing the importance of transparency and accountability in addressing critical issues related to monument protection.

Concerns Against the Committee's Recommendations:

- Allowing religious activities at protected monuments may pose a threat to the integrity, authenticity and historical value of the monuments, as they may be subjected to alterations, additions, modifications or damage by the devotees or the authorities.
- Allowing religious activities at protected monuments may also create conflicts and disputes among different religious groups, who may claim ownership or rights over the monuments, or object to the activities of other groups.



Archaeological Survey of India (ASI)

- ASI, under the Ministry of Culture, is the premier organization for the archaeological research and protection of the cultural heritage of the nation.
- It administers more than 3650 ancient monuments, archaeological sites and remains of national importance.
- Its activities include carrying out surveys of antiquarian remains, exploration and excavation of archaeological sites, conservation and maintenance of protected monuments etc.
- It was founded in 1861 by Alexander Cunningham- the first Director-General of ASI. Alexander Cunningham is also known as the “Father of Indian Archaeology”.
- It oversees all archaeological undertakings within the nation by the Ancient Monuments and Archaeological Sites and Remains Act, of 1958

4. INDIRA GANDHI PEACE PRIZE;

Context:

- Recently, the Indira Gandhi Prize for Peace, Disarmament and Development for 2023 has been jointly awarded to Daniel Barenboim and Ali Abu Awwad for their efforts in bringing together the youth and peoples of Israel and the Arab World for a non-violent resolution of the Israel-Palestine conflict.
- Barenboim is an Argentine-born distinguished classical pianist, and Awwad is an eminent Palestinian peace activist who has been working for a peaceful resolution of the ongoing conflict in the Middle East.

What is the Indira Gandhi Prize for Peace, Disarmament and Development?

About:

- The Indira Gandhi Prize for Peace, Disarmament, and Development award has been conferred every year since 1986 by Indira Gandhi Memorial Trust in honor of Indira Gandhi, the former Prime Minister of India.
- The award recognizes individuals or organizations for their exceptional contributions to international peace, disarmament, and development.
- The prize is awarded annually and is considered one of the highest honors in the field of peace and development.
- It consists of a monetary award of 25 lakh rupees along with a citation.

Categories:

- The award is bestowed in three categories: peace, disarmament, and development.
- Criteria for Recognition:
- The recipients are chosen based on their exceptional and sustained efforts to address critical global challenges related to peace, disarmament, and development.
- Their work should demonstrate a positive impact on the international community and contribute to the betterment of human welfare.

5. UNESCO'S PRIX VERSAILLES

Context:

Recently, Kempegowda International Airport (KIA) Bengaluru has earned prestigious accolades at UNESCO's 2023 Prix Versailles.

About UNESCO's Prix Versailles:

- It is announced each year at UNESCO since 2015.
- The Prix Versailles awards celebrate outstanding achievements in architecture and design on a global scale.
- It focuses on intelligent sustainability as a cultural driver, acknowledging innovation, and creativity, reflection of local heritage, ecological efficiency, and values of social interaction.
- The Terminal 2 (T2) secured recognition as one of the 'World's most beautiful airports' and was awarded the coveted 'World special prize for an interior 2023.'

Key facts about T2 of KIA

- It is also known as the Terminal in a Garden.
- It is built upon four foundational pillars — technological leadership, terminal in a garden, environmental and ecological stewardship, and a celebration of Karnataka's rich heritage and culture.
- It had previously earned the prestigious IGBC platinum certification from the Indian Green Building Council under the IGBC Green New Building Rating system.
- Also for sustainable design it has been recognized as the world's largest terminal pre-certified with a platinum LEED rating by the US Green Building Council.



6.URBICIDE

- The recent expansion of attacks by Israeli Defence Forces on Gaza region, could induce long terms effects, lasting for several generations as a form of 'Urbicide'.

What is Urbicide?

- The concept of "urbicide," referring to the deliberate and systematic destruction of built infrastructures, cities, and cultural entities in the context of wars and conflicts.
- It comes from the words "urbs" and "cide", which mean "city" and "death" respectively.
- The term is applied to various historical events, including the Israeli-Palestinian conflict and the destruction of cities during the Yugoslavic wars (1992-96).
- The term was used for the first time in 1963 by science fiction author Michael Moorcock, and later, Marshall Berman and Bogdan Bogdanović coined the word.
- It was described as a "ritualised murder of cities," which goes beyond physically destroying cities and annihilates memories, identities and cultures of a city.
- Urbicide is seen as a form of "negative architecture," actively using built structures as a means of destruction, with both immediate and gradual forms.
- Violence against the urban environment, is intentionally repurposed for destruction affecting the democratic and societal aspects of a city.



Comparison of Urbicide with other terms:

- The term 'genocide' existed as a framework in international conventions to articulate the deliberate killing of people belonging to a particular ethnic group.
- 'Domicide', is referred to as the systematic attack on the right to safe shelter, is recognised as a crime against humanity in international law, but urbicide is not.
- Urbicide extends beyond traditional warfare to encompass urban restructuring and gentrification, where a city develops rapidly over a short time, from low to high value.
- This leads to a forceful alteration, leading to indiscriminate damage, with physical, emotional and geopolitical implications.

7. HINDUSTAN REPUBLICAN ASSOCIATION AND THE KAKORI TRAIN ACTION

Context:

- Ninety-six years ago, in December, 1927, four revolutionaries of the Indian independence movement were hanged 2 years after the Kakori Train Action, in which members of the Hindustan Republican Association (HRA) had looted a train transporting money to the British treasury.
- It serves as a poignant reminder of their sacrifice and bravery, reigniting reflections on their pivotal roles in shaping the course of India's fight for freedom.

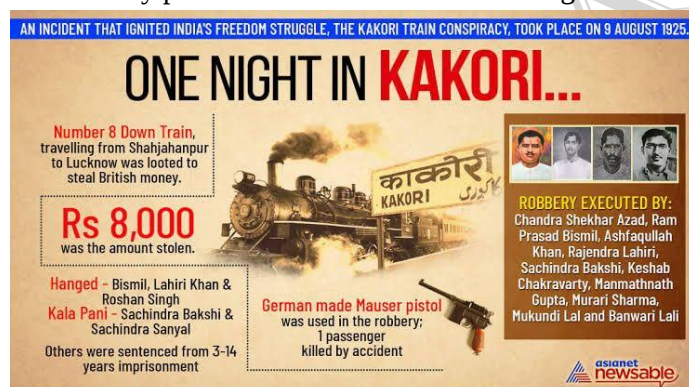
What are the Key Points Related to Hindustan Republican Association?

- **Background:** Mahatma Gandhi initiated the Non-Cooperation Movement in 1920, advocating non-violence and urging Indians to withdraw support from British activities in India.
 - However, the movement's trajectory shifted after the Chauri Chaura Incident in 1922, where police firing led to protesters' deaths and a subsequent mob attack resulted in the death of policemen.
 - Gandhi, despite internal dissent within the INC, abruptly halted the movement.
- **Foundation:** The decision to halt Non-Cooperation Movement disillusioned a group of young men who founded the Hindustan Republican Association (HRA).
 - Ram Prasad Bismil and Ashfaqulla Khan, both of whom had a flair for poetry, were among the group's founders. Others included Sachindra Nath Bakshi and trade unionist Jogesh Chandra Chatterjee.
 - Figures such as Chandra Shekhar Azad and Bhagat Singh also joined the HRA.
- **Manifesto:** Their manifesto released on 1st January, 1925, was titled Krantikari (Revolutionary). It proclaimed the revolutionary party's aim: to establish a federal Republic of the United States of India through an organized, armed revolution.
 - It characterized the revolutionaries as neither terrorists nor anarchists, rejecting terrorism for its own sake while considering it as a potent retaliatory measure when necessary.
- **HRA's Vision:** They envisioned a republic grounded in universal suffrage and socialist principles, prioritizing the abolition of systems enabling human exploitation.

- **Evolution of HRA:** HRA transformed into the Hindustan Socialist Republican Association (HSRA) in 1928 due to a shift toward socialist ideologies, broadening its focus from political independence to encompass socio-economic equality.
 - Led by figures like Bhagat Singh, the HSRA merged nationalist aspirations with socialist principles, altering the trajectory of India's freedom struggle.

What was the Kakori Train Action Incident?

- The train robbery at Kakori was the HRA's first major action, in August 1925. The Number 8 Down Train ran between Shahjahanpur and Lucknow.
- As the train approached Kakori, a revolutionary (Rajendranath Lahiri) pulled the emergency chain to stop the train and overpowered the guard. The train was carrying treasury bags containing government funds that were to be deposited in the British treasury in Lucknow.
- The revolutionaries planned to rob this money, which they believed legitimately belonged to Indians anyway.
- Their objective was both to fund the HRA and garner public attention for their work and mission.
- The British authorities launched a harsh crackdown, leading to the arrest of numerous HRA members.
- Among the forty arrested individuals, four received death sentences (Rajendranath Lahiri on 17th December and Ashfaqullah Khan, Ram Prasad Bismil, Thakur Roshan Singh on 19th December) and others faced lengthy imprisonments.
- Chandrashekhar Azad was the only prominent HRA leader who managed to evade capture.



8. SHAHI IDGAH AND KRISHNA JANMABHOOMI TEMPLE DISPUTE

Context:

- The Allahabad High Court recently ruled that a survey will be conducted for the Shahi Idgah, a three-domed mosque in Mathura.
- It is seeking appointment of a court commission to inspect the Shahi Idgah mosque that stands adjacent to the Krishna Janmabhoomi temple in Mathura.

What is the History of the Disputed Land?

- Raja Veer Singh Bundela of Orchha had also built a temple on the same premises in 1618 and the mosque was built by Aurangzeb in 1670 on the site of an earlier temple.
- The Krishna Janmasthan temple in Mathura is believed to have been built around 2,000 years ago, in the 1st century CE.
- A survey has been ordered due to demands by Hindu representatives for complete ownership of the premises where the Keshava Deva temple was destroyed on the orders of Mughal emperor Aurangzeb in 1670.
- The area was regarded as nazul land — non-agricultural state land owned by the Marathas, and then the British.
- The temple was originally built in 1618 during the reign of Jahangir and was patronized by Aurangzeb's brother and rival, Dara Shukoh.
- In 1815, the Raja of Benaras purchased the 13.77-acre land from the East India Company.
- Later, the Shri Krishna Janmabhoomi Trust was established.

- The trust acquired ownership rights over the temple, and in 1951.
- The 13.77-acre land was placed under the trust with the condition that it would never be sold or pledged.
- In 1956, the Shri Krishna Janmasthan Sewa Sangh was set up to manage the affairs of the temple.
- In 1968, an agreement was signed between the Sri Krishna Janmasthan Seva Sangh and the Shahi Idgah Masjid Trust, where the temple authority conceded a portion of the land to the Idgah as part of the settlement.
- The current dispute involves temple petitioners seeking possession of the entire parcel of land.

What is the Present Status of the Issue?

- The plea for a survey was filed on behalf of the Hindu deity, Shri Krishna and seven others, who in their original suit pending before court claimed that the mosque was built over the birthplace of Shri Krishna on the orders of Mughal emperor Aurangzeb in 1670.
- Since the Babri Masjid judgment in 2019, nine cases related to the Shri Krishna Janmabhoomi and Shahi Idgah Masjid, have been filed in the Mathura court.
- The Allahabad High Court transferred to itself all the suits pending before the Mathura Court on various reliefs pertaining to the Sri Krishna Janmabhoomi-Shahi Idgah Mosque dispute.
- In the High Court, the U.P. Sunni Central Waqf Board and the Shahi Idgah Masjid Committee argued that the birthplace of Lord Krishna is not under the Mosque.
- They stated that the plaintiffs' claim lacks evidence and is based on speculation.
- When the Committee of Management Trust of the Shahi Idgah Masjid sought a stay on the survey from the Supreme Court, the court did not grant any relief.

9. BIHAR'S PUNAURA DHAM PROJECT

Context:

- The Bihar state government recently approved a project to develop Punaura Dham, a temple complex in Sitamarhi district, as a major tourist attraction.
- Punaura Dham is believed to be the birthplace of Goddess Sita, wife of Lord Rama and a revered figure in Hinduism.
- The initiative aims to promote the culture and heritage of Mithila, the region where Sita was born and raised

What are the Key Cultural Aspects of Mithila?

Historical Significance:

- Mithila has a rich and ancient history, dating back to the Vedic period (1500-500 BCE) when it was one of the 16 Mahajanapadas of India.
- Mithila, also known as Tirhut or Tirabhukti, is a historically and culturally significant region encompassing Darbhanga, Madhubani, Sitamarhi, Supaul, Saharsa, Madhepura, and adjacent areas of Bihar and Nepal.
- It is bounded by the Himalayas in the north, the Ganges in the south, the Gandaki River in the west, and the Mahananda River in the east.
- It is also known as Mahla and mentioned in revenue records of the United Provinces of Bihar, Bengal, and Orissa.
- It was ruled by the Videha Janak dynasty.

Language and Literature:

- The main language of Mithila is Maithili which belongs to the Indo-Aryan family.
- Maithili has a rich literary tradition, the poet Vidyapati(1352–1448 AD), wrote famous songs of love and devotion in this language.
- Maithili literature also includes epics, dramas, folktales, and biographies of saints and heroes.

Cultural Heritage:

- Mithila is famous for its unique style of painting, known as Madhubani or Mithila painting, which is done using bright earthy natural colours and geometric patterns.

- The paintings depict scenes from Hindu mythology, especially the Ramayana, as well as flora, fauna, and social events.

GI Tag:

- Mithila Makhana or Makhan (botanical name: *Euryale ferox* Salisb.) is a special variety of aquatic fox nut cultivated in Mithila region of Bihar and Nepal. It is also recognised with the GI (geographical indication) tag.



GEOGRAPHY

1. KASHI VISHWANATH CORRIDOR

Context:

- Recently, the Prime Minister of India has celebrated 2 years of Kashi Vishwanath Corridor.
- Kashi Vishwanath Corridor connects the iconic Kashi Vishwanath temple and the ghats along the river Ganga.
- Kashi Vishwanath Temple is one of the most famous Hindu temples dedicated to Lord Shiva.
- The temple stands on the western bank of the holy river Ganga and is one of the twelve Jyotirlingas, the holiest of Shiva temples.
- Kashi Vishwanath Dham has become one of the top pilgrimage spots in India as a record 12.9 crore devotees visited the shrine in two years.

About:

- It is the massive makeover and the first after the 1780 AD when the Maratha queen Ahilyabai Holkar of Indore renovated the Kashi Vishwanath temple and the area surrounding it.
- The foundation was laid in March, 2019. The project was conceptualised to create an easily accessible pathway for the pilgrims, who had to meander through congested streets to take a dip in the Ganga and offering the water of the holy river at the temple.
- More than 40 ancient temples were rediscovered during the work on the project. They were restored while ensuring there is no change in the original structure.

Significance:

- It connects the iconic Kashi Vishwanath temple and the ghats along the river Ganga.
- Kashi Vishwanath Temple is one of the most famous Hindu temples dedicated to Lord Shiva.
- The temple stands on the western bank of the holy river Ganga, and is one of the twelve Jyotirlingas, the holiest of Shiva temples.
- It will help boost tourism by providing the pilgrims and travellers with amenities such as wider and cleaner roads and lanes, better lighting with bright street lights, and clean drinking water.

POLITY AND GOVERNANCE

1. SECURITY BREACH IN PARLIAMENT**Context:**

- Two persons entered the Lok Sabha chamber and opened canisters that emitted yellow smoke.
- The two men jumped into the Lok Sabha chamber from the visitor's gallery.
- This recalled two other incidents that took place in a space of four months almost 30 years ago (in 1994).
- This happened hours after leaders and lawmakers led the nation in paying tribute to those who died in the line of duty this day in 2001 during the terror attack on Parliament House.
- They were carrying visitors' passes, issued to them on the request of BJP Mysuru-Kodagu MP Pratap Simha.

Background

- Rules of the House mandate security staff in the visitors' gallery to maintain a strict vigil and ensure that the visitors do not indulge in any misbehaviour.

Existing rules

- Visitors' ("strangers" in parliamentary parlance) admission, withdrawal and removal is governed by Rule 386 of the Rules of Procedure and Conduct of Business in the Lok Sabha.
- This rule states that the admission of strangers during the sittings of the House to those portions of the House which are not reserved for the exclusive use of members shall be regulated in accordance with orders made by the Speaker.
- Rule 387 gives the Speaker the power to withdraw "strangers" from any part of the House if he/she deems it fit.
- The process of entry for 'strangers'
- A member can apply for the issue of visitors' cards only for those who are very well known to them personally.
- Members applying for a visitor card are also mandated to provide a certificate.
- This certificate should say, "I know the visitor personally, and I am responsible for them. They are my relative or personal friend."
- To address security concerns, visitors must also carry a photo ID with them.

Duration for which passes are issued

- The visitors' cards are usually issued to a member for a particular day for fixed hours. However, in exceptional cases, the rules permit the issue of two cards.
- A card is ordinarily issued only for a period of one hour.
- These cards are not transferable and are issued subject to the holder observing the conditions endorsed thereon.
- There is also a provision which allows members to apply for a visitor card on the same day in emergent cases when it is not possible for them to apply within the prescribed time limit.
- There are two types of galleries – public and Speaker's – in Lok Sabha.
- While a member can facilitate the entry of four people on a daily basis in the public gallery, he/she is entitled to facilitate the entry of two people in the Speaker's gallery.
- The names of the visitors for the Speaker's gallery need to be vetted by the Speaker.

What happened?

1.0IPT Two men jumped off from the visitors' gallery into the Lok Sabha chamber. There, they set off what appeared to be cannisters emitting yellow smoke.

WHO ARE THEY?
SAGAR SHARMA (L) and D MANORANJAN (R) were the two who leapt into the LS from the visitor's gallery

3 QUESTIONS UNANSWERED

- 1 How did intel agencies miss a plan hatched on social media, and one that was months in the making?
- 2 How were they able to bypass three layers of security and enter with incendiary cannisters?
- 3 What was their motive, and what did they hope to achieve?

NEELAM SINGH (L) & AMOL SHINDE (R) were arrested outside the building for shouting slogans

Efforts are on to nab **LALIT JHA** who is their **fifth accomplice**

SECURITY CHECK

- The Parliament security staff posted at the public gallery checking post will ensure that all visitors are searched/frisked through Door Frame Metal Detector/Hand Held Metal Detector.
- The security staff is mandated to carefully check the visitor card and cross check it with the approved list in their possession.
- The Parliament security staffs inside the public gallery maintain a very close vigil on the visitors.
- They ensure that they maintain silence and do not indulge in any kind of mischief or disturbance like shouting of slogan/attempting to throw leaflets/pamphlets.

2001 Parliament attack

- On the morning of December 13, 2001 five terrorists entered Parliament House Complex around 11:40 am in an Ambassador car fitted with a red light.
- They had forged Home Ministry sticker on the car's windshield.
- A firefight ensued, lasting over 30 minutes. All five terrorists were killed, along with eight security personnel and a gardener. At least 15 people were injured.
- The 100 or so ministers and MPs in Parliament at the time were unhurt.
- The terrorist assault on the Parliament House was executed jointly by Pakistan-based and supported terrorist outfits, namely, Lashkar-e-Taiba and Jaish-e-Mohammad.

2. THE CEC AND OTHER ECS (APPOINTMENT, CONDITIONS OF SERVICE AND TERM OF OFFICE) BILL, 2023

Context:

- The Rajya Sabha recently approved the Chief Election Commissioner and Other Election Commissioners (Appointment, Conditions of Service and Term of Office) Bill, 2023, which outlines the procedures for appointing the Chief Election Commissioner (CEC) and Election Commissioners (EC).
- The legislation aims to bring transparency to the appointment process, responding to a directive from the Supreme Court of India in the Anoop Baranwal v Union of India case, 2023.

What is the Supreme Court Ruling on the Appointment of CEC and ECs?

- In March 2023, the Supreme Court emphasised the critical role of an independent Election Commission of India (ECI) in ensuring free and fair elections, addressing a longstanding legislative gap since the Constitution's adoption regarding the appointment of the CEC and ECs.
- The SC drew attention to other institutions supporting constitutional democracy that have independent mechanisms for appointing their heads/members.
- Mentioned examples such as the National and State Human Rights Commission, Central Bureau of Investigation (CBI), Information Commission, and Lokpal.

- The SC noted recommendations from the Dinesh Goswami Committee on Electoral Reforms (1990) and the Law Commission's 255th report on Electoral Reforms (2015).
- Both committees suggested a committee comprising the Prime Minister, Chief Justice of India (CJI), and the Leader of the Opposition for appointing the CEC and ECs.
- The SC, using its powers under Article 142 (to issue directions for doing 'complete justice' in any matter), laid down that the CEC and ECs shall be appointed by a committee consisting of the Prime Minister, the CJI and the Leader of the Opposition or the largest opposition party in the Lok Sabha.
- SC ruled that this mechanism shall be in place till Parliament enacts a law on this matter.

What are the Key Provisions of the Bill?

- The Bill replaces the Election Commission (Conditions of Service of Election Commissioners and Transaction of Business) Act, 1991.
- It addresses the appointment, salary, and removal of the CEC and ECs.

Appointment Process:

- The CEC and ECs will be appointed by the President upon the recommendation of a Selection Committee.
- The Selection Committee will consist of the Prime Minister, a Union Cabinet Minister, and the Leader of Opposition/leader of the largest opposition party in Lok Sabha.
- Recommendations of the Selection Committee will be valid even when there is a vacancy in this Committee.
- A Search Committee headed by the Cabinet Secretary will propose a panel of names to the Selection Committee.
- Eligibility for the posts includes holding (or having held) a post equivalent to the Secretary to the central government.

Changes in Salary and Conditions:

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

Removal Process:

- The Bill retains the constitutional provision (Article 324(5)) that allows the CEC to be removed like a Supreme Court Judge, while ECs can only be removed on the recommendation of the CEC.

Protection for CEC And ECs:

- Bill safeguards CEC and ECs from legal proceedings related to actions taken during their tenure, provided such actions were carried out in the discharge of official duties.
- The amendment aimed to shield these officials from civil or criminal proceedings related to their official functions.

How are the CEC and ECs Currently Appointed?

Constitutional Provisions:

- There are just five Articles (324-329) in Part XV (Elections) of the Constitution.
- The Constitution does not lay down a specific legislative process for the appointment of the CEC and ECs.
- Article 324 of the Constitution vests the "superintendence, direction and control of elections" in an Election Commission consisting "of the Chief Election Commissioner and such number of other Election Commissioners, if any, as the President may from time to time fix".

3. MERIT OVER RESERVATION IN APPOINTMENTS OF LAW OFFICERS

Context:

- Recently, the Madras High Court ruled that the rule of reservation need not be followed in the appointment of law officers.

- The court held that merit must be the sole criterion for such appointments as the government is duty-bound to engage only the most proficient, competent and capable lawyers to represent it before the courts of law.

What are the Key Points of the Verdict?

- The verdict was delivered while dismissing a public interest litigation petition filed in 2017 insisting upon transparency and adequate representation for women, the Scheduled Caste, the Scheduled Tribe and the minorities in the appointment of law officers.
- The petitioner highlighted that the Appointment of Law Officers of the High Court of Madras had failed to provide vertical as well as horizontal reservation.
- The Division Bench has stated that the relationship between an advocate and their client is one of active confidence and trust and is governed by the doctrine of uberrima fides.
- The relationship between the government and the law officer is purely professional and not that of a master and a servant.
- The law officers are not appointed to a civil post nor are they employees of the government. Therefore, it cannot be held that reservation needs to be provided while appointing law officers by the government.
- The court suggested that the invitation for applications should be inclusive, allowing the government to select highly competent and meritorious lawyers as law officers.

What are the Rules/Judgements Related to Reservation in Public Employment?

- According to Office Memorandum issued by the Department of Personnel and Training (DoPT) in 2021 the rule of reservation must be applied even to contractual as well as temporary appointments barring those that were to last for less than 45 days.
- The Supreme Court in Indra Sawhney's case, 1992 ruled that providing reservations for certain services and positions might not be advisable for the performance of duties.
- The post of a law officer was one such position that must be exempt from the rule of reservation.
- In 2022, Justices Nageswara Rao, Sanjiv Khanna, and B.R. Gavai issued a ruling emphasizing that state governments must provide measurable data to justify reservation policies for the promotion of candidates belonging to SC and STs.
- The court upheld the requirement for state authorities to support their decisions on promoting SC/ST candidates with concrete and measurable evidence.

Constitutional Provisions Governing Reservation in India:

- Articles 15(4) and 16(4) of the Constitution enabled the State and Central Governments to reserve seats in government services for the members of the SC and ST.
- Constitutional 81st Amendment Act, 2000 inserted Article 16 (4B) which enables the state to fill the unfilled vacancies of a year which are reserved for SCs/STs in the succeeding year, thereby nullifying the ceiling of 50% reservation on the total number of vacancies of that year.
- Article 335 of the constitution says that the claims of STs and SCs shall be taken into consideration consistently with the maintenance of efficacy of the administration.

Note:

Doctrine of Uberrima Fides:

- *The doctrine of Uberrima Fides is a Latin phrase that translates to "utmost good faith". It requires the advocate to act in the best interests of the client.*

4. GLOBAL RIVER CITIES ALLIANCE: NMCG

Context:

- Recently, the National Mission for Clean Ganga (NMCG), has launched the Global River Cities Alliance (GRCA) at COP28 in Dubai, United Arab Emirates.

- During the event the NMCG also signed a Memorandum of Common Purpose (MoCP) with the Mississippi River Cities and Towns Initiative (MRCTI), representing 124 cities/towns situated along the banks of the Mississippi River, the United States.
- The NMCG has signed the MoCP on behalf of the River Cities Alliance (RCA).

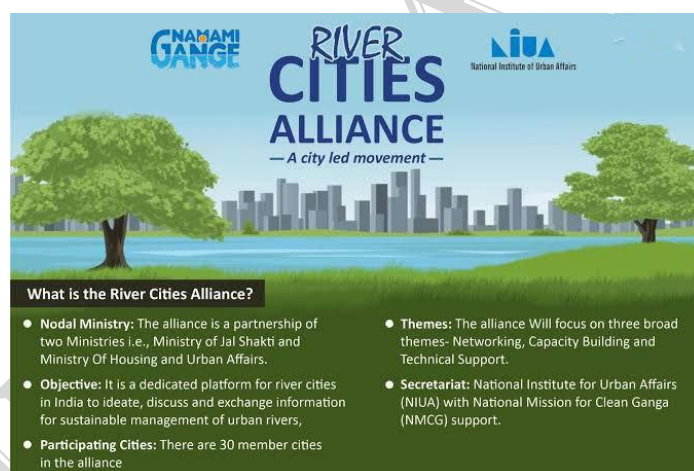
What is the Global River Cities Alliance (GRCA)?

About:

- The GRCA is an international coalition of cities and countries dedicated to the conservation, sustainable management, and protection of river systems worldwide.
- The alliance encompasses a diverse array of countries and river cities, fostering partnerships among key nations like India, Egypt, Netherlands, Denmark, Ghana, Australia, Bhutan, Cambodia, Japan, and others.
- GRCA's membership extends to cover 275+ river-cities across 11 countries, demonstrating a substantial global reach and influence.

Objective:

- It will serve as a platform for collaboration, knowledge exchange, and concerted efforts among various stakeholders, including governments, cities, financial institutions, and environmental organizations..
- What is the Mississippi River Cities and Towns Initiative (MRCTI)?
- The MRCTI was created in 2012 to provide an influential voice for the Mississippi River, dramatically increasing demand for effective river protection, restoration, and management in Washington, DC.
- It addresses matters of mutual concern, including river water quality and habitat restoration, flooding and floodplain issues, river-focused recreation, sustainable economies, and celebration of the River culture and history.



What is River Cities Alliance (RCA)?

About:

- The RCA is a joint initiative of the Ministry of Jal Shakti (MoJS) & the Ministry of Housing and Urban Affairs (MoHUA), with a vision to connect river cities and focus on sustainable river centric development.
- The Alliance focuses on three broad themes- Networking, Capacity Building and Technical Support.
- Beginning with 30 member cities in November 2021, the Alliance has expanded to 110 river cities across India and one international member city from Denmark.

Objective:

- The RCA intends to facilitate knowledge exchange (online) for Indian cities to learn new practices and approaches for urban river management.
- It will also be an opportunity for international cities to learn about experiences in Indian cities, which may be relevant to their contexts.

What is the National Mission for Clean Ganga (NMCG)?

About:

- On 12th August 2011, the NMCG was listed as a society under the Societies Registration Act, 1860.
- It acted as the implementation arm of the National Ganga River Basin Authority (NGRBA) which was constituted under the provisions of the Environment (Protection) Act (EPA), 1986.
- NGRBA was dissolved in 2016 and replaced by the National Council for Rejuvenation, Protection, and Management of River Ganga.

Objective:

- The objective of the NMCG is to reduce pollution and ensure the rejuvenation of the Ganga River.
- Namami Gange is one of the Coveted Programmes of NMCG to clean Ganga.
- This can be achieved by promoting intersectoral coordination for comprehensive planning & management and maintaining minimum ecological flow in the river, with the aim of ensuring water quality and environmentally sustainable development.

Organization Structure:

- The Act envisages a five-tier structure at the national, state, and district levels to take measures for prevention, control, and abatement of environmental pollution in river Ganga as below:
- National Ganga Council under the chairmanship of the Hon'ble Prime Minister of India.
- Empowered Task Force (ETF) on river Ganga under the chairmanship of Hon'ble Union Minister of Jal Shakti (Department of Water Resources, River Development and Ganga Rejuvenation).

5. SUPREME COURT VERDICT ON ARTICLE 370

Context:

- A Constitution Bench of the Supreme Court unanimously upheld the power of the President to abrogate Article 370 of the Constitution, which granted special status to the former State of Jammu and Kashmir (J&K).

What is Article 370?

- Origin- Article 370 is derived from Part XXI of the Constitution under the title "Temporary, Transitional and Special provisions".
- Features – Article 370 gave Kashmir its autonomy in internal administration and in all matters except for 3 subjects - defence, external affairs, and communication.
- Except for Article 1 (India is a Union of States) and Article 370 (Temporary provisions with respect to the State of J&K) of the Constitution of India, other provisions do not apply to J&K.
- Clause (1) (d) of Art 370 empowered the President of India to extend other provisions of the Constitution through an executive order with the concurrence of the government of J&K.
- Article 370(3) empowered the President to 'declare Article 370 shall cease to be operative' completely or partially but only if the Constituent Assembly of J&K recommended such an action.
- Delhi agreement, signed in 1952, extended the provisions of Indian Constitution regarding citizenship, fundamental rights to the State, in addition to the jurisdiction of the Supreme Court of India.

What are the Key Changes Brought Out by the Order of 2019?

Constitution (Application to Jammu and Kashmir) Order, 2019:

- The Constitution (Application to Jammu and Kashmir) Order, 2019 has replaced the Presidential Order of 1954.
- Subsequently, the Jammu and Kashmir Reorganisation Bill, 2019, passed by Parliament divides the state of Jammu and Kashmir into two new Union Territories (UTs): Jammu & Kashmir, and Ladakh.
- This is the first time that a state has been converted into UTs.

- Of the six Lok Sabha seats currently with the state of Jammu and Kashmir, five will remain with the union territory of Jammu and Kashmir, while one will be allotted to Ladakh.
- The UT of Jammu and Kashmir will have an Assembly, like in Delhi and Puducherry.
- Ladakh will be a UT without legislature
- Kashmir will no longer have a Governor, but rather a Lieutenant Governor like in Delhi or Puducherry.

Status of J&K Union Territory:

- J&K Assembly will have a five-year term, not six, as was the earlier case.
- Section 32 of the J&K 2019 Bill proposes that the Assembly can make laws on any subjects in the State and Concurrent lists except on state subjects relating to “public order” and “police”.
- This is similar to Article 239A of the Constitution that is applicable to Union Territories of Puducherry and Delhi.
- However, by insertion of Article 239AA and by virtue of the 69th Constitutional Amendment, the Delhi Assembly cannot legislate on matters in entry 18 of the State List, i.e. land.
- In the case of J&K, the Assembly can make laws on land.

The Special Status of J&K Abolished:

- Jammu & Kashmir will no longer have the separate constitution, flag or anthem.
- The citizens of Jammu and Kashmir will not have dual citizenship.
- As the new union territory of Jammu and Kashmir will be subject to the Indian Constitution, its citizens will now have the Fundamental Rights enshrined in the Indian constitution.
- Article 360, which can be used to declare a Financial Emergency, will now also be applicable.
- All laws passed by Parliament will be applicable in Jammu and Kashmir, including the Right to Information Act and the Right to Education Act.
- The Indian Penal Code will replace the Ranbir Penal Code of Jammu and Kashmir.
- Article 35A, which originates from the provisions of Article 370 stands null and void.

What is the Recent Judgement of the Supreme Court?

Jammu and Kashmir did not Possess Sovereignty:

- SC observed that there is much evidence in Article 370 and the J&K Constitution to show that in regards to Kashmir, a merger agreement was not necessary to surrender its sovereignty.
- Article 370(1) applied Article 1 of the Constitution of India (where J&K was listed as a Part III State) with no modifications.
- Section 3 of the J&K Constitution explicitly states that “the State of Jammu and Kashmir is and shall be an integral part of the Union of India.”
- Section 147 of the Indian constitution prohibited any amendments to Section 3, further making the provision absolute.
- Thus, Court said that the Constitution of India, “became the supreme governing document of the land.” Further, the Preamble to the J&K Constitution shows a “clear absence of...a reference to sovereignty.”

Article 370 is a Temporary Provision:

- The SC relied on the fact that the Constitution framers placed Article 370 with the temporary and transitional provisions contained in Part XXI.
- Then, it pointed out that the Instrument of Accession (IoA) made it “abundantly clear” that Article 1 which stated that “India that is Bharat shall be a Union of States” applied in its entirety to J&K.

Constitutional Validity of Proclamations Under President’s Rule:

- SC’s Bench concurred that the President has the power to make “irreversible changes, including the dissolution of the State Assembly,” and that the President’s powers are kept in check by “judicial and constitutional scrutiny.”

The Constitution of J&K Stands Inoperative:

- Court held that it is no longer necessary for the Constitution of J&K through which only certain provisions of the Indian Constitution applied to J&K, to exist.
- The implicit but necessary consequence of the application of the Constitution of India in its entirety to the State of Jammu and Kashmir is that the Constitution of the State is inoperative.

Set up a Truth and Reconciliation Commission to Address Human Rights:

- The SC recommended that the Union set up a “truth and reconciliation Commission” just like South Africa did post-apartheid to investigate human rights violations by both state and non-state actors. The exercise should be time-bound.

What were the Different Legal Challenges in Abrogation of Article 370?

Constitutional Challenges:

- Presidential order that sought to abrogate Jammu and Kashmir’s special status, according to Article 370 (3) the President would require the recommendation of the constituent assembly of Jammu and Kashmir to make such a change.

However, the 2019 Presidential order adds a sub-clause to Article 367, replacing the terms:

- “Constituent Assembly of Jammu and Kashmir” to mean “legislative Assembly of Jammu and Kashmir”.
- “Government of Jammu and Kashmir” to mean “Governor of Jammu and Kashmir acting on the aid and advice of the council of ministers”.
- The government sought to dilute the autonomy under Article 370 without bringing a Constitutional Amendment that would require a two-thirds majority in the Parliament.
- This provision was challenged in the Supreme Court on the ground that it added article 35A to the Indian Constitution only through a Presidential Order.
- Conversion of Jammu and Kashmir into a Union Territory is in violation of Article 3, as the Bill was not referred to the President by the State Assembly.
- In the reorganisation of the state, the Presidential order also requires the concurrence of the government of the state. However, since Jammu & Kashmir is currently under the Governor’s rule, the Governor’s concurrence is deemed to be the government’s concurrence.

Federalism Issue:

- The Instrument of Accession was like a treaty between two sovereign countries that had decided to work together.
- In Santosh Kumar v. State of J&K & ors, 2017, the SC said that due to historical reasons, Jammu and Kashmir had a special status.
- In SBI v Zaffar Ullah Nehru, 2016, the SC held that Article 370 cannot be repealed without the concurrence of the Constituent Assembly of Jammu and Kashmir.

What are the Signs of Peace and Security in J&K After the Abrogation of Article 370?

Reduction in Stone Pelting and Militancy:

- Increased security presence and action by central agencies like the National Investigation Agency (NIA) led to decrease in the cases of stone pelting.
- The number of stone-pelting incidents decreased from 618 in 2019 to 222 in 2020.
- Injuries to security forces decreased from 64 in 2019 to 10 in 2021.

Reduction in Civilian Injuries:

- Civilian Injuries from pellet guns and baton charges reduced from 339 (2019) to 25 (2021).
- Law and Order also improved in J&K as only 20 law and order incidents were reported in 2022.
- Arrests of Militants and Over-Ground Workers (OGWs):
- Arrests of OGWs of militant groups increased from 82 in 2019 to 178 in 2021.

- There has been a 32% decline in terrorist acts from August 2019 to June 2022, compared to the preceding 10 months.

Note:

- *For the rest of India, the Constitution lays down an elaborate procedure in Article 367 to enlarge or curb state power through a constitutional amendment. However, for J&K, the Constitution provides that a mere executive action under Article 370 would suffice*
- *Article 35A stems from Article 370 and was introduced through a Presidential Order in 1954, on the recommendation of the J&K Constituent Assembly.*
- *Article 35A empowers the Jammu & Kashmir legislature to define the permanent residents of the state, and their special rights and privileges.*

6. PM JANMAN SCHEME CAN HELP PARTICULARLY VULNERABLE TRIBAL GROUPS

Context:

- On November 29, the Union Cabinet approved the Pradhan Mantri Janjati Adivasi Nyaya Maha Abhiyan (PM JANMAN).
- The Scheme is aimed at providing PVTG households and habitations with basic facilities such as safe housing, clean drinking water and sanitation, improved access to education, health and nutrition, road and telecom connectivity, and sustainable livelihood opportunities.
- In addition, saturation will also be ensured for schemes like Pradhan Mantri Jan Arogya Yojana (PMJAY), Sickle Cell Disease Elimination, TB Elimination, 100% immunisation, PM Poshan, PM Jan Dhan Yojana, etc.
- This initiative is part of the Pradhan Mantri-PVTG Development Mission announced in India's 2022-23 Union Budget.
- The govt has allocated Rs 15,000 crore over three years to develop them.

Particularly Vulnerable Tribal Groups (PVTGs)

About

- PVTGs are more vulnerable among the tribal groups.
- In 1960-61, the Dhebar Commission identified disparities among Scheduled Tribes, leading to the creation of the "Primitive Tribal Groups" (PTG) category.
- In 2006, this category was renamed Particularly Vulnerable Tribal Groups (PVTGs).
- Numbers and spread
- In 1975, the Government of India declared 52 tribal groups as PVTGs on the recommendation of Dhebar commission.
- Currently, there are 75 such groups in 22,544 villages across 18 states and one Union Territory of India, totalling about 28 lakh individuals.
- Odisha has the highest number (more than 2.5 lakh) of PVTGs.

Characterised by

- Population – stagnant/declining
- Technology – pre-agricultural
- Literacy Level – extremely low
- Economy – Subsistence level

Variance in population

- Population sizes vary significantly, from under 1,000 in some groups, such as the Great Andamanese (around 50) and the Onge (around 100), to over 1 lakh in others, such as Maria Gond of Maharashtra and Saura in Odisha.
- Some tribes in central India, like Birhor, face stagnation, while the Onge and Andamanese are experiencing a decline.

Challenges in their development

- PVTGs are severely marginalised due to their isolation, low population, and distinct socio-economic and cultural traits.
- They struggle with limited access to basic services, social discrimination, and vulnerability to displacement from development and natural disasters.
- They have little political representation, hindering their participation in decision-making.
- Mainstream society often overlooks their traditional knowledge and practices, and stereotypes about their backwardness are prevalent.
- They are also battling loss of traditional livelihoods and resource rights, lack of market knowledge for Non-Timber Forest Produce, and exploitation by middlemen, threatening their traditional occupations.

What does PM-JANMAN do differently?

Proper identification and recognition

- The criteria for identifying PVTGs have been criticised for being outdated.
- Some PVTGs are not recognised as Scheduled Tribes in certain states, and the list containing repetitive names has led to confusion and exclusion.
- A 2014 report by Dr. Hrusikesh Panda, Secretary of the Ministry of Tribal Affairs, and a 2015 report by Virginius Xaxa highlighted these concerns.
- Baseline surveys have only been conducted for about 40 PVTG groups, emphasising the need for targeted development planning.
- The government's initiative to create a Human Development Index for PVTGs is a significant step towards addressing these vulnerabilities.

Participatory bottom-up approach

- To help PVTGs effectively, the scheme abandons the 'one-size-fits-all' approach in favour of customised strategies that respect their unique needs and priorities.
- It actively involves PVTGs in decision-making, addressing land rights, social inclusion, and cultural preservation.

Livelihood promotion

- Providing skills training and resources, like land and credit, will help in sustainable livelihoods.
- Implementing the Forest Rights Act by granting land titles secures access to forest resources.
- Section 3(1)(e) of the FRA specifically supports the rights of primitive tribal groups and pre-agricultural communities.
- Additionally, encouraging traditional technologies and skill enhancement through industry partnerships will help maintain cultural heritage while promoting sustainable development.

Health, nutrition and education

- Outreach strategies like Mobile Medical Health Units will be crucial for providing healthcare in remote areas.
- Incorporating their culture and language into the curriculum, providing transportation, and training teachers about PVTG cultural contexts can enhance education accessibility.

Infrastructure development:

- The habitations of PVTGs often don't meet the criteria for schemes such as the Pradhan Mantri Grameen Sadak Yojana, Pradhan Mantri Awas Yojana and Jal Jeevan Mission due to factors like population requirements or lack of surveys.
- Guidelines for infrastructure schemes, thus, have been relaxed to improve access to housing, water, sanitation, electricity, and connectivity.

7. GRAM MANCHITRA APPLICATION

Context:

- Recently, the Union Minister of State for Panchayati Raj informed the Lok Sabha about the Gram Manchitra application.

About the Gram Manchitra application:

- In order to encourage the Spatial Planning by the Gram Panchayat, Ministry of Panchayati Raj had launched the Geographic Information System (GIS) application “Gram Manchitra.”
- This application facilitates and supports Gram Panchayats to perform planning at Gram Panchayat level using geo-spatial technology.
- It provides a single/ unified Geo-Spatial platform to better visualise the various developmental works to be taken up across the different sectors and provide a decision support system for the Gram Panchayat Development Plan (GPD).
- Further, Ministry has launched m-ActionSoft, a mobile based solution to help in capturing photos with Geo-Tags (i.e. GPS Coordinates) for the works which have assets as an output.
- Geo-tagging of the assets is done in all three stages viz.
 - before the start of the work,
 - during the work and
 - on completion of work.
- This would provide a repository of information on all works and assets related to natural resource management, water harvesting, drought proofing, sanitation, agriculture, check dams and irrigation channels etc.
- Assets geo-tagged using the m-ActionSoft application is available on Gram Manchitra, enhancing the visualisation of various developmental works in the Gram Panchayats.
- The assets created under the finance commission funds are geotagged with the photographs of assets by the Panchayats.



Significance

- It will help Gram Panchayat officials develop realistic and achievable development plans.
- These tools provide a decision support system in the preparation of development plans viz. tools for identifying potential sites for development projects, asset tracking, estimating the costs of projects, and assessing the impact of projects.

8. DECODING ONLINE GAMING ETHICS

Context:

- Recently, the online gaming industry has voluntarily entered into a code of ethics. This move signifies an attempt to self-regulate and create a more stable environment for the industry.

- Responsibility for online gaming matters has been assigned to the Ministry of Electronics and Information Technology by the Government of India.

What is the Code of Ethics Adopted by the Gaming Industry?

- To govern itself and address growing concerns, three prominent lobby groups Internet and Mobile Association of India (IAMAI), E-Gaming Federation (EGF), and All India Gaming Federation (AIGF) have voluntarily co-signed a code of ethics.
- The code of ethics is entirely voluntary, in nature. Despite its non-binding nature, the code aims to foster responsible practices within the industry and is viewed as a step towards self-regulation.
- The code endeavors to safeguard the interests of consumers by empowering them to make informed decisions regarding the online games they choose.
- According to the code, online gaming companies are required to undertake know-your-customer (KYC) procedures in accordance with applicable laws.
- Additionally, companies must disclose on their platforms the criteria for determining winners, fees charged, and ensure that deposits are solely utilized for playing games on the platform.
- It also strives to create a "healthy environment" for online games in India, focusing on aspects such as transparency, fairness, and responsible gaming.

What is Online Gaming?

About:

- Online gaming involves playing games through the internet, facilitating player connections and collaborative gameplay irrespective of their physical locations.
- It is accessible on various devices, including computers, and mobile phones.

Difference Between Gambling and Online Gaming:

- Gambling is the practice of placing bets on events with uncertain outcomes, primarily aimed at winning money or material possessions.
- Various forms of gambling exist, such as casino games, sports betting, and lotteries.
- Unlike online gaming, gambling carries the risk of losing money or valuable items.
- In India, games of chance fall under the category of gambling and are generally prohibited, while games of skill, falling outside the ambit of gambling are usually exempted.
- In *RMD Chamarbaugawala v. Union of India*, the Supreme Court relied on the 'skill test' to decide whether an activity is gambling or not.
- The court held that competitions that substantially involve skills are not gambling activities.

How Does the Code Align With Government Regulations on Online Gaming?

Public Gambling Act, 1867:

- The act primarily addresses physical gambling activities. However, its relevance extends to online gaming, providing a legal framework for regulation.

Information Technology Act, 2000:

- The Information Technology Act of 2000 plays a pivotal role in regulating online activities, including gaming. Section 66 of the IT Act deals with computer-related offenses, providing a legal basis for addressing cyber crimes associated with online gaming.
- Sections 67, 67A, and 67B of the IT Act empower authorities to formulate laws related to online gaming, recognizing the need for discretion in regulating activities that involve elements of chance, gambling, and betting.
- This recognition aligns with the constitutional division of responsibilities, placing gambling and betting within the state's jurisdiction.

Self-Regulatory Bodies:

- The Ministry of Electronics and Information Technology has introduced rules that permit the establishment of self-regulatory bodies within the online gaming industry.

Inter-Ministerial Task Force Recommendations:

- The government's proactive approach is evident in the recommendations put forth by the inter-ministerial task force, contributing to the formulation of rules for online gaming.
- These recommendations reflect a collaborative effort aimed at striking a balance between industry growth and consumer protection.

Way Forward

Technology Integration for Compliance:

- Invest in technology solutions that facilitate seamless implementation of the code's provisions, such as robust KYC procedures and transparent disclosure mechanisms.
- Leverage blockchain or other secure technologies to enhance transparency in winner determination and financial transactions, ensuring a fair and accountable gaming environment.

Regular Audits and Reporting:

- Establish a system for periodic audits by independent bodies to assess compliance with the code's stipulations.
- Mandate online gaming companies to publish regular reports on their platforms, detailing the manner of determining winners, platform fees, and the utilization of deposits, promoting transparency and accountability.

Consumer Feedback Mechanism:

- Implement a robust feedback mechanism that allows players to express concerns and provide input on the industry's adherence to the code.
- Use consumer feedback to continually improve the code, address emerging issues, and enhance the overall gaming experience.

International Best Practices Adoption:

- Stay informed about global best practices in online gaming ethics and consider adopting relevant measures that have proven successful in other jurisdictions.
- Participate in international forums to share insights and learn from the experiences of the global gaming community.

9. QUEST FOR SIMULTANEOUS ELECTIONS IN INDIA

Context:

- In a move towards electoral reform, the Union Government set the wheels in motion in September 2023 by forming a six-member panel tasked with the mammoth responsibility of exploring the feasibility of simultaneous elections for the Lok Sabha, State assemblies, and local bodies.

What are Simultaneous Elections?

About:

- Simultaneous elections refers to the idea of holding elections for the Lok Sabha (the lower house of Parliament), State legislative assemblies, and local bodies like municipalities and panchayats across the country at the same time.
- This concept proposes to synchronize the electoral cycles of these different tiers of governance, aiming to conduct all elections together, ideally once every five years.
- Historical Simultaneous Elections in India: The initial four general elections in India synchronized Lok Sabha and State Assembly elections.

- Presently, Lok Sabha elections align with Assembly polls in Andhra Pradesh, Odisha, Arunachal Pradesh, and Sikkim.

Benefits of Simultaneous Elections:

- **Resource Efficiency:** Conducting elections at various levels requires significant financial resources. Synchronizing elections would consolidate these expenses, leading to substantial cost savings for the government.
- **Optimized Administration:** Simultaneous elections would streamline the deployment of security forces and administrative staff, minimizing disruptions caused by election-related duties and allowing officials to focus more consistently on governance and development.
- **Continuity in Policies:** With elections occurring simultaneously, there would be fewer interruptions in policy implementation due to the Model Code of Conduct, ensuring more sustained and consistent governance.
- **Enhanced Voter Turnout:** Reducing the frequency of elections might combat voter fatigue and increase voter participation, leading to more representative outcomes and increased legitimacy for elected representatives.
- **Increased Accountability:** When voters cast their ballots for various levels of governance together, politicians are held accountable for their actions across different tiers, fostering a more comprehensive accountability structure.
- **Reduced Polarization:** Simultaneous elections could potentially diminish the influence of regional, caste-based, or communal politics by bringing national issues to the forefront, thus encouraging more inclusive campaigning and policy-making.

Associated Challenges:

- **Constitutional Amendments:** Synchronizing elections requires amendments to various constitutional articles.
 - Changes in tenure provisions, dissolution of legislative bodies, and aligning different election cycles pose substantial legal challenges.
 - For example, Articles such as 83(2), 85(2), 172(1), and 174(2) govern the duration and dissolution of the Lok Sabha and State Assemblies, allowing premature dissolution under certain circumstances, which would need repeal for simultaneous elections.
- **Federalism Concerns:** India's federal structure involves multiple states with varying political landscapes.
 - Any move towards simultaneous elections needs widespread consensus among states, which may have differing political agendas.
 - Also, linking general and local body elections faces hurdles due to local governance being a state subject, requiring changes in diverse state laws (56 legal provisions from 28 states' Panchayati Raj Acts and Municipal Acts).
- **Technology and Infrastructure:** Upgrading technological infrastructure, such as electronic voting machines (EVMs) and Voter Verifiable Paper Audit Trail Machines (VVPATs), on a large scale poses challenges in procurement, maintenance, and ensuring reliability.
- **By-elections and Legislative Councils:** Synchronizing all elections might exclude by-elections and elections to legislative councils, leading to potential gaps in representation and governance.
- **Diverse Political Landscapes:** India's multi-party system involves diverse political ideologies and regional priorities.
 - Simultaneous elections may overlook regional issues and dilute the representation of smaller or regional parties.

What is the Stance of Law Commission on Simultaneous Elections?

- The Law Commission's draft report on Simultaneous Elections, released in August 2018, examined the challenges and proposed solutions for conducting simultaneous elections in India.



Proposed Framework for Election Synchronization:

- **Reducing Election Cycles:** Recommends holding elections twice in five years.
- **Conducting All Elections in a Calendar Year:** If simultaneous elections are not feasible, propose conducting all elections falling in a calendar year together.
- **Constructive Vote of No-Confidence Motion:** Recommends replacing the 'no-confidence motion' with a 'constructive vote of no-confidence' to ensure confidence in an alternate government before ousting the existing one.
- **Hung House Resolution:** Proposes a process for resolving situations where no party secures a majority to form a government, involving an opportunity for the largest party/alliance to attempt government formation before midterm elections.
- **Timely Disqualification:** Suggests amending anti-defection laws to ensure the swift resolution of disqualification issues within six months by the presiding officer.
 - In late October 2023, the panel tasked to check the feasibility of simultaneous elections had an interaction with the Law Commission to discuss the roadmap to synchronize Parliamentary and Assembly elections by 2029.

10. SUPREME COURT NOTICE ON BIRTH REGISTRATION:

Context:

- The Supreme Court has issued notice to the Union government related to a petition seeking the effective implementation and full realization of the object and purpose of the Registration of Births and Deaths (RBD) Act, 1969.
- The petition highlights birth registration as a fundamental right that has been recognised in various international conventions as well as in the Universal Declaration of Human Rights and its significance in establishing individual legal identities.

What are the Major Provisions Related to Registration of Births in India?

Registration of Births and Deaths Act, 1969:

- **Registrar Appointments:** Registrars are appointed for local areas under Section 7 of the RBD Act, 1969 to oversee the registration of births within their jurisdictional area.
 - These registrars can be individuals affiliated with various entities like municipalities, Panchayats, government health institutions, or other local authorities designated by the State Government.
- **Institutional Responsibilities:** Under the Registration of Births and Deaths Act, 1969, institutions such as hospitals, health centers, maternity or nursing homes are responsible for reporting births occurring within their premises to the registrar.
- **Citizen's Obligations:** In the case of births, citizens are required to inform the registrar within 21 days of the event occurring in their jurisdiction.

- **Registration of Births and Deaths (Amendment) Act, 2023:** It paved way for digital birth certificates which will be a single document to be used for admission to educational institutions, applications for driving license, government jobs, passports or Aadhaar, voter enrolment, and registration of marriage, among others
 - It will be compulsory for States to register births and deaths on the Centre's Civil Registration System (CRS) portal and share data with the Registrar General and Census Commissioner of India (RGI) which functions under the Union Home Ministry.

What is the Previous Stance of the Supreme Court over Birth Registration?

- The previous Supreme Court interventions, including a 2011 judgment in the Committee for Legal Aid to Poor v. Union of India case and the 2016 Voluntary Health Association of Punjab v. Union of India case, emphasized the importance of birth registration and the alarming consequences of sex-selective abortions on sex ratios.
- Despite court directives to create a centralized database for civil registration records, the authorities have allegedly failed to adhere to the orders, leading to inadequate data availability hindering transparency and research.

11. ALL-INDIA JUDICIAL SERVICE FOR ENSURING DIVERSITY

Context

- The President of India recently suggested that the creation of an All-India Judicial Service (AIJS) will help diversify the judiciary.

All-India Judicial Service (AIJS)

- Article 312 of the Constitution, as amended by the 42nd Amendment, provides for the creation of an AIJS.
- It also requires a resolution adopted by the Council of States with a two-thirds majority and a parliamentary law.
- The AIJS is a reform push to centralise the recruitment of judges at the level of additional district judges and district judges for all states.
- In the same way that the Union Public Service Commission conducts a central recruitment process and assigns successful candidates to cadres, judges of the lower judiciary are proposed to be recruited centrally and assigned to states.

Current recruitment of Judges

- Articles 233 and 234 of the Constitution of India deal with the appointment of district judges, and place it in the domain of the states.
- The selection process is conducted by the State Public Service Commissions and the concerned High Court,
- As since High Courts exercise jurisdiction over the subordinate judiciary in the state.
- Panels of High Court judges interview candidates after the exam and select them for appointment.
- All judges of the lower judiciary up to the level of district judge are selected through the Provincial Civil Services (Judicial) exam.
- A PCS(J) is commonly referred to as the judicial services exam.

Significance

Fresh talent:

- A properly framed All India Judicial Service is important to strengthen the overall justice delivery system.
- A national service for judges not inferior to the post of district judges, with a superannuation age of 60, will be an attractive proposition for young lawyers to apply for it.
- This will give an opportunity for induction of suitably qualified fresh legal talent selected through an all-India merit selection system

Representation to deprived sections:

- It will also address the issue of social inclusion by enabling suitable representation to marginalized and deprived sections of society.
- It may also facilitate inclusion of competent persons from marginalized sections and women in the judiciary.

Reducing the pendency of the cases:

- Data from earlier this year said the backlog in the lower judiciary comprising the district and subordinate courts stood at 3.8 crore cases, thus accounting for the bulk of the more than 4.4 crore cases pending across the Indian judiciary.

Judge-to-population ratio:

- In India there are about 19 judges per 10 lakh population even though the Law Commission had recommended that it should be at least 50 per 10 lakh people.
- All this points to an urgent need to ensure swift filling up of vacancies and ramping up of recruitment to the lower judiciary, for which the Centre has long proposed the creation of the AIJS.

Challenges

Concern of centralisation:

- This Constitution recognises that rules governing the subordinate judiciary in the States will have to be superseded by a central law for this proposal to achieve fruition.
- It is unlikely that all States will agree to one more subject from their domain being consumed by centralisation.
- Key concerns were the dilution of the federal structure and that the proposal does not address structural issues plaguing the lower judiciary.

Lack of consensus:

- There is no consensus on the proposal. Only two High Courts agreed to the idea, while 13 were against it.
- There is divergence of views on eligibility, age, selection criteria, qualification and reservation.
- Issue of language:
- Since cases in lower courts are argued in local languages, there have been apprehensions about how a person from north India can hold hearings in a southern state.

Advantages of current system:

- The current system of recruitment of district judges through the respective High Courts and other subordinate judicial officers through public service commissions is more conducive to ensuring diversity, as there is scope for both reservation and a clear understanding of local practices and conditions.



All India Judicial Service

- All-India Judicial Service (AIJS)- The creation of All India Judicial Service (AIJS) is a reform aimed to centralise the recruitment of judges at the level of additional district judges and district judges for all states.
- Constitutional Provisions for AIJS- Article 312 provides the basis for the creation of AIJS on the resolution passed by Rajya Sabha by two-third majority.
- Current System of Recruitment of District Judges- Under Articles 233, district judges are appointed by the Governor of the State in consultation with the High Court exercising jurisdiction in relation to such State.



Need For All India Judicial Service

- Huge vacancy of judges and delay in recruitment
- Dearth of good quality judicial officers
- Lack of finances with state governments
- Lack of specialized state training institutions for adjudication
- Subjectivity in the recruitment process

Benefits

- Attract Fresh legal talents
- Accountability, transparency and objectivity in judicial recruitment process
- Representation to deprived sections and women
- Increase the Judge-to-Population ratio
- Uniformity of adjudication across the country

Objections

- Dilution of separation of power by involvement of executive in judicial appointment. It also affronts the federal structure.
- Local language, laws and customs can create challenges of effective dispensation of justice
- Possibility of misuse by the elites and might become discriminatory for weaker sections.
- Restricted promotional avenues for already appointed State officers
- State minorities and backward groups will lose out on reservation benefits if the reservation is provided based on a central list

Unattractive career option:

- After enrolling, lawyers typically consider judicial service based on practical experience rather than academic brilliance.
- According to critics, toppers, especially from the few elite law schools, are unlikely to sit for a national judicial service recruitment examination.
- In comparison, options such as litigation, joining law firms and going into the corporate sector may appear more beneficial.
- Further, given that the number of district judges elevated to the High Courts is much lower than those from the Bar, the lack of certainty on career progression may also render a national judicial service unattractive.

Different than civil services:

- Unlike the civil service, judges are not assisted by an experienced lower bureaucracy in decision-making, and they are required to be well-versed in the issues involved in judicial functioning.

Way ahead

- The AIJS has been pitched as a solution to judicial vacancies, lack of representation for the marginalised on the bench and the failure to attract the best candidate.
- AIJS needs to be designed in a way to get rid of its shortcomings and it is able to be a powerful technique for the vacancy in the judiciary.
- Adequate judges may be made to be handiest if they're recruited in huge energy through AIJS similar to IAS, IPS, IFS, and different civil offerings.

12. TERMS OF REFERENCE FOR 16TH FINANCE COMMISSION

Context:

- Recently, the Union Cabinet has given the green light to the terms of reference (ToR) for the Sixteenth Finance Commission.
- This commission holds the critical responsibility of recommending the formula for revenue distribution between the Centre and the States for the upcoming five-year period starting from April 1, 2026.

What are the Major Terms of Reference for 16th Finance Commission?

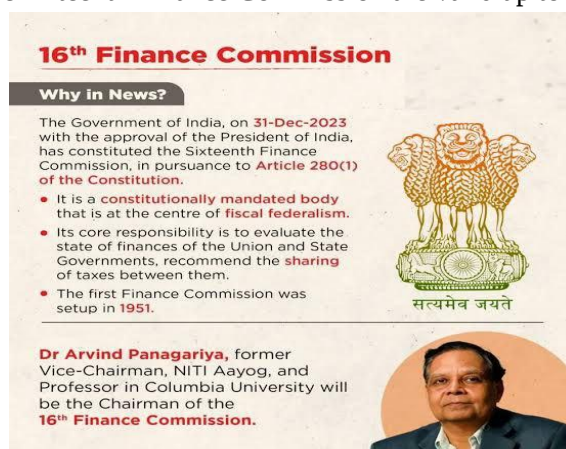
- **Division of Tax Proceeds:** Recommending the distribution of taxes between the Union Government and the States under Chapter I, Part XII of the Constitution.
 - This includes the allocation of shares among the States from these tax proceeds.
- **Principles for Grants-in-Aid:** Establishing the principles governing grants-in-aid to the States from the Consolidated Fund of India.
 - This encompasses determining the amounts to be provided to the States as grants-in-aid, specifically under Article 275 of the Constitution, for purposes beyond those outlined in the provisos to clause (1) of that article.
- **Enhancing State Funds for Local Bodies:** Identifying measures to enhance the Consolidated Fund of a State.
 - This is aimed at supplementing the resources available to Panchayats and Municipalities within the State, based on recommendations made by the State's own Finance Commission.
- **Evaluation of Disaster Management Financing:** The Commission may review the current financing structures related to Disaster Management initiatives.
 - This involves examining the funds created under the Disaster Management Act, 2005, and presenting suitable recommendations for improvements or alterations.

What is the Finance Commission?

About:

- The Finance Commission in India is a constitutional body established under Article 280 of the Indian Constitution.

- Its primary function is to recommend the distribution of financial resources between the central government and the state governments.
- The Fifteenth Finance Commission was constituted on 27th November, 2017. It made recommendations covering the period of six years commencing on 1st April, 2020 through its Interim and Final Reports.
- The recommendations of the Fifteenth Finance Commission are valid up to the financial year 2025-26.



The Commission is required to make recommendations to the Indian president on the following matters:

- The distribution of the net proceeds of taxes to be shared between the Centre and the states, and the allocation between the states of the respective shares of such proceeds.
- The principles that should govern the grants-in-aid to the states by the Centre.
- The measures needed to augment the consolidated fund of a state to supplement the resources of the panchayats and the municipalities in the state.
- Any other matter referred to it by the president in the interests of sound finance.
- The recommendations made by the Commission are only of advisory nature and are not binding on the government.
- It is up to the Union government to implement its recommendations on granting money to the states.
- The commission submits its report to the president of India.
- The President lays it before both Houses of Parliament along with an explanatory memorandum as to the action taken on its recommendations.

13. FAST TRACK SPECIAL COURT (FTSC)

Context:

- Recently, the Union Cabinet approved the continuation of fast-track courts dedicated to the dispensation of justice in cases of sexual offences, for a period of three years.

About Fast Track Special Court (FTSC):

- It was formulated as a centrally sponsored scheme to establish FTSCs for the timely disposal of cases related to rape and the Protection of Children from Sexual Offences Act (POCSO Act) in August 2019.
- Initially commenced in October 2019 for one year, the scheme was extended for an additional two years until March 31, 2023.
- Now it has been further extended until March 31, 2026, with a financial outlay of Rs. 1952.23 crore.
- Fund: The Central Share is funded from the Nirbhaya Fund.
- These are designed as dedicated courts which are expected to ensure swift dispensation of justice, offering quick relief to victims while strengthening the deterrence framework for sexual offenders.
- Nodal Ministry: It is implemented by the Department of Justice, Ministry of Law & Justice.
- It augments State Government resources for establishing FTSCs across the country, ensuring the swift disposal of cases related to rape and the POCSO Act.
- All States/Union Territories have participated in the Scheme, operationalizing 761 FTSCs, including 414 exclusive POCSO Courts.

The expected outcomes of the scheme are:

- Reflect the nation's commitment to ending sexual and gender-based violence.
- Substantially reduce pending cases of Rape & POCSO Act, relieving the burden on the judicial system.
- Ensure swift access to justice for victims of sexual crimes through improved facilities and expedited trials.
- Reduce the burden of cases to a manageable number.

What are the Challenges Related to Fast Track Special Court?

Inadequate Infrastructure and Low Disposal Rate:

- Special courts in India often suffer from the same challenges as regular courts, as they are usually designated rather than established as new infrastructure.
- This leads to overburdened judges who are assigned other categories of cases in addition to their existing workload without the necessary support staff or infrastructure.
- Consequently, the disposal rate of cases in these special courts slows down.
- The envisioned target of clearing around 165 POCSO cases per year per court has significantly fallen short, with each of the over 1,000 FTSCs in the country currently clearing only 28 cases on average annually.

Prolonged Pendency:

- Over 2.43 lakh POCSO cases pending trial in FTSCs as of 31st January 2023.
- Projections indicate several decades are required to clear backlogs in states like Arunachal Pradesh, Delhi, Bihar, West Bengal, Uttar Pradesh, and Meghalaya.
- Estimated trial durations vary significantly across states, with projections ranging from 21 to 30 years.

QUICK DELIVERY

Courts across the country have delivered quick justice over the years. A few examples of fast-track trials

Rohtas, Bihar: A court concluded a rape trial in just two days in June 2006 and sentenced a man to seven-year imprisonment for raping a minor.

Jaipur, Rajasthan: A rape trial was concluded in seven days in April 2006. A man was sentenced for raping a German student.

Jodhpur, Rajasthan: The local court finished the trial in two weeks and sentenced two men to life imprisonment for raping a 47-year-old German tourist.

Hoshiarpur, Punjab: The local court concluded a rape trial in nine days and sentenced a man to 10-year imprisonment.

Delhi: A fast-track court completed the December 16, 2012 gang rape-cum-murder case in 9 months and gave death penalty to convicts Mukesh, Vinay, Akshay, Pawan.

Mumbai, Maharashtra: A city court completed the Shakti Mills gang rape case in seven months and awarded death penalty to three convicts and life imprisonment to one convict.

Imphal, Manipur: In June 2013, an Imphal court completed a rape trial in 8 months and sentenced four convicts, including two India Reserve Battalion (IRB) jawans, to life imprisonment.

Conviction Rate Challenges:

- Despite the intended completion of trials within one year, the research reveals a low conviction rate.
- Out of 2,68,038 cases under trial, only 8,909 resulted in convictions, raising concerns about the efficacy of FTSCs.

Limited Jurisdiction:

- These courts are established with a specific jurisdiction, which can limit their ability to deal with related cases. This can lead to delays in justice delivery and a lack of consistency in the application of laws.
- Ideally, cases in these special courts should be disposed of within a year. However, as of May 2023, Delhi had only disposed of 1,049 cases out of a total of 4,369 pending cases. This indicates a significant lag in meeting the target.

Vacancies and Lack of Training:

- The lack of judges due to vacancies affects the courts' capacity to handle cases effectively.
- As of 2022, lower courts across India had a vacancy rate of 23%.
- Regular judges from normal courts are often deputed to work in FTSCs.
- However, these courts require judges with specialized training to handle cases quickly and effectively.

Prioritization of Certain Offences Over Others:

- The establishment of special courts in India is often determined by ad-hoc decisions made by both the judicial and executive branches of government.
- This approach means that certain categories of offences are arbitrarily prioritised for faster disposal over others.

14. KERALA LEADS NATION IN NH LAND ACQUISITION CONTRIBUTIONS

Context:

- Recently, the Ministry for Road Transport and Highways (MoRT&H) presented a document in Parliament which shows that Kerala has the highest amount of financial Burden followed by Haryana and Uttar Pradesh.
- The reason is being norms like state to bear 25% of the land acquisition cost for national highway development.

What are the Key Highlights of the Document?

- The National Highways Authority of India (NHAI) has spent the highest share on land acquisition and related activities in Maharashtra in the past five years followed by Uttar Pradesh, and Kerala.
- The Kerala has submitted a proposal for waiver of the 25% share for land acquisition for two projects of the NHAI- Ernakulam bypass and Kollam-Shenkottai stretch and exemption from sharing the land acquisition cost of the Outer Ring Road project by listing the project under the Bharatmala Pariyojana.
- According to documents Haryana and Uttar Pradesh have to pay Rs. 3,114 crore and Rs. 2,301 crore respectively.

What are the Challenges Related to Land Acquisition in India?

- **High Financial Cost:** The financial cost of land acquisition in India has increased significantly due to the amended Land Acquisition Act of 2013, which provides higher compensation and consent requirements for land owners.
- **Environmental Clearance:** Delays and uncertainties in obtaining environmental clearance and land acquisition notifications, which affect the project timelines and costs.
- **Conflicts and Protests:** Affected communities oppose projects on the grounds of environmental, social, or cultural impacts.
- **Lack of Transparency and Accountability in Land Acquisition Process:** As many landowners are not aware of their rights and entitlements and coerced to sell their land at low prices.
 - Government agencies engaged in land acquisition have been observed to exhibit actions that may seem occasionally deviate from the principles of natural justice and fair compensation.
- **Inadequate Legal Framework and Enforcement Mechanism for Land Acquisition:** The existing laws governing land acquisition are outdated and complex, creating confusion and uncertainty for both the government and the landowners. The laws also lack clarity on various aspects of land acquisition, such as financial cost, environmental clearance, dispute resolution mechanisms etc.

What are the Initiatives taken by the Government to Reform the Land Acquisition Process?

- The Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013 (LARR Act of 2013) replaced the Land Acquisition Act of 1894 and introduced new provisions for compensation, consent, social impact assessment, and rehabilitation and resettlement of affected persons.
- The SVAMITVA scheme was launched in 2020 to provide property cards to rural landowners and enable them to use their land as a financial asset.
- The Special Economic Zones (SEZs) Act, 2005 was enacted to facilitate the establishment of SEZs in India and provide incentives and exemptions for the development of export-oriented industries.
- The Bhoomi Rashi Portal is an e-Governance initiative of the Ministry of Road Transport & Highways. The portal intends to expedite the process of land acquisition for National Highways. It has fully digitised and automated the entire process of land acquisition

Way forward

- Improving Transparency and Accountability in the land acquisition process by adopting best practices such as online mapping systems, public hearings, social impact assessments, grievance redressal mechanisms, etc.
- Ensuring fair compensation and rehabilitation for the affected people by adopting criteria such as market value, alternative sites, livelihood support, social security, etc.
- Minimising environmental impacts of land acquisition by adopting measures such as environmental clearance, environmental impact assessment, mitigation measures, monitoring mechanisms, etc.
- Reforming the legal framework for land acquisition by adopting measures such as simplifying laws, updating laws, harmonizing laws, strengthening enforcement mechanisms, etc.

15. THE PRESS AND REGISTRATION OF PERIODICALS (PRP) BILL 2023

Context:

- The Union Information and Broadcasting (I&B) Minister introduced the Press and Registration of Periodicals (PRP) Bill 2023 in the Rajya Sabha.
- The Bill seeks to replace the existing Press and Registration of Books (PRB) Act 1867, which governs the registration of print and publishing industry in the country.

About the PRB Act 1867:

The Act aims to -

- Regulate printing press and newspapers in India,
- Preserve copies of books and newspapers printed in India, and
- Provide for registration of books and newspapers.
- ‘Book’ for the purposes of the Act, includes even a pamphlet and every sheet of music, map, chart etc.
- Interestingly, electronic media is outside the purview of this Act (Sanjay Pinto v. A. Kamaraj, 2011).
- Under the Act, only the district magistrate (DM) could cancel the declaration of a periodical, while the Press Registrar General (PRG) did not have suo motu powers to cancel or suspend the Certificate of Registration granted by it.
- It made improper declaration of information a punishable offence with a prison term of up to six months.



Salient Provisions of the PRP Bill 2023:

- The Bill seeks to simplify the registration process for periodicals.
- The Bill will make it mandatory for digital news platforms to do a “one-time registration” in order to operate.
- The Bill empowers the PRG to suspend/cancel registration.
- As per the new Bill, a person who has been convicted by any court for an offence involving terrorist act or unlawful activity or having done anything against the security of the state shall not be permitted to bring out a periodical.
- The Bill also seeks to do away with two provisions that required publishers and printers to file a declaration before the DM.
- Only an online intimation has to be filed before PRG and DM.

- It waters down the provision (of the PRB Act) for prosecution and imprisonment of publishers for improper declaration of information.
- The punishment of jail up to six months is envisaged only in cases where -
- A periodical is published without a certificate of registration and
- The publisher fails to cease the printing of such publication even after six months of a direction issued to that effect by PRG.
- The new Bill also provides for an appellate authority. The Appellate Board (Press and Registration Appellate Board) will comprise chairperson, Press Council of India (PCI), and two members of PCI to hear an appeal against -Refusal of grant of registration, Imposition of any penalty or suspension/cancellation of registration by PRG.



Significance of the PRP Bill 2023:

- It aims to bring transparency and ease of doing business by providing for a simple process that will help small and medium publishers.
- It brings digital news media under its purview, which is expected to weed out apps, websites and social media accounts spreading fake news.
- At present, while traditional print and electronic media are governed by various laws, digital news platforms are not covered by any registration process.
- To fix this, the government introduced the IT (Intermediary Guidelines and Digital Media Ethics Code) Rules 2021, which made it mandatory for digital news platforms to register themselves with the government.
- Books, which were part of the PRB Act, 1867, have been taken out of the purview of PRP Bill, as books as a subject are administered by the Ministry of Education.
- The statute has been substantially decriminalised as against the PRB Act 1867.

16. TRIBUNALS

Context:

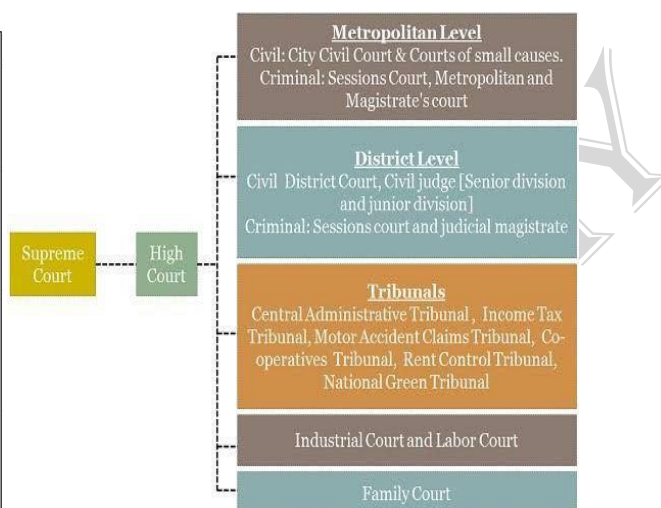
- Recently, the Supreme Court (SC) in case Union of India (UoI) & Ors. v. AIR Commodore NK Sharma (2023), has clarified that Tribunals functioning under the strict parameters of their governing legislations cannot direct the government to make policy.
- The SC was dealing with a question on whether the Armed Forces Tribunal (AFT) could have directed the government to make a policy to fill up the post of the Judge Advocate General (Air).

What is the SC's Ruling in UoI & Ors. v. AIR Commodore NK Sharma Case?

- Tribunals, including the Armed Forces Tribunal (AFT), do not have the authority to direct the government to formulate specific policies.
- The role of making policy is not within the domain of the judiciary, including quasi-judicial bodies like the AFT.
- Even though the AFT is vested with powers akin to a civil court, it lacks the authority of the Supreme Court or the High Courts. Additionally, the High Courts, exercising powers under Article 226 of the Constitution, cannot direct the government or its departments to create particular policies.

- Article 226 provides the High Courts the authority to bring a lawsuit against a government entity if any citizen's rights and freedoms are violated. The High Court has broad powers to issue orders and writs to any person or authority under Article 226 of the Indian Constitution.
- The formulation or sanctioning of policies regarding the service of defense personnel or their regularization falls solely within the government's prerogative.
- A tribunal functioning within the confines of its governing legislation lacks the power to mandate the creation of a policy.

No.	Court of Law	Tribunal
1.	A court of law is a part of the traditional judicial system whereby judicial powers are derived from the state.	An Administrative Tribunal is an agency created by the statute and invested with judicial power.
2.	The Civil Courts have judicial power to try all suits of a civil nature unless the cognizance is expressly or impliedly barred.	Tribunal is also known as the Quasi-judicial body. Tribunals have the power to try cases of special matter which are conferred on them by statutes
3.	Judges of the ordinary courts of law are independent of the executive in respect of their tenure, terms and conditions of service etc. Judiciary is independent of Executive	Tenure, terms and conditions of the services of the members of Administrative Tribunal are entirely in the hands of Executive (government).
4.	The presiding officer of the court of law is trained in law.	The president or a member of the Tribunal may not be trained as well in law. He may be an expert in the field of Administrative matters.



What is a Tribunal?

About:

- Tribunal is a quasi-judicial institution that is set up to deal with problems such as resolving administrative or tax-related disputes. It performs a number of functions like adjudicating disputes, determining rights between contesting parties, making an administrative decision, reviewing an existing administrative decision and so forth.

Constitutional Provisions:

- Tribunals were not part of the original constitution, it was incorporated in the Indian Constitution by 42nd Amendment Act, 1976.
- Article 323-A deals with Administrative Tribunals.
- Article 323-B deals with tribunals for other matters.
- Under Article 323 B, the Parliament and the state legislatures are authorized to provide for the establishment of tribunals for the adjudication of disputes relating to the following matters:
 - Taxation
 - Foreign exchange, import and export
 - Industrial and labour
 - Land reforms
 - Ceiling on urban property
 - Elections to Parliament and state legislatures
 - Food stuff
 - Rent and tenancy rights

Articles 323 A and 323 B differ in the following three aspects:

- While Article 323 A contemplates the establishment of tribunals for public service matters only, Article 323 B contemplates the establishment of tribunals for certain other matters (mentioned above).
- While tribunals under Article 323 A can be established only by Parliament, tribunals under Article 323 B can be established both by Parliament and state legislatures with respect to matters falling within their legislative competence.
- Under Article 323 A, only one tribunal for the Centre and one for each state or two or more states may be established. There is no question of the hierarchy of tribunals, whereas under Article 323 B a hierarchy of tribunals may be created.

- Article 262: The Indian Constitution provides a role for the Central government in adjudicating conflicts surrounding inter-state rivers that arise among the state/regional governments.

What are the Different Tribunals in India?

Administrative Tribunals:

- Administrative tribunals, instituted under the Administrative Tribunals Act, 1985, stem from Article 323 A of the Constitution. They serve as specialized quasi-judicial bodies tasked with adjudicating disputes and grievances concerning recruitment and terms of service for individuals in public posts under Union and State governance.

Water Disputes Tribunal:

- The Parliament has enacted Inter-State River Water Disputes (ISRWD) Act, 1956 have formed various Water Disputes Tribunal for adjudication of disputes relating to waters of inter-State rivers and river valleys thereof.

Armed Forces Tribunal (AFT):

- It is a military tribunal in India. It was established under the Armed Forces Tribunal Act, 2007.
- It has provided the power for the adjudication or trial by AFT of disputes and complaints with respect to commission, appointments, enrolments and conditions of service in respect of persons subject to the Army Act, 1950, The Navy Act, 1957 and the Air Force Act, 1950.

17. PARLIAMENT PASSES BILLS TO REPLACE BRITISH-ERA CRIMINAL LAWS

Context:

- The Parliament recently passed three pivotal Bills: Bharatiya Nyaya (Second) Sanhita, 2023; Bharatiya Nagarik Suraksha (Second) Sanhita, 2023; and Bharatiya Sakshya (Second) Bill, 2023.
- Following their introduction in August, 2023, the bills were referred to a 31-member Parliamentary Standing Committee.

What are the Major Provisions of Bharatiya Nyaya (Second) Sanhita, 2023?

The Bharatiya Nyaya Sanhita (Second) (BNS2) replaces the Indian Penal Code, 1860 and introduces significant alterations including:

- **Retention and Incorporation of Offences:** The BNS2 maintains existing IPC provisions on murder, assault, and causing hurt, while incorporating new offenses like organized crime, terrorism, and group-related grievous hurt or murder. It also adds community service as a form of punishment.
- **Terrorism:** Defined as acts threatening the nation's integrity or causing terror among the populace. Penalties range from death or life imprisonment to imprisonment with fines.
- **Organized Crime:** Includes offenses like kidnapping, extortion, financial scams, cybercrime, and more. Punishments vary from life imprisonment to death, with fines for those committing or attempting organized crime.
- **Mob Lynching:** BNS2 identifies murder or severe injury by five or more individuals on specific grounds (race, caste, etc.) as a punishable offence, carrying life imprisonment or death penalty.
- **Sexual Offences Against Women:** Retaining IPC sections on rape, voyeurism, and other violations, BNS2 raises the age threshold for gangrape victims from 16 to 18 years. Additionally, it criminalizes deceptive sexual acts or false promises.
- **Sedition Revisions:** BNS2 eliminates the sedition offense, replacing it with penalizing activities related to secession, armed rebellion, or actions endangering national sovereignty or unity through various means.
- However, critics argue that despite the sedition law's alteration from 'rajdroh' to 'deshdroh,' concerns remain over its essence and application.
- **Death by Negligence:** The BNSS elevates the punishment for causing death by negligence from two to five years under Section 304A of the IPC.
- However, it stipulates that doctors, if convicted, will still face the lower punishment of two years imprisonment.

- **Supreme Court Compliance:** Aligns with certain Supreme Court decisions by excluding adultery as an offense and introducing life imprisonment alongside the death penalty for murder or attempted murder by a life convict.

Reforms in Indian Criminal Law

Provisions	Bhartiya Nyaya Sanhita Bill 2023	Bharatiya Nagarik Suraksha Sanhita Bill 2023	Bharatiya Sakshya Bill 2023
Replaces	Indian Penal Code, 1860	Criminal Procedure Code, 1898	Indian Evidence Act, 1872
Focus	Reflects Indian ethos, justice-oriented	Enhances citizens' protection	Modernizes evidence presentation
Sections	356 sections (replacing 511)	533 sections (160 changed)	170 sections (23 changed)
Women and Children	A separate chapter dedicated to them; New offence: false promise of marriage, Employment etc.; Initiating children into crime made punishable.	Sexual intercourse on false promise of marriage, employment, etc., is a new offence.	
Digital Integration	Expanded definition of documents; Address newer crimes, cyber offences	Digitization of processes	Accepted documents include electronic and digital records, video recordings, emails, etc.
Speedy Trials	Summary trials, time limits	Trial expedited; 90-day window for investigation after chargesheet filing; Witness protection scheme to be made by states; Bail after serving 1/3rd of the maximum sentence for first-time offenders.	Video recording of search and seizure operations by the police
Victim Support	Compulsory status updates of victim support	Protection, timely information	Video recording of search and seizure operations by the police
Terrorism and Organized Crime	New definitions of Terrorism for 1 st time; Armed rebellion, separatist activities, organized crimes, etc.; Mob lynching made an offence explicitly	Harsher provisions against gangs	Define and address organized crimes
Fugitive FIR	Zero FIR, e-FIR introduced	Trials for fugitives in absentia Zero FIR, e-FIR introduced; community service as punishment	Mandatory digitization of FIR, chargesheets; Mandatory use of Forensic services for offences punishable with 7 or more years
Sedition Law	Repealed		

Criticism of BNS2

- **Criminal Responsibility Age Discrepancy:** The age of criminal responsibility remains at seven years, with potential extension to 12 years based on the accused's maturity. This may conflict with international convention recommendations.
- **Inconsistencies in Child Offense Definitions:** While the BNS2 defines a child as someone below 18, the age threshold for several offenses against children differs. For instance, the age requirement for offenses like rape and gangrape varies, creating inconsistency.
- **Sedition Provisions and Sovereignty Concerns:** While the BNS2 eliminates sedition as an offense, elements related to endangering India's sovereignty, unity, and integrity might retain aspects of sedition.
- **Retention of IPC Provisions on Rape and Sexual Harassment:** The BNS2 retains the provisions of the IPC on rape and sexual harassment. It does not consider recommendations of the Justice Verma Committee (2013) such as making the offence of rape gender neutral and including marital rape as an offence.

What are the Major Provisions of Bharatiya Nagarik Suraksha (Second) Sanhita, 2023?

The Bharatiya Nagarik Suraksha (Second) Sanhita, 2023 (BNSS2) replaces the Criminal Procedure Code, 1973 (CrPC) and introduces significant alterations including:

- **Detention Conditions:** The BNSS2 alters rules for undertrials, restricting release on personal bond for those accused in severe offenses, including life imprisonment cases and individuals facing multiple charges.
- **Medical Examination:** It broadens the scope of medical examinations, allowing any police officer (not just a sub-inspector) to request one, making the process more accessible.
- **Forensic Investigation:** Mandates forensic investigation for crimes punishable by at least seven years' imprisonment.
- It requires forensic experts to collect evidence at crime scenes, recording the process electronically. States lacking forensic facilities should utilize those in other states.
- **Sample Collection:** Extends the power to collect finger impressions and voice samples, even from individuals not under arrest, expanding beyond the CrPC's specimen signatures or handwriting orders.

- **Timelines:** The BNSS2 introduces strict timelines: medical reports for rape victims within 7 days, judgments within 30 days (extendable to 45), victim progress updates within 90 days, and charge framing within 60 days from the first hearing.
- **Court Hierarchy:** The CrPC organizes India's criminal courts hierarchically, from Magistrate's Courts to the Supreme Court. It previously allowed cities with over a million people to have Metropolitan Magistrates, but the BNSS2 eliminates this distinction and the role of Metropolitan Magistrates.

Criticism of BNSS

- **Property Attachment from Crime Proceeds and Lack of Safeguards:** The power to seize property from crime proceeds lacks the safeguards provided in the Prevention of Money Laundering Act, raising concerns about potential misuse or lack of oversight.
- **Restrictions on Bail for Multiple Charges:** While the CrPC allows bail for an accused detained for half the maximum imprisonment for an offense, the BNSS2 denies this facility for individuals facing multiple charges.
- This restriction, prevalent in cases involving multiple sections, may limit bail opportunities.
- **Handcuff Use and Contradictory Supreme Court Directives:** The BNSS2 permits the use of handcuffs in various cases, including organized crime, which contradicts directives laid down by the Supreme Court.
- **Integration of Trial Procedure and Public Order Maintenance:** The BNSS2 retains CrPC provisions related to the maintenance of public order. This raises questions about whether trial procedures and the maintenance of public order should be regulated under the same law or addressed separately.

What are the Major Provisions of Bharatiya Sakshya (Second) Bill, 2023?

The Bharatiya Sakshya (Second) Bill, 2023 (BSB2) replaces the Indian Evidence Act, 1872 (IEA). It retains most provisions of the IEA including those on confessions, relevancy of facts, and burden of proof. However, it introduces significant alterations including:

Documentary Evidence:

- **Definition Expansion:** The BSB2 broadens the definition of documents to include electronic records alongside traditional writings, maps, and caricatures.
- **Primary and Secondary Evidence:** Primary evidence retains its status, encompassing original documents, electronic records, and video recordings.
- Oral and written admissions, along with testimony from a qualified individual examining the documents, are now considered secondary evidence.
- **Oral Evidence:** The BSB2 permits electronic provision of oral evidence, enabling witnesses, accused individuals, and victims to testify through electronic means.
- **Admissibility of Electronic Records:** Electronic or digital records are granted equivalent legal status as paper records.
- This includes information stored in semiconductor memory, smartphones, laptops, emails, server logs, locational evidence, and voicemails.
- **Amended Explanation to Joint Trials:** Joint trials encompass cases where one accused is absent or has not responded to an arrest warrant, now categorized as joint trials.

Criticism of BSB

- **Admissibility of Information from Accused in Custody:** The BSB2 allows such information to be admissible if it was obtained when the accused was in police custody, but not if he was outside. The Law Commission recommended removing this distinction.
- **Unincorporated Law Commission Recommendations:** Several recommendations by the Law Commission, such as presuming police responsibility for injuries sustained by an accused in police custody, have not been included in the BSB2, despite their significance.
- **Tampering of Electronic Records:** The Supreme Court has recognised that electronic records may be tampered with.

- While the BSB2 provides for the admissibility of such records, there are no safeguards to prevent the tampering and contamination of such records during the investigation process.

18. SUSPENSION OF MEMBERS OF PARLIAMENT

Context:

- Recently, 146 Members of Parliament (MPs) have been suspended during the winter session of Parliament 2023.
- MPs in both Houses faced suspension due to their disruption of Parliamentary proceedings in protest of the recent breach of security in Parliament.

Why do MPs disrupt Parliament?

- As per the analysis done by political leaders, and presiding officers there is four main causes that lead to disruption:
- MPs do not have enough time to raise crucial issues.
- The government's lack of responsiveness
- Parties intentionally cause disturbance for political or publicity reasons.
- The failure to take immediate action against MPs who interrupt parliamentary proceedings.

Who Can Suspend a Minister of Parliament?

- The general principle is that it is the role and duty of the Presiding Officer i.e., Speaker of Lok Sabha and Chairman of Rajya Sabha to maintain order so that the House can function smoothly.
- In order to ensure that proceedings are conducted in the proper manner, the Speaker/ Chairman is empowered to force a Member to withdraw from the House.

What are the Rules Under Which the Presiding Officer Suspends MPs?

Rules of Procedure and Conduct of Business of Lok Sabha :

- **Rule 373:** Rules The Speaker can direct a member to withdraw immediately from the House if he finds the member's conduct disorderly.
 - Members so ordered to withdraw shall do so forthwith and shall remain absent during the remainder of the day's sitting.
- **Rule 374:** The Speaker can name a member who disregards the authority of the Chair or abuses the rules of the House by persistently and wilfully obstructing the business thereof.
 - And the member so named will be suspended from the House for a period not exceeding the remainder of the session.
 - A member suspended under this rule shall forthwith withdraw from the precincts of the House."
- **Rule 374A:** Rule 374A was incorporated in the Rule Book in December 2001.
 - In case of gross violation or severe charges, on being named by the Speaker, the member stands automatically suspended from the service of the House for five consecutive sittings or the remainder of the session, whichever is less.

Rules of Procedure and Conduct of Business of Rajya Sabha:

- **Rule 255:** The Chairman of Rajya Sabha is empowered under Rule 255 of its Rule Book to "direct any Member whose conduct is in his opinion grossly disorderly to withdraw immediately" from the House.
- **Rule 256:** Under this rule, the Chairman may "name a Member who disregards the authority of the Chair or abuses the rules of the Council by persistently and wilfully obstructing" business.
 - In such a situation, the House may adopt a motion suspending the Member from the service of the House for a period not exceeding the remainder of the session.

What are the Drawbacks of the Suspension of MPs?

The suspension of MPs in Parliament is a drastic measure that is taken to maintain the order and decorum of the House. However, it also has several disadvantages for the functioning of democracy, such as:

- It curbs the voice and representation of the people who elected the suspended MPs. It deprives them of their right to raise issues of public interest and hold the government accountable.
- It reduces the scope and quality of debate and discussion on important matters of legislation and policy.
- It undermines the role of the opposition as a constructive and responsible partner in the parliamentary process.
- It creates a trust deficit and animosity between the ruling and opposition parties.
- It erodes the spirit of cooperation and consensus-building that is essential for a healthy democracy.
- It sets a bad precedent and encourages the misuse of power by the majority party.
- It violates the norms and conventions of parliamentary democracy and weakens the institution of Parliament.
- The suspensions are a threat to the federal structure and the diversity of the country, as they affect MPs from different regions and parties.

Way Forward

- Ensuring that the government responds to the concerns and demands of the opposition in a timely and respectful manner, and avoids using suspension as a tool to suppress dissent or criticism.
- Strengthening the role and authority of the presiding officers to maintain order and discipline in the House, and imposing stricter penalties for MPs who violate the rules and norms of parliamentary conduct.
- Encouraging dialogue and consensus-building among different parties and groups on key issues, and avoiding confrontation and disruption as a means of protest or pressure.
- Enhancing the awareness and accountability of MPs towards their constitutional duties and responsibilities, and respecting the sanctity and dignity of the House.

19. ARBITRATION AGREEMENTS IN UNSTAMPED CONTRACTS VALID

Context:

- Recently, a seven-judge Constitution Bench of the Supreme Court (SC) held that arbitration agreements embedded in unstamped or insufficiently-stamped substantive commercial contracts or instruments are not invalid, unenforceable or even non-existent.
- “Arbitration aims to provide speedy, efficient, and binding resolution of disputes that have arisen between the parties.

What are the Key Highlights of the SC Decision?

- Delivering the lead opinion in a curative petition overruling an earlier five-judge Bench verdict of the Supreme Court in the N.N. Global case, Chief Justice of India held that “non-stamping or inadequate stamping is a curable defect”.
- Non-payment or insufficient stamping of contracts under the Indian Stamp Act, 1899. would not affect arbitration proceedings under the Arbitration And Conciliation Act, 1996.
- The Arbitration Act is a self-contained code. Matters governed by the Arbitration Act such as the arbitration agreement, appointment of arbitrators and competence of the arbitral tribunal to rule on its jurisdiction have to be assessed in the manner specified under the law.
- Therefore, provisions of other statutes cannot interfere with the working of the Arbitration Act.
- The judgment gives a significant shot in the arm for India’s ambition to become an international arbitration hub to quickly resolve commercial disputes.
- Earlier, arbitrations on such disputes had struck a roadblock owing to non-payment of the required stamp duty for or insufficient stamping of contracts by the parties.

What is Alternative Dispute Resolution (ADR) Mechanism in India?

Arbitration:

- The dispute is submitted to an arbitral tribunal which makes a decision (an "award") on the dispute that is mostly binding on the parties.
- It is less formal than a trial, and the rules of evidence are often relaxed.
- Generally, there is no right to appeal an arbitrator's decision.

- Except for some interim measures, there is very little scope for judicial intervention in the arbitration process.
- The Indian arbitration is governed and regulated by the Arbitration and Conciliation Act 1996 (which is amended in 2015, 2019 and 2021),
- The Arbitration and Conciliation (Amendment) Act, 2019 seeks to establish an independent body called the Arbitration Council of India (ACI).

Conciliation:

- A non-binding procedure in which an impartial third party, the conciliator, assists the parties to a dispute in reaching a mutually satisfactory agreed settlement of the dispute.
- Conciliation is a less formal form of arbitration.
- The parties are free to accept or reject the recommendations of the conciliator.
- However, if both parties accept the settlement document drawn by the conciliator, it shall be final and binding on both.

Mediation:

- In mediation, an impartial person called a "mediator" helps the parties try to reach a mutually acceptable resolution of the dispute.
- The mediator does not decide the dispute but helps the parties communicate so they can try to settle the dispute themselves.
- Any person who undergoes the required 40 hours training stipulated by the Mediation and Conciliation Project Committee of the Supreme Court (SC) can be a mediator.
- He also needs to have at least 10 mediations resulting in a settlement and at least 20 mediations in all to be eligible to be accredited as a qualified mediator.
- Mediation leaves control of the outcome with the parties.
- Mediation Act, 2023 seeks to promote mediation, particularly institutional mediation, and provide a mechanism for enforcing mediated settlement agreements.

Negotiation:

- A non-binding procedure in which discussions between the parties are initiated without the intervention of any third party with the object of arriving at a negotiated settlement to the dispute.
- It is the most common method of alternative dispute resolution.
- Negotiation occurs in business, non-profit organizations, government branches, legal proceedings, among nations and in personal situations such as marriage, divorce, parenting, and everyday life.



What is the Arbitration Council of India (ACI)?

Constitutional Background:

The Constitution of India, Article 51, India is obliged to endeavor to:

- Foster respect for international law and treaty obligations in the dealings of organized peoples with one country.

- Encourage settlement of international disputes by arbitration. ACI is a step in realization of this constitutional obligation.

Objective:

- ACI aims to promote arbitration, mediation, conciliation and other alternative dispute redressal mechanisms.

Composition of the ACI:

The ACI will consist of a Chairperson who is either:

- A Judge of the Supreme Court/ A Judge of a High Court/ Chief Justice of a High Court.
- An eminent person with expert knowledge in conduct of arbitration.
- Other members will include an eminent arbitration practitioner, an academician with experience in arbitration, and government appointees.

INTERNATIONAL RELATIONS

1. ILLEGAL INDIAN MIGRATION TO THE U.S.A

Context:

- Over the past decade, the influx of illegal Indian Migrants to the U.S. has seen a remarkable increase, rising from a modest 1,500 a decade ago to a staggering 96,917 in 2023, as per the data from the U.S. Customs and Border Protection.
- The most significant surge in illegal border crossings by Indians has been witnessed since 2020, marking a departure from historically lower numbers under 10,000.
- Traditionally, the majority of illegal crossings occurred in the U.S.-Mexico border. However, Indian migrants are increasingly opting for the northern border, with numbers rising from under 100 in 2014 to over 30,000 in 2023.

What are the Reasons for Surge in Illegal Indian Migrants in the USA?

Push Factors:

- There are several push factors such as the lack of sufficient job opportunities and economic prospects in India prompt individuals to seek better employment prospects abroad.
- Social conflicts or lack of confidence in the governance structure in India may drive some individuals to seek a more stable environment elsewhere.

Pull Factors:

- The US's reputation for offering better employment, higher wages, and career advancement acts as a significant pull factor for migrants.
- The enticement of quality education and prestigious academic institutions in the USA attracts students and families seeking educational opportunities.
- Desire to reunite with family members or relatives already settled in the USA drives some migrants to seek illegal entry for proximity to loved ones.

Global Migration Trends:

- The overall rise in Global Migration after the pandemic has contributed to this surge, as individuals seek better opportunities and security in different countries.

Visa Backlogs and Alternative Routes:

- Smugglers have evolved their methods, offering sophisticated and in-demand services to facilitate illegal entry into America.
- Extreme visa backlogs have driven individuals to explore alternative, albeit illegal, pathways to enter the USA due to the prolonged waiting times and limited options for legal entry.

Misinformation:

- Misinformation spread through social media and deceptive travel agencies often misguide desperate migrants, enticing them to undertake perilous journeys guided by multiple facilitators across continents.

- Desperate migrants might undertake complex, multi-leg journeys passing through various continents and countries, facing numerous risks and challenges along the way.

What are the Socio-Political and Geo-Political Implications for India Over Surge in Illegal Migrants?

Bilateral Relations:

- The issue could impact bilateral ties between India and the USA, potentially affecting trade negotiations, security cooperation, and strategic partnerships.

Economic Factors:

- The potential brain drain resulting from skilled individuals seeking illegal entry might impact India's economy, particularly in sectors where skilled labour is in demand.

Brain Drain:

- The loss of skilled and educated individuals to illegal migration can negatively impact India's economy, depleting the country of talent and expertise.

Labor Market Challenges:

- The departure of skilled or semi-skilled workers might create labour shortages in certain sectors, impacting India's workforce and economic productivity.

Policy Repercussions:

- India might need to implement stringent policies to address the factors driving illegal migration, potentially diverting resources and attention from other developmental priorities.

Way Forward

- Focusing on economic stability, job creation, and social welfare programs to alleviate distress and provide better opportunities within India.
- Engaging in diplomatic dialogues to understand and address concerns leading to migration, collaborating with other nations to ensure the protection of migrants' rights.



2. ITALY WITHDRAWS FROM CHINA'S BRI:

Context:

- Italy has withdrawn from China's Belt and Road Initiative, more than four years after becoming the only G7 nation to sign up.
- Italy's potential withdrawal from China's BRI stems from a combination of economic, geopolitical, and strategic factors that have led the country to reassess its participation.



What are the Reasons for Italy's Withdrawal From BRI?

Economic Imbalance:

- Italy had joined the BRI in 2019 at a time it was desperate for investment and infrastructure building, having survived three recessions in 10 years.
- However, the anticipated economic benefits haven't materialized as in these four years later, the agreement hasn't done much for Italy.
- According to figures from the Council on Foreign Relations, Chinese FDI (Foreign Direct Investment) in Italy dropped from USD 650 million in 2019 to just USD 33 million in 2021.
- In terms of trade, since joining BRI, Italy's exports to China increased from 14.5 billion euros to a mere 18.5 billion euros, while Chinese exports to Italy expanded from 33.5 billion euros to 50.9 billion euros.

Geopolitical Realignment:

- Italy's reconsideration is part of a broader trend among European nations to reassess their relationships with China.
- Concerns over China's increasing influence, geopolitical alignments, and strategic implications, particularly amid global events like the Russia-Ukraine conflict, have prompted Italy to reevaluate its stance toward the BRI.
- In April, the EU-China Comprehensive Agreement on Investment (CAI) collapsed. Last year, Estonia and Latvia quit the 17+1, China's diplomatic push in Central and Eastern European countries. Lithuania had walked out in 2021.



Alignment with Western Allies:

- Italy's inclination to align itself more closely with its Western allies, especially in the G7, might influence its decision regarding the BRI.
- With the G7 presidency upcoming, Italy might see leaving the BRI as a gesture of solidarity with Western allies.

Negative Press and Debt Concerns:

- The BRI has faced criticism globally for potential debt traps and lack of transparency in financial dealings.
- Reports of other countries facing substantial debt burdens due to their participation in the BRI might be contributing to Italy's Withdrawal.

What is the history of India-Italy relationship?

- Political Relations - Political relations between India and Italy were established in 1947.
- A total of 15 MoUs covering areas like energy, media, finance, ship building were signed in the 2020 Summit.
- Economic Relations - Italy is among India's top 5 trading partners in the EU.
- Italy ranks 18th in FDI inflows in India during April 2000 to December 2020 with FDI inflow of US \$ 3.02 billion during this period.
- Italy and India have already intensified their collaboration, bringing bilateral trade to a record figure of around 15 billion euros in 2022, doubling the figure recorded in 2020.
- India ranks 19th as country of origin of Italian imports, accounting for 1.2% of Italian imports.
- Defence - Milan – a biennial naval exercise between India and Italy.
- Indian Naval Ship (INS) Tabar, the Navy's Talwar-class Russian built frigate, has just concluded a two-day naval exercise with the Italian Navy in the Tyrrhenian Sea.
- India - Italy Military Cooperation Group (MCG) is a forum established to boost defence cooperation between India and Italy.
- Cultural Exchange - The agreement for cultural cooperation was signed in 1976.
- There are around 10 Universities/higher education institutions in Italy with highly qualified faculties which conduct courses in Indian art, history and languages.
- Science and Technology - An Agreement on S&T Co-operation exists since 1978.
- A significant bilateral initiative under the S&T Cooperation Agreement is the India-Trento Programme for Advanced Research (ITPAR)
- Indian Community in Italy - The Indian community in Italy (estimated at 2.5 lakhs including PIOs) is the third largest community of Indians in Europe after UK and the Netherlands.
- Indian community is the 5th largest foreign community in Italy.

3. INDIA ANNOUNCES \$250 MN LINE OF CREDIT TO KENYA

Context:

- India announced a \$250 million line of credit to Kenya for modernizing its agricultural sector.

Line of Credit to Kenya

- A Presidential visit from Kenya is taking place after a period of over 6 years and is expected to strengthen and invigorate the bilateral relations between the two countries. Both Countries issued a vision document for maritime cooperation in the Indian Ocean.
- The five agreements signed by the two sides includes memorandum of understanding (MoU)
 - On sharing successful solutions for digital transformation,
 - between Indira Gandhi National Open University and the Open University of Kenya,
 - on agreement on culture exchanges for the period 2023-27,
 - on the Bureau of Indian Standards and Kenya Bureau of Standards, and
 - on cooperation in sports.
- Kenya has decided to join the Global Biofuels Alliance and the International Solar Alliance.

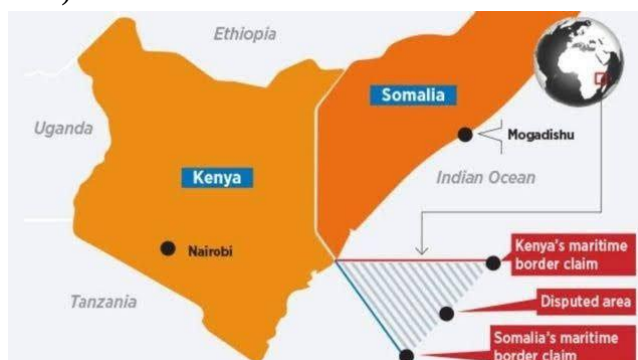
India-Kenya Relations:

- Bilateral Trade, and Economic Cooperation

About:

- India and Kenya are maritime neighbors. The contemporary ties between India and Kenya have evolved into a robust and multi-faceted partnership, marked by regular high-level visits, increasing trade and investment and extensive people-to-people contacts.
- **Bilateral Trade:** An India-Kenya Trade Agreement was signed in 1981, under which both countries accorded Most Favoured Nation status to each other.
 - India was Kenya's largest trading partner in 2014-15 with bilateral trade of US\$ 4.235 billion.

- **Investment:** According to the Kenya Investment Authority (KenInvest), India is the second largest investor in Kenya. Over 60 major Indian companies have invested in various sectors including manufacturing, real estate, pharmaceuticals, telecom, IT & ITES, banking and agro-based industries.
- **Development Cooperation:** India offers development assistance to Kenya through loans and credit. A LOC agreement of US\$ 100 million for the Agricultural Mechanization Project was also signed in January 2017.
- **Indian Community and Diaspora in Kenya:** Indians were trading with the Swahili coast since early A vibrant community of persons of Indian origin presently numbered around 80,000 including an estimated 20,000 Indian citizens.
 - Several Kenyans of Indian origin have distinguished themselves as lawyers, judges, doctors and academics.
- **Vaccine Maitri:** Kenya was given 1.12 million doses of AstraZeneca (1.02 million under COVAX alliance and 100,000 as gift from India)



DEVELOPMENT

- India offers development assistance to Kenya in the form of loans and credit. Recently India given LOC of \$250 million.
- Recently two sides signed five pacts providing for cooperation in a range of areas including sports, education and digital solution, and unveiled a joint vision document to scale up maritime engagement in the Indian Ocean region.
- India is the third largest source (other than neighbours) of inbound tourists to Kenya.

Indian Community and Diaspora in Kenya

- Indians were trading with the Swahili coast since early historical times as evidenced by ancient works. With the region coming under Omani rule particularly Mogadishu, Mombasa and Zanzibar, Indian presence remained part of Swahili kaleidoscope.
- With the advent of Portuguese and finally British, Indian involvement became deeper. Prominent figures of the Kenyan Indian community in Kenya's pre-independence period included the labour leader Makhan Singh. M. A. Desai and Pio Gama Pinto participated actively in Kenya's independence struggle.
- A vibrant community of persons of Indian origin presently numbered around 80,000 including an estimated 20,000 Indian citizens.

Geographical Location of Kenya:

- Kenya is located in East Africa. Its terrain rises from a low coastal plain on the Indian Ocean to mountains and plateaus at its center. Most Kenyans live in the highlands, where Nairobi, the capital, sits at an altitude of 5,500 feet
- West of Nairobi the land descends to the Great Rift Valley, a 4,000-mile (6,400-kilometer) tear in the Earth's crust. Within this valley in the deserts of northern Kenya are the jade-green waters of famous Lake Turkana.
- Kenya is bordered by South Sudan to the northwest, Ethiopia to the north, Somalia to the east, Uganda to the west, Tanzania to the south, and the Indian Ocean to the southeast. Kenya's geography, climate and population vary widely, ranging from cold snow-capped mountaintops (Batian, Nelion and Point Lenana on Mount Kenya) with vast surrounding forests, wildlife and fertile agricultural regions to temperate climates in western and rift valley counties and further on to dry less fertile arid and semi-arid areas and absolute deserts (Chalbi Desert and Nyiri Desert).

- Kenya's capital and largest city is Nairobi.

4. INDIA-RUSSIA TIES: THE ART OF DIPLOMACY

Context:

- Recently, the External Affairs minister of India has visited Russia for a Bilateral Meeting where both the countries signed agreements on Nuclear Power and in areas of medicines, pharmaceutical substances and medical devices.

What are the Key Highlights of the India-Russia Bilateral Meeting?

Economic Collaboration:

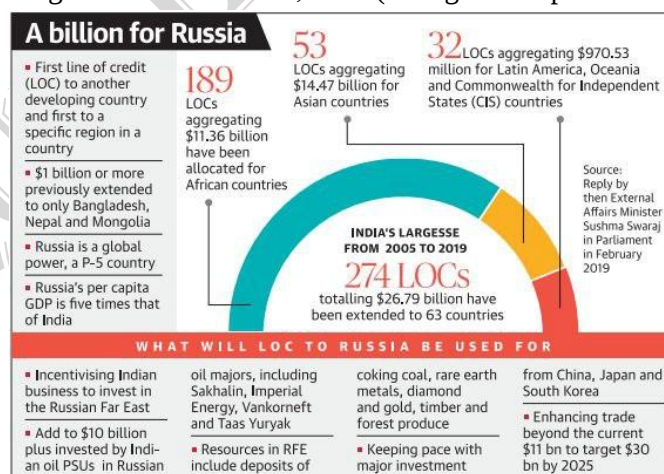
- Emphasis on strategic collaboration in defense, space exploration, nuclear energy, and technology sharing, reflecting the robustness of the longstanding partnership and exploring avenues for deeper cooperation.
- Both Countries agreed on the expansion of the exports of Russian hydrocarbons to the Indian market as well as the cooperation in the peaceful use of nuclear energy.
- The two sides finalised the programme of cooperation in the Far East and it was decided to hold an early meeting of EaEU-India FTA negotiations.

Agreement on Nuclear Power Plants:

- India and Russia signed agreements to move forward with future units of the Kudankulam nuclear power project in Tamil Nadu.
- India is already operating two Russian-built nuclear plants while another four are under construction in Kudankulam, Tamil Nadu.
- The Kudankulam nuclear power plant, India's largest, is being built in Tamil Nadu with the technical assistance of Russia. The construction began in March 2002. Since February 2016, the first power unit of the Kudankulam NPP has been steadily operating at its design capacity of 1,000 MW.
- The plant is expected to start operating at full capacity in 2027, according to Russian state media.

Diplomatic Initiatives:

- Discussion on multilateral forums and international organizations where India and Russia collaborate or hold common interests, including forums like BRICS, SCO (Shanghai Cooperation Organization), and UN affairs.



How has Been the Indo-Russia Relations?

Historical Background:

- During the Cold War, India and the Soviet Union had a strong strategic, military, economic and diplomatic relationship. After the Dissolution of the Soviet Union, Russia inherited its close relationship with India which resulted in both nations sharing a Special Strategic Relation.
- However, the relations have taken a steep downfall over the past few years, especially in the post-Covid scenario. One of the biggest causes for this is Russia's close relations with China and Pakistan, which have caused many geopolitical issues in the past few years for India.

Political Relations:

- Two Inter-Governmental Commissions – one on Trade, Economic, Scientific, Technological and Cultural Cooperation (IRIGC-TEC), and another on Military-Technical Cooperation (IRIGC- MTC), meet annually.

Bilateral Trade:

- India's total bilateral trade with Russia stood at ~USD 13 Billion in 2021-22 and USD 8.14 Billion in 2020-21.
- Russia is India's seventh biggest trading partner, up from 25th position in 2021.
- The US, China, UAE, Saudi Arabia, Iraq, and Indonesia were the six countries that recorded higher volumes of trade with India during the first five months of 2022-23.

Defence and Security Relations:

Both countries regularly conduct the Tri-Services exercise 'INDRA'.

The joint military programmes between India and Russia include:

- BrahMos cruise missile programme
- 5th generation fighter jet programme
- Sukhoi Su-30MKI programme

The military hardware purchased/leased by India from Russia includes:

- S-400 Triumph
- Kamov Ka-226 200 to be made in India under the Make in India initiative
- T-90S Bhishma
- INS Vikramaditya aircraft carrier programme

Science & Technology:

- Science & Technology has played a key role in the bilateral India-Russia (and India-Soviet) partnership, especially in the early days after India's independence where the erstwhile Soviet Union's assistance was crucial to the establishment of Bhilai Steel Plant, Indian Institute of Technology, Bombay and India's space program.
- During the early stages of the Indian space program, the Soviet Union's assistance played a key role in the launch of the first Indian satellites-Aryabhata and Bhaskara in 1984.
- Today, India & Russia work together on basic sciences, materials science, mathematics and cutting-edge areas like India's manned spaceflight program (Gaganyaan), nanotechnologies and quantum computing.

What is the Significance of Russia for India?

Balancing China:

- The Chinese aggression in the border areas of eastern Ladakh, brought India-China relations to an inflection point, but also demonstrated that Russia can contribute to defusing tensions with China.
- Russia organized a trilateral meeting among the foreign ministers of Russia, India, and China following deadly clashes in the Galwan Valley in the disputed territory of Ladakh.

Emerging New Sectors of Economic Engagement:

- Apart from traditional areas of cooperation such as weapons, hydrocarbons, nuclear energy, and diamonds, new sectors of economic engagement are likely to emerge — mining, agro-industrial, and high technology, including robotics, nanotech, and biotech.
- India's footprint in the Russian Far East and in the Arctic is set to expand. Connectivity projects may get a boost too.

Combating Terrorism:

- India and Russia are working to close the gap on Afghanistan and are calling for early finalization of the Comprehensive Convention on International Terrorism.

Support At Multilateral Forums:

- Additionally, Russia supports India's candidacy for permanent membership of a reformed United Nations Security Council and of the Nuclear Suppliers Group.

Russia's Military Exports:

- Russia was India's largest arms supplier in the periods between 2013-17 and 2018-22, but its share of arms imports to India fell from 64% to 45%, according to Stockholm International Peace Research Institute's (SIPRI) Trends in International Arms Transfers 2022 report.

Way Forward

- Russia will remain a key defense partner for India for decades to come.
- The two countries have been discussing how they can cooperate in using India as a production base for exporting to third countries Russian-origin equipment and services.
- To address this, Russia has made legislative changes allowing its companies to set up joint ventures in India to address it following an Inter-Governmental Agreement signed in 2019.
- This agreement needs to be implemented in a time bound manner.

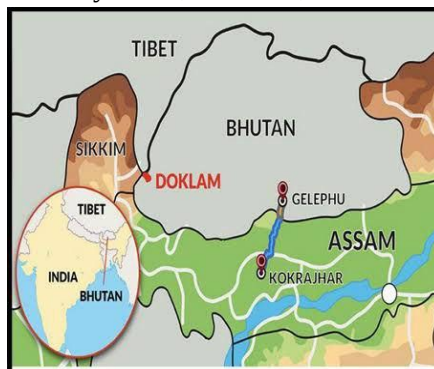
5. GELEPHU SMART CITY PROJECT

Context:

- Recently, Bhutan's King has announced plans to build a massive "international city" in an area of over 1,000 sq. km. on its border with Assam. This project is known as the Gelephu Project.

What are the Key Highlights of the Gelephu Smart City Project?

- The project is expected to be an "economic corridor connecting South Asia with Southeast Asia via India's northeastern States".
- The city is expected to follow environmental standards and sustainability as a goal, and will aim to attract "quality investment" from "specially screened" international companies.
- The project is expected to include "zero emission" industries, a "mindfulness city" that plays to Bhutan's strength in tourism and wellness, as well as infrastructure companies.
- The project is expected to be a "Special Administrative Region" that would be run under different laws to facilitate more international investment.
- The project is expected to be a "point of inflection" and "transformation" for Bhutan and South Asia.
- The Government of India agrees to construct the first India-Bhutan railway line to Gelephu.
- The railway will also connect with roadways and border trading points into Assam and West Bengal, eventually providing Bhutan access to Myanmar, Thailand, Cambodia, and Singapore.



What are the Key Facts Related to Bhutan?

About:

- Bhutan is nestled between India and Tibet, an autonomous region of China.
- and is a landlocked country.
- Thimphu is the Capital City of Butan.

- Bhutan became a democratic country in 2008 after the first democratic elections were held in the country. The King of Bhutan is the Head of State.

River:

- The main rivers from west to east are the Torsa (Amo), Wong (Raidak), Sankosh (Mo), and Manas. All the rivers flow southward from the Great Himalayas and join the Brahmaputra River in India.
- The longest river in Bhutan is the Manas River.
- The Manas River is a transboundary river in the Himalayan foothills between southern Bhutan and India.

6. INDIAN NAVY HELPS HIJACKED SHIP IN ARABIAN SEA

Context:

- In a recent maritime incident, the Malta-flagged Vessel MV Ruen fell victim to pirates in the Arabian Sea,. Responding swiftly, the Indian Navy, strategically based in the piracy-prone Gulf of Aden, intercepted the hijacked vessel, closely monitoring its trajectory toward the Somali coast.
- The European Union Naval Force (EUNAVFOR) Operation Atalanta, a maritime security operation in the western Indian Ocean, joined the anti-piracy effort.

What is Maritime Piracy?

About:

- Article 101 of the 1982 United Nations Convention on the Law of the Sea (UNCLOS) outlines acts constituting piracy.
- These acts include violence, detention, or depredation committed for private ends on the high seas or outside the jurisdiction of any state.
- These acts are carried out with the intent of personal gain and may include the seizure of another ship, its cargo, or the kidnapping of its passengers or crew.
- It is considered a serious maritime crime and is subject to international laws and conventions.

Strongest Zones of Pirate Activity:

- Northwest Africa, the Gulf of Guinea, Red Sea, Somalia, Horn of Africa, Gulf of Aden, Indian Ocean, Indian subcontinent and Southeast Asia.

Global Initiatives Related to Maritime Piracy:

United Nations Convention on the Law of the Sea (UNCLOS):

- It establishes the legal framework for combating piracy, as outlined in. The UN Security Council and General Assembly have consistently emphasized the importance of international cooperation in addressing piracy and armed robbery at sea, stressing the applicability of UNCLOS in combating maritime threats.

Operation Prosperity Guardian:

- The United States has initiated Operation Prosperity Guardian, a multinational security initiative to ensure security in the Red Sea.
- Convention for the Suppression of Unlawful Acts against the safety of Maritime Navigation (1988):
- It is a multilateral treaty. The main purpose of the treaty is to ensure that appropriate action is taken against people who commit unlawful acts against ships.
- It was adopted in 1988 at the Suppression of Unlawful Acts(SUA) Convention in Rome.

Combined Maritime Forces (CMF):

- The CMF is a multinational naval partnership with primary focus areas aimed at defeating terrorism, preventing piracy, fostering regional cooperation, and promoting a secure maritime environment.
- CMF has 39 member nations including India.

India's Initiatives Related to Maritime Piracy:

- SAGAR policy.
- India reiterated its support for the UN Convention on Law of Sea (UNCLOS).
- International Fusion Centre (IFC).
- Indian Ocean Rim Association (IORA).

Enhanced Technical Surveillance of Coastal and Offshore Areas:

- Coastal Surveillance Network.
- National Command Control Communication and Intelligence Network.
- National Automatic Identification System.
- National Maritime Domain Awareness Project.
- National Committee for Strengthening Maritime and Coastal Security.

What are the Key Facts About the Gulf of Aden?

- The Gulf of Aden, an arm of the Indian Ocean is situated between Yemen on the south coast of the Arabian Peninsula and Somalia in Africa.
- It is bounded to the south by Somalia and the Socotra Islands, north by Yemen, east by the Arabian Sea, and west by Djibouti.
- The gulf – roughly 900 kilometers long and 500 kilometers wide is an important waterway for transporting Persian Gulf oil.
- The gulf connects the Red Sea to the Arabian Sea via the Strait of Bab el Mandeb. It forms an essential oil transport route between Europe and the Far East.
- Its marine life is rich in quantity and variety. Its coastline lacks large-scale fishing facilities but supports many fishing towns, as well as the major ports Aden and Djibouti.
- In recent years, the gulf has received a lot of attention due to piracy, terrorism and refugee smuggling.

7. COUP ATTEMPT IN SIERRA LEONE

Context:

- In the wake of an unsuccessful coup attempt in Sierra Leone, the West African nation finds itself at the crossroads of political turmoil and economic crisis.
- Sierra Leone is a member country of the Economic Community of West African States (ECOWAS) and hence if any security concern arises in the future, ECOWAS and the member countries will step in to maintain constitutional order.

What are the Factors Contributing to Unrest in Sierra Leone?

- **Political Instability:** The President's re-election in June 2023 triggered political unrest. The opposing party contested the results, alleging manipulation. Opposition contestation led to a parliamentary boycott until October 2023.
- **Economic Instability:** High cost of living and severe poverty contribute to the crisis.
 - The President's economic policies worsened the situation, leading to protests and demands for the resignation of the President.
- **Police Aggression:** The government's use of force, including live ammunition, in handling protests and prison riots has fueled resentment.

About Sierra Leone

- Sierra Leone is located between Liberia and Guinea, bordering the North Atlantic Ocean. The country is situated on the southwest coast of West Africa.
- Capital: Freetown.
- Languages: English, Krio.

- Mount Bintumani (also known as Loma Mansa) is the highest peak in Sierra Leone.
- A tropical climate is found in Sierra Leone.
- Sierra Leone's terrain is characterized by mountains in the eastern region, an upland plateau, a wooded hill country, and a coastal belt of mangrove swamps.
- Sierra Leone is one of the members of the International Solar Alliance.
- India was among the first countries to contribute to the UN Mission in Sierra Leone (UNAMSIL) with the deployment of 4000 strong Indian Military contingent



8. INDIA-OMAN BILATERAL MEET

Context:

- Recently, India and Oman have adopted the India Oman Joint Vision Partnership For the Future, setting the stage for bilateral cooperation and charting pathways for future collaboration between the two countries.
- This Vision Document focuses on building partnerships in broadly 8 to 10 areas. These include maritime cooperation and connectivity, energy security, space, digital payments, health, tourism, hospitality, agriculture and food security.

What are the Key Highlights of the Bilateral Meet?

Bilateral Agreements:

- Both countries have signed agreements on cooperation in the field of information technology, combating financial crimes, culture, and the establishment of a Hindi chair of the Indian Council of Cultural Relations (ICCR) in Oman.

Comprehensive Economic Partnership Agreement (CEPA):

- Both nations are engaged in discussions to finalize a CEPA. Substantial progress has been made, and leaders from both sides emphasized concluding this agreement at the earliest to boost economic ties.

Oman-India investment Fund:

- The two sides announced the third tranche of Oman-India investment fund worth USD 300 million that would be used for channelising investment into the fastest growing sectors of the Indian economy.
- The fund was started as a 50:50 joint venture between the SBI and the Oman investment authority, with the first tranche of USD 100 million followed by USD 200 million.

Digital Payments and Trade:

- Discussions revolved around the possibility of using India's digital payment system, UPI (Unified Payments Interface), in collaboration with an Omani platform.
- Additionally, exploring the potential of conducting trade in Rupees was considered, although it's still in the exploratory stage.

Regional and International Issues:

- Leaders exchanged perspectives on regional and global matters, including the ongoing conflict between Hamas and Israel.
- They discussed the challenge of terrorism and advocated for a two-state solution to address the Palestine issue

How have Been India-Oman Relationships so Far?

Background:

- The two countries across the Arabian Sea are linked by geography, history and culture and enjoy warm and cordial relations, which are attributed to historical maritime trade linkages.
- The Sultanate of Oman is a strategic partner of India in the Gulf and an important interlocutor at the Gulf Cooperation Council (GCC), Arab League and Indian Ocean Rim Association (IORA) fora.
- Gandhi Peace Prize 2019 was conferred on Late HM Sultan Qaboos in recognition of his leadership in strengthening the ties between India & Oman and his efforts to promote peace in the Gulf region.

Defense Relations:

Joint Military Cooperation Committee (JMCC):

- The JMCC is the highest forum of engagement between India and Oman in the field of defence.
- The JMCC is expected to meet annually, but could not be organised since 2018 when the meeting of the 9th JMCC was held in Oman.

Military Exercises:

- Army exercise: Al Najah
- Air Force exercise: Eastern Bridge
- Naval Exercise: Naseem Al Bahr

Economic & Commercial Relations:

- Institutional mechanisms like Joint Commission Meeting (JCM) and Joint Business Council (JBC) oversee economic cooperation between India and Oman.
- India is among Oman's top trading partners.
- India is the 2nd largest market for Oman's crude oil exports for the year 2022 after China.
- India is also the 4th largest market for Oman's non-oil exports for the year 2022 after UAE, US and Saudi Arabia and 2nd largest source of its import after UAE.
- Indian companies have invested in Oman in sectors like iron and steel, cement, fertilisers, textile etc.
- India-Oman Joint Investment Fund (OIJIF), a JV between State Bank of India and State General Reserve Fund (SGRF) of Oman, a special purpose vehicle to invest in India, has been operational.

Indian Community in Oman:

- There are about 6.2 lakh Indians in Oman, of which about 4.8 lakh are workers and professionals. There are Indian families living in Oman for more than 150-200 years.

What is Oman's Strategic Significance for India?

- Oman is at the gateway of Strait of Hormuz through which India imports one-fifth of its oil imports.
- Defence cooperation has emerged as a key pillar for the robust India-Oman strategic partnership. Defence exchanges are guided by a Framework MOU which was recently renewed in 2021.
- Oman is the only country in the Gulf region with which all three services of the Indian armed forces conduct regular bilateral exercises and staff talks, enabling close cooperation and trust at the professional level.
- Oman also actively participates in the Indian Ocean Naval Symposium (IONS).
- In a strategic move to expand its footprint in the Indian Ocean region, India has secured access to the key Port of Duqm in Oman for military use and logistical support. This is part of India's maritime strategy to counter Chinese influence and activities in the region.
- The Port of Duqm is situated on the southeastern seaboard of Oman, overlooking the Arabian Sea and the Indian Ocean.

- It is strategically located, in close proximity to the Chabahar port in Iran. With the Assumption Island being developed in Seychelles and Agalega in Mauritius, Duqm fits into India's proactive maritime security roadmap



Key Facts About Oman

Border Countries:

- United Arab Emirates (UAE) to the northwest.
- Saudi Arabia to the west and southwest.
- Yemen to the southwest.

Deserts:

- The largest desert in Oman is the Rub' al Khali or the "Empty Quarter," one of the largest continuous sand deserts in the world.

River:

- Oman doesn't have perennial rivers; however, during seasonal rains, wadis (seasonal riverbeds) flow with water.
- The most notable is Wadi Bani Khalid, known for its natural pools and stunning scenery.

Highest Mountain:

- Jebel Shams, situated within the Al Hajar mountain range, is the highest mountain in Oman.

Geography:

- Oman is located on the southeastern coast of the Arabian Peninsula, bordering the Arabian Sea, the Gulf of Oman, and the Persian Gulf.

9. INTERNATIONAL MARITIME ORGANISATION

Context:

- Recently, India was re-elected to the International Maritime Organisation (IMO) Council with the highest tally at elections held at its Assembly in London for the 2024-25 biennium.

About International Maritime Organisation:

- It is a specialized agency of the United Nations which is responsible for measures to improve the safety and security of international shipping and to prevent pollution from ships.
- It is the global standard-setting authority for the safety, security and environmental performance of international shipping.
- Its main role is to create a regulatory framework for the shipping industry that is fair and effective, universally adopted and universally implemented.

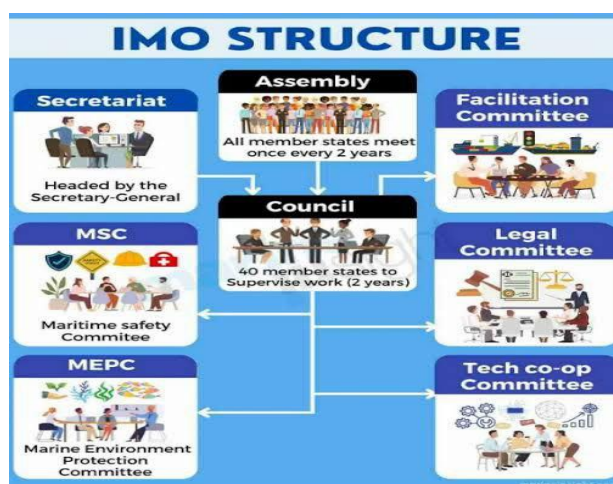
- **Formation:** It was established as the Inter-Governmental Maritime Consultative Organization (IMCO) in 1948, became a specialized agency of the United Nations in 1959 and was renamed International Maritime Organization in 1982.

Structure of the organisation:

- **Assembly:** It is the highest Governing Body of the IMO. It consists of all Member States, and it meets once every two years in regular sessions. The Assembly is responsible for approving the work program, voting the budget and electing the Council.
- **Council:** It is the Executive Organ of the IMO and is responsible, under the Assembly, for supervising the work of the Organization.
- **Committees:** The five policy-making committees are responsible for the development, review, updating, and approval of the organization's guidelines and regulations.
- **Funding:** Funding for the organization comes from contributions by Member States, as well as voluntary donations and commercial activities.

Members: It currently has 175 Member States.

Headquarters: London.



Significance of IMO

Environment protection:

- **Prevention of pollution from ships:** IMO's MARPOL
 - Convention is a key treaty to prevent and minimise pollution from shipping.
 - It addresses oil and chemical pollution from ships, sewage discharges and disposal of ship-generated garbage.
- **Protecting marine biodiversity:** By preventing the spread of potentially invasive aquatic organisms.
- **Address noise pollution:** IMO Guidelines on reducing underwater noise from commercial shipping.
- **Climate change mitigation:** IMO was the first international regulator for a transport sector to adopt mandatory energy-efficiency measures for international shipping.
- **Addresses dumping of wastes at sea:** IMO adopted London Dumping Convention and Protocol on the dumping of wastes and other matter at sea.
 - The convention also regulates carbon capture and sequestration in subsea geological formations.

10. SRI LANKA'S DEBT CRISIS AND PARIS CLUB

Context:

- Recently, Sri Lanka has reached a preliminary debt restructuring deal with India and the Paris Club Group, paving the way for it to revive a stalled IMF (International Monetary Fund) loan programme.
- It will help Sri Lanka, which defaulted on its debts in 2022, to secure the next tranche of a USD 3 billion IMF lending package agreed in March 2023.
- When a country defaults on its debt, it means that the government is unable to meet its financial obligations to its creditors. This failure can manifest in various ways and has significant implications.

What is Sri Lanka's Debt Scenario?

- Sri Lanka has foreign debts of about USD 46 bn, the largest share of which is owed to Chinese lenders, with Japan, India and commercial bondholders also large creditors.
- Sri Lanka has yet to reach a deal with the commercial bondholders, which could yet slow down progress on the country's economic recovery.
- Sri Lanka in May 2022 became the first country in the Asia-Pacific to default on its debts in two decades, the result of domestic economic mismanagement and a surge in global inflation following the coronavirus pandemic and Russia's invasion of Ukraine.
- A sharp drop in foreign currency reserves led to shortages of imported food, fuel and medicine, devastating living standards on the island and triggering mass protests in 2022.

What is the Paris Club?

About:

- The Paris Club is a group of mostly western creditor countries that grew from a 1956 meeting in which Argentina agreed to meet its public creditors in Paris.
- It describes itself as a forum where official creditors meet to solve payment difficulties faced by debtor countries.

Their objective is to find sustainable debt-relief solutions for countries that are unable to repay their bilateral loans.

Members:

- The members are: Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Ireland, Israel, Japan, Netherlands, Norway, Russia, South Korea, Spain, Sweden, Switzerland, the United Kingdom and the United States.
- All 22 are members of the group called Organisation for Economic Co-operation and Development (OECD).

Involved in Debt Agreements:

- According to its official website, Paris Club has reached 478 agreements with 102 different debtor countries.
- Since 1956, the debt treated in the framework of Paris Club agreements amounts to USD 614 billion.

Recent Developments:

- The Paris group countries dominated bilateral lending in the last century, but their importance has receded over the last two decades or so with the emergence of China as the world's biggest bilateral lender.
- In Sri Lanka's case, for instance, India, China, and Japan are the largest bilateral creditors.
- Sri Lanka's debt to China is 52% of its bilateral debt, 19.5% to Japan, and 12% to India.

How is India Helping Sri Lanka with Debt Management and Economic Development?

Role in Debt Restructuring:

- India has played a role in collaborating with the International Monetary Fund (IMF) and creditors to help Sri Lanka in restructuring its debt.
- India became the first country to hand over its letter of support for financing and debt restructuring of Sri Lanka.

Connectivity and Renewable Energy:

- Both countries have agreed on a joint vision that emphasises comprehensive connectivity, including People to People connectivity, renewable energy.
- Indian companies are developing renewable energy projects in the northeast of Sri Lanka, indicating growing collaboration in the energy sector.

Economic and Technology Cooperation Agreement (ETCA):

- Both countries are exploring the possibility of an ETCA to integrate their economies and foster development.

Agreement on a Multi-Project Petroleum Pipeline:

- Both India and Sri Lanka have agreed to establish a multi-product petroleum pipeline from the southern part of India to Sri Lanka.
- This pipeline aims to ensure an affordable and reliable supply of energy resources to Sri Lanka. Recognition of energy's critical role in economic development and progress is driving the focus on establishing the petroleum pipeline.

Adoption of India's UPI:

- Sri Lanka has also adopted India's UPI service, which is a significant step towards enhancing fintech connectivity between the two countries.
- The use of rupee for trade settlement is further helping Sri Lanka's economy. These are concrete steps to help Sri Lanka's economic recovery and growth.



ECONOMY

1. CURB ON SUGAR DIVERSION FOR ETHANOL

Context:

- Recently, The Ministry of Consumer Affairs, Food and Public Distribution directed to restricting the use of sugarcane juice/syrup for ethanol production, a key component in Ethanol Blended Petrol (EBP).
- The Indian government has implemented stringent measures to fortify domestic sugar availability. Initially, it imposed a ban on sugar exports.

What is Ethanol Blending?

Ethanol:

- It is one of the principal Biofuels, which is naturally produced by the fermentation of sugars by yeasts or via petrochemical processes such as ethylene hydration.
- Ethanol is 99.9% pure alcohol that can be blended with petrol.

Ethanol Blending Programme (EBP):

- It is aimed at reducing the country's dependence on Crude Oil Imports, cutting carbon emissions and Boosting Farmers' Incomes.
- The Government of India has advanced the target for 20% ethanol blending in petrol (also called E20) to 2025 from 2030.
- The all-India average blending of ethanol with petrol has risen from 1.6% in 2013-14 to 11.8% in 2022-23.

Why has the Government Restricted the Diversion of Sugar for Ethanol Production?

Sugar Shortage Concerns:

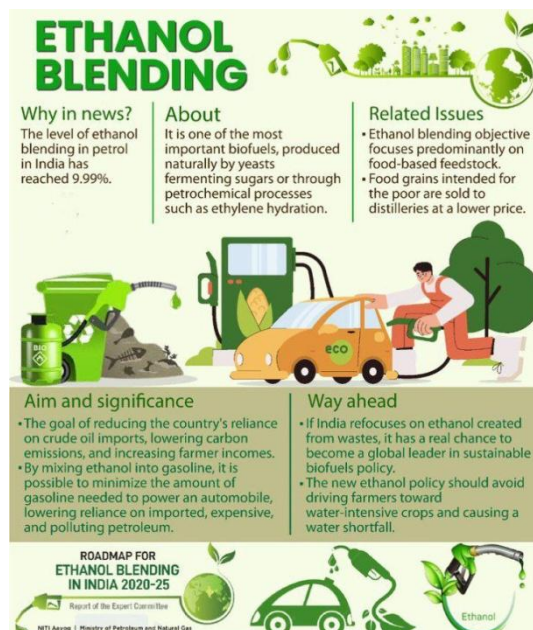
- There are concerns over a potential shortfall in sugar production.
- The move to restrict the diversion of sugarcane juice or syrup for ethanol production is aimed at addressing this anticipated shortage.

Prioritising Food Over Fuel:

- The decision reflects a prioritization of food production (sugar) over fuel production (ethanol).
- By emphasizing the production of sugar, a critical commodity in India, the government aligns with the priority of ensuring Food Security and availability for consumers.

Managing Supply-Demand Dynamics:

- The government is attempting to manage the delicate balance between supply and demand in the sugar market. By curbing diversion for ethanol production, it seeks to stabilize sugar availability and potentially mitigate any price volatility in the market.



What are the Implications of this Move?

Impact on Ethanol Production:

- This decision affects around 28% of total ethanol production, reducing the volume of ethanol generated from this high-value feedstock.
- The prohibition on using sugarcane juice or syrup for ethanol production is expected to affect the earnings of sugar mills, particularly as these sources fetch higher prices compared to other feedstocks used in ethanol production.

Challenges for Ethanol Blending Targets:

- The government aims to raise the ethanol fuel-blending target from 12% to 15% in 2023-24 and has set a target of achieving 20% ethanol blending in petrol by 2025-26.
- However, with the restriction on sugarcane juice/syrup for ethanol production, meeting these targets might become more challenging.

What are the Other Sources of Ethanol Production?

- **Grains:** Corn (maize), barley, wheat, and other cereal grains contain starch, which can be converted into fermentable sugars for ethanol production.
- **Cellulosic Biomass:** Agricultural residues (corn stover, wheat straw), forestry residues, dedicated energy crops (switchgrass, miscanthus), and municipal solid waste contain cellulose and hemicellulose that can be broken down into sugars for ethanol fermentation.
- **Rice:** Surplus rice, including broken or damaged grains, can also serve as a source for ethanol production. The starch content in rice can be converted into sugars for fermentation.
- **Fruits and Vegetables:** Certain fruits and vegetables with high sugar content, like grapes and potatoes, can be utilized for ethanol production.

Way Forward

- There is a need to explore and incentivize the use of alternative feedstocks like grains, rice, damaged/broken grains, and cellulosic biomass for ethanol production.
- Diversification reduces dependency on sugarcane-based sources and ensures a stable supply chain.
- Implement policies that encourage the use of diverse feedstocks for ethanol production. Differential pricing, similar to the previous government strategy, can incentivize the production of ethanol from non-sugarcane sources. Clear and stable policies support long-term investments in diversified feedstock utilization.

Ethanol

About:

- Ethanol, also known as ethyl alcohol, is a biofuel produced from various sources such as sugarcane, corn, rice, wheat, and biomass.
- The production process involves the fermentation of sugars by yeasts or via petrochemical processes such as ethylene hydration.
- Ethanol is 99.9% pure alcohol that can be blended with petrol to create a cleaner fuel alternative.
- Apart from being a fuel additive, ethanol production yields valuable byproducts like Distillers' Dried Grain with Solubles, and Potash from Incineration Boiler Ash that find applications across various industries.

Byproducts of Ethanol Production:

Distillers' Dried Grain with Solubles (DDGS):

- DDGS is a byproduct of grain-based ethanol production.
- It is the residue left after the starch in grains is fermented and ethanol is extracted.
- DDGS is a valuable animal feed with high protein content and is used to supplement livestock diets.

Potash from Incineration Boiler Ash:

- The ash remaining after Ethanol Production in the boiler contains up to 28% potash.
- This ash is a rich source of potash and can be utilized as a fertilizer.

2. COUNTER VAILING DUTIES ON FOUR INDIAN PRODUCTS

Context:

- The United States and the European Union have now imposed countervailing duties (CVDs) on four Indian products, as a retaliation against the Remission of Duties and Taxes on Export Products (RoDTEP) scheme introduced for outbound shipments in January 2021.
- Countervailing investigations concluded with CVD determinations for items like paper file folders, common alloy aluminum sheet, and forged steel fluid end blocks by the U.S., while specific graphite electrode systems were investigated by the European Commission.

What is Countervailing Duty?

- **Countervailing Duty:** CVD are tariffs levied on imported goods to offset subsidies made to producers of these goods in the exporting country.
 - CVDs are meant to level the playing field between domestic producers of a product and foreign producers of the same product who can afford to sell it at a lower price because of the subsidy they receive from their government.
 - The World Trade Organization (WTO) permits the imposition of countervailing duty by its member countries.
- **WTO's SCM Agreement:** The WTO's Agreement on Subsidies and Countervailing Measures (SCM Agreement) **addresses two main aspects:** multilateral regulations regarding subsidies and the use of countervailing measures against injury from subsidized imports.
 - Multilateral disciplines set rules on subsidy provisions and are enforced through the WTO dispute settlement mechanism.

- Countervailing duties are imposed unilaterally by a member after investigating and satisfying criteria under the SCM Agreement.
- **Defining Subsidies:** "Subsidy" is defined in the SCM Agreement as a financial contribution by a government conferring a benefit. Specificity determines whether a subsidy applies to a particular enterprise, industry, or region.
 - Subsidies are categorized as prohibited (e.g., export subsidies, local content subsidies) and actionable (subject to challenge or countervailing measures).
 - Actionable subsidies can cause injury, prejudice, or nullification of benefits.
 - However, transition rules provide exemptions or extended periods for developing countries and those transitioning to market economies to phase out certain subsidies.

Who Imposes Countervailing Measures in India?

- Directorate General of Trade Remedies (DGTR) under Ministry of Commerce & Industry, is the single national authority for administering all trade remedial measures including anti-dumping, countervailing duties and safeguard measures.
- The Directorate General of Anti-Dumping & Allied Duties (DGAD) which was formed in 1997 has been restructured as DGTR in May 2018 by restructuring and re-designing DGAD into DGTR by incorporating all the trade remedial functions i.e. Anti-Dumping Duty (ADD), Countervailing Duty, Safeguards Duty (SGD), Safeguards Measures (QRs) under a single window framework.
- It is a quasi-judicial body that independently undertakes investigations before making its recommendations to the Central Government

What is the RoDTEP Scheme?

- The RoDTEP (Remission of Duties or Taxes on Export Products) Scheme aims to offset taxes and duties incurred on exported goods that are not refunded otherwise, ensuring competitiveness in global markets.
- This scheme provides rebates on hidden Central, State, and Local duties that were not refunded under other schemes, encompassing both direct and prior-stage indirect taxes.

3. FSB'S CONCERNS ABOUT CRYPTO ASSET INTERMEDIARIES

Context:

- Recently, the Financial Stability Board (FSB)'s latest report on crypto-asset intermediaries sought measures to enhance cross-border cooperation and information sharing among local authorities. This is to effectively regulate and address gaps in Multi-function Crypto-asset Intermediaries (MCIs) operating globally.

What are Crypto Assets?

- Crypto assets are a digital representation of value that can transfer, store, or trade electronically. This also includes non-fungible tokens (NFTs).
- NFTs are blockchain-based tokens that each represent a unique asset like a piece of art, digital content, or media. An NFT can be thought of as an irrevocable digital certificate of ownership and authenticity for a given asset, whether digital or physical.
- Crypto assets are a subset of digital assets that use cryptography to protect digital data and distributed ledger technology to record transactions.

What are the Multi-function Crypto-asset Intermediaries (MCIs)?

- MCIs is an individual firm, or groups of affiliated firms that offer a range of crypto-based services, products and functions which primarily revolve around operating the trading platform.
 - Examples include Binance, Bitfinex and Coinbase.
- The primary source of revenue for these platforms are the transaction fees generated from trading-related activities.
- These MCIs may also derive revenue from operating a blockchain infrastructure for which they may collect transaction validation fees.

What are the Concerns Related to MCIs as per FSB's Report?

- **Transparency:** The report observes that most MCIs are generally not transparent about their corporate structure. If they disclose information it is typically for a small part of their business, specific to a jurisdiction.
 - MCIs failed to provide a clear account of transactions activities or audit practices.
- **Anti-Competitive Behavior:** Having a large concentration of services in one place may lead to anti-competitive behavior, making the system more vulnerable.
 - This concentration could make it harder for new competitors to enter the market and increase the costs for users who want to switch to a different service provider.
- **Crypto-Friendly Banks:** The shutting down of banks friendly to crypto assets highlights the widespread risk of having a significant concentration of deposits tied to businesses relying on crypto assets.
 - Market stress in crypto-asset markets led to substantial losses for investors, eroding confidence in these markets.
- **Cryptocurrencies and Fiat currencies:** MCIs rely on banks and payment providers for transaction services, including converting between cryptocurrencies and (on-ramp and off-ramp services).
 - If the trading platform stops operating or if the bank fails to offer real-time operations, there is a risk of counterparty issues.
 - Additionally, providing loans and credit lines to MCIs by banks involves credit risk, especially when using crypto-based collaterals that may decline in value in the future.



Way Forward

International Cooperation and Information Sharing:

- Promote enhanced cross-border cooperation and information sharing among local authorities to effectively regulate and address gaps in the operations of MCIs.
- Establish international standards for transparency and reporting to ensure a comprehensive understanding of the operations of MCIs across jurisdictions.

Regulatory Measures:

- Develop and implement clear regulatory frameworks specifically tailored to address the unique challenges posed by MCIs, fostering market integrity, investor protection, and financial stability.

Corporate Transparency:

- Mandate MCIs to enhance corporate transparency by providing detailed information about their corporate structure, business lines, and operations.
- Implement measures to penalize non-compliance with transparency standards, ensuring that MCIs disclose relevant information for comprehensive regulatory oversight.

4. CRITICAL MINERALS

Context:

- Recently, Government of India has made a significant move in the Mining Sector by launching the first-ever auction of critical minerals, offering 20 blocks for sale to Private Sectors.

What are the Key Features of the First Auction of Critical Minerals?

- This is the first time that rights related to the mining of lithium ore are being auctioned to private sectors. Other minerals in the blocks include nickel, copper, molybdenum, and rare earth elements (REEs).
- The mineral blocks are spread across eight states, with Tamil Nadu having the most blocks (seven). Rights for these blocks vary; four blocks are auctioned for Mining Licences (ML), enabling immediate mining operations, while the remaining 16 blocks are auctioned for Composite Licences (CL), allowing geological exploration before mining.

What is the Background of the First Auction of Critical Minerals?

- The ongoing auction follows the government's declaration of 30 minerals as "critical" and amendments to mining laws.
- In July 2023, the government identified 30 minerals as Critical Minerals by amending the Mines and Minerals (Development and Regulation) Act, 1957, through the MMDR Amendment Act, 2023, empowering the Central Government to auction blocks of these minerals.
- The 30 critical minerals are Antimony, Beryllium, Bismuth, Cobalt, Copper, Gallium, Germanium, Graphite, Hafnium, Indium, Lithium, Molybdenum, Niobium, Nickel, PGE, Phosphorous, Potash, REE, Rhenium, Silicon, Strontium, Tantalum, Tellurium, Tin, Titanium, Tungsten, Vanadium, Zirconium, Selenium and Cadmium.
- The bidding is based on the highest percentage of mineral dispatch value quoted by bidders. Post this auction, a second tranche of critical mineral block auctions is anticipated.
- The Geological Survey of India (GSI) is actively exploring critical mineral reserves across the country.

What are Critical Minerals?

Critical Minerals:

- Critical minerals are those minerals that are essential for economic development and national security, the lack of availability of these minerals or concentration of extraction or processing in a few geographical locations may lead to supply chain vulnerabilities and even disruption of supplies.

Declaration of Critical Minerals:

- It is a dynamic process, and it can evolve over time as new technologies, market dynamics, and geopolitical considerations emerge.
- Different countries may have their own unique lists of critical minerals based on their specific circumstances and priorities.
- The US has declared 50 minerals critical in light of their role in national security or economic development.
- Japan has identified a set of 31 minerals as critical for their economy.
- The UK considers 18 minerals critical, EU (34) and Canada (31).

What is the Significance of Critical Minerals for India?

Economic Development:

- Industries such as high-tech electronics, telecommunications, transport, and defense heavily rely on these minerals.
- Additionally, critical minerals are essential for green technologies like solar panels, wind turbines, batteries, and electric vehicles.
- Given India's significant domestic demand and potential in these sectors, their growth can lead to job creation, income generation, and innovation.

National Security:

- These minerals are vital for defense, aerospace, nuclear, and space applications, necessitating the use of high-quality and reliable materials capable of withstanding extreme conditions and performing complex functions.

Environmental Sustainability:

- They are integral to the transition toward clean energy and a low-carbon economy, enabling the reduction of India's reliance on fossil fuels and greenhouse gas emissions.
- With a commitment to attaining 450 GW of renewable energy capacity by 2030, these minerals are essential for achieving India's green objectives

What are the Challenges for India Related to Critical Minerals?

Implications of the Russia-Ukraine Conflict:

- Russia is a significant producer of various critical minerals, while Ukraine possesses reserves of lithium, cobalt, graphite, and rare earth elements.
- The ongoing war between the two countries affects these critical mineral supply chains.

Limited Domestic Reserves:

- India has limited reserves of critical minerals such as lithium, cobalt, and other rare earth elements.
- Most of these minerals are imported, making India heavily dependent on other countries for its supply. This reliance on imports can create vulnerability in terms of price fluctuations, geopolitical factors, and supply disruptions.
- India heavily relies on imports for critical minerals like lithium and nickel, with 100% import reliance for lithium and nickel, and 93% for copper.

5. PRIMARY AGRICULTURAL CREDIT SOCIETIES

Context:

- Recently, the Ministry of Cooperation has introduced Model Bye laws aimed at revitalizing Primary Agricultural Credit Societies (PACS).
- The Model Byelaws refer to a set of guidelines or regulations formulated by the Ministry of Cooperation to govern the functioning and operations of PACS at the grassroots level.

What is the Purpose of these Bye-Laws?

- These Byelaws are designed to outline the structure, activities, and functioning of PACS, aiming to enhance their economic viability and expand their role in rural areas.
- The Model Byelaws will enable PACS to diversify their business activities by undertaking more than 25 business activities, including dairy, fishery, floriculture, setting up godowns, procurement of foodgrains, fertilizers, seeds, short-term & long-term credit, custom hiring centers, Fair Price Shops (FPS), community irrigation, Business Correspondent activities, etc.
- Provisions have been made to make the membership of PACS more inclusive and broad-based, giving adequate representation to women and Scheduled Castes/Schedules Tribes.

What are Primary Agricultural Credit Societies?

About:

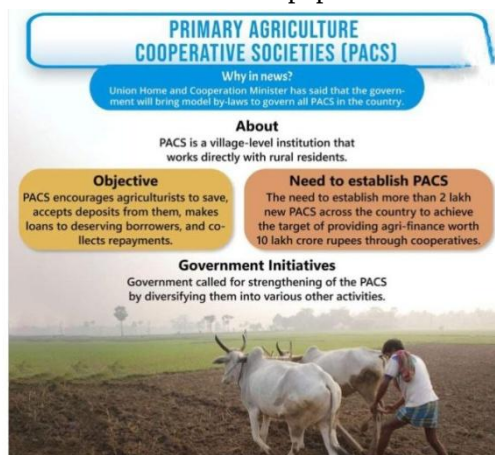
- PACS are village level cooperative credit societies that serve as the last link in a three-tier cooperative credit structure headed by the State Cooperative Banks (SCB) at the state level.
- Credit from the SCBs is transferred to the District Central Cooperative Banks (DCCBs), which operate at the district level. The DCCBs work with PACS, which deal directly with farmers.
- PACSs provide short-term, and medium-term agricultural loans to the farmers for the various agricultural and farming activities.
- The first PACS was formed in 1904.

Status:

- According to a December 2022 report by the Reserve Bank of India, there were 1.02 lakh PACS in the country. However, only 47,297 of them made a profit by the end of March 2021.

Significance of PACS:

- PACS provide small farmers with access to credit, which they can use to purchase seeds, fertilizers, and other inputs for their farms. This helps them to improve their production and increase their income.
- PACS are often located in rural areas, which makes it convenient for farmers to access their services.
- PACS have the capacity to extend credit with minimal paperwork within a short time.



What are the Issues with the PACS?

Inadequate Coverage:

- Though geographically active PACS cover about 90% of 5.8 Lakh villages, there are parts of the country, especially in the north-east, where this coverage is very low.
- Further, the rural population covered as members is only 50% of all the rural households.

Inadequate Resources:

- The resources of the PACS are much too inadequate in relation to the short-and medium-term credit needs of the rural economy.
- The bulk of even these inadequate funds come from higher financing agencies and not through owned funds of societies or deposit mobilization by them.

Overdues and NPAs:

- Large over-dues have become a big problem for the PACS.
- As per the RBI report, PACS had reported lending worth Rs 1,43,044 crore and NPAs of Rs 72,550 crore. Maharashtra has 20,897 PACS of which 11,326 are in losses
- They curb the circulation of loanable funds, reduce the borrowing as well as lending power of societies, and give them the bad image that the societies of defaulting debtors are willful.

6. INTERNATIONALISATION OF INDIAN CURRENCY

Context:

- Recently, India has made first-ever payment in rupees for crude oil purchased from the UAE, paving the way for the Internationalization of Indian Currency.
- In July 2023, an agreement with the UAE facilitated Indian Oil Corporation's (IOC) rupee payment for a million barrels of crude from ADNOC (Abu Dhabi National Oil Company). Similarly, some Russian oil imports were settled in rupees.
- India, heavily reliant on oil imports (over 85%), employs a strategy centered on sourcing the most cost-effective oil while diversifying suppliers without breaching international obligations, notably amidst the Russian oil controversy post-Ukraine conflict.

What is Internationalisation of Rupee?

About:

- Internationalization of rupees is a process that involves increasing use of the local currency in cross-border transactions.

- It involves promoting the rupee for import and export trade and then other current account transactions followed by its use in capital account transactions.

Historical Context:

- In the 1950s, the Indian rupee was widely used as legal tender in the United Arab Emirates, Kuwait, Bahrain, Oman, and Qatar.
- However, the devaluation of India's currency by 1966 led to the introduction of sovereign currencies in these countries to reduce reliance on the Indian rupee.



Benefits of Internationalisation of Rupee:

- **Appreciate Currency Value:** It will improve the demand for the rupee in international trade.
 - This can lead to increased convenience and reduced transaction costs for businesses and individuals dealing with India.
- **Reduced Exchange Rate Volatility:** When a currency is internationalized, its exchange rate tends to stabilize.
 - The increased demand for the currency in global markets can help reduce volatility, making it more predictable and reliable for international transactions.
- **Geopolitical Advantages:** Internationalizing the Rupee can enhance India's geopolitical influence.
 - It can strengthen economic ties with other countries, facilitate bilateral trade agreements, and promote diplomatic relations.
- **Fortify Indian Economy:** Diversifying settlement currencies can reduce dollar demand and fortify India's economy against global currency shocks.

Challenges:

- **Triffin Dilemma:** The Triffin dilemma could manifest as a conflict between maintaining stability in India's domestic economy and meeting the global demand for the Rupee. Balancing these conflicting demands presents a challenge in the process of making the Rupee an international currency without adversely impacting the country's economic stability.
- It describes the conflict between a country's domestic monetary policy goals and its role as an international reserve currency issuer.

Exchange Rate Volatility:

Opening up the currency to international markets can increase volatility in its exchange rate, especially in the initial stages. Fluctuations can impact trade and investments, affecting economic stability.

- **Impact on Import Costs:** If the Rupee's internationalisation leads to increased demand for the currency in global markets, it might strengthen the Rupee against other currencies. A stronger Rupee could potentially reduce the cost of imports from countries like China and Russia, potentially impacting trade balances.
- **Limited International Demand:** The daily average share for the rupee in the global forex market is only around 1.6%, while India's share of global goods trade is ~2%.
- **Convertibility Concern:** The INR is not fully convertible, meaning there are restrictions on its convertibility for certain purposes such as capital transactions. This restricts its widespread use in international trade and finance.
- **Demonetization Impact:** The demonetization exercise in 2016, along with the recent withdrawal of the Rs 2,000 note, has affected confidence in the rupee, particularly in neighboring countries like Bhutan and Nepal.
- **Challenges in Trade Settlement:** While efforts have been made to trade with around 18 countries in rupees, transactions have remained limited.
 - Also, negotiations with Russia to settle trade in rupees have been slow, hampered by currency depreciation concerns and inadequate awareness among traders.

Steps Towards Internationalisation:

Developments in the GIFT City Asian Clearing Union (ACU):

- The ACU is a regional payment arrangement. It facilitates the settlement of trade transactions among its member countries on a multilateral basis. It was established in 1974 by ten central banks of Asia. The ACU currently has 13 member countries. India is a member of ACU.
- In March 2023, the RBI put in place the mechanism for rupee trade settlement with as many as 18 countries.
- Banks from these countries have been allowed to open Special Vostro Rupee Accounts (SVRAs) for settling payments in Indian Rupees.
- In July 2022, the RBI issued a circular on "International Trade Settlement in Indian Rupees".
- RBI enabled external commercial borrowings in Rupees (especially Masala Bonds).

What are the Reforms that India Can Pursue to Internationalise the Rupee?

Make the Rupee More Freely Convertible:

- With a goal of full convertibility by 2060, letting financial investments move freely between India and abroad.
- This would allow foreign investors to easily buy and sell the rupee, enhancing its liquidity and making it more attractive.

Reforms Suggested by Tarapore Committee:

- **Strong Fiscal Management:** Such as reducing fiscal deficits lower than 3.5%, reducing gross Inflation rate to 3%-5%, and reducing gross banking non-performing assets to less than 5%.
- **Liberalised Scheme for Personal Remittance:** The introduction of a more liberal scheme for personal remittances to facilitate easier transactions for individuals dealing with foreign exchange.
- **Removal of Restrictive Clauses for Employee Stock Options:** The removal of restrictive clauses related to issuing Employees' Stock Options at concessional rates, allowing for smoother transactions and operations concerning stock options.
- **Name Change and Reorientation of Department:** The committee suggested changing the name and reorienting the department responsible for handling the implementation of the Foreign Exchange Management Act, 1999, from the Exchange Control Department to the Foreign Exchange Department, emphasizing a leaner and more strategic task force approach.

Pursue a Deeper Bond Market:

- Enabling foreign investors and Indian trade partners to have more investment options in rupees, enabling its international use.

Encourage Exporters/Importers for Transactions in Rupee:

- Optimising the trade settlement formalities for rupee import/export transactions would go a long way.

Sign Additional Currency Swap Agreements:

- As with Sri Lanka, to allow India to settle trade and investment transactions in rupees, without resorting to a reserve currency such as the dollar.
- India currently has a bilateral swap arrangement (BSA) with Japan for up to USD 75 billion as a backstop line of support in case of any balance-of-payments issues.
- Ensure Currency Management Stability and Improve the Exchange Rate Regime:
 - Avoid sudden or drastic changes such as devaluation or demonetisation that can impact confidence.
 - Ensure consistent and predictable issuance/retrieval of notes and coins.

7. T+0 AND INSTANT SETTLEMENT CYCLE

Context:

- The Securities and Exchange Board of India (SEBI) has proposed a new system for settlement of funds and securities on T+0 (same day) and instant settlement cycle on an optional basis, supplementing the existing T+1 (trade plus one day) settlement cycle in the secondary markets for the equity cash segment.
- By embracing popular instant payment methods such as Unified Payment Interface, SEBI aims to adapt equity trading to modern investor preferences for enhanced flexibility.

What is the Settlement Cycle in the Securities Market?

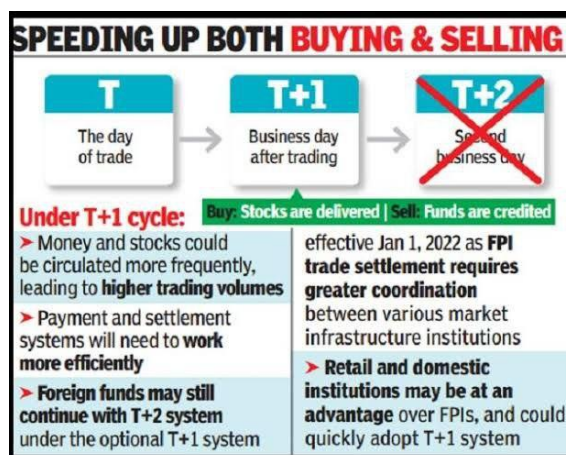
- T in Settlement Cycles: The "T" in settlement cycles within financial markets refers to the day on which a transaction or trade takes place.
- In this context, "T" represents the transaction date. The settlement cycle, denoted as "T+n," specifies the number of days after the transaction date (T) by which the settlement or completion of the trade occurs.
- Evolution of Settlements Cycles : SEBI has shortened the settlement cycle to T+3 from T+5 in 2002 and subsequently to T+2 in 2003.
- Presently, the settlement of funds and securities occurs on the T+1 cycle in India, which was phased in through 2021 and wholly implemented by January 2023.

SEBI's Proposed Phases for New Settlement Cycles:

- **Phase 1: T+0 Settlement Cycle**
- An optional T+0 settlement cycle is envisioned for trades until 1:30 PM, aiming to settle funds and securities on the same trading day by 4:30 PM.
- **Phase 2: Instant Settlement Cycle**
- An optional immediate trade-by-trade settlement, including funds and securities, with trading until 3:30 PM.
- SEBI has proposed the initial rollout of the T+0 settlement for the top 500 listed equity shares in three tranches (200, 200, 100) based on market capitalization.
- This initiative corresponds to the changing Indian securities market, marked by surging volumes, values, and participants.

Benefits:

- **Clients:** Enables faster pay-outs of funds against securities for sellers and vice versa, offering enhanced flexibility.
- **Securities Market Ecosystem:** Accelerated pay-outs are expected to bolster the market ecosystem's efficiency and liquidity.



8. CHINA BANS EXPORT OF RARE EARTH TECHNOLOGIES

Context:

- Recently, China has banned the export of technology to extract and separate the Rare Earth Metals, as it overhauled a list of technologies deemed key to national security.
- It also banned the export of production technology for rare earth metals and alloy materials as well as technology to prepare some rare earth magnets.
- The move comes as Europe and the US scramble to wean themselves off rare earths from China, which accounts for 90% of global refined output.

What are Rare Earth Metals?

- They are a set of seventeen metallic elements. These include the fifteen lanthanides on the periodic table in addition to scandium and yttrium that show similar physical and chemical properties to the lanthanides.
- The 17 Rare Earths are cerium (Ce), dysprosium (Dy), erbium (Er), europium (Eu), gadolinium (Gd), holmium (Ho), lanthanum (La), lutetium (Lu), neodymium (Nd), praseodymium (Pr), promethium (Pm), samarium (Sm), scandium (Sc), terbium (Tb), thulium (Tm), ytterbium (Yb), and yttrium (Y).
- These minerals have unique magnetic, luminescent, and electrochemical properties and thus are used in many modern technologies, including consumer electronics, computers and networks, communications, health care, national defense, clean energy technologies etc.
- Even futuristic technologies need these REEs.
- For example, high-temperature superconductivity, safe storage and transport of hydrogen for a post-hydrocarbon economy etc.
- They are called 'rare earth' because earlier it was difficult to extract them from their oxides forms technologically.
- They occur in many minerals but typically in low concentrations to be refined in an economical manner.



What are the Global Implications of Banning Rare Earth Export Technology?

Global Supply Chain Disruption:

- China is the world's top processor of rare earths. Given China's dominant role in rare earth production and processing, the ban could disrupt global supply chains for various industries reliant on these materials.
- Countries and industries heavily dependent on Chinese rare earth exports might face shortages or higher costs.

Strategic Dependence:

- It underscores the vulnerability of countries heavily reliant on China for critical materials.
- Dependence on a single source for such essential elements raises concerns about supply security, pushing nations to explore alternative sources or domestic production.

Opportunities for Innovation:

- The ban might spur innovation and investments in alternative technologies and supply sources outside China.
- Countries may seek to diversify their rare earth supply chains, reducing dependence on a single market.

How can it Impact India?

Supply Chain Diversification:

- India, like many other countries, relies on Chinese rare earth exports. The ban presents an opportunity for India to reassess its dependence and explore diversification strategies.
- India may focus on developing domestic rare earth extraction and processing capabilities or seek partnerships with other nations to secure its supply.

Industrial Impact:

- Industries in India relying on rare earth materials may face disruptions initially due to potential supply constraints.
- However, this could prompt investments in domestic production or collaborations with alternative suppliers to mitigate risks.
- The Rare Earth (RE) resources in India are reported to be the fifth largest in the world.

Way Forward

- China's ban on rare earth technology exports highlights the criticality of diversifying global supply chains and the need for strategic planning by nations, including India, to secure essential resources for their industries and technological advancement.



9. INCREASED BORROWING ALLOWANCES FOR STATES

Context:

- The Finance Ministry has revealed that states in India may avail themselves of approximately ₹2.04 lakh crore as supplementary borrowing limits this fiscal year, surpassing their regular net borrowing limits.
- This additional borrowing capacity has been granted to support specific financial obligations and incentivize reform-driven initiatives.

BREAKDOWN OF ADDITIONAL BORROWING ALLOWANCES

Pension Liability Relief

Pension Contributions to National Pension System (NPS):

- 22 states have been authorized to raise nearly ₹61,000 crore in additional borrowings beyond their standard net borrowing ceilings (capped at 3% of Gross State Domestic Product – GSDP as of October 27).

- This extra borrowing privilege is extended to states that have fulfilled their pension liabilities by contributing to the National Pension System, which manages government employee retirement savings.

Power Sector Reforms

Performance-Based Incentives:

- Another provision enables states to raise over ₹1.43 lakh crore this fiscal year, in line with the Ministry of Power's recommendations.
- This borrowing capacity is linked to the Fifteenth Finance Commission's suggestion to grant states an extra borrowing space equivalent to 0.5% of their GSDP.
- This incentive aims to reward states that implement reforms in the power sector, fostering improvements in operational and economic efficiency.

OVERVIEW OF NET BORROWING CEILINGS

Standard Net Borrowing Ceiling:

- The regular net borrowing limit for states stands at ₹8,59,988 crore for the current fiscal year.
- This limit is in accordance with the recommendations set forth by the Fifteenth Finance Commission.

Approved Borrowings:

Consequently, approvals have been granted for states to raise funds through various channels:

Open Market Borrowings (OMB): States have been allowed to raise ₹6.99 lakh crore via open market borrowings.

Negotiated Loans: Additionally, approvals for negotiated loans amount to ₹69,371 crore.

IMPLICATIONS AND FINANCIAL FLEXIBILITY

- The increased borrowing allowances offer states crucial financial flexibility, empowering them to address specific financial commitments, particularly pertaining to pension liabilities managed through contributions to the National Pension System.
- Moreover, the borrowing incentives tied to power sector reforms underline the government's emphasis on encouraging states to implement measures that enhance the efficiency and performance of this critical sector.
- By surpassing the standard net borrowing limits, states can access additional financial resources, albeit tied to specific criteria and reform-oriented initiatives, enabling them to bolster fiscal capabilities and potentially enhance infrastructure development and service delivery within their regions.

What is the National Pension System?

About:

- The Central Government has introduced the National Pension System (NPS) with effect from January 2004.
- In 2018 to streamline the NPS and make it more attractive, the Union Cabinet approved changes in the scheme to benefit central government employees covered under NPS.
- NPS is being implemented and regulated by Pension Fund Regulatory and Development Authority (PFRDA) in the country.
- National Pension System Trust (NPST) established by PFRDA is the registered owner of all assets under NPS.

Structure:

NPS is structured into two tiers:

Tier-I account: This is the non-withdrawable permanent retirement account into which the accumulations are deposited and invested as per the option of the subscriber.

Tier-II account: This is a voluntary withdrawable account which is allowed only when there is an active Tier I account in the name of the subscriber.

The withdrawals are permitted from this account as per the needs of the subscriber as and when claimed.

Beneficiaries: NPS was made available to all Citizens of India from May 2009.

Any individual citizen of India (both resident and Non-resident) in the age group of 18-65 years can join NPS.

However, OCI (Overseas Citizens of India) and PIO (Person of Indian Origin) card holders and Hindu Undivided Family (HUFs) are not eligible for opening of NPS accounts

10. RBI STRENGTHENS NORMS FOR LENDERS IN AIFS

Context:

- In a move aimed at curbing evergreening of stressed loans, the Reserve Bank of India (RBI) recently directed Regulated entities (REs) like banks, non-banking financial companies (NBFCs) and other lenders not to invest in any scheme of alternative investment funds (AIFs) which has downstream investments in a debtor company.
- Regulated entities (REs) make investments in units of AIFs as part of their regular investment operations. RBI, however, stated that certain transactions of REs involving AIFs, raise regulatory concerns.

What are the Recent RBI's Directives to REs Related to AIFs?

- RBI emphasized “replacing direct loans given to borrowers with investments in AIF units by REs, which indirectly links to the borrowers. This raised concerns about the practice of loan evergreening to avoid marking them as defaults.
- Evergreening of loans is a process whereby a lender tries to revive a loan that is on the verge of default or in default by extending more loans to the same borrower.
- RBI's directive explicitly prohibits REs from investing in AIFs schemes with downstream investments in debtor companies related to the RE.
- According to the directive, in instances where an AIF in which an RE is already an investor makes downstream investments in debtor companies, the RE must liquidate its investment within 30 days.
- In case the REs are not able to liquidate their investments within the prescribed time limit, they will have to make a 100% provision on such investments.
- A provision is an amount set aside or reserved by a company or financial institution to cover anticipated future expenses or losses.

What is an Alternative Investment Fund?

About:

- An AIF refers to a fund established or formed in India, serving as a privately pooled investment mechanism.
- It gathers funds from sophisticated investors, whether domestic or international, with the aim of investing according to a specific investment policy, ultimately benefiting its investors.
- These investment vehicles adhere to the SEBI (Alternative Investment Funds) Regulations, 2012.
- As of December, 2023, 1,220 AIFs were registered with the Securities and Exchange Board of India (SEBI).

Types of AIFs in India: SEBI has classified AIFs into three main categories:

- **Category I:** AIFs that invest in startups, early-stage ventures, social initiatives, SMEs, infrastructure, or sectors deemed socially and economically beneficial by authorities.
 - This includes venture capital, social venture funds, infrastructure funds, and any other specified Alternative Investment Funds.
- **Category II:** AIFs which do not fall in Category I and III and which do not undertake leverage or borrowing other than to meet day-to-day operational requirements.
 - These include real estate funds, private equity funds (PE funds), distressed asset funds, and similar types.
- **Category III:** AIFs which employ diverse or complex trading strategies and may employ leverage including through investment in listed or unlisted derivatives.
 - Various types of funds such as hedge funds, PIPE (private investment in public equity) Funds, etc. are registered as Category III AIFs.
- **Legal forms:** An AIF can be established in the form of a trust or a company or a limited liability partnership or a body corporate. Most of the AIFs registered with SEBI are in trust form.

11. SURAT DIAMOND BOURSE

Context:

- Recently, the Indian Prime Minister inaugurated the Surat Diamond Bourse (SDB) in Gujarat, marking a significant development in the diamond and jewelry industry.
- The SDB stands as the world's largest office complex. It aims to relocate the diamond trading hub from Mumbai to Surat, leveraging Surat's diamond cutting and polishing expertise.

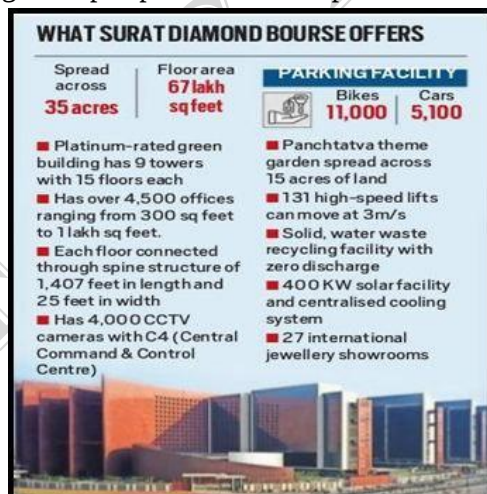
What is the Status of the Diamond Industry in India?

About Diamond:

- A diamond is a rare, naturally occurring mineral made up of pure carbon. The word diamond comes from the Greek word Adamas, which means indestructible.
- Diamond occurs in two types of deposits, primarily in igneous rocks of basic or ultrabasic composition and in alluvial deposits derived from the primary sources.
- Major Diamond Producing Countries: Russia, Botswana, Canada, South Africa, Democratic Republic of the Congo.
- Russia is the world's largest producer of rough diamonds, mining nearly 42 million carats in 2022.
- Diamond Industry in India: India is the world's largest cutting and polishing center for diamonds, accounting for over 90% of polished diamond manufacturing globally.

According to Indian Minerals Yearbook 2019, diamond fields of India are grouped into four regions:

- Central Indian tract of Madhya Pradesh, comprising Panna belt.
- South Indian tract of Andhra Pradesh, comprising parts of Anantapur, Kadapa, Guntur, Krishna, Mahabubnagar and Kurnool districts.
- Behradin-Kodavali area in Raipur district and Tokapal, Dugapal, etc. areas in Bastar district of Chhattisgarh.
- Eastern Indian tract mostly of Odisha, lying between Mahanadi and Godavari valleys.
- In 2022, India ranks first among the top exporters in cut & polished diamonds.



What are Lab-Grown Diamonds?

About:

- Lab-grown diamonds (LGDs) are diamonds that are grown in a laboratory using advanced technology.
- They are also known as cultured, synthetic, man-made, or artisan-created diamonds.
- Natural diamonds form deep within the Earth over an extensive period, often up to three billion years, under extreme pressure and high temperatures.
- LGDs have essentially the same chemical, optical and physical properties and crystal structure as natural diamonds.
- Unlike mined diamonds, lab-grown diamonds do not involve the social and environmental ramifications associated with mining activities.
- Consequently, all LGDs are considered eco-friendly and contribute positively to environmental preservation.

- **Production Methods:** LGDs are synthesized in laboratories via two primary methods: chemical vapor deposition (CVD) or high pressure, high temperature (HPHT).
- Both HPHT and CVD methods of growing diamonds artificially begin with a seed, a slice of another diamond.
- **Market Share in India:** India, known as a significant hub for diamond cutting and polishing, has experienced a notable surge in export earnings due to the increasing global demand for LGDs.
- However, their current share in the overall diamond industry stands at 2-3%. To improve the share, In Budget 2023-24, the Union Finance Minister announced elimination of Customs duty on imported seeds used in the manufacturing process of rough LGDs

12. LOGISTICS EASE ACROSS DIFFERENT STATE 2023

Context:

- Recently, the Ministry of Commerce & Industry has released the 5th edition of “Logistics Ease Across Different State (LEADS) 2023” report, which serves as a guide for stakeholders in the Logistics Sector by providing strategic insights.

What is Logistics Ease Across Different States (LEADS)?

About:

- The LEADS is an indigenous data-driven index to assess logistics infrastructure, services, and human resources across all 36 States and UTs.
- LEADS continues to act as a guiding & bridging mechanism for the identification of interventions enhancing logistics efficiency at State/UTs. It reflects positively on international indices, like the Logistics Performance Index.
- LEADS aims to guide stakeholders in the logistics sector by offering strategic insights and fostering healthy competition among states and union territories to improve their logistics performance.
- LEADS was conceived on the lines of the Logistics Performance Index of World Bank in 2018 and has evolved over time.



Evaluation Criteria:

The report evaluates logistics performance based on three key pillars,

- Logistics Infrastructure
- Logistics Services
- Operating and Regulatory Environment

Methodology:

- The report is based on a pan-India primary survey conducted between May and July 2023, incorporating over 7,300 responses across 36 states/UTs. Additionally, it includes insights from over 750 stakeholder consultations facilitated by various associations.

What are the Key Highlights of the LEADS 2023?

Achievers:

- Thirteen states and Union Territories, including Andhra Pradesh, Karnataka, Tamil Nadu, Chandigarh, and Gujarat, are categorized as achievers in the logistics index chart 2023.
- These regions have shown efficient logistical services that contribute to export promotion and economic growth.

Fast Movers:

- Kerala, Maharashtra, Madhya Pradesh, Rajasthan, Uttarakhand, Arunachal Pradesh, and Nagaland are recognized as fast movers in the logistics index.
- These areas have shown significant progress and improvements in their logistical services.

Aspirers:

- States and UTs in the aspirers category, such as Goa, Odisha, West Bengal, Bihar, Chhattisgarh, Himachal Pradesh, and Jharkhand, are identified as regions with potential for growth in their logistics ecosystem. These areas are striving to enhance their logistical capabilities.

Groups / Categories	Achievers	Fast Movers	Aspirers
Coastal	Andhra Pradesh, Gujarat, Karnataka, Tamil Nadu	Kerala, Maharashtra	Goa, Odisha, West Bengal
Landlocked	Haryana, Punjab, Telangana, Uttar Pradesh	Madhya Pradesh, Rajasthan, Uttarakhand	Bihar, Chhattisgarh, Himachal Pradesh, Jharkhand
North-East	Assam, Sikkim, Tripura	Arunachal Pradesh, Nagaland	Manipur, Meghalaya, Mizoram
Union Territories	Chandigarh, Delhi	Andaman & Nicobar, Lakshadweep, Puducherry	Daman & Diu/ Dadra & Nagar Haveli, Jammu & Kashmir, Ladakh

LEADS 2023: Performance Snapshot

* States/ Union Territories within the performance categories are listed in alphabetical order

Policy Reforms:

- The report emphasizes the significance of policy reforms such as industry status for logistics, digital initiatives (PM GatiShakti, Logistics Data Bank, Unified Logistics Interface Platform (ULIP), GST), and the alignment of State Logistics Policies with the National Logistics Policy.

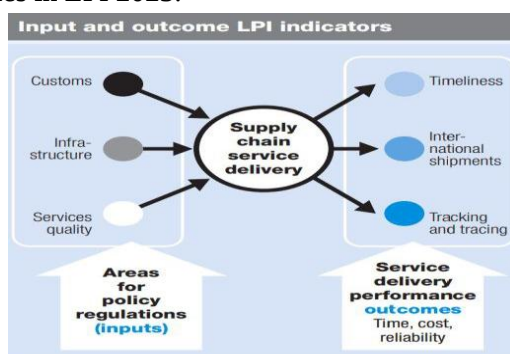
What is the Logistics Performance Index?

- The Logistics Performance Index (LPI), developed by the World Bank Group, is an interactive benchmarking tool created to help countries identify the challenges and opportunities they face in their performance on trade logistics and what they can do to improve their performance.

LPI is the weighted average of the country's scores on the six key dimensions:

- Customs performance
- Infrastructure quality
- Ease of arranging shipments
- Logistics services quality
- Consignment tracking and tracing
- Timeliness of shipments

India ranked 38th out of 139 countries in LPI 2023.



13. GREEN HYDROGEN PROJECTS AND SEZS

Context:

- The Indian government is considering amendments to current regulations that could pave the way for significant fiscal benefits for renewable energy projects focused on producing green hydrogen within Special Economic Zones (SEZs).

What are the Key Proposed Amendments?

- **Expanding SEZs for Green Hydrogen Projects:** The Ministry of Commerce is contemplating permitting SEZs to span multiple non-contiguous areas, specifically catering to green hydrogen initiatives.
- Presently, SEZs require a contiguous land area of 50 hectares or more. The commerce ministry is open to relaxing this criterion for green hydrogen projects.
- Allowing multi-locational SEZs will enable developers to use wind energy for which turbines are placed at a considerable distance (250 to 400 metres) from each other.
- **Eligibility for Fiscal Benefits:** The proposed amendment aims to grant fiscal benefits to renewable energy plants used for captive consumption within SEZs.
- Currently, SEZ rules do allow fiscal benefits only for renewable energy plants set up as SEZ units and meant for selling power outside of SEZs.
- However, renewable energy plants become ineligible for benefits when used for captive consumption.
- These changes, if approved, will enable export-oriented green hydrogen ventures to access tax breaks for establishing and operating renewable energy facilities dedicated to green hydrogen production.
- Captive consumption refers to the utilization of goods or services within the premises of the producing entity or within a designated area, without their transfer or sale to external markets.

What is a Special Economic Zone?

About:

A Special Economic Zone (SEZ) is a geographical region that has economic laws that are more liberal than a country's domestic economic laws.

The category 'SEZ' covers a broad range of more specific zone types, including, but not limited to:

- Free Trade Zones (FTZs)
- Export Processing Zones (EPZs)
- Free Zones (FZs)
- Industrial Estates (IEs)
- India was one of the first in Asia to recognize the effectiveness of the Export Processing Zone model in promoting exports, with Asia's first EPZ set up in Kandla, Gujarat in 1965.
- SEZs in India: Special Economic Zones Policy in India was announced in April 2000 to enhance foreign investment, creation of employment opportunities and provide an internationally competitive and hassle-free environment for exports along with the development of infrastructure facilities.
- All laws of India are applicable in SEZs unless specifically exempted as per the SEZ Act/ Rules.
- Each Zone is headed by a Development Commissioner and is administered as per the SEZ Act, 2005 and SEZ Rules, 2006.
- Units may be set up in the SEZ for manufacturing, trading or for service activity.

14. GREEN DEPOSIT

Context:

- Recently, the Reserve Bank of India (RBI) said it is not mandatory for banks and Non-Banking Financial Companies (NBFCs) to raise green deposits.

About Green Deposit:

- In general terms, a green deposit is a fixed-term deposit for those who want to invest in environmentally friendly projects.
- Just like a regular Fixed Deposit scheme, the green deposit pays interest to its investors and has a fixed term.

- The proceeds that a bank gets from deposit holders get earmarked for allocation to green finance.
- A green fixed deposit, also known as an environmentally friendly fixed deposit, is a financial instrument that encourages sustainable development by channeling funds towards projects focused on renewable energy, clean technology, or other environmentally beneficial initiatives.
- The green activities/ projects financed under the framework can be classified under priority sector if they meet the requirements laid down in priority sector lending (PSL) guidelines of RBI.
- Banks are allowed to offer overdraft facility to customers against Green Deposits.
- The current framework permits green deposits to be denominated in Indian Rupees only.
- The deposits raised under the framework are covered by Deposit Insurance and Credit Guarantee Corporation (DICGC) in accordance with the Deposit Insurance and Credit Guarantee Corporation Act, 1961 and the regulations framed there under, as amended from time to time.
- On maturity, the green deposits would be renewed or withdrawn at the option of the depositor.



15. REFORMING THE PROCESS OF SOVEREIGN CREDIT RATING

Context:

- In an essay ‘Understanding a Sovereign’s Willingness to Pay Back: A Review of Credit Rating Methodologies’, the office of the CEA in the Finance Ministry has called for urgent reforms and transparency in the process of sovereign credit rating.
- According to the Chief Economic Advisor (CEA), methodologies used by agencies (CRAs) are heavily loaded against developing countries like India due to an “over-reliance” on non-transparent and subjective qualitative factors.

What is a Sovereign Credit Rating?

- A sovereign credit rating is a measurement of a government’s ability to repay its debt, with a low rating indicating high credit risk.
- Typically, rating agencies use various parameters to rate a sovereign. These include growth rate, inflation, government debt, short-term external debt as a percentage of GDP and political stability.
- A favourable credit card rating enhances credibility and signifies a positive track record of timely loan repayment in the past.
- It assists banks and investors in evaluating loan applications and determining the interest rates to be offered.
- The global credit rating industry is highly concentrated, with three leading agencies: Moody's, Standard & Poor's, and Fitch.
- While S&P and Fitch rate India at BBB, Moody’s rates the South Asian country at Baa3, which indicates the lowest possible investment grade.
- This is despite India climbing the ladders from the 12th largest economy in the world in 2008 to the 5th largest in 2023, with the 2nd-highest growth rate recorded during the period among all the comparator economies.

SOVEREIGN RATINGS FOR INDIA

Agency	Rating	Meaning	Outlook
Moody's	Baa3	Lowest investment	Stable
S&P	BBB-	Lowest investment	Stable
Fitch	BBB-	Lowest investment	Negative

RATIONALE FOR CHANGE

- Receding financial risks to allow growth to support debt stabilisation
- An economic recovery is underway
- Downside risks to growth from subsequent coronavirus infection waves mitigated by rising vaccination rates
- Selective use of restrictions on economic activity, as seen during the second wave

Issues with the Methodology of Credit Rating:

- A quantitative analysis showed that over half the credit ratings are determined by the qualitative component.
- Institutional Quality, proxied mostly by the World Bank's Worldwide Governance Indicators (WGIs), emerges as the foremost determinant of a developing economy's credit rating.
- This presents a problem since these metrics tend to be non-transparent, perception-based, and derived from a small group of experts, and cannot represent the willingness to pay the sovereign.
- Their effect on the ratings is non-trivial since it implies that to earn a credit rating upgrade, developing economies must demonstrate progress along arbitrary indicators.

Recommendations given by the CEA to Reform Credit Rating:

- The CEA recommended relying mainly on a country's debt repayment history to determine its 'willingness to pay', instead of "less-than-optimal" qualitative information.
- Such a model will do enormous good to the credibility of the CRAs.
- Qualitative information and judgement can be the last resort when all other options for applying authentic, verifiable information are precluded.
- Even if governance indicators are to be relied upon, they must be based on clear, well-defined, measurable principles rather than subjective judgements by CRAs.
- CRAs tend to have a detailed database of best practices from around the world, which they apparently rely upon to form their judgements.
- This knowledge must be shared with the countries they rate so that appropriate action can be taken on a sovereign's part to improve its creditworthiness.

ENVIRONMENT

1. COP 28

Context:

Recently 28th Conference of the Parties (COP28) of the UNFCCC, was held in Dubai, UAE.

About COP28

- COPs are annual conference that takes place to discuss on ways to address the climate crisis.
- A crucial part of COP meetings is the review of the Nationally Determined Contributions (NDCs), submitted by member countries under Paris Agreement (2015).
- It also marked 18th session of the Conference of the Parties to the Kyoto Protocol (CMP 18) and 5th session of the Conference of the Parties to the Paris Agreement (CMA 5).
- It also adopted final document called UAE Consensus.

What are the Key Outcomes of COP 28 (2023)?

Global Stocktake Text:

- The Global Stocktake (GST) is a periodic review mechanism established under the Paris Agreement in 2015.

- The text proposes eight steps to keep the global temperature rise within the ambit of 1.5 degrees Celsius.
- It calls for tripling renewable energy capacity globally and doubling the global average annual rate of energy efficiency improvements by 2030.
- It calls for substantially reducing non-CO2 emissions, including, in particular, methane emissions globally by 2030.

Transitioning Away from Fossil Fuels :

- COP28 calls for transitioning away from fossil fuels in energy systems, in a just, orderly, and equitable manner, accelerating action in this critical decade, to achieve net zero by 2050.

Global Goal on Adaptation (GGA):

- Global adaptation goal focuses on enhancing adaptive capabilities, and minimizing vulnerability for sustainable development.
- At COP28, this text calls for a doubling in adaptation finance and plans for assessments and monitoring of adaptation needs in the coming years.
- Positively, an explicit 2030 date has been integrated into the text for targets on water security, ecosystem restoration, and health.

Climate Finance:

- The United Nations Conference on Trade and Development (UNCTAD) estimates that wealthy nations owe developing countries USD 500 billion in 2025 under the New Collective Quantified Goal (NCQG) for climate finance.
- The goal is to set a new collective quantified goal before 2025. The goal will start from a floor of USD 100 billion per year.
- This includes USD 250 billion for mitigation, USD 100 billion for adaptation, and USD 150 billion for loss and damage.

Loss and Damage Fund:

- Member countries reached an agreement to operationalize the Loss and Damage (L&D) fund aimed at compensating countries grappling with climate change impacts.
- A specific percentage is earmarked for Least Developed Countries and Small Island Developing States.
- The World Bank will oversee the loss and damage fund in the beginning.

Global Renewables and Energy Efficiency Pledge:

- The Pledge stipulates that signatories commit to work together to triple the world's installed renewable energy generation capacity to at least 11,000 GW by 2030.
- It also calls for collectively double the global average annual rate of energy efficiency improvements from around 2% to over 4% every year until 2030.

The Global Cooling Pledge for COP 28:

- It includes 66 national government signatories committed to working together to reduce cooling-related emissions across all sectors by at least 68% globally relative to 2022 levels by 2050.

Declaration to Triple Nuclear Energy:

- The declaration launched at COP28 aims to triple global nuclear energy capacity by 2050.

What are the Major Engagements of India in COP 28?

Green Credit Initiative:

- The Green Credit Initiative has been conceptualized as a mechanism to incentivize voluntary pro-planet actions, as an effective response to the challenge of climate change.
- It envisions the issue of Green Credits for plantations on waste/degraded lands and river catchment areas, to rejuvenate and revive natural ecosystems.

Phase II of the Leadership Group for Industry Transition (LeadIT 2.0):

- It will focus on inclusive & just industry transition, co-development and transfer of low-carbon technology, and financial support to emerging economies for industry transition.

Global River Cities Alliance (GRCA):

- It was launched at COP 28, led by the National Mission for Clean Ganga (NMCG) under the Ministry of Jal Shakti, Government of India.
- GRCA highlights India's role in sustainable river-centric development and climate resilience.
- This platform will facilitate knowledge exchange, river-city twinning, and dissemination of best practices.

Quad Climate Working Group (QCWG) on Localised Climate Action :

- The event focused on recognizing and amplifying the role of local communities, and regional governments in supporting sustainable lifestyles

2. GREEN CREDIT SCHEME

Context:

- Prime Minister Narendra Modi launched an initiative focusing on generating Green Credits through plantation on degraded wasteland.
- During a high-level event at the ongoing climate talks - COP28 in Dubai (UAE), he highlighted that the Green Credits Initiative surpasses the commercial nature of carbon credits.

What are Carbon Credits?

- Carbon credits, also known as carbon offsets, are permits that allow the owner to emit a certain amount of carbon dioxide or other greenhouse gases.
- One credit permits the emission of one ton of carbon dioxide or the equivalent in other greenhouse gases.
- Companies that pollute are awarded credits that allow them to continue to pollute up to a certain limit, which is reduced periodically.
- Meanwhile, the company may sell any unneeded credits to another company that needs them.

Private companies are thus doubly incentivized to reduce greenhouse emissions:

- First, they must spend money on extra credits if their emissions exceed the cap.
- Second, they can make money by reducing their emissions and selling their excess allowances.

What is Green Credits Initiative?

- In a landmark announcement at the COP28 (1st December 2023), the Indian PM launched the 'Green Credit Initiative,' a pathbreaking program aimed at reshaping global environmental policies.
- He also launched the official portal of the Green Credit Initiative at COP28.

Features of Green Credits Initiative:

- This initiative involves creating an inventory of degraded wastelands, which can be utilised for planting by individuals and organisations.
- Participants undertaking environmentally positive actions will receive tradable green credits.
- The entire process, from registration to plantation, verification, and issuance of green credits, will be digitised.
- The portal will collect ideas, knowledge, and experiences related to tree planting and environmental conservation.
- This platform aims to influence global policies, practices, and the demand for green credits.
- The Green Credits Initiative mirrors the Green Credit Programme launched by the Union government in October, 2023.



About Green Credit Programme:

- To take ahead the 'LiFE' - 'Lifestyle for Environment' movement announced by the Prime Minister in 2021, the Ministry of Environment, Forest and Climate Change introduced Green Credit Programme (GCP) in 2023.
- GCP is an innovative market-based mechanism designed to incentivize voluntary environmental actions across diverse sectors, by various stakeholders like individuals, communities, private sector industries, and companies.
- The GCP's governance framework is supported by an inter-ministerial Steering Committee.
- The Indian Council of Forestry Research and Education (ICFRE) serves as the GCP Administrator, responsible for program implementation, management, monitoring, and operation.

The GCP will cover 8 types of activities:

- Tree plantation which is meant to promote activities for increasing the green cover across the country.
- Water management is meant to promote water conservation, water harvesting, and water use efficiency or water savings, including treatment and reuse of wastewater.
- Sustainable agriculture is meant to promote natural and regenerative agricultural practices and land restoration to improve productivity, soil health, and nutritional value of food produced.
- Waste management is meant to promote circularity, sustainable and improved practices for waste management, including collection, segregation, and environmentally sound management.
- Air pollution reduction is meant to promote measures for reducing air pollution and other pollution abatement activities.
- Mangrove conservation and restoration, which is meant to promote measures for conservation and restoration of mangroves.

In its initial phase, the GCP focuses on two key activities:

- Water conservation and Afforestation
- Draft methodologies for awarding Green Credits have been developed and will be notified for stakeholder consultation.
- The Green Credit Registry and trading platform, being developed by ICFRE along with experts, would facilitate the registration and thereafter, the buying and selling of Green Credits.

Loss and Damage Fund Overview:

- Recently, on the opening day of the Conference of the Parties (COP28) climate conference in Dubai, a loss and damage fund to help vulnerable countries cope with the impact of climate change has been officially launched.

About Loss and damage fund

- It was first announced during COP27 in Sharm el-Sheikh, Egypt.
- It is a global financial package to ensure the rescue and rehabilitation of countries facing the cascading effects of climate change.
- The term refers to the compensation that rich nations, whose industrial growth has resulted in global warming and driven the planet into a climate crisis, must pay to poor nations, whose carbon footprint is low but are facing the brunt of rising sea levels, floods, crippling droughts, and intense cyclones, among others.

- The changing climate has impacted lives, livelihoods, biodiversity, cultural traditions, and identities.
- Loss and damage is often categorised as either economic or non-economic.
- Economic loss and damage are negative impacts that one can assign a monetary value to. These are things such as the costs of rebuilding infrastructure that has been damaged due to a flood, or the loss of revenue from agricultural crops that were destroyed due to drought.
- Non-economic loss and damage are negative impacts where it is difficult or infeasible to assign a monetary value.
- These are things such as trauma from experiencing a tropical cyclone, loss of community due to displacement of people, or loss of biodiversity.”
- The World Bank will oversee the loss and damage fund in the beginning, with the source of funds being rich nations, such as the US, the UK and the EU, as well as some developing countries.

3. COP28- GLOBAL STOCKTAKE

Context:

- The first-ever global stocktake is set to conclude at the UN Climate Change Conference (COP28) being held in Dubai.
- The Global Stocktake is happening for the first time, since the Paris Agreement in 2015.
- The results will determine what actions must be taken in future, in terms of making more stringent national policies, setting more ambitious goals or financially enabling poorer countries to transition to clean, green energy.

About

- The global stocktake is a process for countries and stakeholders to see where they are collectively making progress towards meeting the goals of the Paris Climate Change Agreement – and where they are not.
- Basically, the global stocktake is like taking inventory.
- It means looking at everything related to where the world stands on climate action and support, identifying the gaps, and working together to chart a better course forward to accelerate climate action.
- The stocktake takes place every five years, with the first-ever stocktake set to conclude at COP28.

Background

- In 2015, Paris hosted COP21 which made it mandatory for all countries to set emissions-reduction targets and adapt to the impacts of climate change.
- This is known as Nationally Determined Contributions (NDCs).
- It was decided that countries would assess their progress for the first time in 2023 and, then, every five years.

Initial report

- The UN published a technical report on the first Global Stocktake in September 2023.
- According to this report, the global community spurred to action and made some progress but it was still too little.
- It found that implementation must accelerate to increase ambition across all fronts, taking an all-of-society approach to make progress towards the Paris Agreement goals and respond to the climate crisis.
- The report makes clear that there is progress, but much more needs to be done.
- While there are well-known gaps, the technical findings highlighted existing and emerging opportunities and creative solutions to bridge these gaps.
- It also said that the average global temperature has increased by almost 1.2 degree Celsius since pre-industrial times.

4. NATIONAL CIRCULAR ECONOMY ROADMAP FOR REDUCTION OF PLASTIC WASTE IN INDIA

Context:

Recently a flagship document on ‘National Circular Economy Roadmap for reduction of Plastic waste in India’ was released

Background:

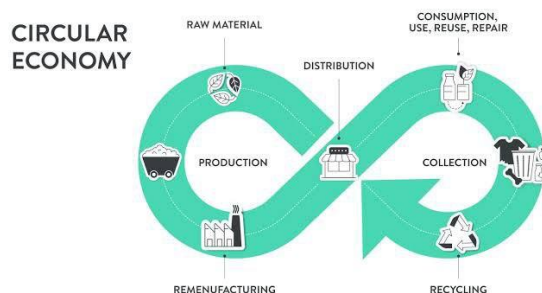
- The Confederation of Indian Industry (CII) recently brought out the National Circular Economy Framework (NCEF). It aims to provide a blueprint for India’s shift towards a circular economy.

What is circular economy?

- The circular economy is a model of production and consumption, which involves sharing, leasing, reusing, repairing, refurbishing and recycling existing materials and products as long as possible. In this way, the life cycle of products is extended.

Need for Circular Economy:

- CE focuses on minimising waste while maximising utilisation and calls for a production model aiming to retain the most value to create a system that promotes sustainability, longevity, reuse, and recycling.
- Though India has always had a culture of recycle and reuse, its rapid economic growth, growing population, impact of climate change and rising environmental pollution, the adoption of a circular economy is more imperative now.
- CE can lead to the emergence of more sustainable production and consumption patterns, thus providing opportunities for developed and developing countries to achieve economic growth and inclusive and sustainable industrial development (ISID) in line with the 2030 Agenda for Sustainable Development.



Global Response to Circular Economy:

- Germany and Japan have used it as a binding principle for reorganising its economy, whereas China even has a law on it (Circular Economy Promotion Law).
- India’s Initiatives to Promote Circular Economy:
- The 2022-23 Budget recognised the importance of sustainable growth and in sync with a circular economy, the government formulated:
 - Battery Waste Management Rules 2022
 - Plastic Waste Management (Amendment) Rules 2022
 - e-Waste Management Rules 2022
- These rules set out target waste disposal standards for manufacturers, producers, importers, and bulk consumers, along with enabling transactions among stakeholders for Extended Producer Responsibility (EPR) certificates.
- Action plans were also formulated across 10 sectors including e- waste, lithium-ion batteries, end-of-life vehicles, scrap metal, municipal solid waste, etc. emphasising the importance of reusing secondary materials.

About National Circular Economy Roadmap for reduction of Plastic waste in India

Global Collaboration for a Plastic-Free Future

- India and Australia actively participate in negotiations for the formulation of a Global Plastics Treaty, scheduled for finalization next year. The collaboration between the two countries focuses on utilizing their

strengths in waste management, recycling policies, and environmental initiatives to promote a circular economy, emphasizing resource efficiency and environmental protection.

Technological Innovations

- The Minister highlighted various initiatives by India's Council of Scientific & Industrial Research (CSIR), including technologies aimed at reducing carbon footprint and recycling. Notable projects include the 'Recycling on Wheels' bus, developed by the Department of Science and Technology, Technology Development Board, and CSIR, which generates wealth from waste through mobility.

Government Policies and Initiatives

- The Government of India has been actively formulating policies and promoting projects to steer the country toward a circular economy. Various rules, including Plastic Waste Management Rules, e-Waste Management Rules, and Metals Recycling Policy, have been implemented to address plastic waste challenges and promote responsible waste management practices.
- The roadmap mentions seven elements in framework for achieving circular economy for plastics, as follows:
Element - Steps suggested

Production

- Design products that can be easily and efficiently recycled, with minimal contamination, to reduce waste, minimising the use of additives etc.

Consumption

- Avoid single-use plastics, choose products with extended lifetimes, reuse plastics, choose products made with recycled plastic etc.

Recycling

- Promote closed-loop recycling and chemical upcycling technologies, to retain plastic in the material loop for longer etc.

Commercial viability

- Use incentives for circular economy businesses, develop markets for high quality secondary material etc

Awareness and readiness

- Schools, universities etc. should be used to raise awareness.
- Selective curricula on waste management

Supportive infrastructure

- Invest in recycling and digital infrastructure needed to collect, sort, track, and assess quality and value of end-of-life plastics, etc.

Consistent compliance

- State governments must set targets and monitor progress on plastics reduction, reuse and recycling.

Why a circular economy roadmap for plastics is needed for India?

- **The scale and complexity of the plastic waste problem:** India generates nearly 26,000 tonnes of plastic waste each day (CPCB, 2020), more than any economy except the USA and European Union.
- Despite several initiatives, India continues to confront the challenge of linear 'take-make-waste' industry.
- **Economic benefits:** Circular economy can create new secondary markets for used plastics in construction and manufacturing, and new primary markets for alternative, eco-friendly products.
- **Ecological benefits:** Diverting dry waste from landfill, leading to a cleaner environment, less greenhouse emissions, improved air quality, and reduced microplastics in the food chain.
- **Enabling behavioural change:** Circular economy can support a cultural shift, away from 'use and throw', to one that leads future generations to value resources and care for the environment even as they develop their economy.
- **Global commitments:** Circular economy can be a tool to achieve Sustainable Development Goals (SDG) and net zero target.

- **Align with proposed Plastic treaty:** It can support Government and industry associations in responding to the requirements of Global Plastics Treaty that is expected to be in force by 2024.
- **In line with LiFE – Lifestyles for Environment:** Launched as India-led global mass movement to nudge individual and community action to protect and preserve the environment.
- Its key element is sustainable consumption and production

What are the Roadblocks to Achieving Circular Economy?

- **Unclear Vision for CE:** Despite the Government's policy efforts the progress has been underwhelming; one of the major challenges is the lack of a clear vision towards the end-goal of India's circular economy mission and gaps in actual implementation of the policies.
 - Also, the efforts for promoting CE are made at the very end of value chains, resulting in sub-optimal economic and environmental outcomes.
- **Reluctance of Industries:** The Industries are reluctant in adopting the circular economy model due to supply chain limitations, lack of incentives to invest, complex recycling processes and lack of information to support participation in reusing/ recycling/re-manufacturing processes.
- **Lack of Awareness and Understanding:** Many people in India are not aware of the concept of a circular economy and its benefits making it difficult to gain support for implementing circular economy initiatives.
- **Infrastructure Challenges:** India's infrastructure is not well-suited to support a circular economy. For example, there is a lack of recycling facilities, which makes it difficult to recycle and reuse materials.
- **Cultural Challenges:** There is a cultural resistance to the idea of reusing and recycling products in India making it difficult to change consumer behaviour and shift towards a circular economy.

5.UNEP'S ACTION PLAN FOR COOLING SECTOR

Context:

- The United Nations Environment Programme (UNEP) has proposed an action plan aimed at significantly reducing emissions from the global cooling sector in its recent report titled "Keeping it Chill: How to meet cooling demands while cutting emissions."
- This initiative carries the potential to make a substantial impact on the predicted 2050 greenhouse gas emissions, reducing them by 60%.
- The report is released in support of the Global Cooling Pledge, a joint initiative between the United Arab Emirates as host of the Conference of Parties(COP28) and the Cool Coalition.

What is UNEP's Proposed Action Plan for Sustainable Cooling?

Nature-Based Solutions:

- Recommendations include passive cooling measures like shading, ventilation, insulation, green roofs, and reflective surfaces, and reintroducing nature to urban areas.
- Passive cooling can reduce the need for mechanical cooling and save energy and emissions.

Efficiency Standards:

- Emphasizes the importance of higher energy efficiency technologies and practices for cooling equipment, such as air conditioners, refrigerators, and fans.
- Higher-energy efficiency cooling can reduce the energy consumption and emissions of cooling devices and lower the costs for users and utilities.

Phasedown of Refrigerants:

- This refers to the use of alternative substances to cool devices, such as hydrocarbons, ammonia, or carbon dioxide, instead of hydrofluorocarbons (HFCs), which are potent greenhouse gases.
- HFCs are a group of synthetic gases primarily used for cooling and refrigeration. HFCs, classified as "super-pollutants," possess potent greenhouse gas properties, capable of trapping heat hundreds to thousands of times more than carbon dioxide.

- Despite their significant impact, they are short-lived climate pollutants, with an average atmospheric lifespan of 15 years.
- Low-global warming potential refrigerants can reduce the direct emissions of cooling devices and contribute to the phase-down of HFCs under the Kigali Amendment to the Montreal Protocol.
- Urges a faster phasedown of climate-warming refrigerants and air conditioning.

Why Address the Cooling Sector?

- The cooling sector plays a crucial role in combating rising temperatures, ensuring food safety, industrial cooling processes, and driving productive economies.
- However, without intervention, the growing demand for cooling equipment could lead to a substantial increase in electricity consumption and emissions.
- The cooling sector accounts for a substantial 20% of global electricity consumption.
- If current policies continue, the installed capacity of cooling equipment globally will triple, resulting in a more than doubling of electricity consumption by 2050.
- This could lead to emissions between 4.4 billion and 6.1 billion tonnes of carbon dioxide equivalent (CO₂e) in 2050, accounting for over 10% of global projected emissions that year.

What are the Benefits of Sustainable Cooling?

- Passive cooling techniques and efficient cooling equipment can save consumers USD 17 trillion between 2022 and 2050.
- It is projected to reduce peak power requirements by 1.5-2 terawatts (TW), avoiding substantial power generation investments.
- Increasing the adoption of low-global warming potential technologies in new equipment and effectively managing refrigerant life cycles can reduce HFC emissions by 50% in 2050.
- Decarbonizing the power grid can further reduce sectoral emissions by 96%.

What are the Initiatives Related to Sustainable Cooling?

Global:

National Cooling Action Plans (NCAPs):

- Presently, more than 40 countries, including India, have developed NCAPs, and 25 others are at various stages of preparing theirs as well.
- Though India and China have included implementation mechanisms in their NCAPs, the rollout has been slow.

Global Cooling Pledge:

- At the United Nations Framework Convention on Climate Change, the host country United Arab Emirates and the Cool Coalition launched the Global Cooling Pledge.
- Over 60 countries signed up to the Pledge with commitments to reduce the climate impact of the cooling sector.



Kigali Amendment Acceleration:

- The Kigali Amendment is an international agreement to reduce the production and consumption of HFCs.
- The amendment is part of the Montreal Protocol on Substances that Deplete the Ozone Layer.
- The Kigali Amendment aims to reduce HFC production and consumption by 80–85% by 2047.
- This is expected to prevent the emissions of up to 105 billion tonnes of CO₂ of greenhouse gases, avoiding up to 0.5 degree Celsius of global temperature rise by 2100.

Steps taken by India towards Sustainable Cooling

India Cooling Action Plan It was launched in 2019 by the MoEFCC.

- It seeks to reduce cooling demand across sectors by 20% to 25% by 2037-38, and refrigerant demand by 25% to 30% by 2037-38.
- Recognize 'cooling and related areas' as a thrust area of research under the National S&T Programme.
- Energy Conservation Building Code – ECBC 2017: formulated by the Bureau of Energy Efficiency (BEE) makes it mandatory for commercial buildings with a load of 100 kVA or more to comply with its energy-efficient standards.
- BEE Star Labelling Program to reduce the energy consumption of appliances such as Electric Geysers, Colour TV, Room Air Conditioners, LED lamps, etc.
- Green Building Ratings: Green Rating for Integrated Habitat Assessment (GRIHA), Indian Green Building Council (IGBC) and Leadership in Energy and Environmental Design (LEED).

6. INDIA'S COAL PLANTS: SO₂ EMISSION CONTROL

Context:

- Recently, an analysis by the Centre for Research on Energy and Clean Air (CREA) has found less than 8% of India's coal-based power plants have installed the SO₂ emission reduction technology recommended by the Union Ministry of Environment, Forest and Climate Change (MoEF&CC) to keep Sulfur Dioxide (SO₂) emissions in check.
- According to a 2019 Greenpeace study, India is the largest emitter of SO₂ in the world.

What are the Technologies to Reduce SO₂ Emissions?

Flue Gas Desulfurization (FGD):

- FGD is the process of removing sulphur compounds from the exhaust emissions of fossil-fueled power stations.
- This is done through the addition of absorbents, which can remove up to 95% of the sulphur dioxide from the flue gas.
- Flue gas is the material emitted when fossil fuels such as coal, oil, natural gas, or wood are burned for heat or power.

Circulating Fluidized Bed Combustion (CFBC):

- CFBC Boiler is an environment-friendly power facility to reduce the discharge of pollutants such as nitrogen oxide and sulphur oxide by injecting air and lime at the same time for burning.
- A bed of solid particles is said to be fluidized when the pressurised fluid (liquid or gas) is passed through the medium and causes the solid particles to behave like a fluid under certain conditions. Fluidization causes the transformation of the state of solid particles from static to dynamic.

What are the Key Findings of the Study?

- Only a combined capacity of 16.5 Gigawatts(GW) of coal plants have installed FGDs and Circulating Fluidised Bed Combustion (CFBC) boilers equivalent to 5.9 GW across India.
- The CREA analysis found that 92 % of the country's coal power plants function without FGDs.
- Blanket extension of the deadline for all coal power plants without checking on their progress by MoEF&CC and Central Pollution Control Board (CPCB) played a major role in derailment of emission controls from coal-based electricity generation units.

- The MoEF&CC introduced emission standards in 2015 for regulating PM, SO₂, NO_x, and Hg (Mercury) emissions.
- The deadline has been extended four times for units in Delhi and the National Capital Region (NCR) and three times for most other units across the country.
- India's energy generation installed capacity stands at 425 GW. The thermal sector holds a predominant position within the overall installed capacity, encompassing coal (48.6%), gas (5.9%), lignite (1.6%) and a minimal share (<0.2%) from diesel.

What is the Categorisation of Power Plants for Installing FGD?

- In 2021, the MoEF&CC divided the categories of coal-power plants based on geography to enforce deadlines.
- Category A is demarcated to coal-based power plants within a 10-kilometer radius of the National Capital Region (NCR) and of cities with a million-plus population.
- Category B is within a 10 km radius of critically polluted areas or non-attainment cities.
- Category C is the remaining plants throughout the country.
- The majority of the country's power plants belong to Category C, with the longest deadlines.

Way Forward

Accelerate FGD Implementation:

- Prioritise and expedite the installation of FGD technology in coal-based power plants. Encourage and incentivize the adoption of this technology to ensure compliance with emission standards set by the MoEF&CC.

Expand CFBC Implementation:

- Provide support and incentives for power plants to adopt CFBC technology, aiming for a broader implementation to enhance environmental sustainability.

Stricter Enforcement and Monitoring:

- Strengthen regulatory mechanisms for monitoring and enforcing emission standards. Implement strict penalties for non-compliance with deadlines and emission regulations.

Research and Development (R&D):

- Invest in research and development to explore and implement advanced technologies that go beyond current standards. Foster innovation in clean energy solutions and emission control technologies to make coal-based power generation more sustainable.

Centre for Research on Energy and Clean Air (CREA)

- CREA is an independent research organisation focused on revealing the trends, causes, and health impacts, as well as the solutions to air pollution.
- It uses scientific data, research and evidence to support the efforts of governments, companies and campaigning organisations worldwide in their efforts to move towards clean energy and clean air.

7. GLOBAL RIVER CITIES ALLIANCE: NMCG

Context:

- Recently, the National Mission for Clean Ganga (NMCG), has launched the Global River Cities Alliance (GRCA) at COP28 in Dubai, United Arab Emirates.
- During the event the NMCG also signed a Memorandum of Common Purpose (MoCP) with the Mississippi River Cities and Towns Initiative (MRCTI), representing 124 cities/towns situated along the banks of the Mississippi River, the United States.
- The NMCG has signed the MoCP on behalf of the River Cities Alliance (RCA).

What is the Global River Cities Alliance (GRCA)?

About:

- The GRCA is an international coalition of cities and countries dedicated to the conservation, sustainable management, and protection of river systems worldwide.
- The alliance encompasses a diverse array of countries and river cities, fostering partnerships among key nations like India, Egypt, Netherlands, Denmark, Ghana, Australia, Bhutan, Cambodia, Japan, and others.
- GRCA's membership extends to cover 275+ river-cities across 11 countries, demonstrating a substantial global reach and influence.

Objective:

- It will serve as a platform for collaboration, knowledge exchange, and concerted efforts among various stakeholders, including governments, cities, financial institutions, and environmental organizations..

What is the Mississippi River Cities and Towns Initiative (MRCTI)?

- The MRCTI was created in 2012 to provide an influential voice for the Mississippi River, dramatically increasing demand for effective river protection, restoration, and management in Washington, DC.
- It addresses matters of mutual concern, including river water quality and habitat restoration, flooding and floodplain issues, river-focused recreation, sustainable economies, and celebration of the River culture and history.

What is River Cities Alliance (RCA)?

About:

- The RCA is a joint initiative of the Ministry of Jal Shakti (MoJS) & the Ministry of Housing and Urban Affairs (MoHUA), with a vision to connect river cities and focus on sustainable river centric development.
- The Alliance focuses on three broad themes- Networking, Capacity Building and Technical Support.
- Beginning with 30 member cities in November 2021, the Alliance has expanded to 110 river cities across India and one international member city from Denmark.

Objective:

- The RCA intends to facilitate knowledge exchange (online) for Indian cities to learn new practices and approaches for urban river management.
- It will also be an opportunity for international cities to learn about experiences in Indian cities, which may be relevant to their contexts.

What is the National Mission for Clean Ganga (NMCG)?

About:

- On 12th August 2011, the NMCG was listed as a society under the Societies Registration Act, 1860.
- It acted as the implementation arm of the National Ganga River Basin Authority (NGRBA) which was constituted under the provisions of the Environment (Protection) Act (EPA),1986.
- NGRBA was dissolved in 2016 and replaced by the National Council for Rejuvenation, Protection, and Management of River Ganga.

Objective:

- The objective of the NMCG is to reduce pollution and ensure the rejuvenation of the Ganga River.
- Namami Gange is one of the Coveted Programmes of NMCG to clean Ganga.
- This can be achieved by promoting intersectoral coordination for comprehensive planning & management and maintaining minimum ecological flow in the river, with the aim of ensuring water quality and environmentally sustainable development.

Organization Structure:

- The Act envisages a five-tier structure at the national, state, and district levels to take measures for prevention, control, and abatement of environmental pollution in river Ganga as below:
- National Ganga Council under the chairmanship of the Hon'ble Prime Minister of India.

- Empowered Task Force (ETF) on river Ganga under the chairmanship of Hon'ble Union Minister of Jal Shakti (Department of Water Resources, River Development and Ganga Rejuvenation).

8. THE GLOBAL CLIMATE 2011-2020

Context:

- Recently, the World Meteorological Organisation (WMO) has published a report titled- The Global Climate 2011-2020: A Decade of Acceleration, concerning the alarming acceleration of climate change and its multifaceted impacts across the planet.

What are the Key Highlights of the Report?

Temperature Trends:

- The decade 2011-2020 emerged as the warmest on record for both land and ocean.
- Global mean temperature soared to 1.10 ± 0.12 °C above the 1850-1900 average, with each decade since the 1990s surpassing previous ones in warmth.
- Record high temperatures were reported in numerous countries, with 2016 (due to an El Niño event) and 2020 standing out as the warmest years.

Greenhouse Gas Emissions:

- Atmospheric concentrations of major greenhouse gases (GHG) continued to rise, especially CO₂, reaching 413.2 ppm in 2020, primarily due to fossil fuel combustion and land-use changes.
- The decade witnessed an increase in average growth rates of CO₂, highlighting the pressing need for sustainable emissions reduction to stabilize the climate.

Oceanic Changes:

- Ocean warming rates accelerated significantly, with 90% of accumulated heat stored in the ocean. Warming rates doubled in the upper 2000m depth from 2006-2020, impacting marine ecosystems.
- Ocean acidification due to CO₂ absorption posed challenges for marine organisms, affecting their shell and skeleton formation.

Marine Heatwaves and Sea Level Rise:

- Marine Heatwaves increased in frequency and intensity, affecting about 60% of the ocean's surface between 2011 and 2020.
- Global mean sea level rise accelerated to 4.5mm/yr from 2011-2020, mainly due to ocean warming and ice mass loss.

Glacier and Ice Sheet Loss:

- Glaciers globally thinned by about 1 meter/year between 2011 and 2020, with unprecedented mass loss, affecting water supplies.
- Greenland and Antarctic ice sheets lost 38% more ice compared to 2001-2010, contributing significantly to rising sea levels.

Arctic Sea Ice Decline:

- Arctic sea ice continued its decline during the summer melt season, with a mean seasonal minimum extent 30% below the 1981-2010 average.

Ozone Hole and Successes:

- The Antarctic ozone hole diminished in the 2011-2020 period, credited to successful international action under the Montreal Protocol.
- Efforts led to reduced chlorine entering the stratosphere from ozone-depleting substances.

Impact on Sustainable Development Goals (SDGs):

- Extreme weather events hindered progress toward SDGs, impacting food security, human mobility, and socioeconomic development.
- Improved early warning systems reduced casualties but economic losses from extreme events escalated.
- The 2011-2020 decade was the first since 1950 when there was not a single short-term event with 10,000 deaths or more.

What are the WMO's Recommendations for Mainstreaming Action on Climate and Development Goals?

- Enhancing collective resilience against current and future global crises through collaboration and cooperation with international organizations and their partners
- Strengthening science-policy-society interaction to advance synergistic action
- Promoting institutional capacity-building and cross-sectoral and international collaboration at national, institutional, and individual levels, especially for the global South.
- Ensuring policy coherence and coordination among policymakers across sectors and departments for enhancing climate and development synergies at the national, sub-national, and multi-national levels.

9. WORLD BANK'S PLAN TO COMBAT METHANE EMISSIONS

Context:

- In an initiative to combat the rising threat of methane emissions, the World Bank has announced plans to launch a series of country-led programs, to reduce up to 10 million tons of methane over the course of their investment lifespans.

What is the Plan Unveiled by World Bank?

Need For the Plan:

- Methane accounts for approximately 19% of global greenhouse gas emissions (GHGs), making it a substantial contributor to climate change.
- Rice production accounts for 8%, livestock 32%, and waste 18% of all human-driven methane emissions, making targeted efforts in these areas crucial.
- Methane has a much higher global warming potential (GWP) than carbon dioxide.
- Despite methane being 80 times more potent than carbon dioxide in terms of warming the planet, it has received less attention and funding.

World Bank's Planning:

- The World Bank is set to roll out a minimum of 15 country-led programs within the next 18 months.
- According to the World Bank, the move is a step in addressing the alarming increase in global temperatures and supporting communities most vulnerable to the impacts of climate change.
- These programs will specifically target methane emissions, employing strategic interventions to curb environmental degradation and promote sustainable practices.

World Bank's Triple Win Approach:

- The ambitious programs will focus on slashing methane emissions from various sources, including rice production, livestock operations, and waste management.
- The comprehensive approach to methane reduction outlined by the World Bank emphasizes triple wins - reducing emissions, enhancing resilience, and empowering livelihoods.

Funding Mechanism:

- Currently, finance for methane abatement constitutes less than 2% of global climate finance.
- The World Bank envisions a substantial increase in financing for methane reduction through public and private sector channels between 2024 and 2030.
- The institution is set to collaborate with Germany, Norway, the United States, the UAE, and the private sector to implement effective solutions and reduce methane emissions across the entire energy value chain.

Partnership Platforms:

Complementing its efforts, the World Bank is launching two partnership platforms:

- The Global Methane Reduction Platform for Development (CH4D) focusing on methane abatement in agriculture and waste.
- Global Flaring and Methane Reduction Partnership (GFMR) concentrating on reducing methane leaks in the oil and gas sector.

What are the Initiatives to Tackle Methane Emissions?

Indian:

- **‘Harit Dhara’ (HD):** Indian Council of Agricultural Research (ICAR) has developed an anti-methanogenic feed supplement ‘Harit Dhara’ (HD), which can cut down cattle methane emissions by 17-20% and can also result in higher milk production.
- **India Greenhouse Gas Program:** The India GHG Program led by WRI India (non-profit organization), Confederation of Indian Industry (CII) and The Energy and Resources Institute (TERI) is an industry-led voluntary framework to measure and manage greenhouse gas emissions.
- **National Action Plan on Climate Change (NAPCC):** NAPCC was launched in 2008 which aims at creating awareness among the representatives of the public, different agencies of the government, scientists, industry and the communities on the threat posed by climate change and the steps to counter it.
- **Bharat Stage-VI Norms:** India shifted from Bharat Stage-IV (BS-IV) to Bharat Stage-VI (BS-VI) emission norms.

Global:

Methane Alert and Response System (MARS):

- MARS will integrate data from a large number of existing and future satellites that have the ability to detect methane emission events anywhere in the world, and send out notifications to the relevant stakeholders to act on it.

Global Methane Pledge:

- At the Glasgow climate conference (<https://www.drishtiias.com/daily-updates/daily-news-analysis/global-methane-pledge-gmcca-forum>) (UNFCCC COP 26) in 2021, nearly 100 countries had come together in a voluntary pledge, referred to as the Global Methane Pledge, to cut methane emissions by at least 30% by 2030 from the 2020 levels.

Global Methane Initiative (GMI):

- It is an international public-private partnership focused on reducing barriers to the recovery and use of methane as a clean energy source.

What Measures can be Taken Further to Reduce Methane Emissions?

- **In the Energy Sector:** Methane emissions occur along the entire oil and gas supply chain, but especially from fugitive emissions from leaking equipment, system upsets, and deliberate flaring and venting.
 - Existing cost-effective solutions can help reduce emissions, including initiating leak detection and repair programs, implementing better technologies and operating practices, and capturing and utilising methane that would otherwise be wasted.
- **In Agriculture:** The farmers can provide animals with more nutritious feed so that they are larger, healthier and more productive, effectively producing more with less.
 - When it comes to staple crops like paddy rice, experts recommend alternate wetting and drying approaches that could halve emissions.
 - Rather than allowing the continuous flooding of fields, paddies could be irrigated and drained two to three times throughout the growing season, limiting methane production without impacting yield.
 - That process would also require one-third less water, making it more economical.

- **In the Waste Sector:** The waste sector accounts for around 20% of global human-caused methane emissions.
 - The cost-effective mitigation solutions with the greatest potential related to separating organics and recycling also have the potential of creating new jobs.
 - Upstream avoidance of food loss and waste is also key.
 - Additionally, capturing landfill gas and generating energy will reduce methane emissions, displace other forms of fuels and create new streams of revenue.
- **Role of Government:** The Government of India should envision a food system transition policy to help its people grow and consume food differently.
 - Instead of working in silos, the government must develop a comprehensive policy that moves farmers to sustainable modes of plant-based food production.
 - Divert subsidies from industrial livestock production and its associated inputs, and look at job creation, social justice, poverty reduction, animal protection and better public health as multiple aspects of a single solution.

10. TIGER DEATHS IN INDIA

Context:

- In 2023, India witnessed a disturbing surge in tiger deaths, reaching a record 204, as reported by the Wildlife Protection Society of India (WPSI), a non-profit organisation prompting concerns about conservation efforts for these majestic creatures.

What is the Status of Tiger Deaths in India?

- Maharashtra has recorded the highest number of tiger fatalities with 52 deaths, prompting apprehensions regarding the adequacy of conservation measures in the state.
- India's top tiger state, Madhya Pradesh, witnessed 45 deaths, emphasizing the need for enhanced protection. Uttarakhand recorded 26 deaths, adding to the grim statistics.
- Tamil Nadu and Kerala recorded 15 tiger deaths each, reflecting a widespread issue across regions. Karnataka, with the second-highest tiger population, reported 13 deaths.
- The tiger population in India reached 3,167 in 2022, up from 2,967 in 2018. This positive trend, however, raises questions about the sustainability of these gains in the face of increasing threats.
- Natural & other causes, led to 79 tiger deaths, urging a focus on understanding and addressing these factors for effective conservation.
- Poaching remains a persistent threat, claiming 55 tigers' lives, necessitating robust anti-poaching measures.
- Infighting among tigers resulted in 46 deaths, underscoring the significance of habitat preservation.
- Human-induced threats, such as road incidents, caused 7 tiger fatalities, demanding urgent attention to mitigate human-wildlife conflicts.

Way Forward

- Collaboration among government agencies, conservationists, and communities is crucial for effective anti-poaching efforts, utilizing technology and intelligence.
- Establishing a robust anti-poaching network with law enforcement is imperative.
- Strategies to mitigate human-wildlife conflict, especially in areas with roadkill, should be developed.
- Allocate resources for research on natural causes of tiger deaths, enhance monitoring, and ensure transparent reporting to adapt conservation strategies to evolving challenges.

11. FIELD PANSY'S EVOLUTION

Context:

- Recently, scientists have uncovered evidence of rapid evolution in a flowering plant found in Paris, France. The plant, identified as Field Pansy (*Viola arvensis*) is showing signs of self-pollination, a behaviour contradicting the conventional reliance on external pollinators.

What are the Key Facts about Field Pansy?

- The Field Pansy (*Viola arvensis*), is a common wildflower that can be found in many parts of Europe, Asia, and North America.
- It belongs to the group of plants called angiosperms, which produce seeds inside a protective structure called a fruit.
- Angiosperms rely on insects and other animals to pollinate them and help them reproduce.

What are the Key Highlights of the Study?

Rapid Evolution:

- The study marks the first evidence of rapid evolution in plants, with the field pansy, showing significant changes in nectar production and flower size over a relatively short period.
- The study found that flowers of the wild pansy variety produced 20% less nectar and were 10% smaller.

Self-Pollination:

- The field pansy has evolved to self-pollinate, reducing its reliance on pollinators due to a decreasing availability of insects.
- This behaviour is contrary to the conventional reliance on insects for pollination in angiosperms, marking a significant departure from established plant reproductive strategies.

Convergent Evolution:

- The study reveals convergent evolution across populations, with a reduction in rewarding traits and attractiveness to pollinators.
- This convergence suggests a consistent evolutionary response to environmental pressures across different plant populations.

Resurrection Ecology Method:

- The researchers used the "resurrection ecology" method, planting seeds from the 1990s and 2000s against their contemporary descendants from 2021 to observe changes over time.
- This method allowed them to track and compare changes in plant traits and behaviour across different periods.

Environmental Impact:

- The move towards selfing may benefit plants in the short term but poses a threat to their long-term survival, especially in the face of climate change and other environmental changes.
- Self-pollination reduces the genetic diversity and adaptability of the plant, making it more susceptible to diseases and environmental stresses.

Pollinator Decline:

- The study warns of a potential feedback loop that could lead to further declines in pollinators as a result of plant trait evolution, impacting the plant-pollinator network.

Urgent Analysis:

- The study emphasizes the need to analyze whether these results are symptomatic of broader behavioral changes in the relationship between angiosperms and their pollinators.
- Researchers call for a thorough understanding of the possibility of reversing the process and breaking the eco-evolutionary-positive feedback loop to preserve plant-pollinator networks.



Field Pansy

Recently, scientists have uncovered evidence of rapid evolution in a flowering plant found in Paris, France. The plant, identified as Field Pansy (*Viola arvensis*) is showing signs of self-pollination, a behaviour contradicting the conventional reliance on external pollinators.

12. INCREASE TIGER NUMBERS IN VALMIKI TIGER RESERVE

Context:

- Recently, the National Tiger Conservation Authority (NTCA) had officially announced the increase in tiger population in Valmiki Tiger Reserve (VTR).
- It witnessed the growth in the number of big cats from 31 (2018) to 54 (2023).
- The Bihar government is waiting to obtain NTCA approval for declaring Kaimur Wildlife Sanctuary as the state's second tiger reserve after VTR.

Why Has the Number of Tigers in VTR Increased?

- A total ban on sand and stone mining inside VTR, and strict restrictions on mining in its eco-sensitive zone, helped increase grassland cover.
- An increase in grassland cover thus helps in supporting the prey population, in turn increasing the chances of the carnivores' survival.
- The reserve is dedicated to managing and sustaining the tiger population by raising awareness among local residents and monitoring mining activities in and around the area to minimize human-wildlife conflict.
- The NTCA placed the reserve in the 'Very Good' category.

What are the Important Facts of Valmiki Tiger Reserve (VTR)?

- The VTR is the only tiger reserve in Bihar, which forms the easternmost extent of the Himalayan Terai forests in India.
- The VTR is located in Bihar's West Champaran district, bordering Nepal to its north and Uttar Pradesh to its west.
- Situated in the Gangetic plains bio-geographic region, the vegetation of this Tiger Reserve is a combination of Bhabar and Terai regions.
- According to the Forest Survey of India Report 2021, 85.71% of its total area is covered by forest cover.
- Wild mammals found in the forests of Valmiki Tiger Reserve include tiger, sloth bear, leopard, wild dog, bison, wild boar etc.
- Rivers Gandak, Pandai, Manor, Harha, Masan and Bhapsa flow through various parts of the reserve

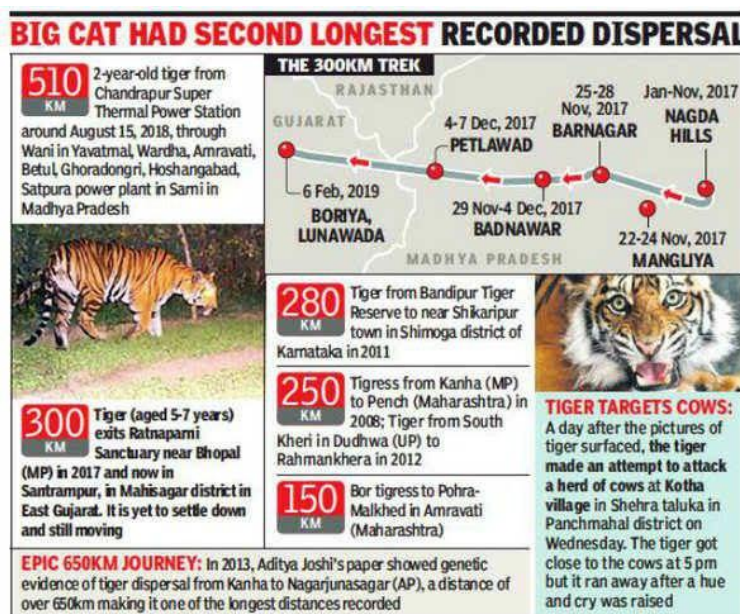
What is the National Tiger Conservation Authority (NTCA)?

About:

- National Tiger Conservation Authority (NTCA) is a statutory body under the Ministry of Environment, Forests and Climate Change.
- It was established in 2005 following the recommendations of the Tiger Task Force.
- It was constituted under enabling provisions of the Wildlife (Protection) Act, 1972, as amended in 2006, for strengthening tiger conservation, as per powers and functions assigned to it.

Objectives:

- Providing statutory authority to Project Tiger so that compliance of its directives becomes legal.
- Fostering accountability of Center-State in management of Tiger Reserves, by providing a basis for MoU with States within our federal structure.
- Providing for an oversight by Parliament.
- Addressing livelihood interests of local people in areas surrounding Tiger Reserves.



13. NAMDAPHA FLYING SQUIRREL

Context:

- Recently, a Namdapha flying squirrel (*Biswamoyopterus biswasi*) has resurfaced in Arunachal Pradesh after going missing for 42 years.
- The Namdapha flying squirrel was last described in 1981 based on a single individual found in the Namdapha Tiger Reserve in Arunachal Pradesh's Changlang district.

What is a Namdapha Flying Squirrel?

About:

- It is a rare nocturnal flying squirrel species found in the Namdapha Tiger Reserve in Arunachal Pradesh, India.
- It is distinct from the red giant flying squirrel (*Petaurista petaurista*), another species in the same ecosystem, primarily due to the prominent tuft of hair on its ears.
- The difficulty in locating this species led to concerns that it might have been mistaken for the red giant flying squirrel or, worse, faced extinction.

Threats:

- The Namdapha flying squirrel is presently threatened by habitat loss and degradation, caused by clear-felling for human settlements, shifting agriculture, and the extraction of non-timber forest products, particularly the leaves of a rattan palm, *Zalacca secunda*, for use as a roofing material.

Protection Status:

- IUCN Red List: Critically Endangered
- Wildlife (Protection) Amendment Act, 2022: Schedule I

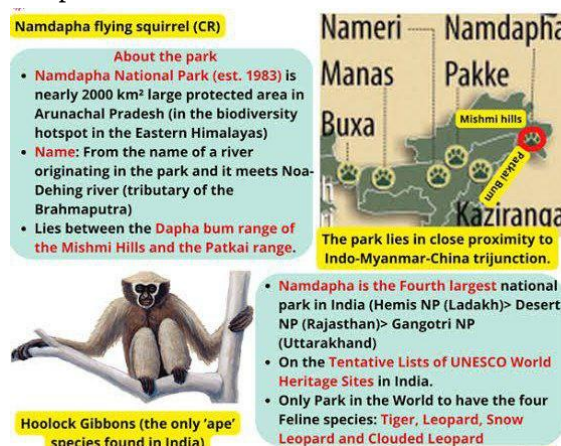
What are the Key Points About Namdapha Tiger Reserve?

About:

- Namdapha Tiger Reserve was declared in 1983 as the 15th Tiger Project of the country.
- It was declared a Wildlife Sanctuary in 1972, then a National Park in 1983 and became a Tiger Reserve under the Project Tiger scheme in the same year.
- Namdapha is in fact the name of a river which originates from Daphabum (Dapha is the name of hill, Bum means peak of hill) and meets Noa-Dehing river. This river flows right across in a North-South direction of the National Park and hence the name Namdapha has been given.
- It is located in Arunachal Pradesh. The park is located between the Dapha bum range of the Mishmi Hills and the Patkai range.

Climate:

- Enjoys the sub-tropical climate. The mountainous part has a mountain type of climate while the low-lying plains and valleys experience tropical climate



14. ETHICAL, SOCIAL AND CULTURAL RISKS OF CLIMATE ENGINEERING

Context:

- The United Nations Educational, Scientific and Cultural Organization (UNESCO) in its report on the Ethics of Climate Engineering emphasized the importance of including vulnerable, neglected, and marginalized individuals, along with women, youth, and indigenous people, as crucial stakeholders in policy decisions regarding the contentious field of climate engineering.

What is Climate Engineering?

- Climate engineering refers to the deliberate modification of Earth's climate to counteract or mitigate the effects of climate change.
- This can involve various techniques aimed at either reflecting sunlight away from the Earth or removing greenhouse gasses from the atmosphere.
- Climate engineering techniques are gaining policy attention due to the current gap between climate policy targets and the necessary reductions in atmospheric greenhouse gas concentrations.

Climate engineering is classified into two groups of techniques:

Carbon Dioxide Removal (CDR):

- It removes and stores the emitted carbon dioxide from the atmosphere. CDR involves five approaches. This includes:
- Direct air capture land-use management through afforestation / reforestation
- Sequestering carbon dioxide (CO₂) produced by biomass that may also be used as an energy source increases the uptake of CO₂ by the ocean and enhances natural weathering processes that remove CO₂ from the atmosphere.
- New CDR technologies have performed only about 0.1% of carbon removal around 2.3 million tonnes per year according to a report in the journal Nature.

Solar Radiation Modification (SRM):

- SRM approaches include increasing the surface reflectivity of the planet
- Painting structures with reflective paints
- Planting crops with high reflectivity
- Enhancing the reflectivity of marine clouds
- Removing infrared-absorbing clouds

- Injecting aerosols into the lower stratosphere to mimic the cooling induced by volcanic eruptions and lowering the solar radiation reaching the earth by placing reflectors or shields in space are some more SRM techniques.

What are the Issues related to Climate Engineering Highlighted in the Report ?

Ethical Issues:

- Climate engineering methods may pose a "moral hazard" by giving stakeholders a reason to avoid reducing fossil fuel use. A comprehensive approach involves considering these techniques as part of a broader portfolio of climate policies, moving away from the moral hazard framework.
- Climate engineering faces the issue of "organized irresponsibility," where uncertainties and combined environmental risks make it challenging to pinpoint specific institutions responsible for assigning blame. This is because all institutions are interconnected and lack clear individual accountability.

Economical Issues:

- Climate engineering could be pushed by corporations as a favored response to tackling global warming while fostering business investments and economic growth.
- Deployment of climate engineering technologies requires international cooperation among countries with different economic interests. It will be a challenge to tailor these technologies to help vulnerable countries while not endangering others.

Governance and Regulation Issues:

- At present, action on climate change suffers from a gap between the global approach that it requires and the current nation state-based legal order.
- Climate engineering governance requires a multi-level approach and coordinating with non-state actors. The involvement of such actors can be a source of risk, however, civil society can also play an important role in pressuring institutions to meet their obligations, such as through litigation.

What are the Recommendations of UNESCO's Report?

- UNESCO recommended its Member States to introduce legislation that regulates climate action while also considering the transboundary impact of their decisions on all human beings and ecosystems.
- Countries should make regional agreements to avoid risks of unequal spatial distribution of effects.
- It called for a ban on using climate engineering techniques as a weapon (weaponization).
- It added that political or economic interests should not interfere with scientific research on climate engineering.

15. INDIA'S MAIDEN WINTER ARCTIC RESEARCH

Context:

- Recently, the Union Minister of Earth Sciences flagged off India's first winter scientific expedition to Himadri, the nation's Arctic Research Station situated in Ny-Ålesund within the Norwegian archipelago of Svalbard in the Arctic.
- The first batch of the maiden Arctic winter expedition comprises researchers from the host National Centre for Polar and Ocean Research (NCPOR), Indian Institute of Technology (IIT) Mandi, Indian Institute of Tropical Meteorology (IITM) and Raman Research Institute.

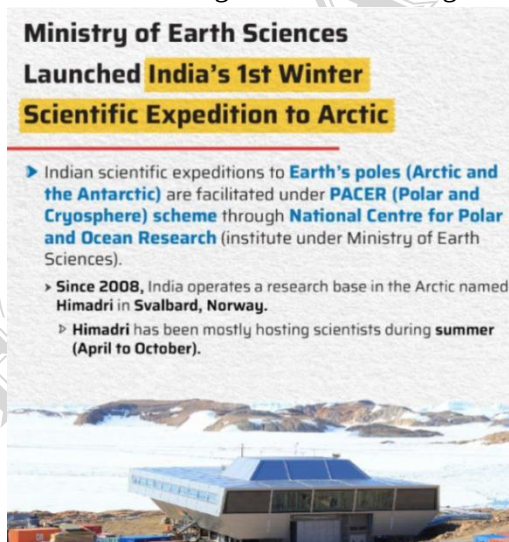
What is the Importance of The Winter Arctic Scientific Expedition?

- Indian scientific expeditions to the Arctic during the winter will allow researchers to conduct unique scientific observations during polar nights, where there is no sunlight for nearly 24 hours and sub-zero temperatures.
- It opens more avenues for India to expand our scientific capabilities in Earth's poles.

- This will aid in expanding understanding of the Arctic, especially climate change, space weather, sea-ice and ocean circulation dynamics, ecosystem adaptations, etc. which affect weather and climate in the tropics, including monsoons.
- India has operated a research base in the Arctic named Himadri since 2008, which has been mostly hosting scientists during the summer (April to October).
- Priority research areas include atmospheric, biological, marine, and space sciences, environmental chemistry, and studies on cryosphere, terrestrial ecosystems, and astrophysics.
- India will join a small group of countries that operate their Arctic research bases through the winter.
- In recent years, climate change and global warming research has been attracting scientists to the Arctic region.

What is the Impact of Warming on the Arctic?

- Temperatures in the Arctic region have risen by about 4 degree Celsius on average over the last 100 years. 2023 was the warmest year on record.
- The extent of Arctic sea-ice has been declining at the rate of 13%/ decade, according to the Intergovernmental Panel on Climate Change.
- The melting sea ice can have global impacts reaching beyond the Arctic region.
- Rising sea levels can influence atmospheric circulation.
- An increase in tropical sea surface temperatures could lead to increased precipitation in the tropics, a shift in the Inter Tropical Convergence Zone and high chances of an increase in extreme rainfall events.
- Milder weather due to global warming could make the Arctic a more habitable and a less hostile place.
- There could be a rush to explore and exploit the Arctic's resources, including its minerals, and countries will seek to control trade, navigation and other strategic sectors in the region.



16.GREENWASHING

Context:

- The United Kingdom's Advertising Standards Authority (ASA) has banned advertisements from Air France, Lufthansa, and Etihad.
- These airlines face accusations of 'greenwashing,' as they allegedly misled consumers by falsely claiming the sustainability for their flights. and downplaying the environmental impact of air travel.

What is Greenwashing?

About:

- The term greenwashing was first used in 1986 by Jay Westerveld, an American environmentalist and researcher.

- Greenwashing is a deceptive practice where companies or even governments exaggerate their actions and their impact on mitigating climate change, often providing misleading information or making unverifiable claims.
- It is an attempt to capitalize on the growing demand for environmentally sound products.
- It is fairly widespread, and entities often label various activities as climate-friendly without verifiable evidence, undermining genuine efforts against climate change.

Examples of Greenwashing:

- The Volkswagen scandal, in which the German car company was found to have been cheating in emissions testing of its supposedly green diesel vehicles, was a case of greenwashing.
- Several other multinational corporations, including oil giants like Shell and BP, and Coca Cola have faced accusations of greenwashing.

Concerns:

- It creates a risk of diluting the authenticity of climate goals by presenting misleading or exaggerated information about environmental initiatives.
- Entities engaged in greenwashing may receive unwarranted recognition or benefits, rewarding irresponsible behavior.
- Greenwashing can distort markets by creating an uneven playing field, where entities engaging in deceptive practices gain an unfair advantage over those adhering to genuine environmental standards.
- The absence of comprehensive regulations and standards for environmental claims allows greenwashing to persist without adequate scrutiny.
- The practice of greenwashing introduces challenges to the integrity of carbon credit systems, particularly in informal markets, where the expansion of credit sources and certification by unofficial entities raises concerns about transparency and reliability.
- One carbon credit is equivalent to one metric ton of carbon dioxide or equivalent greenhouse gases removed from the atmosphere.
- The Kyoto Protocol introduced the concept of carbon credits. Countries or firms that exceed emission reduction mandates are rewarded with carbon credits.



Global Initiatives Related to Greenwashing:

- At the 27th Conference of Parties (COP27), the United Nations Secretary-General has declared zero tolerance for greenwashing, urging private corporations to rectify their practices.
- The European Union approved the world's first green bond standards to combat greenwashing in October 2023.
- The "European Green Bond" label mandates transparency, directing 85% of funds to EU sustainable activities. The legislation aims to support the EU's climate neutrality transition.

Laws in India Related to Greenwashing:

- Greenwashing is designated as an unfair trade practice under the Consumer Protection Act, 2019 in India. The Act prohibits such deceptive claims and outlines penalties and remedies for consumers adversely affected by these misleading practices.
- In February 2023, the Securities and Exchange Board of India (SEBI) issued guidelines for issuers of green debt securities to ensure transparency and avoid greenwashing.
- The guidelines are intended to protect investors, promote the development of the securities market, and regulate it.
- The Advertising Standards Council of India (ASCI) plays a regulatory role in monitoring advertising practices and holds some jurisdiction over allegations of greenwashing.
- The ASCI, a voluntary self-regulatory organization in India, ensures ads are legal, honest, and fair, safeguarding consumer interests and promoting fair competition.

Way Forward

- Hold companies accountable for their environmental actions and inactions. Consumers should demand that companies disclose their environmental policies and practices, as well as their progress and challenges.
- Support green businesses and initiatives that have a proven track record of environmental performance and social responsibility.
- Implement comprehensive regulations and standards for environmental claims to ensure transparency and accountability.

India Surpasses Montreal Protocol Targets

- India has successfully phased out ozone-depleting and climate-warming chemical HCFC 141b and is ahead of schedule in eliminating another such gas, HCFCs, according to a government report.
- India Achieves Complete Phase-Out of One the Most Potent Ozone-Depleting Chemical
- Ozone Depleting Substances (Regulation and Control) Amendment Rules, 2019 issued under the Environment (Protection) Act, 1986 prohibited issuance of import license for HCFC-141b.
- With this notification, prohibiting the import of HCFC-141 b, the country has completely phased out the important ozone-depleting chemical.

About Hydrochlorofluorocarbon (HCFC)-141 b:

- Hydrochlorofluorocarbon (HCFC)-141 b, which is a chemical used by foam manufacturing enterprises and one of the most potent ozone-depleting chemical after Chlorofluorocarbons (CFCs).
- (HCFC)-141 b is used mainly as a blowing agent in the production of rigid polyurethane (PU) foams.

About the Report:

- The report was jointly brought out by the Environment Ministry and UNDP, during a side-event of the annual climate talks COP28.
- India has achieved a significant 33 percent reduction in emission intensity of the economy in 2019, surpassing the target set for 2030.

Note:

Hydrochlorofluorocarbons (HCFCs)

- These are gases used worldwide in refrigeration, air-conditioning, and foam applications, but they are being phased out under the Montreal Protocol since deplete the ozone layer.
- HCFCs are both ODS and powerful greenhouse gases: the most commonly used HCFC is nearly 2,000 times more potent than carbon dioxide in terms of its global warming potential (GWP).

Hydrofluorocarbons (HFCs)

- These were introduced as non-ozone-depleting alternatives to support the timely phase-out of CFCs and HCFCs. HFCs are now widespread in air conditioners, refrigerators, aerosols, foams, and other products.
- While these chemicals do not deplete the stratospheric ozone layer, some of them have high GWPs ranging from 12 to 14,000.

About Montreal Protocol:

- It is an international environmental agreement adopted on September 16, 1987.
- It is the sole UN treaty universally ratified by all 197 member states, aiming to safeguard the Earth's ozone layer by phasing out the use of ozone-depleting substances, such as chlorofluorocarbons (CFCs) and hydrochlorofluorocarbons (HCFCs).
- Objective: To protect the Earth's ozone layer by phasing out the production and consumption of ODS.

The Kigali Amendment:

- Adopted in 2016, the Kigali Amendment aims to phase down the production and consumption of hydrofluorocarbons (HFCs), which are potent greenhouse gases
- In 2016, countries agreed to include HFCs in the list of controlled substances under the Montreal Protocol and decided on a schedule for its phase-down.
- Before the middle of this century, current HFC use has to be curtailed by at least 85 percent. India has to achieve this target by 2047 while the developed countries have to do it by 2036.

India's Achievements in Implementing the Montreal Protocol:

- India as a party since 1992 has successfully implemented the Montreal Protocol for phasing out Ozone-Depleting Substances (ODS).
- India phased out Chlorofluorocarbons, Carbon Tetrachloride, Halons, Methyl Bromide, and Methyl Chloroform by January 1, 2010.

Currently, Hydrochlorofluorocarbons (HCFCs) are being phased out in stages:

- Stage I: 2012-2016 (completed)
- Stage II: 2017-2023 (under implementation)
- Stage III: 2023-2030 (to be implemented)
- Phase-out of HCFCs in manufacturing sectors (refrigeration & air-conditioning) will be completed by January 1, 2025.

Estimated reduction of greenhouse gas (GHG) emissions:

- 465 million tonnes CO₂ equivalent by 2022
- 778 million tonnes CO₂ equivalent by 2030
- India Cooling Action Plan (ICAP) supports the adoption of climate-friendly alternatives and promotes energy efficiency during the HFC phase-out.

The India Cooling Action seeks to

- Reduce cooling demand across sectors by 20% to 25% by 2037-38
- Reduce refrigerant demand by 25% to 30% by 2037-38
- Reduce cooling energy requirements by 25% to 40% by 2037-38

17. KUNMING-MONTREAL GLOBAL BIODIVERSITY FRAMEWORK (KMGBF)

Context

- A year has passed since the ambitious Kunming-Montreal Global Biodiversity Framework (KMGBF) was adopted at the Convention on Biological Diversity's (CBD) 15th Conference of Parties (CoP15).

Background

- Human activities around the planet have been causing a crisis of biodiversity loss around the globe. This phenomenon has been known as the Holocene extinction, which is the sixth mass extinction event in the earth's history. The decline in nature threatens the survival of a million species and impacts billions of people.
- Due to increasing awareness of the biodiversity crisis, there was pressure from citizens and investors around the world to take action to address the interlinked crises of climate change and biodiversity loss.[4] There is already an international agreement for climate change, the Paris Agreement under the auspices of the United

Nations Framework Convention on Climate Change, but until the development of the CBD, there was no similar framework for actions to protect biodiversity to be coordinated internationally.

Kunming-Montreal Global Biodiversity Framework (GBF)

- The Kunming-Montreal Global Biodiversity Framework (GBF) is an outcome of the 2022 United Nations Biodiversity Conference.
- The GBF was adopted by the 15th Conference of Parties (COP15) to the Convention on Biological Diversity (CBD) on 19 December 2022.
- It has been promoted as a "Paris Agreement for Nature".

Goals and Targets

- The GBF contains 4 global goals ("Kunming-Montreal Global Goals for 2050") and 23 targets ("Kunming-Montreal 2030 Global Targets").

Decoding the 23 targets set at COP15
A total of 196 countries have signed a historic deal to protect 30% of the world for nature by 2030 in Montreal

REDUCING THREATS TO BIODIVERSITY	MEETING HUMAN REQUIREMENTS THROUGH SUSTAINABLE USE	TOOLS AND SOLUTIONS FOR IMPLEMENTATION AND MAINSTREAMING
1) Halting biodiversity loss: Bringing the loss of areas of high biodiversity importance close to zero, while respecting the rights of indigenous people 2) Effective restoration: At least 30% of areas of degraded terrestrial, inland water, and coastal and marine ecosystems are under effective restoration 3) Mapping linkages: Sustainable use of above areas is consistent with conservation outcomes 4) Saving endangered species: Urgent steps to halt human induced extinction of threatened species; maintain their diversity through in situ and ex situ conservation 5) Protecting wild species: Sustainable, safe and legal use of wild species; preventing overexploitation 6) Invasive alien species: Mitigating their impacts by reducing rates of introduction by 50%; controlling them in priority sites such as islands 7) Tackling pollution: Reduce pollution risks to levels that are not harmful to biodiversity and ecosystem functions 8) Climate crisis: Minimise impact of climate change and ocean acidification through nature-based solutions	9) Serving humans: Ensure use of wild species yields benefits for humans, especially for those most dependent on biodiversity 10) Ecosystem productivity: Sustainable management of areas under agriculture, aquaculture, fisheries and forestry for resilience and long-term productivity 11) Handling nature's contributions: Restore, maintain and enhance nature's contributions to people through regulation of air, water, and climate 12) Biodiversity in urban fabric: Increase the area and quality and connectivity of, access to, and benefits from green and blue spaces in urban and densely populated areas 13) Sharing genetic resources: Take effective legal, policy, administrative and capacity-building measures to ensure equal sharing of benefits of genetic resources	14) Policy-making: Integration of biodiversity and its values into policies across all levels of govt, other sectors 15) Legal perils for businesses: Regular assessments by transnational firms of their risks; dependencies, impacts on biodiversity; report on compliance with regulations 16) Making eco-friendly choices: Encouraging people to make sustainable consumption choices, reduce global footprint of consumption 17) Biosecurity measures: Adopting such steps for handling of biotechnology and distribution of its benefits 18) Removal of harmful incentives: Identify by 2025, and eliminate/reform incentives harmful for biodiversity; cut them by \$500 bn per year by 2030 19) Biodiversity finance: Increasing financial resources, mobilising \$200 billion per year by 2030 20) Technical cooperation: Strengthen capacity-building and development, access to and transfer of technology 21) Sharing knowledge: Access to information by decision makers, practitioners and public; access to technologies of indigenous peoples only with their consent 22) Equal representation: Ensuring equitable representation in decision-making 23) Gender based review: A gender-responsive approach by recognising women's rights and access to natural resources

Key Statistics:
 - Monitored wildlife populations have seen a 69% drop on average since '70, say WWF, IUPF
 - Indigenous rights have been included in one-third of the new framework's targets
 - Signatories aim to ensure \$200bn per year is channelled to conservation initiatives

- Recently, at the 15th Conference of Parties (COP15) to the UN Convention on Biological Diversity "Kunming-Montreal Global Biodiversity Framework" (GBF) was adopted.
- GBF includes 4 goals and 23 targets for achievement by 2030.
- The U.N. biodiversity conference concluded in Canada's Montreal.
- The first part of COP 15 took place in Kunming, China and reinforced the commitment to address the biodiversity crisis and the Kunming Declaration was adopted by over 100 countries.

What are the Key Targets of the GBF?

30x30 Deal:

- Restore 30% degraded ecosystems globally (on land and sea) by 2030
- Conserve and manage 30% areas (terrestrial, inland water, and coastal and marine) by 2030
- Stop the extinction of known species, and by 2050 reduce tenfold the extinction risk and rate of all species (including unknown)
- Reduce risk from pesticides by at least 50% by 2030
- Reduce nutrients lost to the environment by at least 50% by 2030
- Reduce pollution risks and negative impacts of pollution from all sources by 2030 to levels that are not harmful to biodiversity and ecosystem functions

- Reduce global footprint of consumption by 2030, including through significantly reducing overconsumption and waste generation and halving food waste
- Sustainably manage areas under agriculture, aquaculture, fisheries, and forestry and substantially increase agroecology and other biodiversity-friendly practices
- Tackle climate change through nature-based solutions
- Reduce the rate of introduction and establishment of invasive alien species by at least 50% by 2030
- Secure the safe, legal and sustainable use and trade of wild species by 2030

Green up urban spaces

What are the Other Major Outcomes of COP15?

Money for Nature:

- Signatories aim to ensure USD200 billion per year is channelled to conservation initiatives, from public and private sources.
- Wealthier countries should contribute at least USD20 billions of this every year by 2025, and at least USD30 billion a year by 2030.

Big Companies Report Impacts on Biodiversity:

- Companies should analyse and report how their operations affect and are affected by biodiversity issues.
- The parties agreed to large companies and financial institutions being subject to “requirements” to make disclosures regarding their operations, supply chains and portfolios.

Harmful Subsidies:

- Countries committed to identify subsidies that deplete biodiversity by 2025, and then eliminate, phase out or reform them.
- They agreed to slash those incentives by at least USD500 billion a year by 2030 and increase incentives that are positive for conservation.

Monitoring and reporting progress:

- All the agreed aims will be supported by processes to monitor progress in the future, in a bid to prevent this agreement meeting the same fate as similar targets that were agreed in Aichi, Japan, in 2010, and never met.
- National action plans will be set and reviewed, following a similar format used for greenhouse gas emissions under U.N.-led efforts to curb climate change. Some observers objected to the lack of a deadline for countries to submit these plans.

How India Presented its Demands at the Conference?

- India called for an urgent need to create a new and dedicated fund to help developing countries successfully implement a post-2020 global framework to halt and reverse biodiversity loss.
- So far, the Global Environment Facility which caters to multiple conventions, including the UNFCCC and UN Convention to Combat Desertification, remains the only source of funding for biodiversity conservation.
- India also said that conservation of biodiversity must also be based on 'Common but Differentiated Responsibilities and Respective Capabilities' (CBDR) as climate change also impacts nature.
- According to India, developing countries bear most of the burden of implementing the targets for conserving biodiversity and, therefore, require adequate funding and technology transfer.

What is the Convention on Biological Diversity (CBD)?

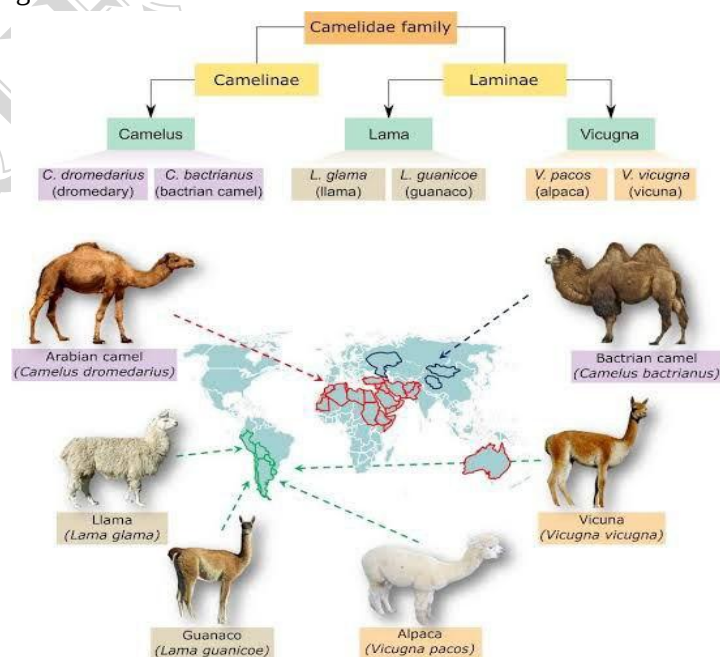
- CBD is a legally binding treaty to conserve biodiversity that has been in force since 1993 and has been ratified by 196 nations.
- It sets out guidelines for countries to protect biodiversity, ensure sustainable use, and promote fair and equitable benefit sharing.

- It aims at achieving a historic deal to halt and reverse biodiversity loss on par with the 2015 Paris Agreement on climate change.
- The CBD Secretariat is based in Montreal, Canada.
- The Parties (Countries) under CBD, meet at regular intervals and these meetings are called Conference of Parties (COP).
- In 2000, a supplementary agreement to the Convention known as the Cartagena Protocol on Biosafety was adopted. It came into force on 11th September 2003.
- The Protocol seeks to protect biological diversity from the potential risks posed by living modified organisms resulting from modern biotechnology.
- The Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization (ABS) was adopted in 2010 in Nagoya, Japan at COP10. It entered into force on 12th October 2014.
- It not only applies to genetic resources that are covered by the CBD, and to the benefits arising from their utilization but also covers traditional knowledge (TK) associated with genetic resources that are covered by the CBD and the benefits arising from its utilization.
- The COP-10 also adopted a ten-year framework for action by all countries to save biodiversity. Officially known as “Strategic Plan for Biodiversity 2011-2020”, it provided a set of 20 ambitious yet achievable targets collectively known as the Aichi Targets for biodiversity.
- India enacted Biological Diversity Act in 2002 for giving effect to the provisions of the CBD.

18. 2024 IS THE INTERNATIONAL YEAR OF CAMELIDS

Context:

- The United Nations has declared 2024 as the International Year of Camelids to emphasize the significant importance of camelids, such as alpacas, Bactrian camels, dromedaries, guanacos, llamas, and vicuñas, in the lives of people worldwide.
- Camelids contribute to food security, nutrition, and economic growth in over 90 countries, especially for Indigenous Peoples and local communities.
- They play a crucial role in meeting Sustainable Development Goals (SDGs) by providing sources of milk, meat, fibre, and transportation.
- The International Year of Camelids 2024 aims to raise awareness of their untapped potential and encourage increased investment in the camelid sector, promoting research, capacity development, and innovative practices and technologies.



19. DIEL VERTICAL MIGRATION AND CARBON SEQUESTRATION

Context:

- Deep-sea creatures, like zooplankton, ascend at night in Diel Vertical Migration (DVM) for nourishment and safety. This synchronised journey showcases nature's marvels and significantly influences Earth's Carbon Cycle.

What is Diel Vertical Migration (DVM)?

- DVM is a synchronised movement of marine organisms, often seen in deep-sea creatures like zooplankton, as they migrate vertically in the water column, ascending towards the surface at night and descending to deeper levels during the day.
- This pattern helps these organisms find food while avoiding predators, showcasing a strategic survival tactic.
- At dusk, organisms from the mesopelagic layer (Deeper Layer or Twilight Zone) rise to the safety of the epipelagic zone (Upper Layer), capitalising on darkness to feed on microscopic phytoplankton while evading diurnal predators.
- This synchronized migration, finely attuned to natural light cycles, stands as the planet's largest biomass migration, occurring daily across all oceans.

How DVM's help in Carbon Sequestration?

- Organisms inhabiting the mesopelagic layer actively extract substantial carbon from upper ocean layers while feeding on surface plankton, transporting it to deeper waters.
- Within the twilight zone, migratory animals contribute to the food chain, passing on consumed carbon to their predators. The resultant carbon-rich waste sinks to the ocean floor, becoming a crucial carbon sink, trapping carbon dioxide and aiding in atmospheric carbon concentration regulation.

What is Carbon Sequestration?

About:

- Carbon sequestration is the long-term storage of carbon in plants, soils, geologic formations, and the ocean.
- Carbon sequestration occurs both naturally and as a result of anthropogenic activities and typically refers to the storage of carbon.

Types:

- **Terrestrial Carbon Sequestration:** Terrestrial carbon sequestration is the process through which CO₂ from the atmosphere is absorbed by trees and plants through photosynthesis and stored as carbon in soils and biomass (tree trunks, branches, foliage, and roots)
- **Geologic Carbon Sequestration:** CO₂ can be stored, in oil reservoirs, gas reservoirs, unmineable coal seams, saline formations and shale formations with high organic content.
- **Ocean Carbon Sequestration:** Oceans absorb, release and store large amounts of CO₂ from the atmosphere. This can be done in two ways- enhancing the productivity of ocean biological systems through Iron fertilization, and injecting CO₂ into the deep ocean.
- The dumping of iron stimulates phytoplankton production, which in turn leads to enhanced photosynthesis from these microorganisms, helping in CO₂ absorption.

20. STATE OF FINANCE FOR NATURE” REPORT

Context:

- A new United Nations report, “State of Finance for Nature,” reveals that countries invest nearly \$7 trillion annually in subsidies and private investments with direct negative impacts on nature. This staggering figure accounts for 7% of the global gross domestic product, highlighting the urgent need for a shift in financial practices.

Launch and Presentation at COP28

- The report was presented by the UN Environment Portal (UNEP) at the 28th Conference of Parties (COP28) to the United Nations Framework Convention on Climate Change. Launched on 8th December, 2023, the

report analyzes private finance flows affecting nature negatively, providing unprecedented insights into the scale of the issue.

- Disparity: Nature-based Solutions (NbS) vs. Negative Impacts
- Private finance flows negatively impacting nature total \$5 trillion, a stark contrast to the significantly lower private investments in nature-based solutions (NbS), estimated at \$200 billion annually. The report emphasizes the urgent need to address this substantial disparity in funding.

Industries Contributing to Negative Impact

- The analysis identifies five industries as major contributors to negative financial flows: Construction, electric utilities, real estate, oil and gas, and food and tobacco. These industries collectively contribute about 16% of overall investment flows in the global economy.

Fossil Fuel Subsidies and Global Trends

- The report notes that global fossil fuel subsidies to consumers doubled between 2021 and 2022, reaching \$1.16 trillion. This increase was fueled by subsidies related to Russia's invasion of Ukraine. The International Energy Agency (IEA) also highlighted additional spending of \$500 billion to lower energy costs in 2022.

Agriculture and Environmental Harmful Subsidies

- Environmentally harmful subsidies in agriculture account for over \$345 billion. The report reveals that, while the agricultural sector receives substantial support, only 13% is allocated to public goods and services, essential for NbS-based infrastructure.

Positive Trends: Increase in NbS Financing

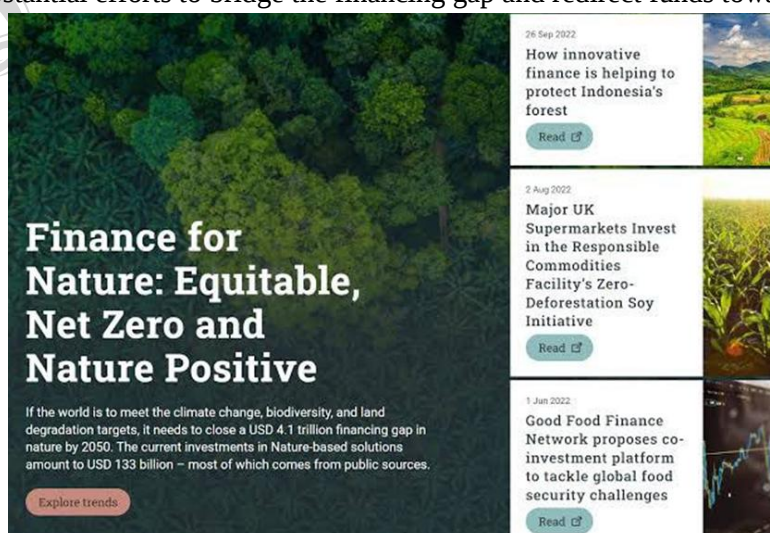
- Despite challenges, the report brings a glimmer of hope, indicating an 11% increase in total traceable finance flows to NbS in 2022, amounting to \$20 billion. This rise is attributed to a \$17 billion increase in public funding for NbS in sustainable agriculture, fishing, and forestry.

Urgent Call for Action

- To align with global targets, the report recommends doubling annual finance flows towards NbS from \$200 billion to \$436 billion by 2025 and nearly tripling it to \$542 billion by 2030. It underscores that addressing climate change, biodiversity loss, and land degradation requires a significant reduction in the \$7 trillion finance flows directed toward nature-negative practices.

Gap Between Commitments and Actions

- The report highlights a misalignment between countries' commitments and their actions, warning that the world may experience a 2.8°C warming by the end of the century if current trends persist. It calls for immediate and substantial efforts to bridge the financing gap and redirect funds toward sustainable practices.



21. INDIA'S GREEN FUTURE THROUGH BIOGAS

Context:

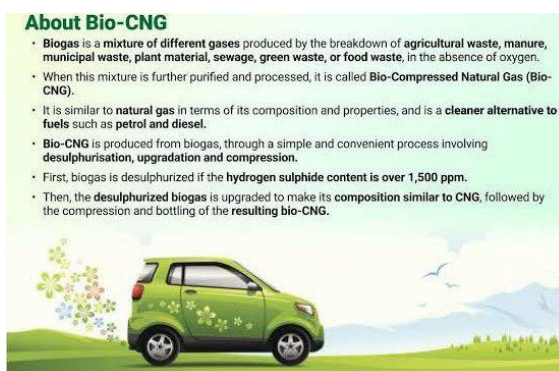
- After tasting success with its BioCNG pilot project in Banas Dairy, Gujarat, Amul is now looking at four more such new plants in Banaskantha with an investment of ₹230 crore. The implementation of bioCNG projects by Amul will establish a paradigm shift towards a circular economy.

What is BioCNG?

- BioCNG, also known as biomethane, is a renewable and clean-burning transportation fuel produced by upgrading biogas to natural gas quality. It's essentially purified biogas, made from organic waste materials like:
 - Agricultural waste: Crop residues, straw, manure
 - Food waste: Spoiled food, leftover scraps
 - Sewage sludge: Solid waste from wastewater treatment plants

What are the Benefits of BioCNG?

- **High Calorific Value:** BioCNG has a high calorific value, which means it can produce more energy per unit volume than other fuels. This makes it more efficient and economical for various applications, such as vehicle fuel, power generation, heating, and cooking.
 - BioCNG can also replace liquefied petroleum gas (LPG), which has a lower calorific value and is more expensive.
- **Clean Fuel:** BioCNG is a clean fuel, as it helps in controlling air pollution. It emits less carbon monoxide, nitrogen oxides, and particulate matter than gasoline or diesel.
 - These pollutants are harmful to human health and the environment, as they cause respiratory problems, acid rain, smog, and climate change.
- **No Residue or Smoke:** BioCNG does not produce any residue or smoke, which makes it a non-polluting fuel. It does not leave behind any ash, tar, or carbon deposits, which can damage the engine and reduce its performance.
 - BioCNG is therefore a safer and cleaner fuel than other conventional fuels.
- **Economical:** BioCNG is economical, as it can be produced locally from waste materials.
 - This can help in saving transportation and storage costs, as well as creating local jobs and income opportunities.
 - BioCNG can also reduce the energy import bill, as India imports about 85% of its crude oil requirement.
 - BioCNG can also be used as a cooking fuel in residential and commercial kitchens, as it is cheaper and cleaner than LPG.
- **Bio-Fertilizers:** BioCNG can also generate bio-fertilizers, which can improve soil quality and crop yield. Bio-fertilizers are organic fertilizers that contain beneficial microorganisms, such as bacteria, fungi, and algae, that enhance the nutrient availability and uptake by plants.
 - Bio-fertilizers can be produced from the slurry or digestate that is left behind after the production of BioCNG.
 - Five per cent blending of biogas with natural gas will reduce LNG import USD 1.17 billion.
 - The CBO will be voluntary till FY25 and mandatory blending obligation would start from FY26.
 - CBO shall be kept as 1%, 3% and 4% of total CNG/PNG consumption for FY26, 2026- 27 and 2027-28 respectively.
 - From 2028-29 onwards CBO will be 5%.



Implementation:

- The National Biofuels Coordination Committee (NBCC) is responsible for overseeing the implementation of the mandate
- The Ministry of Petroleum and Natural Gas (MoPNG) will provide financial assistance and other support to CGD companies
- CGD companies will be responsible for blending CBG in their CNG and PNG networks
- Objectives: The key objectives of the CBO are to stimulate demand for CBG in CGD sector, reducing Liquefied Natural Gas (LNG) imports, saving in forex, promoting circular economy and to assist in achieving the target of net zero emission among others.

What are the Challenges before CBG Blending Obligation?

- **Availability of Feedstock:** This challenge involves ensuring a steady and sufficient supply of raw materials for CBG production, which may vary depending on the season, region, and market conditions. The cost of feedstock may also affect the profitability and viability of CBG projects.
 - The government has announced various incentives and subsidies for feedstock procurement under the SATAT scheme, but there are issues of implementation and monitoring at the ground level.
- **Lack of Adequate Infrastructure and Technology:** Developing and deploying the necessary equipment and facilities for CBG production, such as biogas digesters, compressors, purifiers, etc poses a significant challenge.
 - Creating and maintaining the infrastructure for CBG storage, transportation and distribution, such as pipelines, cylinders, dispensers, etc is also a challenge.
 - The government has invited bids from entrepreneurs and investors to set up CBG plants under the SATAT scheme, but there are barriers of entry and exit, such as high capital costs, regulatory hurdles, technical glitches, etc.
- **Coordination and Cooperation among Various Stakeholders:** Fostering a conducive and collaborative environment among the various actors involved in the CBG value chain, such as farmers, entrepreneurs, investors, regulators, consumers, etc creates hurdle.
 - It also involves ensuring transparency and accountability among the stakeholders, such as compliance with quality standards, pricing mechanisms, contractual obligations, etc.
 - The government has established a Central Repository Body (CRB) to monitor and implement the blending mandate, but there may be issues of coordination and communication among the stakeholders, such as conflicts of interest, information asymmetry, etc.
- **Awareness and Acceptance of CBG as a viable Alternative:** The government has launched various campaigns and initiatives to educate and encourage the public and the industry to adopt CBG, such as the Go Green campaign, the CBG logo, etc., but there may be issues of perception and preference among the consumers, such as lack of trust, inertia, resistance to change, etc.

21. ENNORE OIL SPILL TRIGGERED BY CYCLONE MICHAUNG

Context:

- Recently, massive oil spillage occurred due to flood water from cyclone Michaung from the state-run Chennai Petroleum Corporation Limited's (CPCL) refinery in Chennai. Cyclone Michaung is a tropical cyclone of the year over the Bay of Bengal.

About Ennore Oil Spill

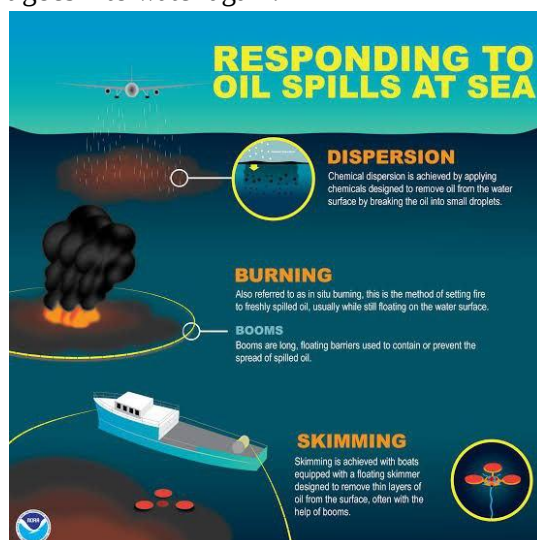
- Oil spillage from the premises of CPCL entered Buckingham Canal from guard ponds and storm-water drains reaching Ennore Creek.
- Ennore Creek is a coastal backwater of the Kosasthalaiyar River, which is home to numerous fishing communities.
- Tar balls and thick layers of oil have been deposited along the coastline. A trail of oil deposits can also be seen on the shores and the fishing boats.
- Tarball is a dark-coloured piece of oil.
- Suo Moto Case by NGT: The National Green Tribunal(NGT) took up the case suo moto demanded comprehensive reports from the Tamil Nadu Pollution Control Board (TNPCB) and Chennai Petroleum Corporation Limited (CPCL) regarding oil spillage.
- It directed the state to compensate for the loss of livelihood.

National Oil Spill-Disaster Contingency Plan (NOS-DCP)

- **Aim:** It outlines the steps required for the management of responses to marine oil spills in India.
- **Nodal Ministry:** The NOS-DCP comes under the purview of the National Disaster Management Authority, Ministry of Home Affairs.
- **Implementing Agency:** The Indian Coast Guard(ICG) is responsible for maintaining and implementing the NOS-DCP.
- ICG acts as the Central Coordinating Agency for combating oil pollution in various maritime zones, except in the waters of ports and within 500m of offshore platforms, refineries, and associated facilities.

Impacts of Oil Spillage

- **Health Impact:** Residents in affected localities face unbearable odour, leading to respiratory issues among vulnerable groups like women, children, and the elderly, along with physical symptoms such as eye irritation, dizziness, and skin itching.
- **Impact on Livelihoods:** It damaged fishing boats and equipment, severely impacting the livelihoods of the fishing community.
- **Impact on Aquatic Life:** Oil spill obstructs the passage of sunlight into the sea, thereby destroying the photosynthesizing phytoplankton and, as a result, other organisms such as fishes, water-dependent mangroves, and sea birds.
 - The fish can become tainted as the oil will get absorbed by their skin.
- **Rich Diversity of Birds:** Many birds, including migratory and near-threatened birds such as the Spot-billed Pelican, Whiskered Tern, and Painted Stork, are present here.
- Feathers from birds are waterproof because of the cuticle layer covering them. Oil and other hydrophobic chemicals dissolve that cuticle layer. As a result, a cormorant (a medium- to large-sized bird) that comes into touch with oil drowns when it goes into water again.



Remedial Measures to Clean Up Oil Spills

- **Bioremediation:** It uses bacteria to clean up oil spills in the ocean through bioremediation.
- **Spill Containment methods:** It includes oil boomers, skimmers and gully suckers, etc to remove the floating oil, which will be safely disposed of at the designated location for storing hazardous wastes.
- **Oil Spill Dispersants (OSD):** They are sprayed over the affected area.

SCIENCE AND TECHNOLOGY

1. PRIVATISATION OF SPACE SECTOR AND RISE OF SPACETECH STARTUPS IN INDIA

Context:

- According to Deloitte consultancy, private investments in the Space sector increased by 77 percent between 2021 and 2022 with the Opening of 190 Indian space start-ups. It was twice as many as a year earlier.

Current Status of Indian SpaceTech Sector

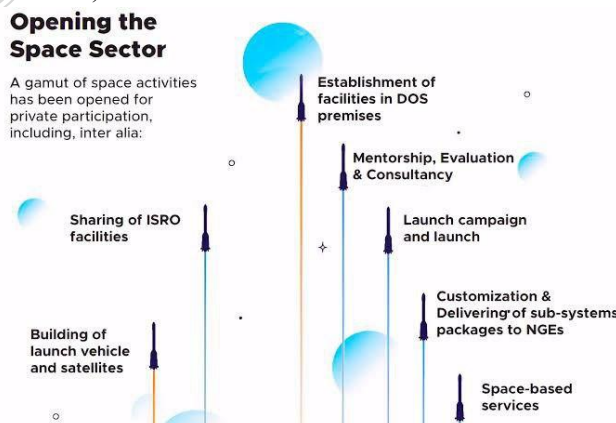
- The Indian SpaceTech sector has received \$62 million in funding in 2023 so far, registering a 60% increase, compared to the same period last year, according to data research firm Tracxn.
- Companies like Skyroot, for instance, have launched India's first privately built rocket, Vikram-S, into space, with plans to revolutionize satellite launches.
- The Indian Space Policy 2023 formally laid down the regulations for privatizing space missions in India, and also denoted clear guidelines of operations for NewSpace India Limited (Nsil) — Isro's commercial arm — and Indian National Space Promotion and Authorization Centre (IN-SPACe).
- Private startups can thus offer satellite communication services, operate on-ground mission control centres, place their own satellites in orbit, establish and commercially-run privately-owned remote satellite services, undertake space safety projects, and also “engage in the commercial recovery of an asteroid resource or a space resource.”

Potential of India's Space Sector:

- **Space economy:** At present, the Indian space economy is valued at around ₹6,700 crore (\$8.4 billion) with a 2% share in the global space economy.
- **Revenue From Satellite launch:** Revenue from launching European satellites amounted to EUR 230-240 million. Launches for American satellites brought in around \$170-180 million.
- **Future Prospect:** As per IN-SPACe's projection, India's space economy has the potential to reach ₹35,200 crore (\$44 billion) by 2033 with about 8% of the global share.
- **Export Share:** At present, the share of the domestic market is ₹6,400 crore (\$8.1 billion). The export market share is ₹2,400 crore (\$0.3 billion)

Opening the Space Sector

A gamut of space activities has been opened for private participation, including, inter alia:



Status of Privatisation of Space Sector:

- As per SpaceTech Analytics, India is the sixth-largest player in the industry internationally having 3.6% of the world's space-tech companies (as of 2021). The U.S. holds the leader's spot housing 56.4% of all companies in the space-tech ecosystem.

- Other major players include the U.K. (6.5%), Canada (5.3%), China (4.7%) and Germany (4.1%).
- According to the Economic Survey of India, there have been over 100 active space companies since 2012.

India allows Private Participation:

- **Enhancing Foreign direct investment:** It will also serve as a key driver for attracting more foreign direct investment for space startups and related technology companies in India.
- FDI in the space sector will allow more Indian space tech companies to collaborate with foreign investors and foster more knowledge exchange, and better-funded research and development.
- At present, FDI in the space sector is permitted up to 100% in the area of satellite establishment and operations, but only through the Government route.
- Realizing the vision of “Make in India”: The vision of “Make in India” and “Aatmanirbhar Bharat” initiatives call for a remodeling of the mostly government-led space sector of the country.
- **Policy Framework and Goals:** The Private Sector participation will help India increase its share in the global space economy from about 2 per cent to 9 percent by 2030, according to a recent report by Deloitte India.
- The Indian Space Policy 2023 provides a framework that prioritizes private players’ involvement in the space sector.
- **Socio-Economic Impact of Space Applications:** Empowering the private sector amplifies the socio-economic impact of space applications.
- By finding innovative solutions to pressing challenges in areas such as agriculture, disaster management, or communication, the private sector can bring significant improvement to people’s lives.
- **For Example:** Companies like Pixxel have introduced technologies for earth observation, while Dhruva Space and Bellatrix Aerospace are contributing to the sector through their unique offerings.
- **Emerging Opportunities in the Global Space Sector:** Future opportunities in fascinating areas like space tourism and commercial recovery of space resources are coming up, promising an enormous scope of growth in the sector.
- **ISRO’s Focus on Core Competencies:** India’s space industry comprises a significant number of small and medium-sized enterprises that supply components for satellite and launch vehicle manufacturing.
- Encouraging private participation could free up ISRO to focus on science, research and development, interplanetary exploration, and strategic launches.



Impact of Reforms:

- **Accelerated Innovation and Technology Development:** Private players are expected to bring fresh perspectives, innovation, and a competitive spirit to the space sector, leading to the development of cutting-edge technologies and solutions.
- **Enhanced Access to Space Technologies:** Increased private participation will make space technologies more accessible to a wider range of users, including government agencies, industries, and startups. This will drive the adoption of space-based solutions across various sectors.
 - PSLV Productionisation One of the major breakthroughs in commercialization is PSLV productionisation through Industry.
 - NSIL and HAL exchanged the MOU for producing 5 nos. of PSLVs. L&T is partnering with HAL in the consortium
- **Transfer Of Technology:** Non-disclosure agreements and MOUs for transfer of technologies have been signed between ISRO centers and several private sector companies.
 - To capture the small satellite launching market ISRO has developed a Small Satellite Launch Vehicle (SSLV) with a view to transfer the technology to the industry. The first development flight was launched. The technology will be transferred to the industry after successful qualification.
- **Investment in Space Sector:** Ranking 7th globally in terms of funding, the Indian space startup sector has seen significant funding growth, from Rs 28 million in 2020 to Rs 112 million in 2022, with Rs 62 million invested in the first half of the current year. This surge can be attributed to increased demand for space-based solutions, cost-effective satellite manufacturing, reduced launch costs, and advancements in supporting technologies like AI and 3D printing.
 - IFSCA entered into an MoU with DoS on July 29, 2022, at Ahmedabad in the presence of the Hon'ble Prime Minister to promote international investments in the Space sector.
- **Human Resource Development:** ISRO and the Ministry of Skill Development & Entrepreneurship (MSDE) have launched a skill development program in the space domain.
 - 40 young professionals from across the country and 100 ISRO staff were trained in the last 2 months at National Skill Training Institutes (NSTI) under MSDE.
 - This Programme will continue every month for imparting skilled courses for ISRO Staff.
 - Capacity Building Commission (CBC) in association with STI-CB cell, PSA's office, and ISRO has launched a Leadership Training Programme for 32 scientists from 8 science ministries. ISRO has taken the lead in hosting the program.

Challenges:

- **Access to capital:** In terms of lack of financing, private capital is still not flowing freely and blindly through to space-based enterprises like it is with internet-, digital media- and hardware-related technology businesses.
- **For Example:** In 2015, approximately \$129 billion in VC funding was deployed globally across 7,872 deals. Of this total, just over \$2 billion was deployed to space-based companies across 44 deals.
- **Access to insurance:** There also is a lack of adequate and secured insurance, which is because of the inability of insurers to see and test the reliability of space-based technologies in the recent past
- **Ability to create self-sustaining markets:** An inability to forge self-sustaining commercial markets in the past puts into question the commercial viability of space-based enterprises.
 - For Instance, Two decades ago, the commercial satellite business was expected to achieve independence within a few years of being established, but government involvement is still needed to this day to see projects to the execution phase.

Centre's Efforts in Privatisation of Space Sector:

- **Indian Space Policy, 2023:** The Indian Space Policy, 2023 has provided much-needed clarity on the role of private sector participants and removed stern barriers to their entry into the sector.
- **IN-SPACE:** The Indian National Space Promotion and Authorisation Centre (IN-SPACe) is a single-window, independent, nodal agency that functions as an autonomous agency in the Department of Space (DOS).

- It was formed following the Space sector reforms to enable and facilitate the participation of private players.
- **New Space India Limited (NSIL):** It was incorporated in 2019, as a wholly-owned Government of India Undertaking / Central Public Sector Enterprise (CPSE), under the administrative control of the Department of Space (DOS) to commercially exploit the research and development work of Indian Space Research Organisation (ISRO).

Space Remote Sensing Policy of India – 2020:

- To promote the commercialization of space technology, the “Space Remote Sensing Policy – 2020” (SpaceRS Policy – 2020) aims to motivate different stakeholders in the nation to actively participate in space-based remote sensing operations.
- Government-owned, company-operated (GOCO) system: With a thrust towards privatisation of the space sector, the Indian Space Research Organisation (ISRO) has thrown open the doors for its RF (radio frequency) systems and electromagnetic actuator manufacturing to private players through a government-owned, company-operated (GOCO) system.
- A GOCO facility is a model used by the federal government in which the government pays a privately owned company to operate a facility that the government owns.

Way Forward:

- **Enable and promote Non-Governmental Entities (NGE):** To carry out independent space activities Provide a level playing field and favorable regulatory environment for players within the Indian private sector, to allow them to become independent actors in the space sector instead of being solely vendors or suppliers to the government program.
- **Open up ISRO Infrastructure and Facilities:** The reform also aims to make national space infrastructure developed over the years, available for use by the private industry through a business-friendly mechanism.
 - Facilities pertaining to testing, tracking and telemetry, launch-pads, and laboratories, created by ISRO, would also enable the private space industry to climb the value chain.
- **Demand-driven approach for the development of Space Assets:** Optimizing the utilization of space assets such as satellites and launch capacity by determining accountability amongst various stakeholders.
 - Creation of new assets to be made contingent on confirmation of demand from user agencies/ entities.
- **Upskilling the human power:** DoS and the Ministry of Skill Development & Entrepreneurship (MSDE), under an MoU, conduct ISRO Technical Training Programme (ITTP) at various National Skill Training Institutes (NSTIs) across the country to upskill/reskill 4000 Technicians / Technical / Scientific Assistants of ISRO in four to five years in phased manner to give a boost to private sector participation in space sector.

Other Initiatives

- **Indian Space Policy 2023:** Enables end-to-end participation of Non-Government Entities (NGEs) in all domain of space activities.
- **Foreign Direct Investment:** FDI in space sector is allowed under Government route for satellite establishment and operations. The Dos and DPIIT is in the process of reviewing the FDI policy guidelines of space sector to attract more resources.
- **Tax benefits:** Satellite launches are exempted from GST.

Note:

Atal Innovation Mission (AIM)

- **ATL Space Challenge:** AIM in collaboration with the ISRO and CBSE launched the Atal Tinkering Lab (ATL) Space Challenge.
- It was open to all school students across the country and was presented with four broad challenge themes –
- Explore Space, Reach Space, Inhabit Space and Leverage Space.
- **Atal Incubation Centre (AIC) Scheme:** AIM has supported more than 15 startups working in Space Tech and related industry across India. The focus areas for these startups are in UAV, Drone and Surveillance

Equipment, Aero tech, Air Taxi, Space debris tracking and monitoring service, space education among others.

- *ANIC-ARISE program: It is a national initiative to promote research & innovation and increase competitiveness of Indian startups and MSMEs. Support is also being offered to space-tech startups.*
- *Mentoring: List of retired ISRO subject experts is published on IN-SPACe Digital Platform (IDP). NGEs can approach these mentors directly for expert advice etc.*

2. e-CIGARETTES

Context:

- Recently, the World Health Organization (WHO) has urged governments to treat e-cigarettes similarly to tobacco and ban all flavors, threatening cigarette companies' bets on smoking alternatives.
- Some researchers, campaigners and governments see e-cigarettes, or vapes, as a key tool in reducing the death and disease caused by smoking. But the WHO said "urgent measures" are needed to control them.

What are e-Cigarettes?

- e-Cigarettes are battery powered devices that work by heating a liquid into an aerosol that the user inhales and exhales.
- The e-cigarette liquid typically contains nicotine, propylene glycol, glycerin, flavorings, and other chemicals.
- There are many different types of e-cigarettes in use, also known as electronic nicotine delivery systems (ENDS) and sometimes electronic non-nicotine delivery systems (ENNDS).

What are the Concerns Raised by WHO Regarding e-Cigarettes?

Ineffectiveness for Smoking Cessation:

- E-cigarettes as consumer products are not shown to be effective for quitting tobacco use at the population level. Instead, alarming evidence has emerged on adverse population health effects.
- E-cigarettes have been allowed on the open market and aggressively marketed to young people.
- Thirty-four countries ban the sale of e-cigarettes, 88 countries have no minimum age at which e-cigarettes can be bought and 74 countries have no regulations in place for these harmful products.

Impact on Youth:

- The recruitment and potential trapping of children and young people at an early age into using e-cigarettes, potentially leading to nicotine addiction.
- The aggressive marketing of e-cigarettes, along with insufficient regulations in many countries, contributes to this issue.

Rising Usage among Youth:

- Children 13–15-years old are using e-cigarettes at rates higher than adults in all WHO regions.
- In Canada, the rate of e-cigarette use among 16–19-year-olds has doubled between 2017–2022, and in England (the United Kingdom) the number of young users has tripled in the past three years.

Health Risks:

- Although the long-term health effects of e-cigarettes are not fully understood, these devices generate toxic substances, some of which are known to cause cancer and increase the risk of heart and lung disorders.
- E-cigarette use can also affect brain development, cause learning disorders in young people, and adversely affect fetal development in pregnant women.

Nicotine Addiction and Addictive Nature:

- E-cigarettes containing nicotine are noted to be highly addictive, posing health risks to both users and bystanders. The addictive nature of nicotine in e-cigarettes raises concerns about countering nicotine addiction, especially among young users.



What are the Arguments in Favour of e-Cigarettes?

Harm Reduction:

- Proponents argue that e-cigarettes offer a harm reduction strategy compared to traditional tobacco products.
- They contain nicotine but lack many of the harmful carcinogens present in conventional cigarettes. As a result, they are often seen as a safer alternative for adult smokers who are unable or unwilling to quit using nicotine altogether.

Economic Revenue:

- There's an economic argument suggesting that legalizing and regulating e-cigarettes could generate substantial tax revenue for governments. By taxing e-cigarettes, authorities could benefit from revenues while also controlling and monitoring their use.

Consumer Choice:

- Supporters argue for the importance of consumer choice and access to alternatives. They believe that adult smokers should have the option to choose less harmful nicotine delivery systems if they find traditional smoking cessation methods ineffective.

What is Nicotine?

- Nicotine is a plant alkaloid that contains nitrogen, which is found in several types of plants, including the tobacco plant and can also be produced synthetically.
- Nicotine is both a sedative and a stimulant.
- Nicotine is used as a direct substance in e-cigarettes and the content ranges up to 36 mg/mL. Although regular cigarettes too have nicotine, but it ranges between 1.2 to 1.4 mg/mL.
- Karnataka has notified nicotine as Class A poison.

What are the Government Initiatives Related to Tobacco Consumption?

- National Tobacco Control Programme
- Cigarettes and other Tobacco Products (Prohibition of Advertisement and Regulation of Trade and Commerce, Production, Supply and Distribution) Amendment Rules, 2023.
- National Tobacco Quitline Services (NTQLS)
- The Union Finance Minister of India announced a 16% increase in National Calamity Contingent Duty (NCCD) on cigarettes in the Budget 2023-24.
- The Union Health Ministry of India has announced new regulations requiring Over-The-Top (OTT) platforms to display tobacco-related health warnings during streamed content.

Way Forward

- There is a need for urgent measures to prevent the uptake of e-cigarettes, counter nicotine addiction, and promote a comprehensive approach to tobacco control, considering national circumstances.

- Advocates suggest regulating and taxing e-cigarettes similarly to other "sin goods" like cigarettes and alcohol. This approach aims to disincentivize excessive use while allowing access to a potentially less harmful alternative for smokers.

3. DECENTRALISED AUTONOMOUS ORGANISATIONS

Context:

- Decentralised Autonomous Organisations (DAOs) represent a groundbreaking innovation at the intersection of Blockchain Technology and governance.

What are Decentralised Autonomous Organisations (DAOs)?

About:

- DAOs are the digital entities that operate without centralised control and are governed by smart contracts and the consensus of their members, often utilising Cryptocurrencies as a means of decision-making and resource allocation.
- DAOs have garnered attention for their potential to change various industries, including finance, art, and governance, by fostering transparent, democratic, and self-executing systems.
- These entities are not only reshaping traditional business structures but also challenging the way we perceive trust, governance, and collaboration in the digital world.
- The idea behind DAOs is to create self-sustaining, community-driven entities governed by smart contracts on blockchain networks.

Various Use Cases:

- **Global Financial Ecosystem:** In the realm of decentralized finance, platforms like Compound and Maker DAOs have introduced lending and borrowing services, enabling users to participate in the global financial ecosystem without relying on traditional banks.
- **In the Art World:** In the art world, artists are tokenising their creations and utilising DAOs to manage royalties and maintain control over their intellectual property.
- **Supply Chain Management:** Supply chain management is another arena where DAOs are gaining traction, as they offer transparency and traceability in global supply chains, ensuring the authenticity and quality of products.
- **Governance of Online Communities:** Even in the governance of online communities, DAOs have emerged as tools for decision-making, with platforms like DAOstack facilitating decentralised governance structures for internet communities.

Significance:

- **Decentralization and Democratic Governance:** DAOs embody decentralization, shifting power away from central authorities.
 - They promote democratic decision-making, allowing token holders to propose and vote on decisions. This equitable distribution of influence ensures a more inclusive and fair governance structure.
- **Transparency and Trust:** Smart contracts underpinning DAOs ensure transparency and immutability. This fosters trust among participants by offering a clear view of operations and reducing the opacity often associated with centralized organizations.
 - However, vulnerabilities in these smart contracts can raise security concerns.
- **Inclusivity and Global Collaboration:** One of the most significant advantages of DAOs is their ability to transcend geographical and socio-economic barriers.
 - They enable global participation, fostering diversity and innovation by allowing individuals from various backgrounds to collaborate and contribute.
- **Facilitating New Forms of Collaboration:** DAOs facilitate direct cooperation among participants with shared objectives, eliminating the need for intermediaries.

- This environment encourages innovation, cooperation, and the free flow of ideas, unrestricted by hierarchical structures.

What are the Challenges Related to DAOs?

Security Vulnerabilities:

- Vulnerabilities in smart contracts have led to notorious incidents like the DAO hack in 2016, raising questions about the security and immutability of blockchain systems.
- These incidents highlight the need for rigorous security audits and ongoing improvements in code reliability.

Legal and Regulatory Uncertainty:

- The decentralized nature of DAOs poses challenges in legal classification, taxation, liability assignment, and compliance with regulations across various jurisdictions.
- Questions regarding governance, Intellectual Property, and cross-border operations remain largely unanswered, requiring regulatory adaptation.

Governance and Dispute Resolution:

- Decentralized decision-making makes it challenging to resolve disputes and assign responsibilities within DAOs.
- The automated nature of smart contracts raises questions about accountability and handling conflicts without traditional legal mechanisms.

Way Forward

- Despite the challenges, DAOs continue to evolve and offer transformative potential across diverse industries. Ongoing discussions and adaptations are crucial for maximizing their benefits while mitigating risks, ensuring a future where decentralized innovation aligns with legal compliance.
- DAOs represent a paradigm shift in organizational structures, offering a glimpse into a future where decentralized, transparent, and democratic systems play a pivotal role in shaping various sectors.

4. GLOBAL PARTNERSHIP ON ARTIFICIAL INTELLIGENCE (GPAI) SUMMIT

Context:

- The Prime Minister of India inaugurated the Global Partnership on Artificial Intelligence (GPAI) Summit.
- India is the lead chair of GPAI in 2024. The GPAI is an alliance of 28 countries; the European Union adopted the 'New Delhi Declaration' of the GPAI.

What are the Key Highlights of the GPAI Summit?

- The Prime Minister of India discussed the national AI portal, highlighting the AIRAWAT initiative and raising concerns over the potential misuse of deep fake technology.
- YUVAi was prominently featured at the GPAI Summit, and the winners of the YUVAi initiative and start-ups showcased their AI models and solutions.
- The Prime Minister suggested using AI to make digital services available in local languages to increase digital inclusion.
- Responsible AI, data governance, future of work, and innovation and commercialization are the four different themes of four sessions organized in the GPAI.
- The summit also included various side events showcasing AI progress and engaging in discussions, such as industry panel discussions, workshops, research symposiums, hackathons, and the Global AI Expo.

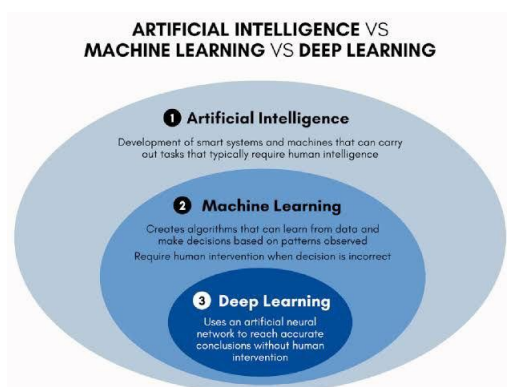
What is the Delhi Declaration of the GPAI?

- It acknowledges the need to harness new opportunities and mitigate the risks arising from the development, deployment, and use of Artificial Intelligence (AI).
- Affirms the commitment to uphold human dignity, human rights, and democratic values.

- Emphasizes the importance of fostering trust, transparency, accountability, and inclusiveness in AI.
- Recognizes the potential of AI to contribute to the United Nations Sustainable Development Goals and address global challenges.
- Encourages international cooperation and coordination on AI research, innovation, and policy.
- Supports the development of a comprehensive framework that encompasses shared principles for safe and trusted AI.
- Endorses India's proposal to establish and maintain a Global Digital Public Infrastructure Repository (GDPIR) to share digital public goods.
- GDPIR was established under the Ministry of Electronics and Information Technology (MeitY), to serve as an extensive repository, consolidating crucial insights and knowledge from both G20 members and guest nations.
- Calls for further dialogue on AI governance and ethics among stakeholders.

What is Artificial Intelligence (AI)?

- AI is the ability of a computer, or a robot controlled by a computer to do tasks that are usually done by humans because they require human intelligence and judgement.
- Although no AI can perform the wide variety of tasks an ordinary human can do, some AI can match humans in specific tasks.
- The ideal characteristic of AI is its ability to rationalize and take actions that have the best chance of achieving a specific goal. A subset of AI is Machine Learning (ML).
- Deep Learning (DL) techniques enable this automatic learning through the absorption of huge amounts of unstructured data such as text, images, or video.



What is AIRAWAT?

- NITI Aayog circulated the cabinet note to establish a cloud computing platform called AIRAWAT (Artificial Intelligence Research, Analytics and Knowledge Assimilation Platform) in 2019.
- The move to create a cloud computing platform is part of the government's goal of making India a pioneer amongst emerging economies with regard to AI and transforming sectors like education, health, agriculture, urbanization and mobility.

What is DeepFake?

- Deepfakes are synthetic media that use AI to manipulate or generate visual and audio content, usually with the intention of deceiving or misleading someone.
- Deepfakes are created using a technique called generative adversarial networks (GANs), which involve two competing neural networks: a generator and a discriminator.
- The generator tries to create fake images or videos that look realistic, while the discriminator tries to distinguish between the real and the fake ones.
- The generator learns from the feedback of the discriminator and improves its output until it can fool the discriminator.
- Deepfakes require a large amount of data, such as photos or videos, of the source and the target person, which are often collected from the internet or social media without their consent or knowledge.

- Deepfakes are a part of Deep Synthesis, which uses technologies, including deep learning and augmented reality, to generate text, images, audio and video to create virtual scenes.

What is the YUVA Ai initiative?

About:

- The National e-Governance Division (NeGD) partnered with Intel India to launch 'YUVAi- Youth for Unnati and Vikas with AI' program.

Aims:

- To foster a deeper understanding of AI, equip school students from classes 8 to 12 across the nation with relevant mindset and skill sets, and empower them to become human-centric designers and users of AI.
- The program offers an applied learning experience for students to understand and identify how AI technology can be used to tackle critical problems and lead to inclusive development of the nation.
- The program will be ongoing throughout the year to give a maximum number of students a chance to empower themselves to be future-ready.

Conclusion

- India launched the GPAI Summit, where India seeks to equip school students with AI skills for inclusive development. The New Delhi Declaration emphasizes a global AI framework grounded in democracy, human rights, and responsible practices.

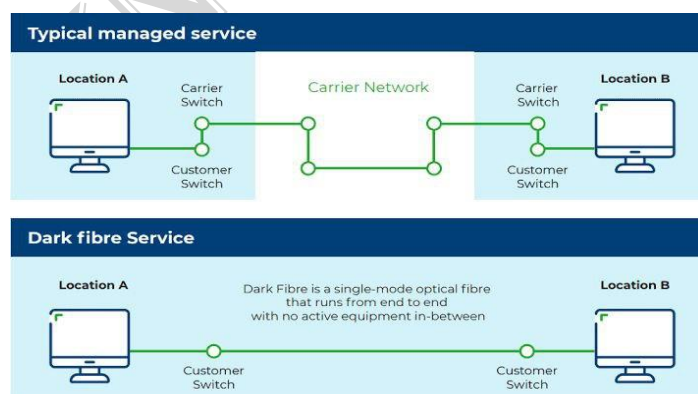
5. DARK FIBRE

Context:

- The Securities Appellate Tribunal (SAT) recently nullified the Securities and Exchange Board of India's (SEBI) order imposing fines on the National Stock Exchange (NSE) in the dark-fibre case.
- Fines were imposed for breaching the Securities Contracts (Regulation) Act, 1956 and the PFUTP (Prohibition of Fraudulent and Unfair Trade Practices) Regulations.

About the Dark Fibre:

- The Dark fibre or unlit fibre is an unused optical fibre without active electronics, carrying no data flow.
- The actual fibre is leased or bought from a network owner or telecoms provider.
- A Dark Fibre network provides reliable and secure optical infrastructure to enable one to self-manage critical elements of their network.
- It provides the business with maximum levels of flexibility and control to support virtually unlimited bandwidth increases, at a time and pace that suits someone.
- It enables the potential for Dense Wavelength Division Multiplexing (DWDM), which splits the fibre in to individual wavelengths across the spectrum allowing greater capacity to be achieved.
- This can be good for businesses with large data requirements like media, manufacturing and banks.
- It offers a better level resilience and security as businesses need not share the connection with anyone else and hence good for those that deal with sensitive information and those who require real-time information such as financial services, retail or healthcare.



- ➔ Dark fibre refers to optical cables that have been installed but are presently inactive in transmitting light signals for communication.
- ➔ These unused fibres are deliberately laid by companies to anticipate future bandwidth needs without incurring extra costs. They're also termed 'unlit fibre'.
- ➔ Interestingly, these dormant optical cables have given rise to a niche market for specialized private services not possible on the conventional, active long-distance communication cables known as 'lit fibres'.

ADVANTAGES:

- High performance
- Secured network flow and separation from other traffic
- Superfast speeds
- Low and Fixed cost
- Reliable medium
- Full control of the fibre-optic network.

6. INDIA'S ELEVATED ROLE IN CODEX ALIMENTARIUS COMMISSION

Context:

- Recently, India has been unanimously elected as a member representing the Asian region in the Executive Committee of Codex Alimentarius Commission (CAC) during its 46th meeting at Food and Agriculture organization (FAO) headquarters at Rome.
- India proposed the establishment of global standards for millets like Finger millet, Barnyard millet, Kodo millet, Proso millet, and Little millet, similar to group standards set for pulses. This proposal gained unanimous endorsement during the session.
- Codex currently has standards for Sorghum and Pearl Millet.

What is Codex Alimentarius Commission (CAC)?

About:

- CAC is an international food standards body established jointly by the FAO and the World Health Organization (WHO) in May 1963 with the objective of protecting consumer's health and ensuring fair practices in food trade.

Recognition:

- The Agreement on Application of Sanitary and Phytosanitary Measures (SPS) of the World Trade Organization (WTO) recognizes Codex standards, guidelines and recommendations as reference standards for international trade and trade dispute settlement.

Members:

- Currently the Codex Alimentarius Commission has 189 Codex Members made up of 188 Member Countries and 1 Member Organization (The European Union).
- India became the member of Codex Alimentarius in 1964.

Codex Standards:

- General Standards, Guidelines and Codes of Practice: These core Codex texts typically deal with hygienic practice, labeling, contaminants, additives, inspection & certification, nutrition and residues of veterinary drugs and pesticides and apply horizontally to products and product categories.
- Commodity Standards: Codex commodity standards refer to a specific product although increasingly Codex now develops standards for food groups.
- Regional Standards: Standards developed by the respective Regional Coordinating Committees, applicable to the respective regions.

7. SUB-NEPTUNE PLANETS

Context:

- Recently, astronomers have identified six sub-Neptune planets orbiting in a rare synchronised dance around a distant star.

Key findings:

- The star, known as HD110067, is located approximately 100 light-years away in the constellation Coma Berenices and is about 20% less massive than our Sun.
- The six planets were detected by observing minute dimming of the star's brightness as each planet transited, or passed in front of, the star from our perspective on Earth
- The orbital resonance of these planets, i.e., their orbits, is synchronised in such a way that they have remained stable for about 4 billion years.



About sub-Neptune planets:

- These are the most commonly observed types of planets in our galaxy.
- They could be rocky worlds with thick atmospheres of hydrogen and helium gas, or perhaps composed of rock and ice with warm, water-rich atmospheres.
- These planets have radii between those of the Earth and Neptune.

Key points about Neptune

- It's the last of the planets in our solar system.
- It's more than 30 times as far from the sun as Earth is.
- Neptune is very similar to Uranus. It's made of a thick fog of water, ammonia, and methane over an earth-sized solid centre.
- Its atmosphere is made of hydrogen, helium, and methane.

Structure and Surface

- Neptune is encircled by six rings and is an ice giant.
- It is made of a thick soup of water, ammonia, and methane flowing over a solid core about the size of Earth.
- It has a thick, windy atmosphere.
- Time on Neptune
- One day on Neptune goes by in 16 hours.
- Neptune has such a long journey around the sun that it takes 165 Earth years to go around once.

8.WHO GLOBAL CLINICAL TRIALS FORUM

Context:

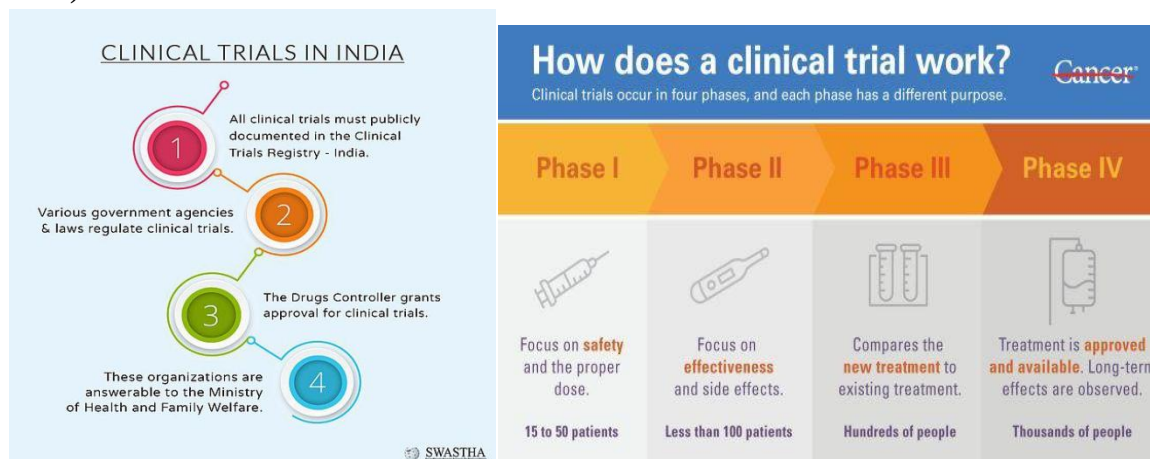
- The first WHO Global Clinical Trials Forum, held on November 20-21, 2023, brought together around 130 experts from 43 countries to discuss and develop a global vision for sustainable clinical research infrastructure.
- Aim: The forum aimed to strengthen clinical research capabilities aligned with the World Health Assembly resolution, focusing on improving the quality and coordination of clinical trials.

What are Clinical trials?

- They are research studies conducted to evaluate the safety and efficacy of medical treatments, interventions, or drugs in humans. These trials aim to gather data on the effectiveness and potential side effects of new or existing treatments and contribute to the development of evidence-based medical practices.

What is CTRI?

- The Clinical Trials Registry – India (CTRI) (est. 2007; maintained by ICMR (under the Ministry of Health and Family Welfare) a national clinical trial registry in India.
- It is mandatory to register for every trial at CTRI before commencing
- CTRI is a free online public record system for the registration of clinical trials (both public and private research) conducted in India.



9. BIOTECHNOLOGY RESEARCH AND INNOVATION COUNCIL (BRIC)

Context:

The Union Minister of Science and Technology has addressed the first ever meeting of the Biotechnology Research and Innovation Council (BRIC).

What is the Biotechnology Research and Innovation Council (BRIC)?

What is it

- It is an apex autonomous society under the Department of Biotechnology (DBT), Ministry of Science and Technology.
- Purpose It was formed by subsuming 14 Autonomous Institutions (AIs) under it.
- This has been done to provide centralized and unified biotech governance across the country.

Functions of Institutions under BRIC

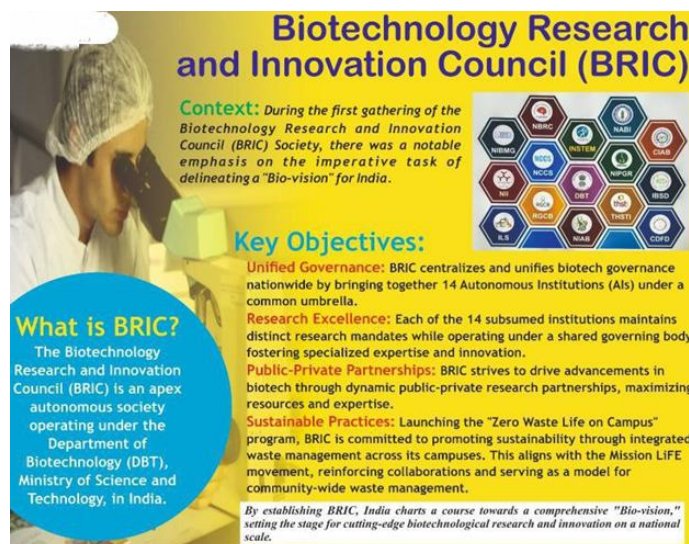
- 1) The institutions subsumed under BRIC will retain their distinct research mandates but governed by one body at BRIC.
- 2) Institutes can allocate up to one-third of their lab space for researchers from outside DBT institutes and their collaborators (from industry or other institutes).
- 3) The institutes will also have the freedom to collaborate in public-private research initiatives and receive funding and endowments from non-governmental sources for their research activities.
- 4) New Ph.D. programs will be launched across BRIC institutions with a shared curriculum.

Significance

- 1) Rationalization of Autonomous Bodies will ensure performance enhancement.
- 2) Function as nodal agency for promotion of biotechnology in India.
- 3) It will help bring together the best minds in the biotech sector on a unified platform.

Zero Waste Life on Campus' Program

- 1) It was launched on the occasion of the first society meeting of the Biotechnology Research and Innovation Council (BRIC).
- 2) The program aims to achieve sustainable waste management across BRIC campuses through the application and adoption of knowledge and technologies.
- 3) This program will help guide research toward better waste management for the entire community.
- 4) It is aligned with Mission LiFE movement.



10.FDA APPROVAL TO GENE THERAPIES FOR SICKLE CELL DISEASE

Context:

- Food and Drug Administration (FDA), an agency under U.S. Department of Health and Human Services, approved two gene therapies for sickle cell disease: Lyfgenia from bluebird bio and Casgevy by Vertex Pharmaceuticals and CRISPR Therapeutics.
- Sickle cell disease is a genetic blood disorder characterized by an abnormality in hemoglobin, the protein responsible for carrying oxygen in red blood cells (RBC).
- It causes RBC to adopt a sickle or crescent shape, hindering their movement through vessels, leading to potential complications like severe pain, infections, anaemia, and strokes.
- These therapies aim to transform treatment by leveraging CRISPR gene editing technology to either insert modified genes or edit stem cells, potentially offering one-time treatments.
- Concerns exist about the therapies' long-term effectiveness and risks, including the need for high-dose chemotherapy, potential infertility, and concerns about unintended genomic alterations.

11.CRISPR-CAS9 FOR SICKLE-CELL ANAEMIA

Context:

- India approved a 5-year project to develop Clustered Regularly Interspaced Short Palindromic Repeats (CRISPR) to cure sickle cell anaemia in 2021.
- Sickle cell anaemia is the first disease that is being targeted for CRISPR-based therapy in India.
- The pre-clinical phase (trials on animal subjects) is about to begin.

What is CRISPR Technology?

About:

- Clustered Regularly Interspaced Short Palindromic Repeats (CRISPR) is a gene editing technology, which replicates natural defence mechanism in bacteria to fight virus attacks, using a special protein called Cas9.
- It usually involves the introduction of a new gene, or suppression of an existing gene, through a process described as genetic engineering.
- CRISPR technology does not involve the introduction of any new gene from the outside.
- CRISPR-Cas9 technology is often described as 'Genetic Scissors'.
- Its mechanism is often compared to the 'cut-copy-paste', or 'find-replace' functionalities in common computer programmes.
- A bad stretch in the DNA sequence, which is the cause of disease or disorder, is located, cut, and removed and then replaced with a 'correct' sequence.
- The tools used to achieve this are biochemical i.e., specific protein and RNA molecules.
- The technology replicates a natural defence mechanism in some bacteria that uses a similar method to protect itself from virus attacks.

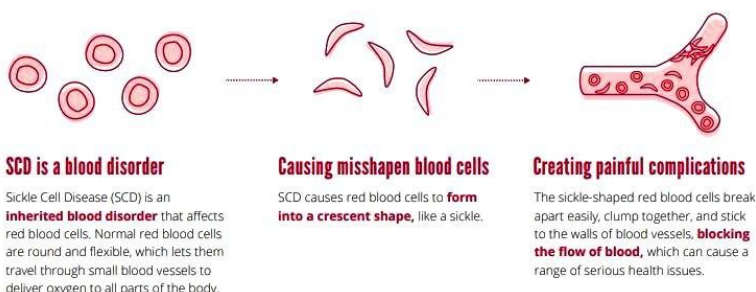
Mechanism:

- The first task is to identify the particular sequence of genes that is the cause of the trouble.
- Once that is done, an RNA molecule is programmed to locate this sequence on the DNA strand, just like the 'find' or 'search' function on a computer.
- After this Cas9 is used to break the DNA strand at specific points, and remove the bad sequence.
- A DNA strand, when broken, has a natural tendency to re-attach and heal itself. But if the auto-repair mechanism is allowed to continue, the bad sequence can regrow.
- So, scientists intervene during the auto-repair process by supplying the correct sequence of genetic codes, which attaches to the broken DNA strand.
- It is like cutting out the damaged part of a long zipper, and replacing it with a normally functioning part.
- The entire process is programmable, and has remarkable efficiency, though the chances of error are not entirely ruled out.

What is the Significance of CRISPR-based Therapeutic Solutions?

- Specific Treatment: CRISPR aids in the disease treatment by correcting the underlying genetic problem. CRISPR-based therapeutic solutions are not in the form of a pill or drug. Instead, some cells of every patient are extracted, the genes are edited in the laboratory, and the corrected genes are then re-injected into the patients.
- What is to be edited, and where, is different in different cases. Therefore, a specific solution needs to be devised for every disease or disorder that is to be corrected.
- The solutions could be specific to particular population or racial groups, since these are also dependent on genes.
- The changes in genetic sequences remain with the individual and are not passed on to the offspring.

What is Sickle Cell Disease?



12. AYUSHMAN AROGYA MANDIR

Context:

- Recently, the Union Government has decided to rename the existing Ayushman Bharat Health and Wellness Centres (AB-HWCs) as 'Ayushman Arogya Mandir'.

About Ayushman Arogya Mandir:

- The Government of India announced in 2018 that 1.5 lakh HWCs would be created in the country by transforming existing sub-health centres and primary health centres to deliver comprehensive primary health care and declared this as one of the two components of Ayushman Bharat.
- It was decided the Centre would provide 60% of the funding and, in turn, states would follow its design manual.
- To date, 61 lakh AB-HWCs have been made functional across the country, which is higher than the initial target.
- The AB-HWCs provide maternal and child healthcare services, including primary-level care for emergencies and trauma, including free drugs and diagnostic services, among other things.
- The new tagline of AB-HWCs is 'Arogyam Parmam Dhanam'.

Key facts about Ayushman Bharat (AB)

- The Union government announced in 2018 two major initiatives in the health sector, as part of the Ayushman Bharat programme.
- Curative care - Pradhan Mantri Jan Arogya Yojana (PMJAY): For hospitalisation at secondary- and tertiary-level private hospitals
- Primary care - Health and Wellness Centres (HWC): To strengthen primary healthcare
- PMJAY will provide a cover of up to 5 lakhs per family per year to poor and vulnerable people, for secondary and tertiary care hospitalization.
- The National Health Authority (NHA) is responsible for the implementation of PMJAY

13.AKTOCYTE

Context:

- Scientists from the Department of Atomic Energy (DAE) and M/s. IDRS Labs Pvt. Ltd. in Bengaluru have collaboratively developed a breakthrough nutraceutical named AKTOCYTE tablets.
- These tablets aim to enhance the quality of life for cancer patients undergoing radiotherapy by minimizing the side effects associated with the treatment.
- AKTOCYTE tablets have shown remarkable results, particularly in pelvic cancer patients undergoing radiotherapy-induced Cystitis, leading to extraordinary recovery and eliminating the need for surgical interventions like the removal of the urinary bladder.
- The tablets, designed as an adjuvant to cancer radiotherapy, act as a regenerative nutraceutical, immunomodulator, and antioxidant, representing a significant advancement in cancer care.
- AKTOCYTE has received approval from the Food Safety and Standards Authority of India (FSSAI), ensuring its safety and compliance with quality standards



14.POMPE DISEASE

Context:

- India's first Pompe disease patient, passed away at the age of 24 years after battling the disease in a semi-comatose state.
- A semi-comatose state is characterized by partial coma, manifesting as disorientation and stupor without reaching a complete coma. Individuals in a semi-comatose state may exhibit responsiveness to stimuli, such as groaning and mumbling.

What is Pompe Disease?

About:

- Pompe Disease (also known as Glycogen Storage Disease Type II) is characterized by the buildup of glycogen in the lysosomes of the body's cells.

- This disease is a rare genetic disorder caused by a deficiency of the enzyme acid alpha-glucosidase (GAA). This enzyme is crucial for breaking down glycogen into glucose within the lysosomes of cells.
- Lysosomes are membrane-enclosed organelles that contain an array of enzymes capable of breaking down all types of biological polymers—proteins, nucleic acids, carbohydrates, and lipids.
- Its prevalence estimates range from 1 in 40,000 to 1 in 300,000 births.

Symptoms:

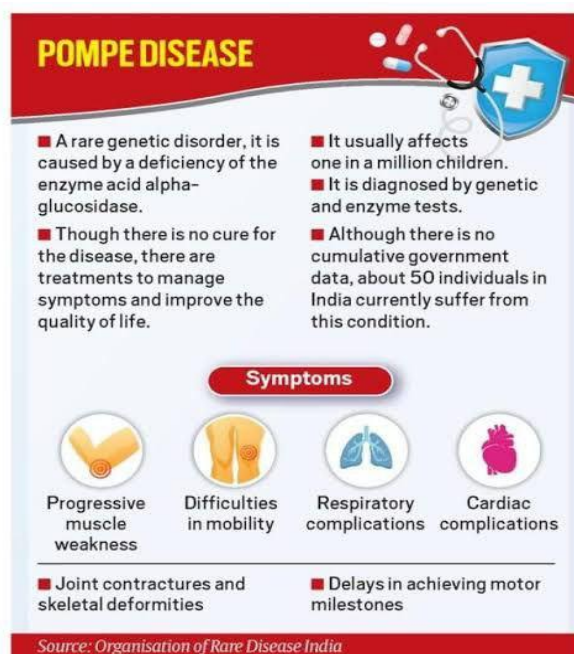
- Muscle weakness, Motor skill delay, Degenerative impact on bones, Respiratory complications, Cardiac involvement, Implications for daily living.

Diagnosis:

- Enzyme assays are conducted to measure the activity of GAA, the deficient enzyme.
- Genetic testing identifies mutations in the responsible GAA gene. Genetic analysis confirms the presence of specific mutations associated with Pompe Disease.

Treatment:

- Although there is presently no cure for Pompe disease, there are treatment alternatives accessible to address symptoms and enhance the patient's quality of life.
- Enzyme Replacement Therapy (ERT) is a common treatment method that entails infusing the deficient enzyme to mitigate glycogen accumulation.



15.GREEN LEAF VOLATILES (GLVS)

Context:

- Recently, for the first time, scientists were able to visualise plants sensing compounds called green leaf volatiles (GLVs) released by other plants in danger.

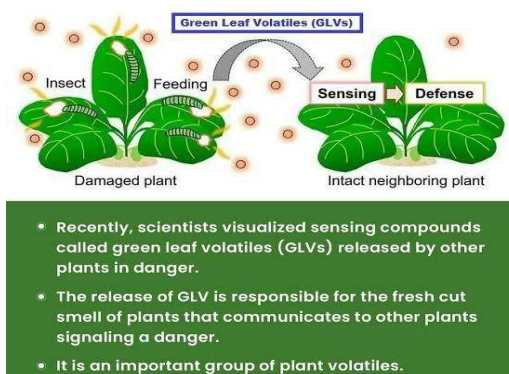
About Green Leaf Volatiles:

- It represents an important group of plant volatiles.
- They consist of six carbon (C6) compounds, including alcohols, aldehydes, and esters, and are released from almost every plant.
- The release of GLVs is caused by mechanical damage or herbivory by fungal or bacterial infection.
- These are implicated in a panoply of interactions; they have been reported to repel or attract herbivores and their natural enemies.
- Plants have two major defence mechanisms, involving a chain of molecular reactions.
- The reactions are triggered when a plant is damaged and GLVs are released as by-products. (By mounting a defence response, plants can make themselves less palatable or even indigestible to the insect attackers.)

- The molecular cascade is mediated by calcium, a common mediator of chemical and electrical signals found throughout biology.

What are Volatiles?

- These are elements or compounds that change from solid or liquid state into vapour at relatively low temperatures.
- The most common volatiles are carbon dioxide, nitrogen, ammonia, hydrogen, methane, sulphur dioxide, and water, which are abundant in nature and necessary for living organisms.



16.JT-60SA: WORLD'S BIGGEST NUCLEAR FUSION REACTOR

Context:

- JT-60SA, the world's largest and most advanced nuclear fusion reactor started its official operations in Japan, marking a major milestone towards achieving the goal of clean energy.

What is JT-60SA?

- JT-60SA is a joint initiative between the European Union and Japan aiming to investigate the feasibility of nuclear fusion as a sustainable and near limitless power source.
- The JT-60SA reactor is a six-storey-high machine, which is kept in a hangar in Naka, north of Tokyo. It comprises a doughnut-shaped "tokamak" vessel set to contain the swirling plasma heated up to 200 million degrees Celsius.
- One of the main objectives of this project is to replicate nuclear fusion ignition (net surplus energy), a feat first achieved by scientists at the Lawrence Livermore National Laboratory in California.
- The net energy gain was achieved by using lasers to fuse together two light atoms into a single denser one, releasing high amounts of energy. This net energy gain allows the nuclear fusion reaction to become self-sustaining.
- A similar even bigger nuclear fusion reactor is currently under construction in France, and is expected to begin operations in 2025.

What is the Significance of Nuclear Fusion Energy?

- 1) Sustainable clean energy source– It does not produce carbon dioxide – making it an important technology in the path to net zero emissions.
- 2) No long-lived radioactive waste– It stops when the fuel supply or power source is shut down. It generates no high-level long-lived radioactive waste.
- 3) Limited risk of proliferation– Fusion doesn't employ fissile materials like uranium and plutonium.
- 4) Near limitless power source– Since nuclear fusion energy runs on hydrogen, the most abundant element in the universe, it's considered virtually limitless in its production potential, unlike the limited fossil fuels and other intermittent renewable energy sources.

17.ELECTRONIC SOIL

Context:

- Recently, researchers from Linköping University in Sweden have developed 'Electronic Soil' that can speed up the growth of plants in Hydroponic spaces.

What is Electronic Soil?

About:

- The electronic soil (eSoil) developed is a novel conductive cultivation substrate tailored specifically for hydroponic systems.
- Unlike traditional substrates like mineral wool, which are non-biodegradable and manufactured using energy-intensive processes, eSoil is composed of cellulose, a biopolymer, blended with a conductive polymer known as PEDOT (Poly(3,4-ethylenedioxythiophene)).
- This innovative blend of materials allows for the stimulation of root systems in plants through low-power electrical currents.

Significance:

- e-Soil offers the advantage of significantly lower energy consumption and eliminates the risk associated with high-voltage systems.
- The significance of eSoil lies in its ability to enhance the growth of plants, as evidenced by a study showing a 50% increase in the growth rate of barley seedlings cultivated in hydroponic systems using this technology.
- Hydroponics coupled with eSoil can be potentially helpful in addressing global food demands, especially in urban settings where arable land is limited.

What is Hydroponics?

Hydroponics:

- Hydroponics is a method of growing plants in a water based, nutrient rich solution in a soilless media.
- It does not use soil, instead the root system is supported using an inert medium such as perlite, rockwool, clay pellets, peat moss, or vermiculite.
- The fundamental is to allow the plants roots to come in direct contact with the nutrient solution, while also having access to oxygen, which is essential for proper growth.

Advantages:

- Land and Water Efficient: The hydroponic farming technology with closed water loop systems is a viable option for farmers with limited access to land and water.
- Suitable for Urban Areas: The significance of soilless systems increases many folds when it comes to urban and peri-urban areas where the arable land is polluted.
- Lower Resource Consumption: Lower and more efficient resource consumption allows this alternative farming technique to be adopted by a variety of stakeholders.
- Higher Yield: According to the Food and Agricultural Organisation (FAO), the vegetable yield of soilless systems is 20-25% higher than in traditional systems as the number of plants per square metre is higher.

Drawbacks:

- Much Time and Attention Required: The water needs to be replaced at regular intervals as standing or recirculating water makes it easier for plant disease to spread if pathogens enter the water supply.
- Water and Electricity Intensive: Water and electricity are the two major factors in Hydroponic farming, in absence of adequate water supply or stable electricity, the Hydroponic system won't thrive well.

- eSoil is a low-power bioelectronic growth substrate that can electrically stimulate the root system and growth environment of plants.
- This novel substrate is not only environmentally friendly, being derived from cellulose and a conductive polymer called PEDOT, but also offers a low energy, safe alternative to previous methods that required high voltage and non-biodegradable materials.
- Significance: This research promotes more effective and sustainable development while increasing the variety of crops that can be grown hydroponically.

18.SENSOR FOR FORMALIN DETECTION IN FISH

Context:

- A team of researchers from Guwahati University, Assam, has developed a new sensor made of a metal oxide-reduced graphene oxide(metal oxide- rGO) composite that can detect formalin adulteration in fishes at room temperature in a non-invasive way.

What are the Key Facts of the Metal oxide- rGO Sensor?

About:

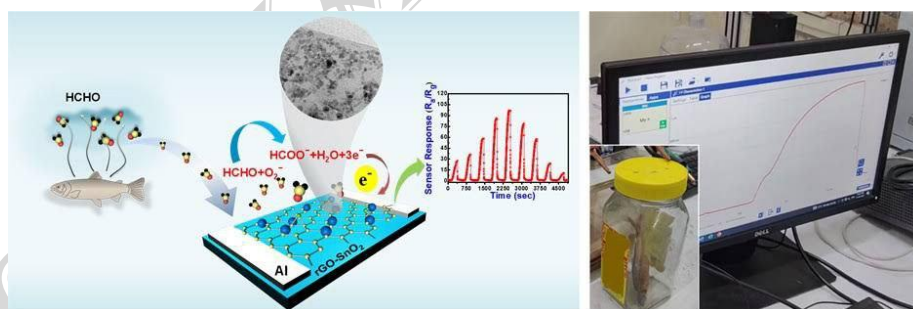
- The sensor used Graphene(material that is extracted from graphite) oxide (GO) and tin oxide-reduced graphene oxide composite (rGO-SnO₂) to detect formalin in adulterated fishes.
- The sensor is low-cost, non-invasive, and selective, and can be used to prevent food adulteration and protect consumers.

Need:

- Traditional formalin sensors for fish are either expensive electrochemical-based or less costly but invasive colorimetric-based methods.
- Both face issues of low-level and selective detection.

Working Procedure:

- GO, the oxidized form of graphene, initially poses a challenge due to low electrical conductivity.
- To overcome GO's limitations, scientists developed a composite called tin oxide-reduced graphene oxide (rGO-SnO₂) with enhanced properties.
- The reduced graphene oxide provides high solution processability and ease of chemical modification with other materials, while the tin oxide offers high stability and sensitivity to low concentrations of formaldehyde.
- The sensor, crafted from tin oxide (SnO₂) decorated Reduced graphene oxide (rGO), demonstrates effective sensing of formaldehyde vapour at room temperature.
- rGO is known for detecting toxic gasses, while SnO₂ excels in formaldehyde detection. The combination maximizes their strengths.
- The designing of the prototype is in process in the lab which may be regarded as a breakthrough in the field of food adulteration.



19.KETAMINE DRUG

Context:

- In recent times, drug Ketamine has surged into the spotlight, triggering debates and discussions surrounding its application, effects, and safety concerns.

What are the Key Facts about Ketamine?

About:

- Ketamine is a dissociative anaesthetic. Doctors use it to induce general anesthesia that does not require muscle relaxation.
- General anesthesia denotes a sleep-like state, while dissociative refers to the state of detachment from the body and the outside world.

- Developed as an animal anesthetic in the 1960s, later approved by the United States Food and Drug Administration (FDA) for human use.
- Recently used to treat depression and mental illnesses, also used recreationally.
- Recreational use involves snorting, injecting, or smoking.
- Administered through intravenous (IV), nasal spray, or tablet for mental illness treatment.

Effects of Ketamine:

- Ketamine works by blocking the N-methyl-D-aspartate (NMDA) receptor in the brain.
- This receptor is involved in the transmission of pain signals and in the regulation of mood. By blocking the NMDA receptor, ketamine can produce analgesia (pain relief) and euphoria.
- It can create pleasant visualizations and a sense of detachment. Ketamine can produce hallucinations similarly to other drugs such as Lysergic acid diethylamide (LSD) and angel dust.
- Hallucinations are distorted perceptions of sounds and sights.

Safety of Ketamine Consumption:

- Ketamine, deemed safe for medicinal use by some doctors, faces reported risks like addiction and cognitive impairment in high doses. Limited research hampers understanding of prolonged safety of the drug.

SOCIAL ISSUES

1. MGNREGS SCHEME

Context:

- The Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS) has witnessed a significant surge in women's participation, marking a historic high in the current financial year of 2023-24.

What are the Women Participation Trends in MGNREGA?

Women Participation Trends:

- There has been a gradual increase in women's participation over the last decade, with percentages rising from 53.19% during the Covid-19 outbreak in 2020-21 to the current 59.25%.
- Southern states like Kerala, Tamil Nadu, Puducherry, and Goa showcase notably high rates of women's involvement, surpassing 70%, while northern states like Uttar Pradesh and Madhya Pradesh lag behind at around 40% or below.
- Despite historical disparities, some states like Uttar Pradesh, Madhya Pradesh, and Lakshadweep show recent improvements in women's participation rates in the ongoing financial year, attributed to incremental percentages.

Rural Labor Force Trends:

- Beyond MGNREGS, the Periodic Labour Force Survey (PLFS) by the Ministry of Statistics and Programme Implementation demonstrates a substantial surge in female Labour Force Participation Rate (LFPR) in rural areas.
- Notable figures show an increase from 18.2% in 2017-18 to 30.5% in 2022-23 in rural female LFPR, along with a decline in female unemployment rates from 3.8% to 1.8% during the same period.

What is MGNREGA Scheme?

About:

- MGNREGA is one of the largest work guarantee programmes in the world launched in 2005 by the Ministry of Rural development.
- It provides a legal guarantee for one hundred days of employment in every financial year to adult members of any rural household willing to do public work-related unskilled manual work at the statutory minimum wage.

Active workers: 14.32 Crore (2023-24)

Major Features:

- The cornerstone of MGNREGA's design is its legal guarantee, ensuring that any rural adult can request work and must receive it within 15 days.
- If this commitment is not met, an "unemployment allowance" must be provided.
- It requires that priority shall be given to women in such a way that at least one-third of the beneficiaries shall be women who have registered and requested for work.
- Section 17 of the MGNREGA has mandated Social audit of all Works executed under the MGNREGA.

Implementation Agency:

- The Ministry of Rural Development (MRD), Govt of India is monitoring the entire implementation of this scheme in association with state governments.

Objective:

- This act was introduced with an aim of improving the Purchasing Power of the rural people, primarily semi or unskilled work to people living below poverty line in rural India.
- It attempts to bridge the gap between the rich and poor in the country.

Achievements of 2022-23:

- 11.37 crore households availed employment.
- 289.24 crore person-days employment has been generated out of which:
- 56.19% were for women
- 19.75% were for Scheduled Castes (SCs)
- 17.47% were for Scheduled Tribes (STs)

What are the Challenges with the Implementation of the Scheme?

Delay and Insufficiency in Funds Dispersal:

- Most states have failed to disburse wages within 15 days as mandated by MGNREGA. In addition, workers are not compensated for a delay in payment of wages.
- This has turned the scheme into a supply-based programme and subsequently, workers had begun to lose interest in working under it.
- There is ample evidence by now, including an admission by the Ministry of Finance, that delays in wage payments are a consequence of insufficient funds.

Caste Based Segregation:

- There were significant variations in delays by caste. While 46% of payments to SC (Scheduled Caste) workers and 37% for ST (Scheduled Tribes) workers were completed in the mandated seven-day period, it was a dismal 26% for non-SC/ST workers.
- The negative impact of caste-based segregation was felt acutely in poorer States such as Madhya Pradesh, Jharkhand, Odisha and West Bengal.

Ineffective Role of PRI:

- With very little autonomy, Panchayati Raj Institution (PRI) are not able to implement this act in an effective and efficient manner.

Large Number of Incomplete works:

- There has been a delay in the completion of works under MGNREGA and inspection of projects has been irregular. Also, there is an issue of quality of work and asset creation under MGNREGA.

Fabrication of Job cards:

- There are several issues related to the existence of fake job cards, the inclusion of fictitious names, missing entries and delays in making entries in job cards.

What are the Initiatives under MGNREGS?

- Amrit Sarovar: Construction/renovation of at least 75 Amrit Sarovars (ponds) in each district of the country; they will help in increasing the availability of water, both on surface and under-ground.
- Jaldoot App: It was launched in Sept 2022 for measuring the water level in a Gram Panchayat through 2-3 selected open wells twice a year.
- Ombudsperson for MGNREGS: Ombudsperson App was launched in Feb 2022 for smooth reporting and categorization of grievances received from various sources related to the implementation of the MGNREGS.

2. CHILD MARRIAGE IN INDIA

Context:

- One in five girls and one in six boys are still getting married below the legal age of marriage in India.
- This has been highlighted by a new study published in the Lancet Global Health on December 15th, 2023.

What's in Today's Article?

- Child Marriages in India (Statistics, Global Scenario, Impact, Legal Provisions, Government Schemes)
- News Summary (All-India Data)

Child Marriages in India:

- In India, child marriage reduced from 47.4% in 2005-06 to 26.8% in 2015-16.
- In the last five years, it declined by 3.5% points to reach 23.3% in 2020-21, according to the latest National Family Health Survey-5 data.
- There is a growing trend for decline in the overall prevalence of child marriage, but 23.3% is still a disturbingly high percentage in a country with a population of 141.2 crore.

Eight States have a higher prevalence of child marriage than the national average:

- West Bengal, Bihar and Tripura top the list with more than 40% of women aged 20-24 years married below 18, according to NFHS data.
- Some States have shown a reduction in child marriages, like Madhya Pradesh (23.1% in 2020-21 from 32.4% in 2015-16), Rajasthan (25.4% from 35.4%) and Haryana.

Global Scenario:

- According to data from UNICEF, the total number of girls married in childhood stands at 12 million per year.
- The 2030 UN Sustainable Development Goals aim to eliminate all harmful practices, such as child, early and forced marriage and female genital mutilations, under goal 5.
- While it is encouraging that in the past decade great progress has been made in South Asia, where a girl's risk of marrying before she is 18 has dropped by more than a third, from nearly 50% to below 30%, it is not enough, and progress has been uneven.

Impact of Child Marriage:

- While child marriage is considered a human rights violation and a recognised form of sexual and gender-based violence, the adverse impact of child marriage is manifested across maternal and child health.
- Recently, 10 infants died at Murshidabad Medical College and Hospital in a span of 24 hours.
- The hospital authorities said the majority of the children were born with extremely low birth weight.
- Murshidabad, one of the economically poorer districts of the State, has one of the highest numbers of child marriages in West Bengal.
- The NFHS - 5 points out that 55.4% of women aged 20-24 years are married before the age of 18 years in the district.
- The district saw a rise from NFHS-4 numbers, which stood at 53.5 %.

Legal Intervention in India:

- There are several laws including the Prohibition of Child Marriage Act, 2006 and the Protection of Children from Sexual Offences Act, 2012, which aim at protecting children from violation of human and other rights.
- The Prohibition of Child Marriage (Amendment) Bill, 2021 seeks to increase the marriage age of women from existing 18 years to 21 years.

Why Minimum Age of Marriage for Females should be Increased?

Lack of access to education and employment:

- Women face inequalities when it comes to access to education and employment as a consequence of their early marriages.
- It is often the case that women are denied access to education and an economic means of livelihood after entering into the institution of marriage at an early age.
- Increasing the minimum age for marriage will lead to more women pursuing higher education and opt for employment.

Impact of early marriage on health of women and children:

- An early age of marriage and consequent early pregnancies have a substantial impact on the nutritional levels of mothers and their children, along with their overall health and mental wellbeing.
- Underage mothers are at a higher risk of reproductive health challenges, malnutrition, postpartum haemorrhage, and a susceptibility to sexually transmitted diseases.

Schemes/ Policies for Preventing Girl Child Marriage:

Sukanya Samriddhi Yojana (SSY):

- Sukanya Samriddhi Yojana (SSY), was launched in 2015, in order to promote the welfare of girl child.
- It encourages parents to invest and build funds for the future studies and marriage expenses of the girl's children.

Balika Samriddhi Yojana:

- Balika Samriddhi Yojana is another central government scheme to support girls in financially vulnerable sections of society.
- This scheme ensures the enrolment and retention of girl child in primary and secondary schools.
- It aims at the prosperity of a girl's child and provides them with a better quality education.

Beti Bachao Beti Padhao:

- Among all the other girl's child welfare schemes, Beti Bachao Beti Padhao is the most popular.
- This scheme celebrates girl children, literally translating to Save the Girl Child, Educate the Girl child. It believes in women empowerment and creating an inclusive ecosystem for the same.
- This scheme is to promote girl children's safety before and after they are born.

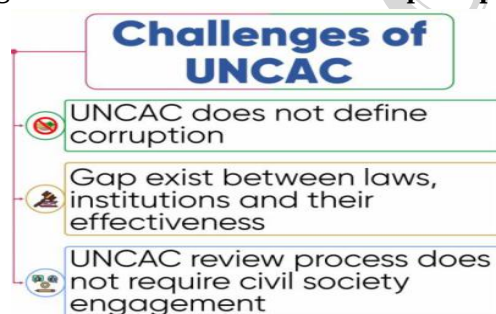
PRELIMS FACTS

1. POST OFFICE ACT, 2023

- President gave assent to Post Office Bill, 2023 to revitalise Post Offices
- Post Office Act, 2023 will replace **Indian Post Office Act (IPOA), 1898**.
 - **IPOA, 1898** was enacted during the tenure of Viceroy **Lord Elgin-II (1894-1899)**.
- There was **need** of a new Act as **IPOA, 1898** addressed mainly **mail services** provided through the Post Office.
 - Also to **ensure better governance** for Post offices as their services have **diversified** beyond mails such as **India Post Payments Bank**, insurance schemes etc.

2. YEARS OF UN CONVENTION AGAINST CORRUPTION (UNCAC)

- On December 9, 2003, UNCAC was signed in Mexico. It entered into **force in 2005**.
- Key features**
 - Only **legally binding** universal anti-corruption instrument.
 - Parties: 190 (including **India**)
 - Covers different **forms of corruption**, such as bribery, trading in influence, abuse of functions, and various acts of corruption in the **private sector**.
 - It covers **five main areas**:
 - ✓ **Preventive measures** (establishment of anticorruption bodies etc),
 - ✓ **Criminalization and law enforcement** (States are obliged to establish some offences).
 - ✓ **International cooperation** (States bound to render mutual legal assistance)
 - ✓ **Asset recovery**, and
 - ✓ **Technical assistance** and information exchange.
 - The **United Nations Office on Drugs and Crime (UNODC)** serves as the custodian of the Convention and as the Secretariat of its Conference of States Parties.
 - ✓ **Conference of the States Parties** is the main policymaking body of the Convention.
 - ✓ It **meets every two years** and adopts resolutions and decisions to further its mandate.
- Successes of UNCAC**
 - Providing a **comprehensive framework** to combat corruption.
 - Near-universal ratification**
 - Its **Review Mechanism** is triggering concrete anticorruption measures.
 - Contributed to establishing **new institutions and anti-corruption policies**.



3. AMPLIFI 2.0

- Ministry of Housing and Urban Affairs** launched **Amplifi 2.0 (Assessment and Monitoring Platform for Liveable, Inclusive, and Future-Ready Urban India)**.
- About Portal:**
 - The portal aims to **provide raw data from Indian cities** available on a single platform for academics, researchers, and stakeholders to **help data-driven policymaking**.
 - Currently, **225 urban local bodies have been onboarded**, and **data of 150 cities is available** on the portal.
 - The initiative provides the opportunity to **create new frameworks for Urban development** based on open data obtained

4. ANARCHO-CAPITALISM

- Anarcho-Capitalism** refers to a **political philosophy which calls for the abolition of the state** and for the **provision of law and order to be controlled by private companies** in a free market.
 - Traditionally, free market** advocates have **supported the private provision** of most goods and services, **except police and courts**.
 - Anarcho-capitalists believe that **private companies** competing in a free market **can provide policing and legal services** better than the state.
- Anarcho-capitalism term was **coined by Murray Rothbard**.

5. AGNI-1

- **Training launch ‘Agni-1’** was carried out successfully from APJ Abdul Kalam Island, Odisha.
- Agni-1 is **Short-Range Ballistic Missile** and is a **very high precision** missile system.
 - **Range capacity:** over 700 Kms.
 - It is **nuclear-capable**, road-mobile missile.
 - **First deployed in 2007.**
- Agni-1 to 5 missiles are **designed & developed by**
- **Defence Research & Development Organisation (DRDO).**

6. VINBAX-2023

- It is a Joint Military Exercise between Armed forces of **India and Vietnam.**

7. TROPICALISATION

- A study indicates that **rising sea temperatures** due to climate change are causing **tropical marine species to move from equator towards poles and retraction of temperate species.**
 - This **mass movement of marine life** has been termed **tropicalisation.**
- **Mediterranean Sea** is now considered a **tropicalisation hotspot** due an increase in tropical species.
- Tropicalisation together with **Borealisation and Desertification** contribute to global redistribution of biota and rearrangement of ecological communities.
 - **Borealisation is expansion of temperate species** (terrestrial and marine) **into Arctic polar- regions**

8. DAM

- Supreme Court orders Survey of India to assess Kerala’s mega parking project Near Mullaperiyar Dam.
- **Survey of India** will determine if the mega parking project encroaches on **Periyar Lake Lease Agreement (1886) territory.**
- **Mullaperiyar dam**
 - It was constructed during 1887-1895 and **owned, operated, and maintained by Tamil Nadu Government.**
 - It is **located in upper reaches** of river **Periyar**, which flows **into Kerala** after originating in Tamil Nadu.
 - ✓ The reservoir is within **Periyar Tiger Reserve.**
- **About the dispute**
 - The Dam was **constructed** based on **Periyar Lake Lease Agreement (1886)** for a lease of 999 years.
 - ✓ Agreement signed between **Maharaja of Travancore** and **Secretary of State for India** (during British rule).
 - Earlier, Kerala Government claimed that **dam is unsafe** and a **threat to people living downstream** and pitched for **building a new dam.**
 - Whereas, **Tamil Nadu government denies** it and is **utilising the dam to its full capacity** after structural strengthening.
- **Importance of Dams and Dams Safety**
 - Dams play a vital role in the **overall water security** and **energy needs of a country.**
 - India’s **third-largest number of dams in the world**, and many of them **are aging, and seismically vulnerable**, thus safety becomes paramount.
 - Unsafe dams **expose downstream** areas to risks of **catastrophic flooding**, and **displacement.**
- **Survey of India**
 - **Survey of India** is the **National Survey and Mapping Organization.**
 - ✓ It was **set up in 1767.**
 - It works under the **Department of Science & Technology.**

9. CODEX ALIMENTARIUS COMMISSION (CAC)

- CAC approved India's proposal for **global standards on millets**, covering Finger millet, Barnyard millet, Kodo millet, Proso millet, and Little millet as **group standards**.
 - **FSSAI has set group standards** which specify **8 quality parameters** like limits for moisture content, uric acid content, etc. **for 15 types of millets**.
- This endorsement coincided with celebration of **International Year of Millets** which was also proposed by India to **raise awareness about nutritional and health benefits of millets**.
 - Millets are **small-grained, annual, warm-weather cereals** belonging to **grass family**.
 - They are **Known as nutri-cereals** as they provide most of nutrients essential for human body's functioning.
- **About CAC**
 - Established in 1963, CAC is an **international food standards body** established jointly by WHO and FAO.
 - It is headquartered in **Rome** and has **189 members (including India)**.
 - Its objective is to **protect consumer's health** and ensure **fair practices in food trade**.
 - **Codex Alimentarius, or "Food Code"** is a collection of standards, guidelines and codes of practice adopted by the CAC.
 - **Codex standards are voluntary**.
 - **Agreement on Application of Sanitary and Phytosanitary Measures (SPS)** of WTO recognizes
 - **Codex standards, guidelines and recommendations** for international trade and trade dispute settlement,



10. AAROGYA MAITRI AID CUBE

- World's first **portable hospital 'Aarogya Maitri Aid Cube'** was unveiled in **Gurugram (Haryana)**.
- It is a **modular trauma management and aid system** designed for **rapid deployment in Mass Casualty Incidents**, whether in times of peace or war.
 - It is made up of **72 detachable mini-cubes**. Each being a **specialized station for emergency response and humanitarian efforts**.
 - These cubes are **light and portable, and can be rapidly deployed anywhere, from airdrops to ground transportation**.
 - It can treat **200 patients**.
 - It is designed indigenously **under Project 'BHISHM (Bharat Health Initiative for Sahyog, Hita and Maitri)'**.

11. ANTHROBOTS

- Scientists have developed **anthrobots**.
- **About Anthrobots:** These are **tiny robots made of human cells** that are able to **repair damaged neural tissue**.
 - They can be created from **adult human cells without genetic modifications**.
 - They can be fused together to form a **superbot**
 - This development represents a **significant advancement in regenerative medicine**.

- ✓ **Regenerative medicine** is the process of replacing or regenerating human cells, tissues or organs to restore or establish normal function.
- Anthrobots are different from **xenobots**, which are derived from embryonic stem cells of frog.

12. YATRA

- On the occasion of **Kartika Purnima**, Asia's largest open-air annual trade fair Bali yatra inaugurated on the banks of **Mahanadi River in Cuttack, Odisha**.
 - People of **Odisha float small boats made of banana peels and Sola** in nearby ponds and rivers to recall the **glories of daring Sea Voyages of ancient Kalinga**.
- **About Bali yatra fair**
 - It commemorates **Odisha's historical ties with Bali** (Indonesia), and its **rich maritime legacy** of transoceanic voyages to Southeast Asian nations.
 - ✓ Festivals '**Masakapan Ke Tukad**' in Bali and '**Loikrathong**' in Thailand bear **similarities with Bali Yatra** fair and also encompasses floating of toy boats.
 - It is also **associated with legend 'Taapoi'** which reminds the traditional memories of a **young maiden waiting for the return of her sailor brothers**.
 - However, there is also a belief that **Vaishnavite Saint Sri Chaitanya landed** in Cuttack after crossing Bali on his way to **Puri on this auspicious day**.
 - '**Bhalukuni Osha**' or '**Khudurukuni Osha**' and '**Bada Osha**' are the **key rituals** associated with this fair.
- **Odisha as a maritime heritage.**
 - Odisha, known as **Kalinga** in ancient times, held a **prominent maritime position in India's history**.
 - Its intrepid sailors establishing maritime links with the **Roman Empire, Africa, Persian coast, Arabian countries, China, Japan, Siam, Champa, Burma, Ceylon**, and more.
 - Notably, **Kalidas in Raghuvamsa** hailed the **king of Kalinga** as the "**Lord of Sea**."

Kalinga's Famous ports

Ports	Description
 Palur	Noted by the Greek author Ptolemy in the mid-2nd century A.D.
 Tamralipti	- Referred to as Tamailitis by Ptolemy. - Also mentioned by Fa-Hien in the 5th century A.D., and Hsien-Tsang during his 7th-century visit.
 Pithunda	- Mentioned in the Jaina text Uttaradhyana Sutra. - Also mentioned in Kharavela's Hatigumpha inscription as the metropolis of Kalinga.

13. GI TAGS FOR MEGHALAYA PRODUCTS

Context:

Meghalaya's Lakadong turmeric, along with Garo dakmanda (traditional dress), Larnai pottery, and Garo chubitchi (alcoholic beverage), has been granted the Geographical Indication (GI) tag.

Product	Origin	Unique Feature
 Lakadong Turmeric	Lakadong area, Jaintia Hills, Meghalaya	High curcumin content (6.8 to 7.5%)

	Meghalaya	The traditional dress worn by Garo tribes
	Meghalaya	Artisanal black pottery from Jaintai Hills
	Meghalaya	Rice-based alcoholic beverage of the Garo tribe

14. KOYA TRIBES

Context:

- The indigenous Koya tribe in Andhra Pradesh, residing in the **Papikonda hill range**, has embraced eco-friendly practices to conserve the **Indian Bison (Bos gaurus)**.
- Koyas have replaced **traditional Indian Bison horns** with palm leaves to craft their traditional flute, **Permakore**.

What is Permakore?

- Permakore is a **traditional flute**, originally made from Indian Bison horns, and is now created using palm leaves as an eco-friendly alternative. The flute serves as a communication tool during hunting, celebrations, and festivals.

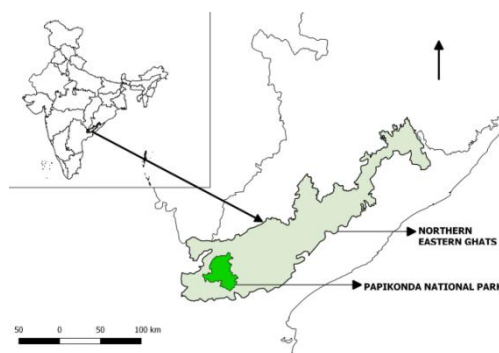
About

- Papikonda National Park** is situated near **Rajamahendravaram** in the Papi Hills of Andhra Pradesh. Since 2014, no part of Papikonda has extended beyond East and West Godavari districts due to the **construction of the Polavaram Dam**.
- The **Papikondalu Hill Range**, also known as the **Bison Hill Range**, was declared a sanctuary in 1978 and upgraded to a national park in 2008, with the Indian Bison as its megafauna species.

About Koya Tribes:

Aspect	Details
Koya Tribe Overview	The Koya tribe is the largest Adivasi tribe in Telangana, listed as a Scheduled Tribe in the region. The community is widespread across the Telugu-speaking states of Telangana and Andhra Pradesh.
Self-Identification	Koyas commonly refer to themselves as Dorala Sattam (Lords group) and Putta Dora (original lords). In their dialect, they are known as “Koitur,” akin to Gonds.
Habitat and Livelihood	The Godavari and Sabari rivers significantly influence the economic, social, and cultural life of the Koyas. Primarily settled cultivators, they grow crops like Jowar, Ragi, Bajra, and other millets.
Language	Telgu
Religion and Festivals	Key deities for the Koyas include Lord Bhima, Korra Rajulu, Mamili, and Potaraju. Major festivals include Vijji Pandum (seeds charming festival) and Kondala Kolupu (festival to appease Hill deities).

Traditional Dance	Koyas engage in a vibrant dance called Permakok ata (Bison horn dance) during festivals and marriage ceremonies.
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15. ARTICLE 99 OF THE UN CHARTER

Context:

- Amid ongoing military attacks in Gaza, UN Secretary-General Antonio Guterres has invoked **Article 99 of the UN Charter** to establish a **ceasefire**.
- Article 99 allows the **Secretary-General to bring matters threatening international peace** to the Security Council's attention.
- The provision has been rarely invoked. Past examples include the **upheaval in the Republic of the Congo in 1960** following the **end of Belgium's colonial rule** and a **complaint by Tunisia in 1961** against **France's naval and air forces launching an attack**.

16. UNIVERSAL DECLARATION OF HUMAN RIGHTS AT 75

Context:

The UDHR, marking its 75th anniversary, remains a foundational document in the quest for global human rights and dignity.

About the Universal Declaration of Human Rights (UDHR):

Aspect	Description
Approval Date	December 10, 1948
Purpose	To establish a global framework guaranteeing the rights and freedoms of individuals worldwide.
Key Features	Recognizes inherent dignity as the foundation of freedom, justice, and peace. Declares human rights as universal, applicable to all people regardless of location or identity.
Components	Preamble and 30 articles outlining fundamental rights and freedoms. Covers civil, political, economic, social, and cultural rights.
Drafting Committee	Chaired by Eleanor Roosevelt ; included members from eight countries, reflecting global diversity.
Participating Countries	Over 50 U.N. member countries contributed to the drafting including India
Achievements	Inspirational foundation for over 70 global and regional human rights treaties. Influenced movements like decolonization, anti-apartheid , and freedom struggles worldwide.
Challenges	Not legally binding , leading to misuse and abuse. Faces challenges in conflicts like Israel-Hamas, Russia-Ukraine , and internal conflicts in Myanmar and Sudan.
India's Contribution	At various stages of drafting, India was represented by Hansa Mehta, M.R. Masani and Lakshmi Menon , who made a series of substantive contributions to

	the numerous articles that made up the UDHR
	Hansa Mehta, also a member of India's Constituent Assembly , is credited with altering “ All men are born free and equal ” to “ All human beings are born free and equal ” in Article 1 of the UDHR

17. DARE TO DREAM SCHEME

Context:

- The **Dare to Dream (D2D) scheme** is a contest organized by the **Ministry of Defence in India**, specifically by the **Defence Research & Development Organisation (DRDO)**.

The contest aims to **encourage innovation and creativity among individual innovators and start-ups**.

About Dare to Dream Contest:

- The **Dare to Dream Contest**, initiated in **memory of former President Dr APJ Abdul Kalam**, is an annual initiative by the **Defence Research and Development Organisation (DRDO)**.
- Launched in 2019**, the contest **provides a unique opportunity for start-ups, innovators, entrepreneurs, and individuals above 18 years old** to address key challenges in emerging technologies, ultimately contributing to enhancing **India's defence and aerospace capabilities**.
- The evaluation criteria for entries include **completeness of proposal, scientific soundness, design completeness, merit, technological readiness level achieved, and innovation**.
- The contest aims to bring together a **diverse group of participants to foster innovation and creativity** in addressing technological challenges relevant to defence and aerospace.

18. IOM LAUNCHES PROJECT PRAYAS

Context:

- The International Organization for Migration (IOM) has launched **Project PRAYAS (Promoting Regular & Assisted Migration for Youth and Skilled Professionals)** in collaboration with the Ministry of External Affairs.

About Project Prayas:

- The project **aims to facilitate safe, orderly, and regular migration** for Indian workers and students.
- It **consolidates state-level initiatives** and focuses on improving coordination between state and central governments.
- The project involves **studying migration trends, understanding migrants' needs**, and launching initiatives to raise awareness about safe migration processes, with the goal of **strengthening international migration governance**.
- India has a **vast diaspora exceeding 32 million globally** as of December 2021. It is the **world's top recipient of remittances**. India ensures the welfare of its diaspora through initiative like **pre-departure orientation training**, the **Indian Community Welfare Fund (ICWF)** for assistance in distress, the **MADAD Portal** for grievance redressal, and the **Know India Programme**, exposing the young diaspora to contemporary India.

About IMO:

- International Organization for Migration (founded 1951; HQ: Grand-Saconnex, Switzerland) is the **principal United Nations agency** working in the field of migration. The organization implements **operational assistance programmes** for migrants, including internally displaced persons, refugees, and migrant workers.

19. ANGOLA LEAVES OPEC

Context:

- Angola has decided to leave OPEC, a **setback for the Saudi-led oil producer group**.

Reason:

- Angola argues that **OPEC no longer serves its interests**, following a dispute over its output quota. Angola's exit, joining **Ecuador and Qatar** as former members, further challenges OPEC's market share, which has been decreasing **due to production cuts and rising output from non-OPEC countries**.

About OPEC:

- It was established in **1960 at the Baghdad Conference** by **Iran, Iraq, Kuwait, Saudi Arabia, and Venezuela**, is an intergovernmental organization with key members including Algeria, Equatorial Guinea, Gabon, Libya, Nigeria, the Republic of the Congo, and the United Arab Emirates.
- The organization's primary objective is to **coordinate and unify petroleum policies** among member countries, ensuring fair and stable prices for petroleum producers and maintaining an efficient, economic, and regular supply of petroleum to consuming nations. With its **headquarters in Vienna, Austria**, OPEC holds significant global influence, possessing over **80% of the world's total crude oil reserves**.
- OPEC+ represents approximately 40% of world oil production**, comprising OPEC and 10 other major oil-exporting nations, including Russia. The organization regulates crude oil prices through mechanisms like **spot or future sales**, using **Brent Crude** as a benchmark for quality, with **WTI (West Texas Intermediate)** being another major Benchmark.

About Angola

- It is a **country on the west-central coast of Southern Africa**. Bordered by **Namibia** to the south, the Democratic Republic of the Congo to the north, Zambia to the east, and the Atlantic Ocean to the west. The capital and largest city of **Angola is Luanda**.



20. PALNA SCHEME



Palna scheme

Context: Union Women and Child Development Ministry plans to **set up 17,000 creches** in Anganwadi centres across India under the 'Palna' scheme (means 'to nourish')

Specifications	Details
About the Scheme	The Palna Scheme is a centrally sponsored initiative by the Ministry of Women and Child Development , formerly known as the National Creche Scheme . The Scheme is part of Samarthya which is a sub-component under Mission Shakti .
Aim	1) To address the urgent need for quality day-care facilities/creches for the children of working women. 2) To improve nutrition and health status of children.
What is a Creche?	A creche is a facility that allows parents to leave their children in a supervised environment while they are at work.
Maternity Benefit Act	Maternity Benefit Act, 2017 requires every establishment having fifty or more employees to have the facility of creche within a prescribed distance
Focus of the Scheme	The scheme focuses on two types of creches : 1) Anganwadi-cum-Crèches : These centres combine existing Anganwadi services with dedicated creche facilities. This approach aims to holistically address the needs of both mothers and children in one convenient location. 2) Stand-alone creches : The crèches which were running under the erstwhile National Creche Scheme have been included as Stand Alone Creches.
Services Included	The program encompasses early stimulation services for children under 3 years, including sleeping facilities. For children aged 3 to 6 years, it provides pre-school education . Additionally, health check-ups and immunizations aligned with POSHAN 2.0 are part of the initiative. Under the scheme, two extra creche workers will be appointed in Anganwadis.
Target Group	The scheme focuses on children of 6 months to 6 years , of working women in rural and urban areas who are employed for a minimum period of 15 days in a month , or six months in a year.
Benefits	Institutionalization of day-care centres , formalization of India's Care Economy, and ensuring safety, health, and nutrition benefits for children.
About Mission Shakti	It is focused on women's safety and empowerment , comprising two sub-schemes: Sambal (addressing safety and security with initiatives like One Stop Centre and Women Helpline) and Samarthya (focusing on women's empowerment through programs like Ujjwala and SwadharGreh)

21. LOSS AND DAMAGE (L&D) FUND

Context:

- On the first day of COP 28, member countries **unanimously agreed to operationalize a Loss and Damage (L&D) fund**, aimed at compensating nations already facing the impacts of climate change.
- The fund, **based at the World Bank but managed independently**, has received commitments worth at least **\$450 million**. L&D fund was **first announced during COP27 in Sharm el-Sheikh (Egypt) in 2022**.

What is L&D?

- It refers to the **negative consequences arising from the unavoidable risks of climate change**, like rising sea levels, prolonged heatwaves, species extinction, crop failures, etc
- The L&D fund **addresses the financial toll of climate change, estimated at over \$1.5 trillion in 2022**.

22. ALTERRA FUND

Context:

- UAE President Sheikh Mohammed Bin Zayed Al Nahyan**, at the **COP28 climate summit** in Dubai, announced the creation of a **\$30 billion climate fund named ALTERRA**.
- The fund **aims to attract \$250 billion in investment by the end of the decade**, with \$25 billion allocated to climate strategies and **\$5 billion to incentivize investment in the Global South**.
- The fund seeks to steer private markets towards **climate investments, especially in emerging markets and developing economies**.
- The term “**Alterra**” typically refers to a **Latin word** that is often used in various contexts to **signify alteration, transformation, or variation**.

The fund's investments will be guided by **four key pillars**:

- 1) **Energy Transition**
- 2) **Industrial Decarbonization**
- 3) **Sustainable Living**
- 4) **Climate Technologies Top of Form**

23. ANTHROBOTS

Context:

- Scientists have created tiny robots, **called anthrobots**, made from **human tracheal cells** capable of **repairing damaged neural tissue**.
- Unlike previous xenobots** made from frog cells, **anthrobots are self-assembling and formed from human tissue**, potentially paving the way for **personalized medicine**.

How it works?

- The researchers **grew clusters of human tracheal skin cells**, developing **anthrobots with cilia acting as oars**.
- When placed on scratched neural tissue, **anthrobots fused into a ‘superbot,’** leading to complete **healing within three days without genetic modification**.
- The researchers envision using **person-specific anthrobots** for tasks like **clearing arteries, breaking up mucus, or drug delivery**, with **potential applications in regenerative medicine**.



24. “BIO-VISION” FOR BHARAT

Context:

- The inaugural meeting of the **Biotechnology Research and Innovation Council (BRIC)** Society, emphasized the need to **define a “Bio-vision” for India**.
- BRIC brings together **14 top science autonomous institutions** under a unified platform to **maximize the impact of biotech research**.
- The BRIC Society aims to engage in **public-private research partnerships**, receive endowments from non-governmental resources, and maintain distinct research mandates for each of the 14 subsumed institutions under a common governing body.
- The **“Zero Waste Life on Campus” program was also launched**, promoting sustainability through waste management on BRIC campuses. This **initiative aligns with Mission LiFE movement** and is expected to **strengthen collaborations among institutions while serving as a model for integrated waste management in the community**.
- The **Biotechnology Research and Innovation Council (BRIC)** is an apex autonomous society operating under the **Department of Biotechnology (DBT)**, Ministry of Science and Technology, in India.

25. SURVEY VESSEL – SANDHAYAK

Context:

The **first of four Survey Vessel (Large) ships, Sandhayak**, constructed at Garden Reach Shipbuilders & Engineers (GRSE) in Kolkata, was delivered to the Indian Navy.

Feature	Details
Purpose	Intended for full-scale coastal and deep-water hydrographic surveys of port and harbour approaches, determining navigational channels and routes
Zone of Operation	The zone of operation includes maritime limits up to the Exclusive Economic Zone (EEZ) and the extended continental shelf.
Data Collection	The ships have the capability to collect oceanographic and geophysical data for defence and civil applications.
Hydrographic Equipment	Equipped with advanced hydrographic equipment, including: - Data Acquisition and Processing System - Autonomous Underwater Vehicle - Remotely Operated Vehicle - DGPS Long-range positioning systems - Digital side-scan sonar
Propulsion	Propelled by two diesel engines.
Speed	Capable of achieving speeds exceeding 18 knots.
Indigenous Content	The ship boasts over 80% indigenous content by cost.
Aatma Nirbhar Bharat Commitment	The delivery of Sandhayak highlights the commitment of the Indian government and navy to ‘Aatma Nirbhar Bharat’ (Self-reliant India).

26. GEMINI

Context:

- Google has unveiled its latest AI project, “Gemini,”** designed to exhibit human-like behaviour.
- The rollout will occur in phases, introducing less **sophisticated versions named “Nano” and “Pro” into Google’s AI-powered chatbot Bard and the Pixel 8 Pro smartphone**.
- Notable advancements are expected early next year with the **introduction of the “Ultra” model, powering an advanced version of Bard**.
- Google emphasizes Gemini’s potential in problem-solving, **particularly in math and physics, while expressing commitment to addressing AI risks responsibly**.

27. DRESS SYNDROME

Context:

- The **Indian Pharmacopoeia Commission (IPC)** has issued a drug safety alert regarding the **painkiller Meftal**, cautioning about potential adverse reactions associated with mefenamic acid, including the risk of **Drug Rash with Eosinophilia and Systemic Symptoms (DRESS) syndrome**.

What is DRESS syndrome?

- It is a **severe and potentially life-threatening idiosyncratic reaction** to certain medications. It is characterized by a delayed onset of symptoms, including fever, skin rash, lymphadenopathy, eosinophilia (an increase in a type of white blood cells), and various systemic manifestations.

What is Meftal?

- Meftal is **commonly prescribed for conditions** such as **rheumatoid arthritis, osteoarthritis, dysmenorrhoea, mild to moderate pain**, inflammation, fever, dental pain, muscle and joint pain, period pain, sore throats, nerve pain, and muscle aches.
- Prolonged use of Meftal** and similar drugs may increase the risk of **stomach ulcers, bleeding, and adverse effects on the cardiovascular system**.

About

- Indian Pharmacopoeia Commission** (HQ: Ghaziabad (UP); founded: 1956) is an **autonomous institution** of the **Ministry of Health and Family Welfare** which sets standards for all drugs that are manufactured, sold and consumed in India

28. MAHASAGAR

Context:

- The Indian Navy's **outreach initiative, MAHASAGAR**, conducted its maiden edition as a virtual interaction between the Indian Chief of the Naval Staff, and heads of navies and maritime agencies **from the Indian Ocean Region (IOR) littorals**.
- Participating nations included **several members of IORA** such as Bangladesh, Comoros, Kenya, Madagascar, Maldives, Mauritius, Mozambique, Seychelles, Sri Lanka, and Tanzania. They emphasized the importance of harmonizing capacities in the IOR, aligning with **India's vision of SAGAR**.

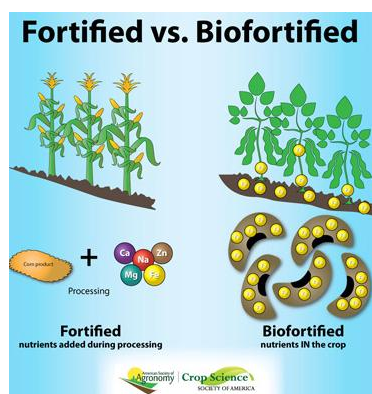
What is India's SAGAR?

- India's SAGAR (announced in 2015), which stands for '**Security and Growth for All in the Region**,' is a vision and policy framework designed to enhance **maritime cooperation and security in the Indian Ocean Region (IOR)**. The initiative emphasizes the importance of promoting collective security and sustainable development for the benefit of all nations in the region.

29. BIOFORTIFIED SEEDS

Context:

- The **Indian Council of Agricultural Research (ICAR)** has developed **142 biofortified seed varieties**, including **124 for field crops and 18 for horticultural crops**, since 2014.
- These varieties cover a **range of crops**, such as **rice, wheat, maize, pearl millet, sweet potato, amaranthus, and more**.
- The biofortified varieties developed by ICAR have demonstrated **equal or better yields compared to conventional varieties**, with no added cultivation costs.
- Biofortified seeds are **bred varieties that aim to enhance nutritional content** without adverse effects on soil and water ecology.



30. BUDGETT'S FROG

Context:

- Researchers from the **Indian Institute of Science's** molecular biophysics unit have conducted a study revealing that **peptides** derived from the skin of Budgett's frog possess the ability to **combat enzymes produced by disease-causing pathogens**.
- The frog's **skin secretions** contain **LL-TIL**, a specific peptide studied by the researchers.
- **LL-TIL** was found to **inhibit two key enzymes**, subtilisin carlsberg and proteinase K, which are produced by pathogens and play a **crucial role in promoting infections** by breaking down **specific protective proteins in the host**.
- The study provides insights into the **inhibitory action of the frog-derived peptide**, offering a **potential framework for developing specific and potent inhibitors** against various pathogenic enzymes.
- **About Budgett's frog:**
 - **Budgett's frog** (*Lepidobatrachus laevis*) is a species of frog in the horned frog family, Ceratophryidae.
 - **Size:** They can grow to be 4–5 in (10–13 cm) in size, with **females being larger than males**.
 - **Habitat:** Their natural habitat is the **semiarid Gran Chaco region of South America**.



31. DE-EXTINCTION OF DODO



De-extinction of Dodo

Context: Geneticists and conservationists are collaborating on an ambitious project to **reintroduce the extinct dodo** to its native habitat in Mauritius

	About Mauritian Dodo
About	The Mauritian Dodo, scientifically known as Raphus cucullatus , was a large flightless bird native to Mauritius, an island in the Indian Ocean.
Physical Characteristics	Standing approximately one meter tall and weighing 10-18 kilograms , the dodo had distinctive physical features, including a large beak and stubby wings
Habitat	Endemic to Mauritius; lived in forests and possibly coastal areas.
Discovery	Discovered by Dutch Colonists in the late 16th century; extinct by the late 17th century, last sighting around 1662.
Extinction	Due to Human hunting and introduction of species like rats, pigs, and monkeys.
Diet	Likely fruits, nuts, seeds, bulbs, and possibly small animals.
Behaviour	Exhibited no fear of humans due to lack of natural predators.
Science of De-Extinction	Genetic Blueprint: Paleo-geneticists have successfully sequenced the dodo's genome using DNA from a museum specimen. The project involves editing the primordial germ cells (PGCs) of the Nicobar pigeon, the dodo's closest living relative, to express dodo traits. Interspecies Surrogacy: Edited PGCs will be inserted into chicken embryos, with chickens acting as interspecies surrogates to potentially birth a dodo offspring. The aim is to create a bird physically indistinguishable from a dodo
Challenges	Mauritius' transformed landscape poses challenges for reintroducing the dodo, necessitating the control or removal of invasive species. The project considers reintroducing dodos to more pristine, uninhabited islands like Round Island and Aigrettes.
Significance	Ecosystem Restoration: Reintroducing the dodo could help restore mutualistic relationships in Mauritius' ecosystem, particularly in seed dispersal. Conservation Technology: The techniques developed could aid in conserving and restoring other endangered avian species. Symbolic Value: The project is driven by a desire to create 'conservation optimism,' using the dodo as a symbol of hope in the face of human-caused extinctions.
Reintroducing other species	Woolly Mammoth (Arctic Tundra); Northern White Rhino; Tasmanian Tiger (Australia); Pyrenean Ibex; Quagga etc.

32. INDIAN FOREST & WOOD CERTIFICATION SCHEME (IFWCS)

Context:

- The Ministry of Environment, Forests, and Climate Change has introduced the **Indian Forest & Wood Certification Scheme** to encourage **sustainable forest management** and agroforestry practices in India.

What is sustainable forest management and agroforestry?

- **Sustainable Forest management** involves the **responsible and balanced use of forest resources** to meet present needs without compromising the ability of future generations to meet their own needs.
- **Agroforestry** is a **land-use system that integrates trees or shrubs with crops or livestock on the same piece of land**. It combines agricultural and forestry practices to achieve environmental, economic, and social benefits.

What is the Scheme about?

This national certification scheme comprises three types of certifications:

1. **Forest management certification**
2. **Tree Outside Forest Management Certification**
3. **Chain of custody certification (to trace forest products)**
 - **Aim:** It aims to provide **market incentives** for entities, including **state forest departments, farmers, and wood-based industries**, adhering to responsible forest and agroforestry practices.
 - **The Forest Management certification** is based on the **Indian Forest Management Standard**, and a **new Trees Outside Forests Standard** has been introduced.
 - **Applicability:** IFWCS is applicable across the country, **both in forest areas and TOF plantations** on government, private, agroforestry and other lands. Certification is applicable for both **timber and non-timber forest produce**.
 - **Nodal Agency:** The scheme will be overseen by the **Indian Forest and Wood Certification Council (advisory)**, involving various stakeholders, and managed by the **Indian Institute of Forest Management (overall management of the scheme)**
 - **Working:** Independent audits will be conducted by the **National Accreditation Board for Certification Bodies under the Quality Council of India** to assess compliance with the scheme's standards. Complying agencies will be given a **third-party certification** of compliance. Complying individuals/agencies can then avail of available incentives based on their certification.

33. 'AMRIT' TECHNOLOGY

Context:

- Indian Institute of Technology (IIT) - Madras has developed the 'AMRIT' technology for removing arsenic and metal ions from water

What is AMRIT Technology?

- It has been **developed by IIT-Madras**, and focuses on **removing arsenic and metal ions** from water to address water quality issues. Using **nano-scale iron oxy-hydroxide**, it selectively eliminates arsenic when water passes through it. This technology is **suitable for both domestic and community-level water purification**, aligning with the objectives of the Jal Jeevan Mission.
- The **'Standing Committee' of the Department of Drinking Water and Sanitation** has recommended AMRIT for consideration in **addressing water and sanitation challenges**.

What is Arsenic?

- Arsenic is a **chemical element (symbol: As)** that occurs naturally in the Earth's crust. Arsenic can be found in various forms, including **inorganic and organic compounds**. Inorganic arsenic is often considered **toxic and can pose serious health risks** to humans when present in drinking water, leading to issues like **arsenic poisoning**.

What is Jal Jivan Mission?

- The Jal Jeevan Mission, **launched in 2019**, aims to provide safe and sufficient drinking water through **individual household tap connections** to all rural households in India by 2024. It targets supplying **55 litres of water per person per day through Functional Household Tap Connections (FHTC)** by 2024. The mission also covers urban areas, ensuring universal water supply through functional taps in all statutory towns.

- Progress shows an increase **from about 17% to approximately 71% of rural households** with tap water connections by December 2023. Additionally, all 378 arsenic-affected habitations awaiting tap water supply have received safe drinking water through Community Water Purification Plants (CWPPs).

34. PATENT EXCLUSIONS

Context:

The recent judgments from **Justice Senthilkumar Ramamoorthy of the Madras High Court** raised concerns regarding **exclusions to patentability in pharmaceutical and medical patents** under **Section 3 of the Patents Act, 1970**, in India.

Case	Focus	Key Points
Novozymes vs Assistant Controller of Patents and Designs	Section 3(e) - Exclusion of mere aggregations	Known aggregates can be patent-eligible if individual components meet patent criteria ; evidence is required to demonstrate synergistic properties.
Hong Kong and Shanghai University vs Assistant Controller of Patents	Section 3(i) - Exclusion of medical treatment processes	Exclusion extends beyond <i>in vivo</i> /invasive diagnoses; and includes processes for disease diagnosis.

The court emphasizes the **need for clear, bright-line rules in patent law for consistency, certainty, and efficiency in decision-making by the Indian Patent Office.**

35. IUCN RED LIST UPDATION 2023

Context:

- The latest update to the **IUCN Red List of Threatened Species** reveals that **climate change poses a threat to numerous species**, including Atlantic salmon and green turtles.
- The report, **released at the COP28 UN climate conference**, also includes the first global **assessment of freshwater fish**.

Key Findings:

- The assessment **indicates that 25% of freshwater fish species** are at **risk of extinction**, with at least **17% affected by climate change**.
- The report highlights various threats, including **decreasing water levels, rising sea levels, shifting seasons, pollution, dams, overfishing, and invasive species**.
- Additionally, the update features conservation successes, **such as the scimitar-horned oryx and the saiga antelope**, but notes that changing climatic conditions could undermine their future.
- The report also **reveals the impact of illegal logging and trade on big-leaf mahogany**, which has moved from **Vulnerable to Endangered on the Red List**.

IUCN:

- The **IUCN Red List of Threatened Species**, also known as the **Red Data Book**, is a **list of the global conservation status and extinction risk** of biological species.
- It was **founded in 1964** and is the **world's most comprehensive information source** on the **global extinction risk status of animal, fungus, and plant species**.

36. MYANMAR WORLD'S BIGGEST OPIUM PRODUCER

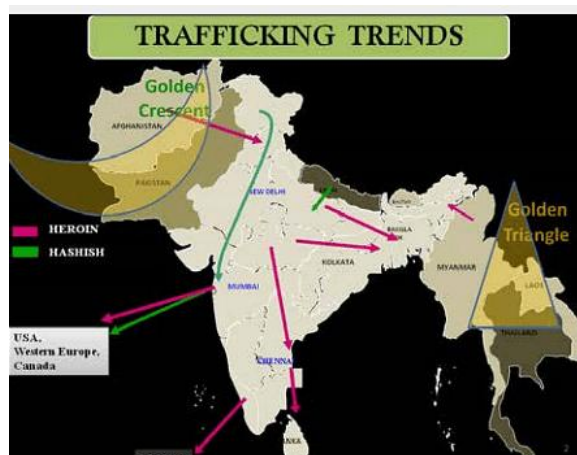
Context: Myanmar has become the **world's largest producer of opium in 2023**, surpassing Afghanistan, according to a **United Nations Office on Drugs and Crime report**.

- Myanmar's opium production is estimated at **1,080 metric tonnes**, while **Afghanistan's production has plummeted by 95% to around 330 tonnes** due to the **Taliban's ban on poppy cultivation**.

- **Conflict, instability, poor market access, and inflation** have driven farmers in Myanmar to cultivate poppy, contributing to the highest opium production in over 20 years.

Opium:

- It is a **highly addictive non-synthetic narcotic** that is extracted from the **poppy plant, *Papaver somniferum***. The opium poppy is the key source of **many narcotics, including morphine, codeine, and heroin**.



37. DOMESTICATION OF YAK

Context:

- The **oldest evidence of yak domestication** by humans has been **discovered in Bangga**, a settlement in the **Shannanprefecture of the Tibetan Autonomous Region in China**, near the **Brahmaputra River and the Indian border**.
- The study reveals that around 2,500 years ago, **residents of Bangga not only domesticated yaks but also taurine cattle**, a variety distinct from **Indian Zebu breeds**.
- The researchers found evidence of **hybrid offspring produced by crossing yaks and cattle**.
- Genetic analysis of bones indicated the **presence of male yaks and female taurine cattle**.
- The surprising proximity of taurine cattle to the Indian subcontinent suggests they may have **reached central and eastern Tibet via the Silk Route**.

38.PANGOLAKHA WILDLIFE SANCTUARY

Context:

A tiger has been spotted at a **record-high elevation of 3,640 meters** in the **Pangolakha Wildlife Sanctuary** in Sikkim. This marks the **highest elevation in India** where tigers have been observed, surpassing the previous record of 3,630 meters in Arunachal Pradesh.

About Pangolakha Wildlife Sanctuary

Topic	Details	
Location	The Pangolakha Wildlife Sanctuary is situated at the tri-junction of Sikkim, Bengal, and Bhutan . The Pangolakha range in the east separates Sikkim from Bhutan	
Size	It is the largest wildlife sanctuary in Sikkim.	
Connectivity	Linked to Neora Valley National Park of West Bengal , forests of Samtse and Haa district in Bhutan.	
Biodiversity	Home to various species, including red pandas, snow leopards , Himalayan musk deer, goral, and black bears.	
Lakes	Features high-altitude lakes, including Lake Tsongmo , a biodiversity hotspot for migratory birds.	

Rivers	Major rivers like Rangpo and Jaldhaka originate from nearby lakes within the sanctuary.	
Biogeographic Realm	Falls at the junction of the Palearctic realm and the Indomalayan realm , supporting diverse species.	
Ecoregions & Biomes	Encompasses various ecoregions, including the Terai-Duar savanna, Eastern Himalayan broadleaf forests , Himalayan subtropical pine forests, Eastern Himalayan subalpine conifer forests, and Eastern Himalayan alpine shrub and meadows	

39. BARRACUDA

Context:

- India's fastest **solar-electric boat, named Barracuda**, was launched at the Navalt Solar and Electric Boats yard in Aroor, Alappuzha (Kerala).
- Designed by Navalt, the eco-friendly vessel is **capable of carrying 12 passengers** and cargo, with a top speed of 12.5 knots and a range of seven hours on a single charge. The boat is built to navigate waves up to four meters high and **was commissioned by Mazagon Dock Limited** for use in Mumbai under the same **Saur Sakthi**. Navalt Solar and Electric Boats received the **world's best start-up award in the mobility and transportation category** at the Berlin Start-up Energy Transition Awards 2023.

40. KRUTRIM

Context:

- Ola has announced the development of a **"Made for India" Large Language Model like ChatGPT equivalent called Krutrim**.
- This AI system, designed to **support 10 Indian languages**, will operate **independently from Ola's mobility and EV businesses**.
- The system, **trained on proprietary datasets**, aims to address India's linguistic diversity and cultural context.
- A **large language model (LLM)** is a type of **artificial intelligence (AI) program** that can recognize and generate text. LLMs are built on **machine learning**, specifically a type of neural network called a **transformer model**.

41. BLUE DRAGON

Context:

Scientists have discovered a **new mosasaur, named Wakayama Soryu**, in Japan that lived **72 million years ago**.

- Dubbed the **"blue dragon," this marine predator**, comparable in **size to a great white shark**, was found with **unique features such as long rear flippers and a shark-like dorsal fin**.
- Researchers believe these **traits enhanced its agility and speed in the water**.
- Classified as **Megapterygius wakayamaensis**, the mosasaur challenges existing ideas about marine **reptile locomotion and offers insights into the diversity and evolution of mosasaurs**.
- The naming as **"blue dragon" reflects its cultural significance in Japanese folklore**.
- Mosasaurs, apex predators of the late Cretaceous period**, coexisted with dinosaurs and became extinct due to a mass extinction event **caused by an asteroid impact**.

The discovery sheds light on prehistoric marine life and adds to our understanding of Earth's ancient oceans.

42. KHELO INDIA PARA GAMES

Context:

- The Union Sports Minister **officially closed the inaugural edition of the Khelo India Para Games in Delhi**.
- Haryana** emerged as the top-performing state with 105 medals, including 40 gold, followed by **Uttar Pradesh and Tamil Nadu**.

What is the Khelo India Para Games?

- The **Khelo India Para Games (KIPG)** is aimed at **empowering para athletes** in India. Organized by the **Ministry of Youth Affairs & Sports, Sports Authority of India**, and other bodies, it is part of the **broader Khelo India Initiative**.
- Khelo India was introduced by the **Indian government in 2017** and encompasses the:
 1. **Khelo India Youth Games (KIYG)** (commenced 2018): **Annual national competition** for youngsters representing states
 2. **Khelo India University Games (KIUG)** (commenced 2020): Showcases university students' talent in sports
 3. **Khelo India Winter Games (Commenced 2020)**: Promotes winter sports in India
 4. **Khelo India State Centres of Excellence (KISCE) scheme**: It aims to enhance sports infrastructure by supporting existing training facilities.

43. MELANISTIC TIGERS

Context:

- Melanistic tigers are found exclusively in the **Similipal Tiger Reserve in Odisha**. STR harbours the only population of melanistic tigers in the world (10 out of 16 tigers in the park are melanistic)
- The National Tiger Conservation Authority (NTCA) issued a **Standard Operating Procedure to safeguard these tigers**, with Similipal identified as a distinct genetic cluster for conservation.
- Funding under the **Centrally Sponsored Scheme of Integrated Development of Wildlife Habitats** supports various conservation efforts in Similipal, including awareness programs, habitat management, protection, and infrastructure development.

About Melanistic tigers (black tigers)

- They are a **rare colour variant of the Bengal tiger** (*Panthera tigris tigris*). Unlike the typical **orange coat with dark stripes**, melanistic tigers have a **dark black or nearly black coat** with faint **or almost invisible stripes**. This dark colouration is due to a **genetic condition known as melanism**, where there is an excessive development of dark pigmentation (melanin) in the skin and fur. Melanistic tigers are **not a separate sub species** but rather a colour morph within the Bengal tiger population. A single mutation in the gene **Transmembrane Aminopeptidase Q (Taqppep)** causes the black tigers to develop broadened stripes.

About STR

- Similipal Tiger Reserve, situated in the **Eastern Ghats**, is a **UNESCO-listed Biosphere Reserve, National Park, and Tiger Reserve**. Positioned within the **Mahanadian coastal region and the Chhotanagpur biotic province**, it spans diverse biogeographical realms. Comprising the Mayurbhanj Elephant Reserve, which includes Similipal Tiger Reserve, Hadgarh, and Kuldiha Wildlife Sanctuary, Similipal boasts varied vegetation, encompassing moist and dry deciduous forests and grasslands

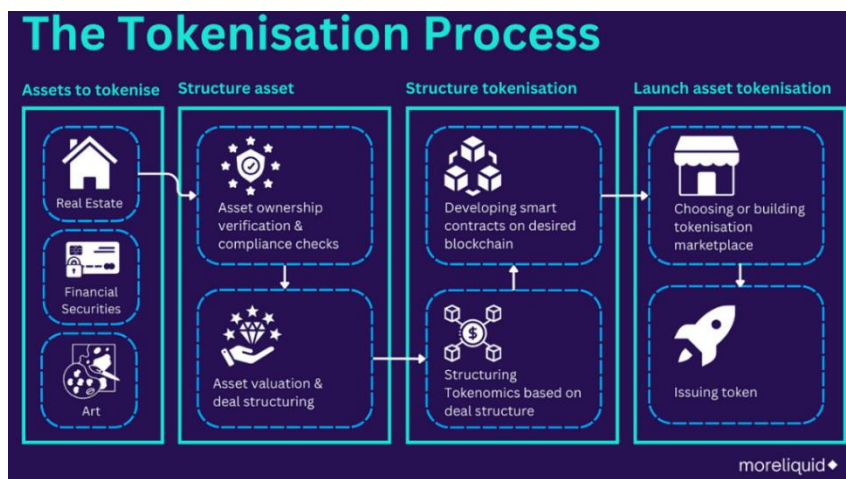


44. TOKENISATION

Context:

- The **Reserve Bank of India (RBI)** has expanded the scope of **card-on-file tokenisation (CoFT)** to include card issuing banks and institutions directly, **moving beyond services provided through merchants**.

- **CoFT is a security measure** for users opting for **digital payments**, replacing the practice of merchants storing card details with specially created tokens.
- RBI's recent notification outlines the requirements for **enabling CoFT through card issuers**, allowing customers to generate tokens through mobile and internet banking channels with explicit consent and additional validation.
- Tokenization is the **process of replacing sensitive data** with a **non-sensitive equivalent**, called a **token**. Tokens are random strings of characters that have no meaningful value if breached. They serve as a **reference to the original data**, but cannot be used to guess those values.



45. PONG DAM ECO-SENSITIVE ZONE

Context:

- The state government is **re-evaluate the extent of the eco-sensitive zone around the Pong Dam** to alleviate the difficulties faced by local residents and enable farming during periods of reduced water levels

About the Pong Dam Wildlife Sanctuary

- It is located in the **Kangra district of Himachal Pradesh, India**, is a significant protected area known for its **diverse flora and fauna**.
- **Pong Dam Lake (Maharana Pratap Sagar)** is a manmade reservoir created in **1975 with construction of Pong Dam on Beas River**. It is also known as **Pong reservoir or Pong Dam**.
- In 1983, reservoir was declared as **Wildlife Sanctuary**.
- Pong Dam Lake was **designated a Ramsar site in 2002**. There is a **Vulture café in Pong** wherein cattle carcass is dumped for Vultures.

46. MINIMUM SUPPORT PRICE FOR COPRA

Context:

- The Cabinet Committee on Economic Affairs, has approved the **Minimum Support Prices (MSPs) for copra for the 2024 season**.
- The move aims to provide better **returns to coconut growers**, encourage copra production, and meet the **growing demand for coconut products**.
- Copra is the **dried, white flesh of the coconut**. It's a **major cash crop** and is valued for the **coconut oil that can be extracted from it**.
- The MSP is a **form of government intervention to protect farmers from steep declines in the prices of their goods**. The MSP is based on a calculation of **at least one-and-a-half times the cost of production incurred by the farmers**.

47. ARGENTINA REJECTS BRICS MEMBERSHIP

Context:

- Argentina has formally rejected the invitation to join the **BRICS** (Brazil, Russia, India, China, South Africa) group of major emerging economies.
- The membership of **Argentina, Ethiopia, Iran, Saudi Arabia, Egypt and the United Arab Emirates** was due to take effect from January 1, 2024.

Why did Argentina Reject BRICS Membership?

- New Argentinian President Milei, during his election campaign, Milei had expressed a **geopolitical alignment with the United States and Israel**, emphasizing a reluctance to ally with communists. The decision aligns with his campaign promises and reflects a **shift in foreign policy** from the previous administration.



BRICS Expansion

Context: The alliance of Brazil, Russia, India, China, and South Africa invited six more countries (Iran, UAE, Saudi Arabia, Argentina, Egypt, and Ethiopia) to join, starting in January 2024.

Significance of Adding New Members in BRICS:

Aspect	Significance
Strengthened Representation	The addition of new members boosts BRICS' influence as a representative of the Global South. It symbolizes BRICS as a "voice of the Global South."
Population and GDP	BRICS already represents 40% of the world's population and over a quarter of global GDP. With new members, it represents almost half the world's population and more diverse economies.
Anti-US Sentiment	The expansion is driven partly by anti-US sentiment globally , allowing nations to rally against perceived Western dominance.
Multipolarity Platform	BRICS provides a platform for countries of the Global South to express solidarity and advocate for multipolarity in global affairs.
Economic and Geopolitical Role	It challenges Western geopolitical views and has the potential to emerge as a counterweight to Western-led forums like G7 and the World Bank.
China's Influence	China's influence in driving the expansion underscores its aspirations to establish BRICS as a core agenda and non-western grouping.
Diverse Geopolitical Ties	The new members have diverse geopolitical interests, ranging from oil production (Saudi Arabia) to diplomatic alliances (Iran and Russia).
China-Russia Imprint	China's involvement in inviting Iran and Saudi Arabia underscores its role in expanding BRICS and shaping global alliances.
Signal to the West	Iran and Russia's inclusion is a signal to the West that they have global allies despite strained relations.
India's Positioning	India values its presence in BRICS as a "non-western" grouping , allowing it to maintain diverse partnerships.

48. NEORA VALLEY NATIONAL PARK

Context:

- A recent image captured by trap cameras in the Neora Valley National Park in the hills of West Bengal has confirmed the **presence of Royal Bengal Tigers** at an altitude of **10,509 feet** above sea level.
- The survey indicates the presence of **more than 10 tigers in the area**, with recent camera **trap images consistently featuring at least one Royal Bengal Tiger.**
- **Neora Valley National Park** in the Kalimpong district of **West Bengal** was **established in 1986**, it's a **rich biological zone with diverse flora and fauna.**
- The park is home to the red **panda** and is **known for its rugged, inaccessible terrain.**

49. LITCHI

Context:

- The **National Research Centre on Litchi (NRCL)**, has successfully expanded **litchi cultivation to 19 states in India.**
- Litchi cultivation for commercial production has commenced in states such as **Andhra Pradesh, Tamil Nadu, Karnataka, Uttar Pradesh, Himachal Pradesh, and others.**

About Litchi:

- Litchi (*Litchi chinensis*) is a small, oval roundish fruit that is **native to Southeast Asia**. It is a member of the **soapberry family (Sapindaceae)** and is also known as **lychee or lichee.**
- Litchi is a sensitive fruit, **influenced by temperature, rainfall, humidity, and soil conditions.**

- The fruit primarily grows in **the foothills of the Himalayas**, with **Bihar alone contributing nearly 40% of India's litchi production**.
- Litchi fruit contains a **toxin, methylene cyclopropyl-glycine (MCPG)**, which is known to be fatal by **causing encephalitis-related deaths**. This is especially harmful when **consumed by malnourished children**

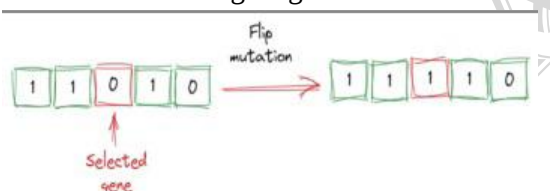
50. “FLIP” MUTATIONS

Context:

- The **omicron subvariant JN.1**, characterized by the “FLip” mutation **L455S** in its **spike protein**, is expected to **become the dominant lineage of the SARS-CoV-2 virus worldwide**.
- This subvariant, a **descendant of the BA.2.86 lineage**, has shown rapid growth and was **designated a variant of interest (VOI)**.
- The “FLip” mutations, including **L455S and L455F**, are associated **with increased transmissibility**.
- The mutation affects the receptor binding capacity of **angiotensin-converting enzyme 2 (ACE2)**, the **protein that the SARS-CoV-2 virus uses as an entry point**.
- This alteration results in stronger binding to ACE2, potentially reducing protection from natural antibodies.

Flip mutation

- This type of **mutation is performed when we use binary crossover**. A randomly selected bit of a chromosome is flipped, as shown in the following diagram



L455S and L455F are called “FLip” mutations because they **switch the positions of amino acids F and L on the spike protein, increasing their transmissibility**

51. KRA ISTHMUS

Context:

- The Kra Isthmus, located on the **Malay Peninsula in Thailand**, has gained strategic importance due to a **proposed transit artery** that could connect the **Andaman Sea and the Gulf of Thailand**.
- This isthmus, **just 44 km wide** at its narrowest point, has the potential to impact international trade and security similarly to the historical significance of the **Suez and Panama Canals**. Recently, the Thai Prime Minister officially presented a multi-billion-dollar **land-bridge project**.
- **An isthmus is a narrow strip of land** that connects two larger land masses and is bordered by water on two sides.
- The Kra Isthmus in Thailand is the **narrowest part of the Malay Peninsula**. The isthmus is bordered to the west by the **Andaman Sea** and to the east by the **Gulf of Thailand**

52. PAMPORE (SAFFRON PRODUCTION IN INDIA)

Context:

- Pampore, known as the **centre of the country's saffron** (referred to as “red gold”) **cultivation** has seen a decline in productivity.

About Saffron:

- Saffron is a spice derived from the **flower of Crocus sativus**, commonly known as the “**saffron crocus**”. The vivid **crimson stigma and styles, called threads**, are collected and dried for use mainly as a seasoning and colouring agent in food

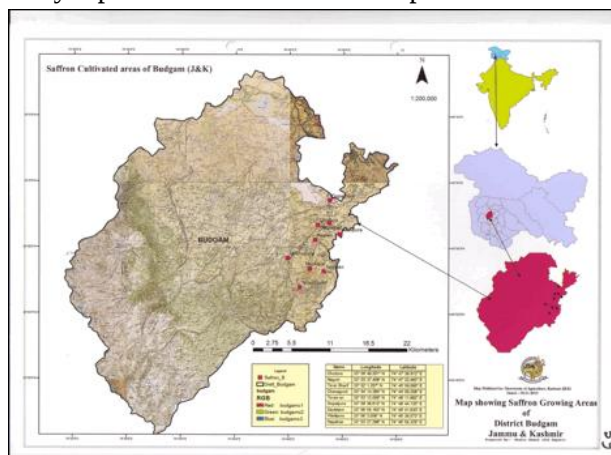
The main issues impacting saffron production in Pampore are:

1. Climate change

2. Erratic rainfall patterns
3. Higher temperatures
4. Expansion of urban areas onto saffron fields

Insufficient investment in irrigation and farmer training, contribute to the challenges faced by saffron cultivation

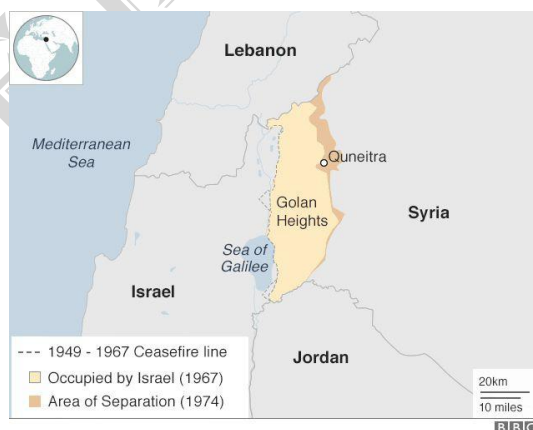
5. **Iran, India, Spain and Greece** are the major saffron-producing countries with Iran occupying the maximum area and contributing **about 88% of the world's saffron production**. Though, **India occupies the 2nd largest area** but produces approximately 7 per cent of the total world production



53. GOLAN HEIGHTS

Context:

- Recently, India has voted in favour of a UN General Assembly draft resolution **expressing deep concern over Israel's failure to withdraw from the Syrian Golan Heights**.
- The resolution called for **Israel's withdrawal from the occupied Syrian Golan** to the June 4, 1967 line, emphasizing the hindrance of the occupation to achieving a just, comprehensive, and lasting peace in the region.
- The Golan Heights**, spanning about 1,800 km², is a **basaltic plateau** bordered by the Yarmouk River, the Sea of Galilee, Hula Valley, Mount Hermon, and Wadi Raqqad. It was captured by Israel from Syria **during the 1967 Six-Day War**



54. KAMBALAKONDA WILDLIFE SANCTUARY (ANDHRA PRADESH)

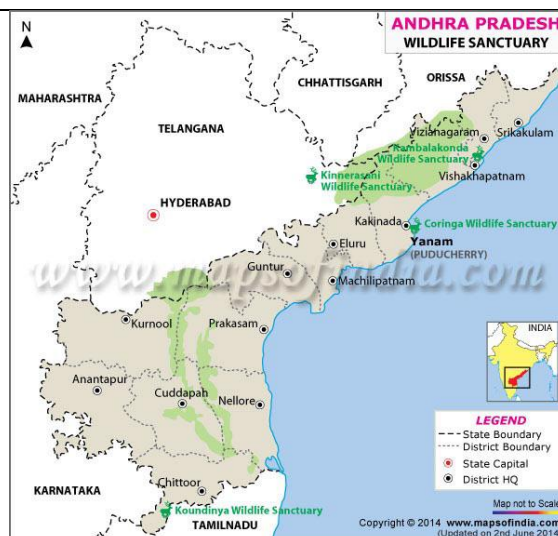
Context:

- The Eastern Ghats Nature Interpretation Centre in Visakhapatnam, a **first-of-its-kind project by the Andhra Pradesh Forest Department (in the Kambalakonda Wildlife Sanctuary)**, offers an immersive experience highlighting the diverse ecosystems of the Eastern Ghats, stretching from Odisha to Tamil Nadu.
- The Nature Interpretation Centre aims to **inform, educate, and inspire visitors** to care about the rich biodiversity of the Eastern Ghats. The project, scheduled for completion by the end of December, is part of the larger **Eastern Ghats Biodiversity Centre**.

- The centre is a collaboration between **wildlife artists, illustrators, sculptors, architects, wildlife biologists, translators, and content creators.**

About Kambalakonda Wildlife Sanctuary:

Kambalakonda Wildlife Sanctuary	
Location	Near Visakhapatnam, Andhra Pradesh
Name	Refers to the local hill, Kambalakonda
Terrain	Hilly with steep slopes
Forest Type	Dry evergreen forest mixed with scrub and meadows
Flora	Notable flowers include the Indian screw tree, flowers of the Bush plum tree, Jungle berry bunches
Fauna	Rare animals: Indian leopard, Indian pangolin, Madras treeshrew, Barking Deer, Jackal; Rare snake: Russel's viper or Daboia russelii; Uncommon birds: Indian Golden oriole, Indian peafowl, Banded Bay Cuckoo



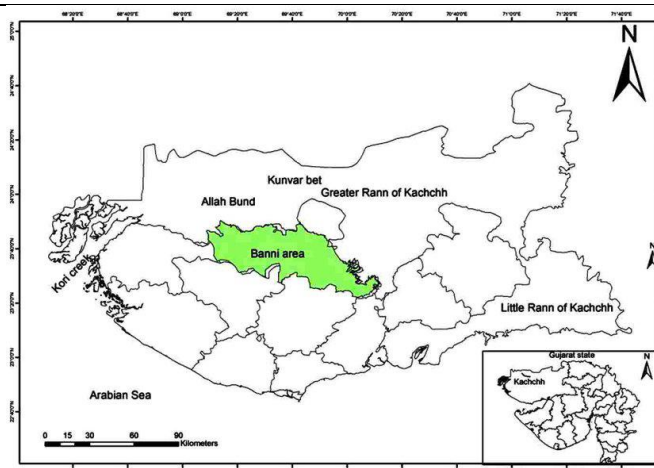
55. BANNI GRASSLAND

Context:

The central government has approved a proposal to establish a **cheetah conservation breeding centre in Gujarat's Kutch district's Banni grassland.**

Aspect	Details
Location	Banni Grassland is situated near the Great Rann of Kutch in Gujarat.
Size	It is considered to be the largest Grassland in Asia , spreading over 2,618 kilometres and accounting for almost 45% of the pastures in Gujarat.
Formation	The land in Banni was formed from the sediments deposited by the Indus and other rivers over thousands of years.
Ecosystem	Two ecosystems, wetlands, and grasslands, coexist in Banni.
Vegetation	The vegetation is sparse and highly dependent on rainfall . It is dominated by low-growing forbs and graminoids , many of which are halophiles (salt-tolerant). The grasslands were traditionally managed by a system of rotational grazing.
Flora and Fauna	Rich biodiversity with 192 species of plants, 262 species of birds , several species of mammals, reptiles, and amphibians. It is also known for the Banni

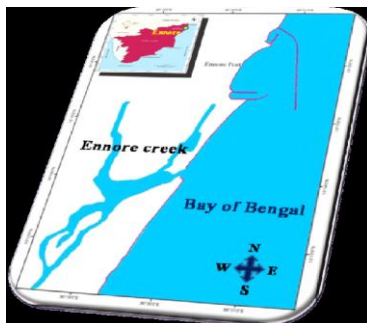
	breed of buffaloes
Reserve Forest Status	In 1955, the court notified the grassland as a reserve forest. In 2019, the National Green Tribunal (NGT) ordered to demarcation of the boundaries of Banni grassland and restricted non-forest activities . Most of the livestock keepers in Banni belong to the Maldhari community . They rear the Banni or Sindhi buffalo, Kankrej cattle , sheep, goats, horses, donkeys and camels
Significance	The Wildlife Institute of India (WII) has identified Banni Grassland as one of the last remaining habitats of the cheetah in India .



56. BUCKINGHAM CANAL AND ENNORE CREEK

Context:

- During the recent **Cyclone Michaung**, an **oil spill** occurred from the **Chennai Petroleum Corporation Limited (CPCL)** into the **Buckingham Canal and Ennore Creek** in Tamil Nadu.
- The wetland has suffered from **pollution caused by industries and neglect**, as evidenced by the continuous presence of **fly ash and hot water**. Despite NGT directives, little progress has been made in **restoring and protecting the fragile ecosystem** of the **Ennore wetlands**.
- Ennore Creek in Chennai**, situated along the **Coromandel Coast**, serves as a crucial buffer for the aquifers of the **Araniyar-Kosasthalaiyar Basin**, protecting them from the sea. Positioned in the floodplains of three rivers on a disaster-prone coastline, Chennai relies on wetlands like Ennore Creek as natural shock absorbers during calamities



57. YEMEN (HOUTHI REBELS)

Context:

- In the last four weeks, **Houthi militants from Yemen** have attacked commercial ships 12 times. Prominent shipping fleet operators have paused/rerouted their movements through the Red Sea route.
- The Houthi movement** originated in the early 1990s in Yemen as a Zaydi revivalist group (a sect of Shia). Initially focused on **religious and social networks**, it evolved into a powerful force, leading **insurgency**

against perceived corruption and external interventions. The Houthis-Saleh alliance captured Sana'a in 2015, triggering a civil war in Yemen.

- Yemen is a country in West Asia located at the southern end of the Arabian Peninsula. It shares borders with Saudi Arabia and Oman and maritime borders with Eritrea, Djibouti, and Somalia. Yemen is a member of the Arab League, the United Nations, the Non-Aligned Movement, and the Organisation of Islamic Cooperation.



58. MALDIVES

Context:

- The Maldives has expressed its intention to terminate a bilateral agreement with India that allowed collaboration in the hydrographic survey of Maldivian territorial waters.

What is a Hydrographic Survey?

- A hydrographic survey is a scientific process that involves mapping and measuring the physical features of underwater terrain. It includes the study of the depth, topography, and characteristics of the seabed and water bodies.
- The decision, part of the new Maldives government's initiatives, comes after calls for the withdrawal of Indian military personnel. The agreement, established in June 2019, aimed to enhance the Maldivian government's capability to map coastal waters and Exclusive Economic Zone.
- The new Maldives government had earlier requested the withdrawal of Indian troops from the Island Country.
- The Maldives is a South Asian archipelagic state in the Indian Ocean, southwest of Sri Lanka and India. Comprising 26 atolls, it is the smallest country in Asia and one of the world's most geographically dispersed sovereign states. With a total area of about 90,000 square kilometres, including the sea, and a population of 521,021, it is the 2nd least-populous country in Asia. Malé is the capital, situated on the Chagos– Laccadive Ridge, making it the world's lowest-lying country. Inhabited for over 2,500 years, the Maldives has a rich history influenced by Islam, and European colonial powers, and achieved independence from the United Kingdom in 1965.



59. WORLD'S OLDEST FORT (AMNYA FORT) IN SIBERIA

Context:

- Hunter-gatherers built the **world's oldest known fort 8,000 years** ago in Siberia, challenging the assumption that fortresses were **exclusive to agricultural societies**.
- The **Amnya fort** along the **Amnya River in western Siberia** consists of pit-house depressions with earthen walls and **wooden palisades**, suggesting advanced agricultural and defensive capabilities.
- Siberia is a **vast Russian province** encompassing most of Northern Asia, with terrain spanning **tundra, coniferous forest and mountain ranges** including the **Ural, Altai and Verkhoyansk**. **Lake Baikal**, in its south, is the **world's deepest lake**, circled by a network of hiking paths called the **Great Baikal Trail**. The **Trans-Siberian Railway** passes Baikal on its route between Moscow and the Sea of Japan



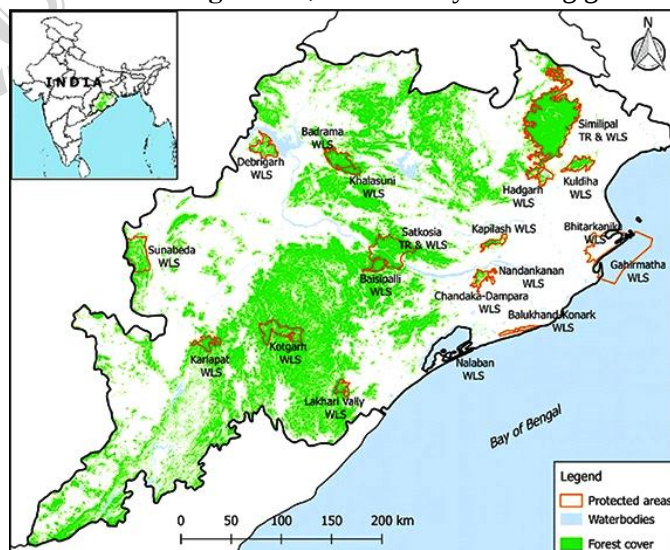
60. NANDANKANAN ZOOLOGICAL PARK (NZP) (ODISHA)

Context:

- The Central Zoo Authority (CZA) has **approved the transfer of a cheetah, African lion, and Chimpanzee** from Dubai Safari Park to **Nandankanan Zoological Park (NZP)** in Odisha.
- The NZP, in exchange, will provide various animals including **Hippopotamus, blackbuck, hog deer, gaur, red junglefowl, and gharial**.

About Nandankanan Zoological Park

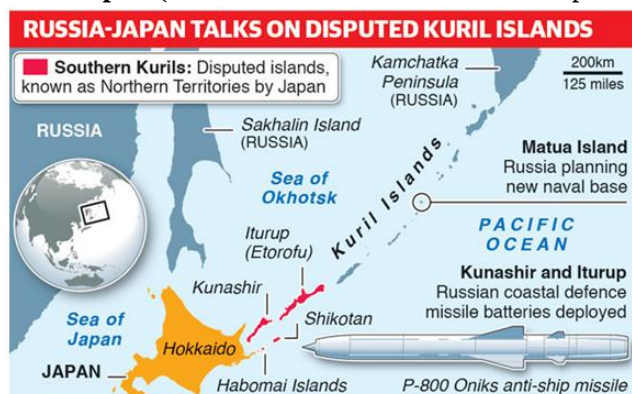
- It is located **15 km from Bhubaneswar, Odisha**, and was inaugurated in 1960. It holds the distinction of being the **first zoo in India to join the World Association of Zoos & Aquariums (WAZA)**, a global alliance dedicated to animal care and conservation. Recognized for breeding **Indian pangolins and white tigers**, it is also a breeding ground for leopards, mouse deer, lions, ratel, and vultures. Nandankanan was the **world's first captive crocodile breeding centre**, successfully breeding gharials in captivity in 1980.



61. JAPAN'S KURIL ISLANDS

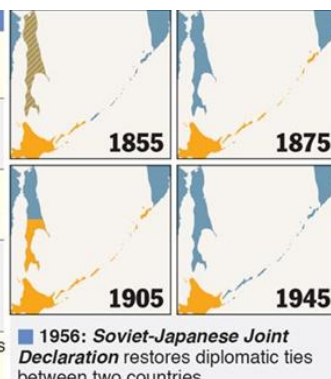
Context:

- An earthquake of **magnitude 6.3 on the Richter Scale** jolted Japan's Kuril Islands.
- The Kuril Islands stretch from **Japan's Hokkaido** to **Russia's Kamchatka Peninsula**, separating the **Okhotsk Sea** from the North Pacific Ocean. They are part of the **Pacific's Ring of Fire**, with over 100 volcanoes, 35 active, and numerous hot springs. The Southern Kuril Islands are disputed between **Russia and Japan** (Russia calls them Kuril Islands; Japan refers to them as Northern territories)



HISTORY OF KURIL DISPUTE

- **1855: Treaty of Shimoda** gives southern Kurils to Japan and rest of island chain to Russia.
- **1875: Treaty of St Petersburg** cedes all Kurils to Japan in exchange for Russian jurisdiction over Sakhalin
- **1905:** After Russia's defeat in **Russo-Japanese War**, Japan gains control of southern Sakhalin
- **1945:** Soviet Union occupies entire Kuril chain and southern Sakhalin after declaring war on Japan during final days of **World War II**
- **1951:** Japan renounces claim to Kurils in **Treaty of San Francisco**, signed



- **1956: Soviet-Japanese Joint Declaration** restores diplomatic ties between two countries.