



DHEERAN IAS ACADEMY™

(Specialized Institute for UPSC, TNPSC & Banking)

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SYLLABUS –UPSC EXAMINATION

GENERAL STUDIES - 1

Art and Culture

Syllabus:

- Indian culture will cover the salient aspects of Art Forms, literature and Architecture from ancient to modern times.

History

Syllabus:

- Modern Indian history from about the middle of the eighteenth century until the present significant events, personalities, issues.
- The Freedom Struggle — its various stages and important contributors/contributions from different parts of the country.
- Post-independence consolidation and reorganization within the country.
- History of the world will include events from 18th century such as industrial revolution, world wars, redrawal of national boundaries, colonization, decolonization, political philosophies like communism, capitalism, socialism etc.— their forms and effect on the society.

Geography

Syllabus:

- Distribution of key natural resources across the world (including South Asia and the Indian sub-continent); factors responsible for the location of primary, secondary, and tertiary sector industries in various parts of the world (including India).
- Important Geophysical phenomena such as earthquakes, Tsunami, Volcanic activity, cyclone,. Geographical features and their location-changes in critical geographical features (including water-bodies and ice-caps) and in flora and fauna and the effects of such changes.

GENERAL STUDIES - 2

Polity

Syllabus:

- Indian Constitution—historical underpinnings, evolution, features, amendments, significant provisions and basic structure.
- Functions and responsibilities of the Union and the States, issues and challenges pertaining to the federal structure, devolution of powers and finances up to local levels and challenges therein. Separation of powers between various organs dispute redressal mechanisms and institutions.
- Comparison of the Indian constitutional scheme with that of other countries. Parliament and State legislatures—structure, functioning, conduct of business, powers & privileges and issues arising out of these.
- Structure, organization and functioning of the Executive and the Judiciary—Ministries and Departments of the Government; pressure groups and formal/informal associations and their role in the Polity.
- Salient features of the Representation of People's Act.
- Appointment to various Constitutional posts, powers, functions and responsibilities of various Constitutional Bodies.
- Statutory, regulatory and various quasi-judicial bodies.
- Government policies and interventions for development in various sectors and issues arising out of their design and implementation.
- Development processes and the development industry —the role of NGOs, SHGs, various groups and associations, donors, charities, institutional and other stakeholders.

Governance

Syllabus:

- Important aspects of governance, transparency and accountability, e-governance applications, models, successes, limitations, and potential; citizens charters, transparency & accountability and institutional and other measures.
- Role of civil services in a democracy.

Schemes

Syllabus:

- Welfare schemes for vulnerable sections of the population by the Centre and States and the performance of these schemes; mechanisms, laws, institutions and Bodies constituted for the protection and betterment of these vulnerable sections.

Society and Social Issues.

Syllabus:

- Role of women and women's organization, population and associated issues, poverty and developmental issues, urbanization, their problems and their remedies.
- Effects of globalization on Indian society.
- Social empowerment, communalism, regionalism & secularism.
- Issues relating to development and management of Social Sector/Services relating to Health, Education, Human Resources.
- Issues relating to poverty and hunger.

International Relation and organization

Syllabus:

- India and its neighborhood- relations.
- Bilateral, regional and global groupings and agreements involving India and/or affecting India's interests.
- Effect of policies and politics of developed and developing countries on India's interests, Indian diaspora.
- Important International institutions, agencies and fora- their structure, mandate.

GENERAL STUDIES – 3

Economy

Syllabus:

- Indian Economy and issues relating to planning, mobilization, of resources, growth, development and employment.
- Inclusive growth and issues arising from it.
- Government Budgeting.

Agriculture

Syllabus:

- Major crops-cropping patterns in various parts of the country, - different types of irrigation and irrigation systems storage, transport and marketing of agricultural produce and issues and related constraints; e-technology in the aid of farmers.
- Issues related to direct and indirect farm subsidies and minimum support prices; Public Distribution System- objectives, functioning, limitations, revamping; issues of buffer stocks and food security; Technology missions; economics of animal-rearing.
- Food processing and related industries in India- scope' and significance, location, upstream and downstream requirements, supply chain management.
- Land reforms in India.

Infrastructure

Syllabus:

- Effects of liberalization on the economy, changes in industrial policy and their effects on industrial growth.
- Infrastructure: Energy, Ports, Roads, Airports, Railways etc.
- Investment models.

Science and technology

Syllabus:

- Science and Technology- developments and their applications and effects in everyday life.
- Achievements of Indians in science & technology; indigenization of technology and developing new technology.
- Awareness in the fields of IT, Space, Computers, robotics, nano technology, bio-technology and issues relating to intellectual property rights.

Environment

Syllabus:

- Conservation, environmental pollution and degradation, environmental impact assessment.
- Disaster and disaster management.

Defense and security

Syllabus:

- Linkages between development and spread of extremism.
- Role of external state and non-state actors in creating challenges to internal security.
- Challenges to internal security through communication networks, role of media and social networking sites in internal security challenges, basics of cyber security; money-laundering and its prevention.
- Security challenges and their management in border areas - linkages of organized crime with terrorism.
- Various Security forces and agencies and their mandate.

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GENERAL STUDIES - 1

TOPIC: ART AND CULTURE

KODIYAL THERU FESTIVAL

In News:

The annual Kodiyaal Theru car (chariot) festival has begun in Mangalore, Karnataka.

Analysis of Background:

Kodiyaal Theru

- It falls in late January or early February in the Hindu month of Magha.
- It begins on Tritiya or the third day of the bright moon and ends on the seventh to be followed by Holi (Okuli) after the festival.
- For these six days, the Car Festival rules in the Car Street in front of the Venkatramana Temple in Mangalore.
- The Festival begins with the Dwajarahana or hoisting of the 'flag' – actually a framed picture of Garuda.
- This is done ceremoniously on the first day of the festival amidst the clanging of bells and the reverberation of drumbeats.
- The Garuda stays aloft for the rest of the festival until he is again lowered in an equally ceremonial manner on the day of the Holi and this is the concluding event of the festival.

CHARMINAR

In News:

The Archaeological Survey of India is taking steps to make the wiring discreet and light up the iconic Charminar in a better way.

Analysis of Background:

About Charminar:

- **Built by:** The fifth ruler of the Qutb Shahi dynasty, Muhammad Quli Qutb Shah, built the Charminar in 1591 after shifting his capital from Golkonda to the newly formed city of Hyderabad.

- It is a 430-year-old monument located in Hyderabad.
- It has also been officially incorporated as the Emblem of Telangana for the state of Telangana.
- It has long history of existence of a mosque on its top floor for more than 400 years.
- It is situated on the east bank of Musi River.
- To the west lies the Laad Bazaar, and to the southwest lies the granite Makkah Masjid.
- It is listed as an archaeological and architectural treasure on the official "List of Monuments" prepared by the Archaeological Survey of India.
- Due to its architecture it is also called as Arc de Triomphe of the east.
- It is made of granite, limestone, mortar, and pulverised marble.
- Charminar, along with the Qutb Shahi Monuments of Hyderabad: the Golconda Fort, and the Qutb Shahi Tombs, were included in the "tentative list" of UNESCO World Heritage Site.
- Charminar was dropped from the list citing concerns of encroachment around the monument.

UNESCO WORLD HERITAGE SITES

In News:

- The Hoysala temples of Belur, Halebid and Somnathapura in Karnataka have been selected as India's nomination for UNESCO's list of World Heritage sites for the year 2022-23.

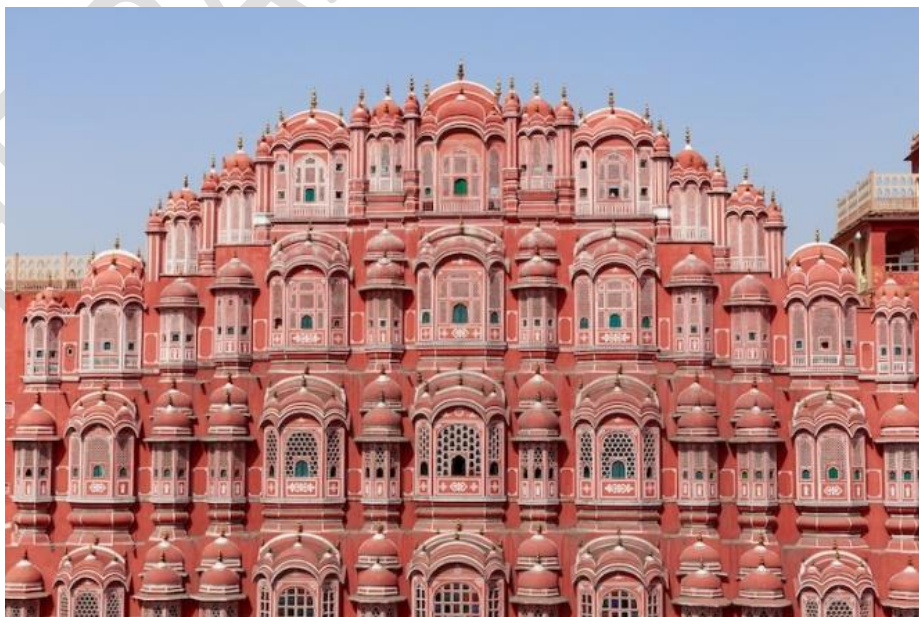
Analysis of Background:

Hoysala style of architecture:

- It is often referred to as an **amalgamation between the Dravidian and Indo-Aryan forms.**

Main features of Hoysala architecture:

- **Mandapa**, is a common feature of Hoysala architecture. It is the prayer hall that is entered through an intricately designed lintel known as the '**makaratorana**.'
- This open space is supported by **several pillars**.
- The **stone latticework** is also a recurrent feature of Hoysala sculptures.
- The pillars of the Hoysala temples have four brackets at the top and are further decorated with ornamented carvings.
- The **vimanams** are the place where the principal deity resides. The shapes of these vimanams are either stellate (star shaped) or staggered square.
- The **Salabhanjika** is a common feature of Hoysala sculpture.
- The pillar images known as 'sthamba buttalikas' show the influence of the Chola art and architecture.
- The temple walls of the Hoysala Empire are speckled with events from Hindu epics, Ramayana and Mahabharata.
- The **Hoysala sculpture is erotica**. The nooks and niches of the temple walls have been filled with erotic themes.



About Hoysaleswara temple:

- They are also referred as the **Halebidu temple**, which is a 12th-century Hindu temple dedicated to Shiva.
- It is the **former capital of the Hoysala Empire**.
- The temple was sponsored by King Vishnuvardhana of the Hoysala Empire.
- During the early 14th century, Halebidu was twice sacked and plundered by the Muslim armies of the Delhi Sultanate from northern India.
- It is a **Shaivism tradition monument**, yet includes many themes from **Vaishnavism and Shaktism tradition** of Hinduism, as well as images from Jainism.
- **Kesava temple in Belur:**
- Chennakeshava Temple, also referred to as Keshava, Kesava or Vijayanarayana Temple of Belur, is a **12th-century** Hindu temple in **Karnataka state**, India.
- It was commissioned by **King Vishnuvardhana in 1117 CE**, on the **banks of the Yagachi River in Belur** also called Velapura, an early Hoysala Empire capital.
- It was repeatedly damaged and plundered during wars, repeatedly rebuilt and repaired over its history.
- It is **dedicated to Vishnu**.

What are World Heritage Sites?

- It is a **landmark or area with legal protection** by an international convention administered by the **United Nations Educational, Scientific and Cultural Organisation (UNESCO)**.
- World Heritage Sites are designated by **UNESCO for having cultural, historical, scientific or other forms of significance**.
- As per the **'Convention concerning the Protection of the World Cultural and Natural Heritage' 1972**, UNESCO seeks to **encourage the identification, protection and preservation of cultural and natural heritage around the world considered to be of outstanding value to humanity**.

- As of July 2021, a total of 1,154 World Heritage Sites (897 cultural, 218 natural, and 39 mixed properties) exist across 167 countries. With **58 selected areas, Italy is the country with the most sites on the list.**
- **Categories:** A World Heritage Site can be either **cultural or natural areas or objects** which are inscribed on UNESCO's World Heritage List for having "**outstanding universal value**".
- These sites are usually considered to have cultural significance to all the people in the world, including future generations.

How are they selected?

- According to **The Operational Guidelines for the Implementation of the World Heritage Convention**, a country must first list its significant cultural and natural sites into a document known as the **Tentative List**.
- The sites selected from that list move onto the Nomination File, which is then evaluated by the International Council on Monuments and Sites and the World Conservation Union.
- Any site that wasn't first included in the Tentative List cannot be nominated.
- The two bodies then make their recommendations to the World Heritage Committee, which consists of diplomatic representatives from 21 countries.
- The committee meets each year to decide whether a nominated property can be inscribed on the World Heritage List.
- The committee makes the final decision if a site meets at least one of the ten selection criteria.
- **Does a site can lose its designation?**
- A site **may lose its designation** when the World Heritage Committee determines if it is **not properly maintained or protected**.
- It is first placed in the list of **World Heritage in Danger** as the Committee attempts to find a remedy involving the local authorities. If any remedies fail, the designation is revoked.
- A country can also request the Committee to partially or fully delist a property, generally in such cases when its condition has seriously deteriorated

How many World Heritage Sites are in India?

- There are **currently 32 cultural, seven natural and one mixed World Heritage Sites** in India.
- **Oldest sites:** Agra Fort, Ajanta Caves, Ellora Caves, and Taj Mahal made it to the list in 1983.
- **Latest sites:** The latest sites to be added to the list Dholavira in Gujarat, Kakatiya Rudreshwara (Ramappa) Temple in Telangana in 2021.
- There are **46 sites in the Tentative List** including a group of monuments at Mandu and the historic ensemble of Orchha in Madhya Pradesh, Satpura tiger reserve, temples of Kanchipuram, temples at Bishnupur in West Bengal, and Sri Harimandir Sahib in Amritsar, Punjab.

Indian Properties inscribed on the World Heritage List (40)

Cultural (32)

- Agra Fort (1983)
- Ajanta Caves (1983)
- Archaeological Site of Nalanda Mahavihara at Nalanda, Bihar (2016)
- Buddhist Monuments at Sanchi (1989)
- Champaner-Pavagadh Archaeological Park (2004)
- Chhatrapati Shivaji Terminus (formerly Victoria Terminus) (2004)
- Churches and Convents of Goa (1986)
- Dholavira: a Harappan City (2021)
- Elephanta Caves (1987)
- Ellora Caves (1983)
- Fatehpur Sikri (1986)
- Great Living Chola Temples (1987,2004)
- Group of Monuments at Hampi (1986)
- Group of Monuments at Mahabalipuram (1984)
- Group of Monuments at Pattadakal (1987)
- Hill Forts of Rajasthan (2013)

- Historic City of Ahmadabad (2017)
- Humayun's Tomb, Delhi (1993)
- Jaipur City, Rajasthan (2019)
- Kakatiya Rudreshwara (Ramappa) Temple, Telangana (2021)
- Khajuraho Group of Monuments (1986)
- Mahabodhi Temple Complex at Bodh Gaya (2002)
- Mountain Railways of India (1999,2005,2008)
- Qutb Minar and its Monuments, Delhi (1993)
- Rani-ki-Vav (the Queen's Stepwell) at Patan, Gujarat (2014)
- Red Fort Complex (2007)
- Rock Shelters of Bhimbetka (2003)
- Sun Temple, Konârak (1984)
- Taj Mahal (1983)
- The Architectural Work of Le Corbusier, an Outstanding Contribution to the Modern Movement (2016)
- The Jantar Mantar, Jaipur (2010)
- Victorian Gothic and Art Deco Ensembles of Mumbai (2018)

Natural (7)

- Great Himalayan National Park Conservation Area (2014)
- Kaziranga National Park (1985)
- Keoladeo National Park (1985)
- Manas Wildlife Sanctuary (1985)
- Nanda Devi and Valley of Flowers National Parks (1988,2005)
- Sundarbans National Park (1987)
- Western Ghats (2012)

Mixed (1)

- Khangchendzonga National Park (2016)

MEDARAM JATHARA FESTIVAL

In News:

Recently, the Ministry of Tribal Affairs has sanctioned Rs 2.26 Crores for various activities pertaining to **Medaram Jathara 2022**.

Analysis of Background:

- Medaram Jathara is the **second-largest fair of India, after the Kumbh Mela**, celebrated by the **second-largest Tribal Community of Telangana- the Koya tribe** for four days.

What are the Key Points?

- Medaram Jathara is **also known as Sammakka Saralamma Jathara**.
- It is a tribal festival honoring the **fight of a mother and daughter, Sammakka and Saralamma, with the reigning rulers against an unjust law**.
- It is celebrated **in the state of Telangana**. The Jatra begins at Medaram in Tadvai Mandal in Warangal district.
- Medaram is a remote place in the **Eturnagaram Wildlife Sanctuary, a part of Dandakaranya**, the largest surviving forest belt in the region.
- It is celebrated once in two years in the month of **“Magha” (February)** on the full moon day.
- People offer bangaram/gold (jaggery) of a quantity equal to their weight to the goddesses and take holy bath in Jampanna Vagu, a tributary to River Godavari.
- It was declared a **State Festival in 1996**.

KHAJURAHO TEMPLES

About Khajuraho Temples:

- Khajuraho Temples (in Madhya Pradesh) are among the most beautiful medieval monuments in the country.
- Built between 950-1050 AD by the Chandela Dynasty.
- The monuments include Hindu and Jain temples.
- The temple site is situated within Vindhya Mountain range.
- These Temples got the status of UNESCO's World Heritage Sites in 1986.
- The temples are famous for their Nagara-style architectural symbolism.
- Reported for the first time by Abu Rihan al Biruni in AD 1022 and Ibn Battuta in AD 1335.



TOPIC: HISTORY

STATUE OF EQUALITY

In News:

Prime Minister Narendra Modi will inaugurate the Statue of Equality, a gigantic statue of Ramanujacharya, on February 5 on the outskirts of Hyderabad.

Analysis of Background:

Who was Ramanujacharya?

- Born in 1017 in Sriperumbudur in Tamil Nadu, Ramanujacharya is revered as a Vedic philosopher and social reformer. He travelled across India, advocating equality and social justice.
- Ramanuja revived the Bhakti movement, and his preachings inspired other Bhakti schools of thought. He is considered to be the inspiration for poets like Annamacharya, Bhakt Ramdas, Thyagaraja, Kabir, and Meerabai.
- He went on to write nine scriptures known as the navaratnas, and composed numerous commentaries on Vedic scriptures.

Why is it called the Statue of Equality?

- Ramanuja was an advocate of social equality among all sections of people centuries ago, and encouraged temples to open their doors to everyone irrespective of caste or position in society at a time when people of many castes were forbidden from entering them.
- He took education to those who were deprived of it. His greatest contribution is the propagation of the concept of “vasudhaiva kutumbakam”, which translates as “all the universe is one family”.

CHAURI CHAURA INCIDENT

In News:

The Prime Minister, Shri Narendra Modi has remembered the heroes of our freedom struggle on completion of hundred years of Chauri Chaura incident.

Analysis of Background:

About:

'ChauriChaura' Incident

- The incident took place on 4 February 1922 at ChauriChaura in the Gorakhpur district of the United Province.
- A large group of protesters participating in the Non-Cooperation Movement clashed with police who opened fire.
- In retaliation the demonstrators attacked and set fire to a police station, killing all of its occupants.
- The incident led to the death of three civilians and 22 policemen.
- Mahatma Gandhi, who was strictly against violence, halted the non-cooperation movement on the national level on 12 February 1922, as a direct result of this incident.

Background:

- In the early 1920s, Indians, led by Mahatma Gandhi, were engaged in a nationwide non-cooperation movement.
- Using non-violent methods of civil disobedience known as Satyagraha, protests were organised by the INC to challenge oppressive regulations such as the Rowlatt Act.

Aftermath;

- Appalled at the outrage, Gandhi went on a five-day fast as penance for what he perceived as his culpability in the bloodshed.
- In reflection, Gandhi felt that he had acted too hastily in encouraging people to revolt against the British Raj without sufficiently emphasizing the importance of non-violence.
- On 12 February 1922, the Indian National Congress halted the Non-cooperation Movement on the national level as a direct result of the ChauriChaura tragedy.

LATA MANGESHKAR

In News:

Lata Mangeshkar, affectionately called a “Nightingale of India”, passes away at 92. The Rajya Sabha will be adjourned for an hour on Monday morning in honour of the singer who was a member of the House from 1999 to 2005.

Analysis of Background:

About her:

- Lata Mangeshkar (born as Hema Mangeshkar; 28 September 1929 – 6 February 2022) was an Indian playback singer and occasional music composer.
- She is widely considered as one of the greatest and most influential singers in India.
- Her contribution to Indian music industry in a career spanning seven decades gained her honorific titles such as the Nightingale of India, Voice of the Millennium and Queen of Melody.
- She recorded songs in over thirty-six Indian languages and a few foreign languages, though primarily in Hindi, Bengali, Marathi.

Awards

- She was the recipient of three National Film Awards.
- In 1987 the Dadasaheb Phalke Award was bestowed on her by the Government of India.
- In 2001, in recognition of her contributions to the nation, she was awarded the Bharat Ratna, India's highest civilian honour and is only the second female singer, after M. S. Subbulakshmi, to receive this honour.
- France conferred on her its highest civilian award, Officer of the National Order of the Legion of Honour, in 2007.

NO-BUILD ZONE AROUND MONUMENTS

In News:

The 100-metre radius around Centrally protected monuments where construction is prohibited could be replaced with site-specific limits to be decided by an expert committee, as the Union Culture Ministry was working on amendments to the relevant Act.

Analysis of Background:

About:

- The Ancient Monuments and Archaeological Sites and Remains (AMASR) Act, 1958, was amended in 2010 to declare the 100-metre radius of protected monuments as prohibited areas and the next 300-metre radius as regulated areas.
- However, according to Ministry officials as well as a recent Parliamentary Standing Committee report, there was no specific reason for the 100-metre and 300-metre limits.
- The proposed amendment would change Section 20A of the Act, which refers to the prohibited area, to rationalise the prohibited and regulated areas. Expert monument committees would decide the prohibited area around a monument.
- These areas could be as wide as 500 metres for some sites like the Taj Mahal.
- The amendment would also enable the ASI to act against encroachment by holding the relevant authorities liable in case of illegal buildings at a protected site, the official said. This would be similar to the enforcement powers under the Indian Forest Act.

CHANDERNAGORE

In News:

The Registry Building, a two-storey structure at Chandernagore built in 1875 and a symbol of French settlement of the colonial town, has been awaiting restoration for a long time.

Analysis of Background:

French in India

- France was the last of the major European maritime powers of the 17th century to enter the East India trade.
- The French settlement in India began in 1673 with the purchase of land at Chandernagore from the Mughal Governor of Bengal.
- The next year they acquired Pondicherry from the Sultan of Bijapur. Both became the centers of maritime commercial activities of the French in India.
- Joseph Francois Dupleix who was initially appointed as Intendent of Chandernagore in 1731, sowed the seeds of colonization.
- The village, which hitherto was engaged in maritime commerce along with Pondicherry, got fortified by him.

Significance of Chandernagore

- Chandernagore, though a part of French colonies in India, was unique in many ways.
- It was very active in spearheading the freedom movement against the British. Due to its close proximity to Calcutta, it became a safe haven for freedom fighters of all hues.
- Even Aurobindo Ghosh who was one of the accused in the Alipore Bomb case of 1909, was acquitted unconditionally and after a short stay at Chandernagore moved to Pondicherry.
- Since the partition of Bengal in 1905, Chandernagore was in the thick of activities of freedom fighters against the British and produced several martyrs including Kanailal Dutt.

Merger into India

- As the British decided to hand over powers to the people of India by August 15, 1947, the people living under French rule in Pondicherry,

Chandernagore, Karaikal, Mahe and Yanam were eager to join their homeland.

- But the French were yet to learn their lessons. They tried all the tricks in the book to avert this.
- Facing the onslaught from the people under their rule and the British and Indian rulers, the French declared Chandernagore as free city in 1947.
- In June 1948, they conducted a referendum in which an overwhelming majority of 97 per cent people opted for a merger with India.
- After so many legal hurdles, it became a part of India on October 2, 1955.

TOPIC: SOCIETY

MGNREGA

Issue:

Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) workers are still waiting for almost ₹3,360 crore in pending wage payments, with the largest pending payments in West Bengal, Uttar Pradesh and Rajasthan.

Analysis of Background:

What is MGNREGA?

- The MGNREGA stands for Mahatma Gandhi National Rural Employment Guarantee Act of 2005.
- This is labour law and social security measure that aims to guarantee the '**Right to Work**'.
- The act was first proposed in **1991** by **P.V. Narasimha Rao**.

Features of the scheme:

- MGNREGA is unique in not only ensuring **at least 100 days of employment** to the willing unskilled workers, but also in ensuring an enforceable commitment on the implementing machinery i.e., the State Governments, and providing a bargaining power to the labourers.
- The failure of provision for employment within 15 days of the receipt of job application from a prospective household will result in the payment of **unemployment allowance** to the job seekers.

- Employment is to be provided within **5 km of an applicant's residence**, and minimum wages are to be paid.
- Thus, employment under MGNREGA is a **legal entitlement**.

OPERATION AAHT

In News:

The Railway Protection Force (RPF) has launched a nationwide 'Operation AAHT' to curb human trafficking.

Analysis of Background:

Operation AAHT

- As part of this operation, special teams will be deployed on all long-distance trains/routes with focus on rescuing victims, particularly women and children, from the clutches of traffickers.
- The RPF will act as a bridge cutting across States to assist the local police in the mission to curb the menace.
- The infrastructure and intelligence network of the force could be utilized to collect, collate and analyse clues on victims, source, route, destination, popular trains used by suspects, identity of carriers/agents, kingpins etc and shared with other law-enforcing agencies.

Why need this mission?

- The Railways, which operate about 21,000 trains across the country daily, is the most reliable mode of transportation for the traffickers who often move their victims on long-distance trains.
- Thousands of Indians and persons from neighboring countries are trafficked every day to some destinations where they were forced to live like slaves.
- They are also being trafficked for illegal adoptions, organ transplants, working in circus, begging and entertainment industry.

LEPROSY

In News:

- The COVID-19 pandemic leading to social distancing and lockdowns caused a fall of 62.5% in the detection of active leprosy cases between April and September 2020.

Analysis of Background:

Leprosy:

- **About:** Leprosy/ Hansen's Disease is one of the **Neglected Tropical Diseases**. It is an infectious disease caused by a bacillus, *Mycobacterium leprae*, which multiplies slowly.
- **Incubation Period:** On average, the disease incubation period is 5 years but symptoms may occur within 1 year. It can also take as long as 20 years or even more to occur.
- **Affects:** Leprosy mainly affects the skin, the peripheral nerves, mucosa of the upper respiratory tract, and the eyes.
- **Transmission:** The bacillus is likely transmitted via droplets, from the nose and mouth, during close and frequent contact with untreated cases.
- **Treatment:** Leprosy is curable with multidrug therapy (MDT). Untreated, it can cause progressive and permanent damage to the skin, nerves, limbs, and eyes.
- **Prevalence:** It is most prevalent in India (69% of cases), Brazil, Indonesia, Nigeria, Democratic Republic of the Congo, Madagascar and East Africa, Mozambique to Ethiopia, Brazil and Nepal.
- **Vaccine:** The BCG vaccine has some preventative effect against leprosy.
- **National Program:** National Leprosy Eradication Programme is a centrally sponsored scheme. Its vision is "Leprosy-free India". Under this, action is taken for early case detection, complete treatment of detected cases and to contain the onset of disease in close contacts. It also includes leprosy awareness campaigns. Under the programme,

Reconstructive Surgeries are conducted and welfare allowance is paid to each patient undergoing Reconstructive Surgeries.

MAHATMA GANDHI NATIONAL RURAL EMPLOYMENT GUARANTEE ACT

In News:

The Union government allocation for the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) declined by 25%.

Analysis of Background:

- The Union Government allocated ₹73,000 crore for the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA), in 2022-23 is 25% lower than the ₹98,000 crore revised estimate for the scheme in the current year.
- Grassroots activists raised concerns about the inadequacy of the amount. They are demanding higher budgetary allocations for MGNREGA, as the rural economy is still facing the hardship of Pandemic, and low employment opportunities.
- Shortage of funds has resulted in long delays in wage payments, decline in the work provided in the last few months, and pending dues wages.

Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) 2005:

- The MGNREGA is an Indian labor law and social security programme that aims to guarantee the 'right to work'.
- It provides a legal right for 100 days of employment in every financial year to at least one member of every rural household whose adult members agree to do unskilled manual work.
- The Ministry of Rural Development is monitoring the implementation of this scheme.

- Women were guaranteed one third of the jobs made available under the MGNREGA.
- The MGNREGA programme also helps in creating durable assets (such as roads, canals, ponds and wells).
- Work to be provided within 5 km of workers residence and minimum wages are to be paid.
- Right to get unemployment allowance in case employment is not provided within 15 days of submitting the application.
- MGNREGA is implemented mainly by gram panchayats. Adult members of rural households submit their details to the Gram Panchayat. The Gram Panchayat registers households after making enquiry and issues a job card. The job card contains the details of adult member enrolled and his /her photo.
- The involvement of contractors is banned.
- Social Audit of MGNREGA works is mandatory, which ensures accountability and transparency.
- Significance of MGNREGA:
- The programme is providing economic security and creating rural assets.
- It also helps in protecting the environment, reducing rural-urban migration and promoting social equity, etc.
- It focuses on the economic and social empowerment of women.
- It provides “Green” and “Decent” work.
- Works under MGNREGA helps to address the climate change vulnerability and protect the farmers from such risks and conserve natural resources.

Constitutionality of MGNREGA:

- MGNREGA providing a 'right to work' in accordance with Article 41 that directs the State to secure to all citizens the right to work.

- It also protects the environment through sustainable rural works, which is consistent with Article 48A that directs the State to protect the environment.
- Article 21 guarantees the right to life with dignity to every citizen of India, this act promotes dignity among the rural people through an assurance of livelihood security.
- Article 16 guarantees equality of opportunity in matters of public employment and prevents the State from discriminating against anyone in matters of employment on the grounds only of religion, race, caste, sex, descent, place of birth, place of residence or any of them.
- MNREGA also follows Article 46 that requires the State to promote the interests of and work for the economic uplift of the scheduled castes and scheduled tribes and protect them from discrimination and exploitation.
- Article 40 mandates the State to organize village panchayats and award them with such powers and authority as may be necessary to enable them to function as units of self-government.

Status of Implementation:

- The scheme was introduced in 200 districts during the financial year 2006-07.
- In April 2008 NREGA expanded to the entire rural area of the country.
- According to a study, every year around 4.5 crore households get employment opportunities under MGNREGA. This accounts to close to 30% of the entire rural household population of the country.

Challenges:

- Concerns over its efficacy. It is also criticized for its ineffectiveness and increasing inflationary pressures in the rural economy.
- Many states have MGNREGA wage rates below the minimum wage floor of their respective states.

- Insufficient fund allocation from the union to the states. Due to insufficient funds, state governments find it difficult to keep up with the demand for employment under MGNREGA.
- Low wage rates under MGNREGA scheme have resulted in lack of interest among workers.
- Existence of fake job cards, the inclusion of unknown names, missing person.
- Many states have failed to release wages within 15 days as mandated by MGNREGA, and workers are not even compensated for a delay in the payment of wages.
- With limited power, gram panchayats are not able to implement MGNREGA in an effective manner.
- There are concerns about delay in the works under MGNREGA and irregular inspection of projects.

Way forward:

- Implementation of the program could be made more effective by addressing issues linked to administrative reforms and awareness of worker's rights.
- There is a **need for better coordination** between the union and state government, and between various government departments and the mechanism to allot and measure the work.

TOPIC: GEOGRAPHY

BOMB CYCLONE

Issue:

Major cities such as New York and Boston in US are witnessing a “Bomb Cyclone” characterized by the explosive power of rapid drops in atmospheric pressure.

Analysis of Background:

What is Bomb Cyclone?

- A bomb cyclone is a large, intense mid-latitude storm that has low pressure at its center, weather fronts and an array of associated weather, from blizzards to severe thunderstorms to heavy precipitation.
- It becomes a bomb when its central pressure decreases very quickly—by at least 24 millibars in 24 hours.
- When a cyclone “bombs,” or undergoes bombogenesis, this tells us that it has access to the optimal ingredients for strengthening, such as high amounts of heat, moisture and rising air.

Why is it called a bomb?

- Most cyclones don’t intensify rapidly in this way.
- Bomb cyclones put forecasters on high alert, because they can produce significant harmful impacts.

Its etymology:

- The word “bombogenesis” is a combination of cyclogenesis, which describes the formation of a cyclone or storm, and bomb, which is, well, pretty self-explanatory.
- This can happen when a cold air mass collides with a warm air mass, such as air over warm ocean waters.
- The formation of this rapidly strengthening weather system is a process called bombogenesis, which creates what is known as a bomb cyclone.

How does it occur?

- Over the warmer ocean, heat and moisture are abundant.
- But as cool continental air moves overhead and creates a large difference in temperature, the lower atmosphere becomes unstable and buoyant.
- Air rises, cools and condenses, forming clouds and precipitation.

Where does it occur the most?

- The US coast is one of the regions where bombogenesis is most common.

- That's because storms in the mid-latitudes – a temperate zone north of the tropics that includes the entire continental US – draw their energy from large temperature contrasts.
- Along the US East Coast during winter, there's a naturally potent thermal contrast between the cool land and the warm Gulf Stream current.

BURKINA FASO

In News:

In Burkina Faso, the military government announced that it has restored the constitution a week after taking power and has appointed the coup's leader as head of state for a transitional period.

Analysis of Background:

- Just hours earlier, the African Union's 15-member Peace and Security Council announced that it had voted to suspend the participation of Burkina Faso in all AU activities until the effective restoration of constitutional order in the country.
- On January 24, rebel soldiers detained president Roch Marc Christian Kabore and imposed army rule on the country.



Burkina Faso:

- Burkina Faso is a landlocked country in West Africa, bordered by Mali to the northwest, Niger to the northeast, Benin to the southeast, Togo and Ghana to the south, and the Ivory Coast to the southwest.
- Its capital and largest city is Ouagadougou.

FALKLAND ISLANDS

In News:

UK has objected to China backing Argentina's claim to the Falkland Islands.

Analysis of Background:

What is this dispute about?

- Since the 18th century, the Falkland Islands, located off the coast of Argentina in the south Atlantic Ocean, have always been subjected to colonisation and conquests by Britain, France, Spain and Argentina.
- Prior to the 1700s, the islands were uninhabited, with France first establishing a colony there in 1764.
- The next year, when the British arrived to claim the islands for themselves, it marked the start of a dispute that has been ongoing ever since.

What happened to the islands post WWII?

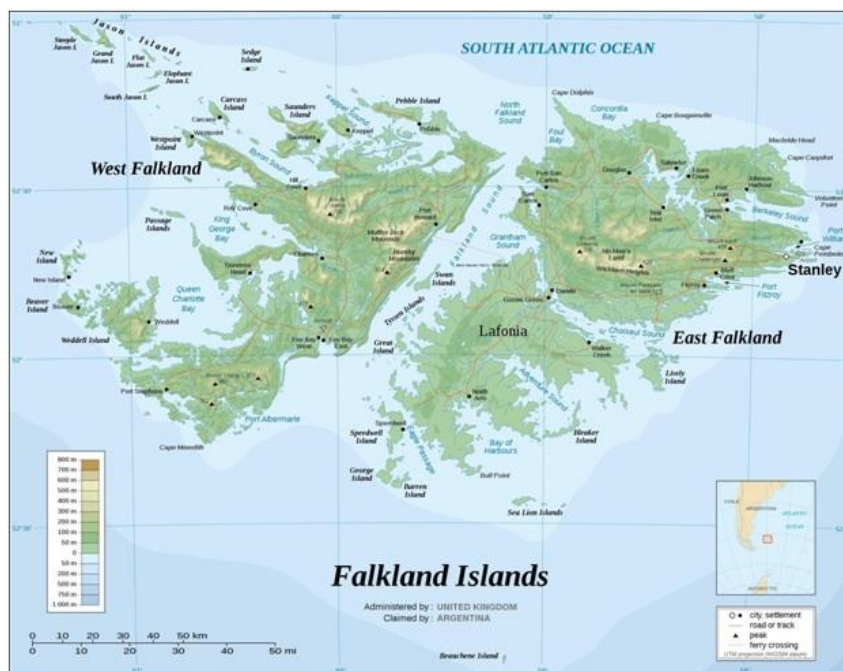
- The dispute continued in the post WWII global scenario. Argentina's assertion of sovereignty over the Falkland Islands during the presidency of Juan Perón briefly soured relations with the United Kingdom.
- In December, 1965, the United Nations General Assembly adopted Resolution 2065, a non-binding resolution that recognized the existence of a sovereignty dispute between the United Kingdom and Argentina over these islands, that urged both countries to find a peaceful solution to the dispute.

How did the Falklands War break out?

- Argentina has maintained that the Falklands were illegally taken from it in 1833 and invaded the British colony in 1982. That incident resulted in what later came to be known as the Falklands War that lasted a little over three months, ending in victory for the United Kingdom.

About Falkland Islands:

- The Falkland Islands are an archipelago in the South Atlantic Ocean on the Patagonian Shelf.
- The principal islands are to the east of South America's southern Patagonian coast and to the north of the Antarctic Peninsula.
- The Falkland Islands are bio geographically part of the Antarctic zone.



PASHMINA

In News: The Srinagar-born designer is creating pashmina wall hangings.

Analysis of Background:

About Pashmina:

- It refers to a fine variant of spun cashmere, the animal-hair fibre forming the downy undercoat of the Changthangi goat.
- Generic cashmere ranges from 12 to 21 microns in diameter, whereas pashmina refers only to those fibres that range from 12 to 16 microns.
- Wool fibres discovered from corroded copper artifacts from Harappa dating back to the Indus valley civilization are extremely fine and resemble Pashmina and Shatoosh.
- China accounts for 70% of the world's cashmere production, Mongolia 20%, and the remaining 10% of production is in Afghanistan, Australia, India, Iran, Nepal, Pakistan, the United States.
- Kashmiri Pashmina has got the GI tag.

'CHAR CHINARI' ISLAND

In News:

- The iconic island Char Chinari in the middle of the Dal Lake, is in the spotlight again.
- Recently, two tall chinar trees were planted on the picturesque island with the Zabarwan hills in the backdrop.
- The 2014 floods left two mighty chinars damaged.

Analysis of Background:

Dal Lake:

- **About:** Dal is a lake in Srinagar, the summer capital of Jammu and Kashmir. It is an urban lake, which is the second largest in the union territory of Jammu and Kashmir.
- **Other name:** It is named the "Lake of Flowers", "Jewel in the crown of Kashmir" or "Srinagar's Jewel". The lake is noted in particular for its *Nelumbo nucifera* (lotus flowers) which bloom in July and August. Asia's largest Tulip garden is on the banks of Dal Lake.
- **Location:** The lake is located within a catchment area of Zabarwan mountain valley, in the foothills of the Shankaracharya Hill, which surrounds it on three sides.
- **Islands of Dal lake:** The wetland is divided by causeways into three islands; Gagribal, Lokut Dal, Bod Dal.
- **Islands with Chinar trees:** Of the three 3 islands, 2 are marked with beautiful Chinar trees: Lokut-dal and Bod-dal each have an island in the centre, known as Rup Lank (or Char Chinari) and Sona Lank respectively.
- **Mughal Gardens:** Mughal gardens, Shalimar Bagh and the Nishat Bagh are on the banks of Dal Lake.



The Islands with Char Chinar:

Roph Lank

- The island located on the Lakut Dal (small Dal) is known as Roph Lank (Silver Island).
- It is marked with the presence of majestic Chinar trees at the four corners, thus known as Char-Chinari (Four Chinars).
- Murad Baksh, brother of the Mughal emperor Aurangzeb, constructed the Roph Lank.

Sone Lank

- The second Chinar Island, known as Sone Lank (Gold Island), is located on the Bod Dal (Big Dal).
- It overlooks the holy shrine of Hazratbal.

ONE-HORNED RHINO

In News:

Rhino poacher from Assam arrested in Kerala

Analysis of Background:

One-horned Rhino:

- The Indian rhinoceros also called greater one-horned rhinoceros or great Indian rhinoceros is a rhinoceros species native to the Indian subcontinent.
- It is the only large mammal species in Asia to be down-listed from endangered to vulnerable in the International Union for Conservation of Nature, IUCN Red list in 2008.
- Threats: Poaching for horns and habitat destruction.
- National Rhino Conservation Strategy for India:
 - It called for active engagement between India and Nepal to conserve the greater one-horned rhinoceros.
 - The single population of rhinos in Sukla-Phanta (Nepal), Valmiki tiger reserve (India) and Chitwan National Park (Nepal) and Dudhwa (India) is separated by the political boundary between the two countries.
 - Instead of managing the two populations differ in the two countries, plan focus on the managing rhino population with the same protocol.
 - The plan calls for expanding distribution range as occurrence of 90 per cent of the rhino in one protected area is a cause of concern.
 - It also calls for strengthening protection, having dedicated research and monitoring and strict enforcement.
- The objectives include
 - strengthening protection,
 - expanding the distribution range,
 - research and monitoring, and

- adequate and sustained funding.



Indian Rhino Vision 2020 (IRV2020):

- Designed in 2005, the IRV2020 is believed to have achieved its target of attaining a population of 3,000 rhinos in Assam.
- But the plan to spread the *Rhinoceros unicornis* across four protected areas beyond Kaziranga National Park, Orang National Park and Pobitora could not materialise.
- Wild-to-wild translocations were an essential part of IRV2020 – moving rhinos from densely populated parks like Kaziranga NP, to ones in need of more rhinos, like Manas NP.
- Rhinos are now found in four Protected Areas in Assam: Pobitora Wildlife Reserve, Rajiv Gandhi Orang National Park, Kaziranga National Park, and Manas National Park.

About Kaziranga National park:

- It is home to more than 2200 Indian one-horned rhinoceros, approximately 2/3rd of their total world population.

- It is located in the edge of the Eastern Himalayan biodiversity hotspots – Golaghat and Nagaon district.
- In 1985, it was declared as a World Heritage Site by UNESCO.
- It was declared as Tiger Reserve in 2006.
- It is recognized as an Important Bird Area by BirdLife International for the conservation of avifaunal species.

BHAKRA BEAS MANAGEMENT BOARD (BBMB)

In News:

The Central government's decision of adopting a new criterion for selecting members of the Bhakra Beas Management Board (BBMB), has evoked sharp criticism from political circles in Punjab and Haryana.

Analysis of Background:

- According to the Bhakra Beas Management Board Rules, 1974, the member (power) in BBMB was from Punjab and the member (irrigation) was from Haryana.
- But in the amended rules of 2022, this requirement has been done away with. Opposition parties are arguing that the abolition of the permanent membership of Punjab and Haryana in the BBMB was an attack on the rights of Haryana.
- As per the Indus Waters Treaty of 1960, the waters of Ravi, Beas and Sutlej are allocated to India and are available to be utilised for irrigation purposes within the country.
- On the Beas and Sutlej, BhakraDehar and Beas power projects were constructed.
- The BBMB controls these projects, and the expenditure is shared by partner states in the ratio of their shares.
- Under the Punjab Reorganisation Act 1966, the share from BBMB was divided between Punjab and Haryana in the ration of 58:42, with some share to Rajasthan and Himachal Pradesh subsequently added.
- Primarily, Punjab and Haryana are the two major beneficiaries, and Punjab has the larger share.

CHEETAH REINTRODUCTION ACTION PLAN

In News:

An expert team of wildlife officials from Madhya Pradesh, the Indian Forest Department and the Wildlife Institute of India that visited Namibia for a site visit last week is reportedly “satisfied”, but a formal Memorandum of Understanding (MoU) regarding the transfer is yet to be signed.

Analysis of Background:

- Union Environment Minister BhupenderYadav launched an “action plan” at the 19th meeting of the National Tiger Conservation Authority (NTCA) on January 7 saying, “The cheetah that became extinct in independent India, is all set to return.”
- The action plan states that a cohort of 10-12 young cheetahs that are ideal for reintroduction would be imported from Namibia or South Africa as a founder stock during the first year.
- Around 35 cheetah would be needed over time to establish such a stock.
- The proposed site for introduction is the KunoPalpur National Park (KNP) in Madhya Pradesh, though at least three other reserves in Central India are being considered.
- According to the plan, the Central government, along with the Environment Ministry and the Cheetah Task Force, will create a formal framework to collaborate with governments of Namibia and/or South Africa, through the Ministry of External Affairs.

Cheetah:

- Scientific name: *AcinonyxJubatus*.
- Common Name(s): Cheetah, Hunting Leopard.
- Speed: It is the fastest land animal. It can reach speeds of 30 m/s.
- Habitat: Cheetah lives in Dryland Ecosystem i.e. Grasslands, Scrublands and Open Forests.

- Indian scenario: Cheetah was declared extinct in India in 1952. It is the only large mammal to have been declared extinct in our country in recorded history.

GENERAL STUDIES – 2

TOPIC: POLITY AND GOVERNANCE

COMPREHENSIVE AMENDMENT OF CRIMINAL LAWS

Issue:

The Central government has initiated the process for comprehensive amendment of criminal laws in India in consultation with all stakeholders

Analysis of Background:

Criminal Laws in India:

Indian criminal laws are divided into three major acts,

1. **Indian Penal Code, 1860:** It is a comprehensive code intended to cover all substantive aspects of criminal law.
2. **Code of Criminal Procedure, 1973:** CrPC defines the rules with which substantive laws can be enforced.
3. **Indian Evidence Act, 1872:** It contains a set of rules and allied issues governing the admissibility of evidence in the Indian courts of law.

Other laws,

Besides these major acts, special Criminal Laws are also passed by the Indian Parliament which includes:

- Narcotic Drugs and Psychotropic Substances Act
- Prevention of Corruption Act
- Food Adulteration Act
- Dowry Prohibition Act
- The Defence of India Act, etc.

Issues with these laws:

- Colonial ideas prevail in the code.

- Some laws don't reflect the aspirations of India's liberal Constitution
- It does not recognize individual agency of citizens of free India
- Too many laws promote patriarchal attitudes, biased against women
- Sedition laws are misused by the state
- Tech crimes, cyber crimes, sexual offences need to be defined
- Risk of excessive policing, which leads to harassment of people.
- Need to harmonize statute books with court rulings, which have often expanded the rights of people.
- Some provisions are disadvantageous for the underprivileged who are trapped in jail for long, but favour the powerful, who get bail very easily
- Influence of media trials on the judiciary while using the IPC

Why amend them?

- Evolution of criminal laws is a continuous process.
- They need to be made in accordance with contemporary needs and aspirations of people.
- Malimath Committee has called for reform in India's criminal justice system.

Progress made till date:

- The entire procedure is a long-drawn-out one and no time-limit can be fixed or given for this legislative process.
- Legislation of such laws is a complex and lengthy exercise given the spectrum of divergent views of stakeholders.
- The Home Ministry is seeking suggestions from various stakeholder and judicial luminaries in this regard.

J&K DELIMITATION COMMISSION LIKELY TO GET ANOTHER EXTENSION

Issue:

The J&K Delimitation Commission is likely to get a second extension of its term this month.

Analysis of Background:

What is Delimitation and why is it needed?

- Delimitation is the act of redrawing boundaries of an Assembly or Lok Sabha seat to represent changes in population over time.
- This exercise is carried out by a Delimitation Commission, whose orders have the force of law and cannot be questioned before any court.
- The objective is to redraw boundaries (based on the data of the last Census) in a way so that the population of all seats, as far as practicable, be the same throughout the State.
- Aside from changing the limits of a constituency, the process may result in a change in the number of seats in a state.

Delimitation in J&K:

- Assembly seats in J&K were delimited in 1963, 1973 and 1995.
- Prior to August 5, 2019, carving out of J&K's Assembly seats was carried out under the J&K Constitution and Jammu and Kashmir Representation of the People Act, 1957.
- Until then, the delimitation of Lok Sabha seats in J&K was governed by the Constitution of India.
- However, the delimitation of the state's Assembly was governed by the J&K Constitution and J&K Representation of the People Act, 1957.
- There was no census in the state in 1991 and hence no Delimitation Commission was set up by the state until 2001 census.

Why is it in the news again?

- After the abrogation of J&K's special status in 2019, the delimitation of Lok Sabha and Assembly seats in the newly-created UT would be as per the provisions of the Indian Constitution.
- On March 6, 2020, the government set up the Delimitation Commission, headed by retired Supreme Court judge Ranjana Prakash Desai, which was tasked with winding up delimitation in J&K in a year.

- As per the J&K Reorganization Bill, the number of Assembly seats in J&K would increase from 107 to 114, which is expected to benefit the Jammu region.

Factors considered during Delimitation

- The number of districts had increased from 12 to 20 and tehsils from 52 to 207 since the last delimitation.
- The population density ranged from 29 persons a square km in Kishtwar to 3,436 persons a square km in Srinagar.
- The remoteness of the place, inaccessibility etc are also considered during the exercise.

Concerns raised over Delimitation:

- **Jammu vs. Kashmir:** Concerns had been expressed over how the delimitation process may end up favoring the Jammu region over Kashmir in terms of the seats.
- **Under-representation of Ladakh:** Arguments have been made on how Ladakh has been underrepresented, with demands for statehood/sixth schedule.
- **Non-proportionate reservations:** It is argued that seats for STs should've been divided in both Jammu province & Kashmir province, as the ST population is almost equal.

E-SHRAM PORTAL

In News:

Over 2 crore people who have signed up for the Centre's portal for unorganised sector workers hold a Graduate Degree.

Analysis of Background:

About E-Shram:

- On August 26, 2021, the Ministry of Labour and Employment (MOLE) launched the E-Shram, the web portal for creating a National Database of Unorganized Workers (NDUW), which will be seeded with Aadhaar.

- It seeks to register an estimated 398-400 million unorganized workers and to issue an E-Shram card.

Issues with E-Shram:

1. Time constraints

- **Long process:** Given the gigantic nature of registering each worker, it will be a long-drawn process.
- **No gestation period:** The Government has not mentioned a gestation period to assess its strategy and efficiency.
- **No hasty process:** Employers are or required their workers to register even. While the Government can appeal to them, any penal measure will hurt the ease of doing business.

2. Pandemic hides

- Considering the estimated 380 million workers as the universe of registration — debatable as the novel coronavirus pandemic has pushed lakhs of workers into informality.

3. Data security

- **Privacy:** One of the vital concerns of e-portals is data security, including its potential abuse especially when it is a mega-sized database.
- **No national framework yet:** There are also media reports pointing out the absence of a national architecture relating to data security.
- **Local server issues:** It has been reported that in some States such as Maharashtra, the server was down for a few days.

4. Structural issue

- **Aadhaar seeding:** Many workers will not have an Aadhaar-seeded mobile or even a smartphone. Aadhaar-seeding is a controversial issue with political overtones, especially in the North-eastern regions.
- **Eligibility:** There are several issues concerning the eligibility of persons to register as well as the definitional issues.
- **Exclusion:** By excluding workers covered by EPF and ESI, lakhs of contract and fixed-term contract workers will be excluded from the universe of UW.

Hazardous establishments employing even a single worker will have to be covered under the ESI, which means these workers also will be excluded.

- **No benefits for the aged:** The NDUW excludes millions of workers aged over 59 from its ambit, which constitutes age discrimination.

5. **Complex identities of workers**

- **Migration:** Many are circular migrant workers and they quickly, even unpredictably, move from one trade to another.
- **Mixed work:** Many others perform formal and informal work as some during non-office hours may belong to the gig economy, for example as an Uber taxi or a Swiggy employee. They straddle formal and informal sectors.
- **Gig workers:** Even though MOLE has included gig workers in this process, it is legally unclear whether the gig/platform worker can be classified first as a worker at all.

6. **Other impediments**

- **Corruption:** There is also the concern of corruption as middle-service agencies such as Internet providers might charge exorbitant charges to register and print the E-Shram cards.

Benefits:

- Workers stand to gain by registration in the medium to long run.
- But the instant benefit of accident insurance upto ₹0.2 million to registered workers is surely not an attractive carrot.
- The main point of attraction is the benefits they stand to gain during normal and crisis-ridden periods such as the novel coronavirus pandemic now which the Government needs to disseminate properly.

JOB RESERVATIONS FOR LOCALS

In News:

The Punjab and Haryana High Court on Thursday granted an interim stay on the controversial law for reservation of 75% jobs in private companies, societies and trusts for local Haryana candidates.

Analysis of Background:

- Prior to Haryana, States such as Madhya Pradesh, Karnataka, Andhra Pradesh also tried to provide reservation in private jobs.

About Haryana State Employment of Local Candidates Bill, 2020

- It provides for a **75 per cent job quota for local people in private sector jobs which offer a salary of less than Rs. 50,000 a month.**
- The law applies to **private companies, societies, trusts, and partnership firms**, among others, located in the state. Furthermore, it is applicable to organizations having 10 or more employees.
- It will be applicable to the new job openings only and won't affect the outsiders already working in the private sector.
- Penalty for non-compliance ranges from Rs. 10,000 to Rs. 2,00,000 rupees.
- A domicile certificate would be mandatory for the candidate seeking benefit under the law.

Constitutional Provisions related to reservations in employment:

The constitution under Article 16 and Article 371 mentions the Reservation in jobs.

- **Article 16(1):** It provides for equality of opportunity for all citizens in matters relating to 'employment or appointment' to any office under the State.
- **Article 16(2):** It provides that there cannot be any discrimination on grounds only of religion, race, caste, sex, descent, place of birth, residence or any of them.

- **Article 16(3):** It provides an exception by saying that Parliament may make a law “prescribing” a requirement of residence for jobs in a particular state. This power vests solely in the Parliament, not state legislatures.
- **Article 371:** Some states have special protections under Article 371. Andhra Pradesh under Section 371(d) has powers to have “direct recruitment of local cadre” in specified areas.

Supreme Court Judgements regarding reservation in private jobs:

- **Pradeep Jain v Union of India (1984) case:** The Supreme Court discussed the issue of legislation for “sons of the soil”. Further, The court held an opinion that such policies would be unconstitutional but did not expressly rule on it.
- **Sunanda Reddy v State of Andhra Pradesh (1995) case:** The Supreme Court repeated its earlier interpretation in Dr Pradeep Jain case. Further, the court strikes down the state government policy that gave 5% extra weightage to candidates who had studied with Telugu as the medium of instruction.
- The Rajasthan government gave preference to “people belonging to the concerned district or the rural areas of that district” in appointments. But, in 2002 the Supreme Court invalidated the appointment of government teachers in Rajasthan.
- In 2019, the Allahabad High Court struck down a recruitment notification issued by the Uttar Pradesh Subordinate Service Selection Commission. The commission prescribed preference for women who were original residents of the state in job appointments.

ISSUES WITH POPULATION CONTROL BILL

In News:

The Rajya Sabha has discussed a Private Member’s Bill on population regulation.

Analysis of Background:

The Population Control Bill

- First introduced in 2019, it is a private member bill proposed by Rakesh Sinha.
- The purpose of the bill was to control the population growth of India.
- The proposed bill then was signed by 125 Members of Parliament (MP) and is yet to become an act of law.

It seeks to amend Article 47 by inserting article 47A to the Constitution of India. It proposes that-

1. The State shall promote small family norms by offering incentives in taxes, employment, education etc. to its people who keep their family limited to two children
2. The state shall withdraw every concession from and deprive such incentives to those not adhering to small family norm, to keep the growing population under control.

Key provisions:

- **Penalties:** The 2019 bill talked about introducing penalties for couples not adhering to the two-child policy such as debarment from contesting in elections and ineligibility for government jobs.
- **Two-child policy:** The 2020 bill proposes to introduce a two-child policy per couple.
- **Incentivizing adoption:** It shall incentivize adoption through various measures such as educational benefits, taxation cuts, home loans, free healthcare, and better employment opportunities.
- **Birth spacings:** It also proposes to ensure healthy birth spacing through measures related to augmenting the availability, accessibility and affordability of quality reproductive health services.

Issues with penal provisions

- **Alienation:** If a family was penalized for more than two children, then the third child would develop a feeling of alienation that he is an unwanted child.

- **Bar on Women:** The biggest victim of such would be women, irrespective of religion. They would be debarred in political participation.
- **Selective abortions:** In India, the preference for male children may lead to a greater anti-female child sex selection because parents will only have “two attempts” to have babies.
- **Violation of reproductive autonomy:** To control and regulate the number of children a family can have is a gross violation of human rights, the right to self-determination and an individual’s reproductive autonomy.
- **Violation of Individual Privacy:** A right to procreation is not explicitly mentioned in the Constitution but it comes under the ambit of Article 21, as discussed in *Jasvir Singh vs State of Punjab*.
- **Remarriage issues:** A divorced person who has two children with a prior partner cannot bear a child with their next spouse.

Why need such policy?

- India had a land availability of only 1.2 hectare per person, while the resources that get regenerated automatically was 0.43 only.
- We are an ecological debtor. The ecological footprint which we use and the gap between their regeneration is 187%.
- If this continued for 30 years, then resources would be exhausted and people would not be able to lead a dignified life.
- Some people see demographic dividend in the growing population but it was being used as cheap labour globally.

PM CARES FUND

In News:

The PM CARES Fund collected ₹10,990 crore since its inception in March 2020 until March 2021 and spent ₹3,976 crore during the 2020-21 financial year, according to the audited financial statement.

Analysis of Background:

About the Fund:

- The Fund is a public charitable trust with the Prime Minister as its Chairman.

- Other Members include Defence Minister, Home Minister and Finance Minister.
- The Fund enables micro-donations as a result of which a large number of people will be able to contribute with the smallest of denominations. The Fund will strengthen disaster management capacities and encourage research on protecting citizens.
- The fund is recognized as a Trust under the Income Tax Act and the same is managed by the Prime Minister or multiple delegates for national causes.
- It can avail donations from the foreign contribution and donations to fund can also avail 100% deduction from taxable income under section 80(G) of the Income Tax Act, 1961.
- **Contribution to PM – CARES Fund will Qualify as CSR Expenditure.**
 - The Ministry of Corporate Affairs has clarified that contributions by companies towards the PM-CARES Fund will count towards mandatory Corporate Social Responsibility (CSR) expenditure.
 - Under the Companies Act, 2013, companies with a minimum net worth of Rs 500 crore or turnover of Rs 1,000 crore, or net profit of Rs 5 crore are required to spend at least 2% of their average profit for the previous three years on CSR activities every year.

Prelims View:

1. What is PM CARE Fund?
2. Who has controlled this fund?
3. Is it part of RTI?
4. Compare PM CARE fund with National Disaster relief Fund.

Unitary Digital Identity Framework

In News:

India has agreed to provide a grant to Sri Lanka to implement a 'Unitary Digital Identity Framework', apparently modelled on the Aadhaar Card.

Analysis of Background:

What is UDIF?

- UDIF is apparently similar to India's own Aadhaar.
- Under the proposed UDIF it is expected to introduce a:
 1. Personal identity verification device based on biometric data
 2. Digital tool that can represent the identities of individuals in cyberspace and
 3. Identification of individual identities that can be accurately verified in digital and physical environments by combining the two devices

Why such move?

- SL has been receiving substantive economic assistance from India – totalling \$ 1.4 billion since the beginning of this year.
- India is helping the island nation cope with its dollar crunch, and import food, medicines and fuel amid frequent shortages.

HARYANA PREVENTION OF UNLAWFUL CONVERSION OF RELIGION BILL, 2022

In News:

The Haryana Cabinet approved the draft of the Haryana Prevention of Unlawful Conversion of Religion Bill, 2022.

Analysis of Background:

About:

- It seeks to prohibit religious conversion effected through misrepresentation, force, undue influence, coercion, allurements or by any fraudulent means or by marriage or for marriage, by making it an offence.

- According to the draft Bill, the burden of proof “lies on the accused”. The draft Bill will now be tabled before the Assembly.
- The Bill, on the lines of recent anti-conversion laws passed in other States, proposes to make conversion by marriage an offence.
- It also prescribes higher punishment for conversion of minors, women, and members of the Scheduled Castes and the Scheduled Tribes.
- The burden of proof as to whether a conversion was not affected through misrepresentation, use of force, under threat, undue influence, coercion, allurement or by any fraudulent means or by marriage or for marriage for the purpose of carrying out conversion lies on the accused.
- The draft Bill provides for declaring marriages null and void, which were solemnized by concealment of religion.

PRIVILEGE MOTION

In News:

An MP from Telangana submitted a Privilege Motion against PM regarding his remarks over the bifurcation of the erstwhile state of Andhra Pradesh.

Analysis of Background:

What is Parliamentary Privilege?

- Parliamentary privilege refers to the **right and immunity enjoyed by legislatures**.
- The legislators are granted **protection against civil or criminal liability** for actions done or statements made in the course of their legislative duties.
- They are granted so that the MPs/MLAs can **effectively discharge their functions**.
- The powers, privileges and immunities of either House of the Indian Parliament and of its members and committees are laid down in **Article 105** of the Constitution.
- **Article 194** deals with the powers, privileges and immunities of the State Legislatures, their members and their committees.

What is a Privilege Motion?

- When any of the rights and immunities are disregarded, the offence is called a breach of privilege and is punishable under law of Parliament.
- A notice is moved in the form of a motion by any member of either House against those being held guilty of breach of privilege.
- Each House also claims the right to punish as contempt actions which, while not breach of any specific privilege, are offences against its authority and dignity.

What are the rules governing privilege?

- Rule No 222 in Chapter 20 of the Lok Sabha Rule Book and correspondingly Rule 187 in Chapter 16 of the Rajya Sabha rulebook govern privilege.
- It says that a member may, with the consent of the Speaker or the Chairperson, raise a question involving a breach of privilege either of a member or of the House or of a committee thereof.
- The rules however mandate that any notice should be relating to an incident of recent occurrence and should need the intervention of the House.
- Notices have to be given before 10 am to the Speaker or the Chairperson.

What is the role of the Speaker/Rajya Sabha Chair?

- The Speaker/RS chairperson is the **first level of scrutiny** of a privilege motion.
- The Speaker/Chair can decide on the privilege motion himself or herself or refer it to the privileges committee of Parliament.
- If the Speaker/Chair gives consent under Rule 222, the member concerned is given an opportunity to make a short statement.

What is the Privileges Committee?

- In the Lok Sabha, the Speaker nominates a committee of privileges consisting of 15 members as per respective party strengths.
- A report is then presented to the House for its consideration. The Speaker may permit a half-hour debate while considering the report.
- The Speaker may then pass final orders or direct that the report be tabled before the House.
- A resolution may then be moved relating to the breach of privilege that has to be unanimously passed.

- In the Rajya Sabha, the deputy chairperson heads the committee of privileges, which consists of 10 members.

CONSTITUTION AMENDMENT ACT

In News:

- The Union Home Ministry has asked the parliamentary committee for more time to frame the rules of the Citizenship (Amendment) Act, 2019 (CAA), on the grounds that the consultation process is on.

Analysis of Background:

Provisions of the act:

- The Bill seeks to amend the Citizenship Act, 1955; by wanting to grant citizenship to illegal non-Muslims (Hindus, Sikhs, Buddhists, Jains, Parsis and Christians) from Bangladesh, Pakistan, and Afghanistan, who came to India on or before December 31, 2014.
- The Bill proposes that all such migrants will be eligible for citizenship if they came to India before December 31, 2014.
- All pending legal cases pertaining to citizenship-related matters against them will stand abated.
- The Bill says the six non-Muslim communities “shall not be treated as illegal migrants” for violating provisions of the Passport Act, 1920, or the Foreigners Act, 1946.
- The Bill reduces the mandatory requirement of continuous stay in India from 12 years to five years for “many persons of Indian origin including persons belonging to the minority community from the neighboring countries”.
- The Bill says the amendments will not apply to the tribal areas of Assam, Meghalaya, Mizoram, and Tripura, which are included in the Sixth Schedule of the Constitution and Arunachal Pradesh, Mizoram and Nagaland that are protected by the Inner Line Permit (ILP).

Reasons behind citizenship act:

- This is a humanitarian step to grant citizenship to those who suffered for the last 70 years.
- Provisions of Constitutions of Afghanistan, Pakistan and Bangladesh provide for a specific state religion, it lead to persecution of religious minorities in these countries.
- Their right to practice, profess and propagate their religion has been obstructed and restricted.
- Bill contains provisions to grant Citizenship to such refugees on reasonable grounds, which in no way go against any provision under the Constitution of India and does not violate Article 14.
- The linguistic, cultural and social identity of the people of the North East would be preserved and this Bill contains the solution to the problems of the people of these States.
- Refugees from Uganda were also given citizenship and same steps were taken during Sri Lankan crisis.

Concerns with the act:

- It will be the first time that citizenship will be provided on the basis of religion.
- It violates Article 14 of the Constitution, which grants the right to equality.
- It violates provisions of the Assam Accord, 1985, according to which all-illegal immigrants, irrespective of religion, who entered India after March 24, 1971, were to be detected and deported.
- It may make many Bengali Hindus residing in the Northeast vulnerable to violence while also leaving several non-Muslim pockets of Pakistan and Bangladesh exposed to their country's communal forces.
- It can have negative impact on India's bilateral relations with a friendly neighbor like Bangladesh.

- Bill can particularly be detrimental to the interest of smaller communities, particularly the plains tribes in Assam whose areas are not protected.
- It may put a specific community – Bengali Hindus – widely seen to be the sole beneficiaries of the amendment, more vulnerable to assaults in different northeastern states based on their ethnicity.
- Only an illegal immigrant who is Muslim will be singled out, prosecuted under the Passports (Entry into India) Act, 1920 or the Foreigners Order 1949, and deprived of his personal liberty.
- While Muslim migrants should show their proof of residency in India for at least 11 years, the law allows illegal migrants from the six communities to be naturalized in five years-time.

Supreme Court approach to CAA:

- The Supreme Court refused to stay the implementation of the Citizenship Amendment Act (CAA), 2019
- There is lot of confusion in the public mind about the objectives of the CAA. Therefore, government must publicize the actual intent of the Act to reduce any confusion among the public about its objectives and aims.
- It in states that amendments made to the Citizenship Act of 1955 allowed for protecting and welcoming religiously persecuted people fleeing the three neighboring countries where Muslims form the majority.

SERVICES E-HEALTH ASSISTANCE AND TELECONSULTATION (SEHAT)

In News:

- The Services e-Health Assistance and Teleconsultation (SeHAT) -- the tri-services teleconsultation service of the MoD designed for all entitled personnel and their families provides for not only e-consultation but even home delivery of medicines.

Analysis of Background:

About Sehat:

- SeHAT stay-home OPD is a **patient-to-doctor system where the patient can consult a doctor remotely through the internet using his Smartphone, laptop, Desktop or Tablet.**
- It provides for video, audit and chat for the patients.
- Ensure quality healthcare services to patients
- Ensure comfort of the citizens by letting them access the services from their homes
- Provision for the delivery of medicines at the doorstep



MINISTRY OF DEFENCE
GOVERNMENT OF INDIA

Digital India
Power To Empower

SERVICES E-HEALTH ASSISTANCE & TELE-CONSULTATION (SEHAT) OPD PORTAL LAUNCHED

AN INITIATIVE BY MINISTRY OF DEFENCE

- Portal provides tele-medicine services to serving Armed Forces personnel, veterans & their families
- Services can be availed by registering on the website www.sehatopd.in/

HABEAS CORPUS

In News:

The Supreme Court has decided to examine a habeas corpus plea made by the children of a Pakistan national who they believe has been unlawfully detained for seven years.

Analysis of Background:

What is Habeas Corpus?

- Habeas corpus is a recourse in law through which a person can report an unlawful detention or imprisonment to a court.
- He/she can request that the court order the custodian of the person, usually a prison official, to bring the prisoner to court, to determine whether the detention is lawful.
- In India the power to issue a writ of habeas corpus is vested only in the Supreme Court and the High Court.
- Habeas corpus is the writ which was visualized as an effective means to provide a quick remedy to a person who has lost his personal liberty without any legal justification.

What is Article 32?

- Article 32 deals with the 'Right to Constitutional Remedies', or affirms the right to move the Supreme Court by appropriate proceedings for the enforcement of the rights conferred in Part III of the Constitution.
- It is one of the fundamental rights listed in the Constitution that each citizen is entitled.
- It states that the Supreme Court "shall have the power to issue directions or orders or writs for the enforcement of any of the rights conferred by this Part".
- The right guaranteed by this Article "shall not be suspended except as otherwise provided for by this Constitution".
- Dr B R Ambedkar has called it the very soul and heart of the Constitution. It cannot be suspended except during the period of Emergency.

Rights protected by A32

- The article is included in Part III of the Constitution with other fundamental rights including to Equality, Freedom of Speech and Expression, Life and Personal Liberty, and Freedom of Religion.
- Only if any of these fundamental rights is violated can a person approach the Supreme Court directly under Article 32.

Types of Writs under it

Both the High Courts and the Supreme Court can be approached for violation or enactment of fundamental rights through five kinds of writs:

1. **Habeas corpus** (related to personal liberty in cases of illegal detentions and wrongful arrests)
 2. **Mandamus** — directing public officials, governments, courts to perform a statutory duty;
 3. **Quo Warranto** — to show by what warrant is a person holding public office;
 4. **Prohibition** — directing judicial or quasi-judicial authorities to stop proceedings which it has no jurisdiction for; and
 5. **Certiorari** — re-examination of an order given by judicial, quasi-judicial or administrative authorities.
- In civil or criminal matters, the first remedy available to an aggrieved person is that of trial courts, followed by an appeal in the High Court and then the Supreme Court.
 - When it comes to violation of fundamental rights, an individual can approach the High Court under Article 226 or the Supreme Court directly under Article 32.

MHA RECOMMENDS BAN ON 54 CHINESE APPS

In News:

The Ministry of Home Affairs has recommended a ban on 54 Chinese mobile applications that pose a threat to the country's security.

Analysis of Background:

Legal basis of app ban

- The ban has been enforced under Section 69A of the Information Technology Act, 2000.
- This act empowers to issue directions for blocking for public access of any information through any computer resource.
- This is done in the interest of –
 1. sovereignty and integrity of India
 2. defence of India, security of the State
 3. friendly relations with foreign States
 4. public order (or)
 5. for preventing incitement to the commission of any cognizable offence relating to above

Why MHA has put such ban?

- Most of these apps were **operating as clones** or shadow apps of the apps that had earlier been banned by the government.
- There was **stealing and secretly transmitting users' data** in an unauthorised manner to servers that have locations outside India.
- These apps largely **impact psychosocial abilities** of the users.
- The immediate decision has been taken in a specific strategic and **national security**.

Implications of the ban

- **India's offensive:** The move comes as an exercise of coercive diplomacy with China amid the heated exchange of words during diplomatic boycott on winter Olympics.
- **Hurting china's ambitions:** The ban may affect one of China's most ambitious goals, namely to become the digital superpower of the 21st century.
- **Data nationalization:** The ban is also based on the recognition that data streams and digital technology are a new currency of global power.

Issues with the ban

- **Not only China:** Data privacy and data security concerns are not limited only to Chinese apps.

- **Harm already caused:** The apps that were banned were very popular in India and the move to block them comes after these apps had already amassed hundreds of millions of users in India.
- **Further dependency on China:** The ban on Chinese mobile apps is a relatively soft target, as India remains reliant on Chinese products in several critical and strategically sensitive sectors.

THE IMPORTANCE OF CASTE DATA

In News:

Last month, the Supreme Court upheld the 27% quota for Other Backward Classes (OBC) in the All-India Quota seats for the National Eligibility-cum-Entrance Test and reiterated that reservations for backward classes were not an exception but an extension of the principle of equality under Article 15(1) of the Constitution.

Analysis of Background:

Multiple dimensions of reservation

- The judgment highlighted how open competitive exams give the **illusion of providing equal opportunity** in ignorance of the widespread inequalities in educational facilities, the freedom to pursue such education, and **societal prejudices**.
- **Psychological and social effects:** The Court pointed out how such disparities are not limited to the issue of access to good education or financial constraints alone, but also to the psychological and social effects of inherited cultural capital (communication skills, books, accent, academic accomplishments, social networks, etc.), **which ensures the unconscious training of upper-caste children for high-grade performance**.
- The Constituent Assembly held a similar philosophy while introducing constitutional provisions which enable the government to make **special provisions for the uplift of the “lower castes”**.

Importance of justifiable data

- **The politicisation of issue:** Political parties often promise reservation for communities on being brought to power without any credible data collection exercises to justify the decision.

- It can be said that the faith of our citizens cannot be restored until credible exercises of data collection are undertaken regarding caste.
- **Lack of data on OBC:** Even though data concerning the Scheduled Castes and Scheduled Tribes have been included in the Census, there is no similar data on OBCs.
- **Proper assessment:** In the *Indra Sawhney* case, the Supreme Court held that the States must conclude the “backwardness” of a particular class of people only after **proper assessment and objective evaluation**.
- It held that such a conclusion must be subject to **periodic review** by a permanent body of experts.
- The National Commission for Backward Classes Act, 1993, provides under Section 11 that the Central government may every 10 years revise lists with a **view to exclude those classes which have ceased to be backward** and include new backward classes.
- This exercise has not been done to date.
- **Impartial data and subsequent research** might save the *bona fide* attempts of the uplift of the most backward classes from the shadow of caste and class politics and be informative to people on both sides of the spectrum – for and against reservation.
- **Calls for caste data in Census:** Last year, many calls were made for the inclusion of caste data (including that of the OBCs) in the 2021 Census, and the matter reached the Supreme Court.
- However, the government took the stand that the 2011 SECC was “flawed” and is “not usable”.

ANTI-MOB LYNCHING BILLS PASSED BY STATES GO UNIMPLEMENTED

In News:

Bills passed against mob lynching in some states have not been implemented since lynching is not defined as a crime under the Indian Penal Code (IPC).

Analysis of Background:

Why are the bills pending?





- Most bills have been reserved by the Governor for consideration of the President.

- The President has to go with the advice given by the Council of Ministers, in the case of such legislations, represented by the MHA.
- The Union Home Ministry examines the State legislations on three grounds-
 1. Repugnancy with Central laws
 2. Deviation from national or central policy and
 3. Legal and constitutional validity

THE HINDU
e-Paper

Stalled crackdown

A brief look at anti-lynching Bills passed by four States that are caught in a question of definition

<p>JHARKHAND </p> <p>The Prevention of Mob Violence and Mob Lynching Bill, 2021, provides for punishment ranging from three years in prison to life imprisonment, in case of death of the victim. Those convicted may be fined between ₹3 lakh and ₹25 lakh depending on the severity of the crime</p>	<p>RAJASTHAN </p> <p>The Rajasthan Protection from Lynching Bill, 2019, provides for life imprisonment and a fine from ₹1 lakh to ₹5 lakh to those convicted in cases of mob lynching leading to the victim's death</p>
<p>MANIPUR </p> <p>The Manipur Protection from Mob Violence Bill, 2018, proposes rigorous life imprisonment for those involved in mob violence, if it results in the death of a victim</p>	<p>WEST BENGAL </p> <p>The West Bengal (Prevention of Lynching) Bill, 2019, has a provision for death sentence. It proposes a jail term from three years to life imprisonment for those involved in assaulting and injuring a person. The Bill, while defining terms such as "lynching" and "mob", says the West Bengal Lynching Compensation Scheme may be framed under it</p>

What is Mob Lynching?

- Lynching is a premeditated extrajudicial killing by a group.

- It is most often used to characterize informal public executions by a mob in order to punish an alleged transgressor, or to intimidate a group.
- Recent incident can be recalled from Pakistan where a Sri Lankan national was set ablaze over blasphemy charges.

Dealing with lynching in India

- In 2017, the National Crime Records Bureau (NCRB) collected data on mob lynching, hate crimes and cow vigilantism but it was not published and discontinued.
- This is because, there is “no separate” definition for lynching under the IPC.
- However, lynching incidents could be dealt with under Sections 300 and 302 of the IPC, pertaining to murder.
- In 2018, the Supreme Court asked Parliament to make lynching a separate offense.
- Since then, the government is working to overhaul the IPC framed in 1860 and the Code of Criminal Procedure (CrPC) to consider mob-lynching.

Why anti-lynching law is necessary?

- **Fills the void:** It fills a void in our criminal jurisprudence.
- **Lawlessness:** The Indian Penal Code has provisions for unlawful assembly, rioting, and murder but nothing that takes cognizance of a group of people coming together to kill (a lynch mob).
- **Rise in Lynching incidents:** There has been a rise in lynching incidents in recent years.

Reason for the rise in lynchings

- **Impunity:** The lynch mobs are confident of getting away with it. So far, the state has done little to shake that confidence.
- **Communalism:** In the case of cow-linked lynchings, a lot depends on whether the incumbent in power considers it compatible with its political interests to crack down on such attacks.
- **Fake news:** Another factor that gave rise to lynchings is the spread of fake news through social media platforms which incite a sudden wave of antagonism.
- **Alienation:** With modernity, there is a growth of individualism and erosion of associational life. The sense of fraternity has been fading away due to this.

- **Unemployment:** High Unemployment rates leave millions of youth unengaged.

Effect of lynching

State:

- **Violation of FR:** It is against the values upheld in the constitution of India. Every individual have certain fundamental rights any violence would be a curtailment of this right.
- **Law and order crisis:** Lynchings have led to degrading regard to law and order.

Economy:

- **Reputation damage:** Many International agencies warned India against mob lynching incidents. This impacts both foreign and domestic investment thereby adversely affecting sovereign ratings.
- **Impact on migration patterns:** It directly hampers internal migration which in turn affects economy.
- **Damage of public property:** Large resources deployed to tackle such menaces induces extra burden on state-exchequer.

Society

- **Fear of radicalization:** Radical and extremist organizations such as ISIS etc could take leverage of the atmosphere created by such incidents.
- **Communal disharmony:** This impact solidarity of society and idea of Unity in diversity. This create an atmosphere of majority v/s minority.
- **Intolerance:** It could aggravate caste, class and communal hatred. Such acts shows loss of tolerance in society and people are being swayed by emotions, prejudices etc.

Way forward

- States should be more vigilant and proactive in flagging rumors using social media and other platforms.
- Some states are doing it, others need to emulate these examples.
- The more proactive the administration is in this regard, the stronger a deterrent it will be.
- There is also a need for a special court for the trial of mob violence.

INDIA TO PREPARE DIGITAL MAPS OF ALL VILLAGES

In News:

India plans to prepare digital maps of all its 6,00,000 villages and pan-India 3D maps will be prepared for 100 cities to mark a year of the updated geospatial policy guidelines under the SVAMITVA Scheme.

Analysis of Background:

What is SVAMITVA Scheme?

- SVAMITVA stands for Survey of Villages and Mapping with Improved Technology in Village Areas.
- Under the scheme, the latest surveying technology such as drones will be used for measuring the inhabited land in villages and rural areas.
- The mapping and survey will be conducted in collaboration with the Survey of India, State Revenue Department and State Panchayati Raj Department under the Ministry of Panchayati Raj.
- The drones will draw the digital map of every property falling in the geographical limit of each Indian village.
- Property Cards will be prepared and given to the respective owners.


Broad Objectives

1. Leveraging property as a financial asset by the citizens of rural India
2. Creation of accurate land records for rural planning
3. Provide an integrated property validation solution for rural India
4. Serve as a means of reduction in property-related disputes Facilitate with the determination of property tax
5. Creation of survey infrastructure and GIS (Geographic Information System) maps that can be used by any department or agency

Surveying villages
 The SVAMITVA scheme seeks to map land parcels using drone technology and providing 'record of rights' to those who own property

Drone survey completed for 1,08,337 villages

- Maps of 77,716 villages given to States
- 84,14,055 land parcels digitised
- Ownership cards prepared for 26,472 villages



Features of the Scheme

- **Accurate survey:** SVAMITVA Scheme uses the combination of Survey Grade Drones and CORS network (Continuously Operated Reference Stations) to accurately survey large areas in a very short span of time.
- **High resolution:** The 1:500 scale maps generated through the drone survey are of very high accuracy i.e., 3-5 cms, which the conventional methodology does not provide.
- **Geo-tagging:** Moreover, editable and geo-tagged maps are produced at a fraction of the cost without the need for line-of-sight.
- **Permanent records:** These maps facilitate the creation of the most durable record of property holdings in areas with no legacy revenue records.

SVAMWhat are the updated guidelines?

- The updated guidelines help private companies to prepare a variety of maps without needing approvals from a host of ministries.
- They aim to make it easier to use drones and develop applications via location mapping.
- It encompasses the trinity of geospatial Systems, Drone Policy and unlocked Space Sector will be the hallmark of India's future economic progress.

TRIBUNAL APPOINTMENTS BEING TAKEN LIGHTLY: SC

In News:

The Supreme Court has warned that even after the judicial intervention, the government made abrupt efforts to fill vacancies in tribunals some time back and nothing after that.

Analysis of Background:

What is the case?

- The apex court said that it is getting requests for extension of time for NCLT (Nation Company Law Tribunal) matters, etc.
- Some knee-jerk appointments took place and nothing after that.
- The govt earlier had introduced Tribunal Reforms Bill in 2021, which abolishes nine appellate tribunals and revives provisions of an ordinance struck down by the Supreme Court.

What are Tribunals?

- Tribunals are specialist judicial bodies that decide disputes in a particular area of law.
- They are institutions established for discharging judicial or quasi-judicial duties.
- The objective may be to reduce the caseload of the judiciary or to bring in subject expertise for technical matters.

Creation of Tribunals

In 1976, Articles 323A and 323B were inserted in the Constitution of India through the 42nd Amendment.

- Article 323A: This empowered Parliament to constitute administrative Tribunals (both at central and state level) for adjudication of matters related to recruitment and conditions of service of public servants.
- Article 323B: This specified certain subjects (such as taxation and land reforms) for which Parliament or state legislatures may constitute tribunals by enacting a law.
- In 2010, the Supreme Court clarified that the subject matters under Article 323B are not exclusive, and legislatures are empowered to create tribunals

on any subject matters under their purview as specified in the Seventh Schedule.

SC stance on Tribunals

- The Supreme Court has ruled that tribunals, being quasi-judicial bodies, should have the same level of independence from the executive as the judiciary.
- Key factors include the mode of selection of members, the composition of tribunals, and the terms and tenure of service.
- In order to ensure that tribunals are independent of the executive, the Supreme Court had recommended that all administrative matters be managed by the law ministry rather than the ministry associated with the subject area.
- Later, the Court recommended the creation of an independent National Tribunals Commission for the administration of tribunals.
- These recommendations have not been implemented.

Issues with tribunals

- Pendency: Whereas the reasoning for setting up some tribunals was to reduce the pendency of cases in courts, several tribunals are facing the issue of a large caseload and pendency.
- No appointment: With over 240 vacancies in key tribunals where thousands of cases were pending, not a single appointment had been made by the government in any of these tribunals till date.

ONE RANK ONE PENSION (OROP) POLICY

In News:

The Supreme Court has said that the Centre's hyperbole on the One Rank One Pension (OROP) policy presented a much "rosier picture" than what is actually given to the pensioners of the armed forces.

Analysis of Background:

What is OROP Policy?

- OROP means same pension, for same rank, for same length of service, irrespective of the date of retirement.
- It was a longstanding demand of the Indian armed forces and veterans.
- The concept was provoked by the then decision by Indira Gandhi-led government, in 1973, two years after the historic victory in the 1971 Bangladesh war.

How did the issue escalate?

- The Rank pay was a scheme implemented by the Rajiv Gandhi led govt in 1986, in the wake of 4th Central Pay Commission.
- It reduced the basic pay of seven armed officers' ranks of 2nd Lieutenant, Lieutenant, Captain, Majors, Lt. Colonel, Colonels, Brigadiers and their equivalent by fixed amounts designated as rank pay.

How was it reviewed?

- In 2008, the Manmohan Singh led Government in the wake of the Sixth Central Pay Commission (6CPC), discarded the concept of rank-pay.
- Instead it introduced Grade pay, and Pay bands, which instead of addressing the rank, pay, and pension asymmetries caused by 'rank pay' dispensation, reinforced existing asymmetries.

Issues with this pension policy

- The causes that inform the OROP protest movement are not pension alone, as armed forces veterans have often tried to make clear, and the parliamentary committee recorded.
- The issues, veterans emphasize, are of justice, equity, honor, and national security.
- The failure to address issue of pay-pension equity, and the underlying issue of honor, is not only an important cause for the OROP protest movement, but its escalation.

Present status

- PM Modi led government has accepted the OROP.

- It has already released Rs. 5500 crores to serve the purpose, but still, there are some grievances from the veterans' side.
- It refined Pensions for all pensioners retiring in the same rank as the average of the minimum and maximum pensions in 2013.
- The veterans noted governments' proposal as one rank many pensions since the review of 5 years would lead to differences in pension between senior and a junior.

KERALA PLANS TO REPLACE MULLAPERIYAR DAM

In News:

Kerala plans to build a new dam to replace the 126-year-old Mullaperiyar dam in the Idukki district.

Analysis of Background:

Mullaperiyar Dam

- It is a masonry gravity dam on the Periyar River in Kerala.
- It is located on the Cardamom Hills of the Western Ghats in Thekkady, Idukki District.
- It was constructed between 1887 and 1895 by John Pennycuick and also reached in an agreement to divert water eastwards to the Madras Presidency area.
- It has a height of 53.6 m (176 ft) from the foundation, and a length of 365.7 m (1,200 ft).



Operational issue

- The dam is located in Kerala but is operated and maintained by Tamil Nadu.
- The catchment area of the Mullaperiyar Dam itself lies entirely in Kerala and thus not an inter-State river.
- In November 2014, the water level hit 142 feet for first time in 35 years.
- The reservoir again hit the maximum limit of 142 feet in August 2018, following incessant rains in the state of Kerala.
- Indeed, the tendency to store water to almost the full level of reservoirs is becoming a norm among water managers across States.

The dispute: Control and safety of the dam

- Supreme court judgment came in February 2006, has allowed Tamil Nadu to raise the level of the dam to 152 ft (46 m) after strengthening it.

- Responding to it, the Mullaperiyar dam was declared an ‘endangered’ scheduled dam by the Kerala Government under the disputed Kerala Irrigation and Water Conservation (Amendment) Act, 2006.
- For Tamil Nadu, the Mullaperiyar dam and the diverted Periyar waters act as a lifeline for Theni, Madurai, Sivaganga, Dindigul and Ramnad districts.
- Tamil Nadu has insisted on exercising the unfettered colonial rights to control the dam and its waters, based on the 1886 lease agreement.

Rule of Curve issue

- A rule curve or rule level specifies the storage or empty space to be maintained in a reservoir during different times of the year.
- It decides the fluctuating storage levels in a reservoir.
- The gate opening schedule of a dam is based on the rule curve. It is part of the “core safety” mechanism in a dam.
- The TN government often blames Kerala for delaying the finalization of the rule curve.

PM CARES

In News:

Ministry of Women and Child Development decided to extend the PM Cares for Children Scheme.

Analysis of Background:

- The Ministry of Women and Child Development has announced to extend the PM Cares for Children Scheme till 28th February, 2022.
- All eligible children can enroll till 28th February, 2022 to get benefits under PM CARES for Children Scheme.

Eligibility criteria under PM CARES:

- PM-CARE covers all children who have lost: Both parents or Surviving parent or legal guardian/adoptive parents/single adoptive parent due to

COVID 19 pandemic, starting from 11th march 2020 the date on which WHO has declared and characterized COVID-19 as pandemic till 28th February 2022.

- To get benefits under this scheme, Child should not have completed 18 years of age on the date of death of parents.

About PM-CARE:

- In May 2021, the Prime Minister announced a comprehensive programme to support children who have lost both their parents due to COVID 19 pandemic.
- The main objective of the scheme is to support and protect children who have lost their parents due to COVID pandemic.
- Government promotes their welfare through health insurance, funding for ensuring education, health, monthly fixed allowance from the age of 18 years, and a final amount of Rs. 10 lakhs on attaining 23 years of age.
- Any Citizen can inform the administration regarding an eligible child through the portal.

About PM-CARES Fund:

- PM CARES Fund has been registered as a Public Charitable Trust under the Registration Act, 1908.
- Prime Minister is the ex-officio Chairman of the PM CARES Fund and Minister of Defence, Minister of Home Affairs and Minister of Finance, Government of India are ex-officio Trustees of the Fund.
- The fund consists entirely of voluntary contributions from individuals/organizations and does not get any budgetary support.
- Donations to the Fund would qualify for 80G benefits for 100% exemption under the Income Tax Act, 1961.
- Donations to the Fund will also qualify to be counted as Corporate Social Responsibility (CSR) expenditure under the Companies Act, 2013.

- It has also got exemption under the Foreign Contribution Regulation Act (FCRA), this enables PM CARES Fund to accept donations and contributions from individuals and organizations based in foreign countries.
- PM-CARES Fund is not a public authority under the Right to Information Act (RTI), 2005.
- The Comptroller and Auditor General's (CAG) clarified that it wouldn't audit the Fund as it is 'a charitable organization' and is also based on donations from individuals and organizations.
- It would be audited by an independent **auditor outside of the government.**

Status of PM-CARE Fund:

- The total donation received under the fund is nearly Rs 11,000 crore, while the expenditure made from the fund is about Rs 3,980 crore, according to the latest audited statement.
- Rs 1,000 crore granted for migrant welfare
- Government has used a part of the fund to buy medical equipment, including ventilators, to support the fight against the COVID-19 and has also provided relief to migrants.

Controversy related of PM-CARE Fund:

- Notices were issued by various government departments, "urging" employees to contribute their part of salary.
- Indian Railway, Army, Navy and Air force, Defence PSUs and employees of the defence ministry have donated to the Fund. While a major portion of these contributions have been voluntary in nature, it appears that many government employees weren't given any choice.
- Donations made from Public departments, and therefore the public has the right to know details of the fund and expenditure made under it, but

the government made it clear that the fund is outside the preview of RTI act, and CAG will not audit the fund.

- The PMO has also refused to make the public any documents related to the PM CARES fund. Total lack of transparency about the use of the funds.
- The PM CARES Fund is exempt from scrutiny and monitoring of all foreign donations.

PERMANENT INDUS COMMISSION:

In News:

A 10-member Indian delegation will visit Pakistan for the annual meeting of the Permanent Indus Commission (PIC) from March 1-3.

Analysis of Background:

Agenda this year

- Pakistan has some objections on Indian hydroelectric projects namely Pakal Dul (1,000 MW), Lower Kalnai (48 MW) and Kiru (624 MW) in Chenab basin in Jammu and Kashmir.
- Pakistan has raised objections on the design of these projects.
- India, however, asserts that the design of the project is fully compliant with the provisions of the Indus Waters Treaty (IWT).

Permanent Indus Commission

- The PIC is a bilateral commission consisting of officials from India and Pakistan, created to implement and manage the goals and objectives, and outlines of the IWT.

Indus Waters Treaty, 1960

- The Indus Waters Treaty is a water-distribution treaty between India and Pakistan, **brokered by the World Bank** signed in Karachi in 1960.
- According to this agreement, control over the water flowing in three “eastern” rivers of India — the Beas, the Ravi and the Sutlej was given to India

- The control over the water flowing in three “western” rivers of India — the Indus, the Chenab and the Jhelum was given to Pakistan.

Rights accorded to India

- The treaty allowed India to use western rivers water for limited irrigation use and unrestricted use for power generation, domestic industrial and non-consumptive uses such as navigation, floating of property, fish culture, etc.
- It lays down precise regulations to build any water or hydel projects.
- India has been given the right to generate hydroelectricity through run-of-the-river projects on the western rivers subject to specific criteria for design and operation.
- The pact also gives the right to Pakistan to raise objections to designs of Indian hydroelectric projects on the western rivers.

Based on equitable water-sharing

- Back in time, partitioning the Indus rivers system was inevitable after the Partition of India in 1947.
- The sharing formula devised after prolonged negotiations sliced the Indus system into two halves.
- Equitable it may have seemed, but the fact remained that India conceded 80.52 percent of the aggregate water flows in the Indus system to Pakistan.
- It also gave Rs 83 crore in pounds sterling to Pakistan to help build replacement canals from the western rivers. Such generosity is unusual of an upper riparian.
- India conceded its upper riparian position on the western rivers for the complete rights on the eastern rivers.
- Water was critical for India’s development plans.

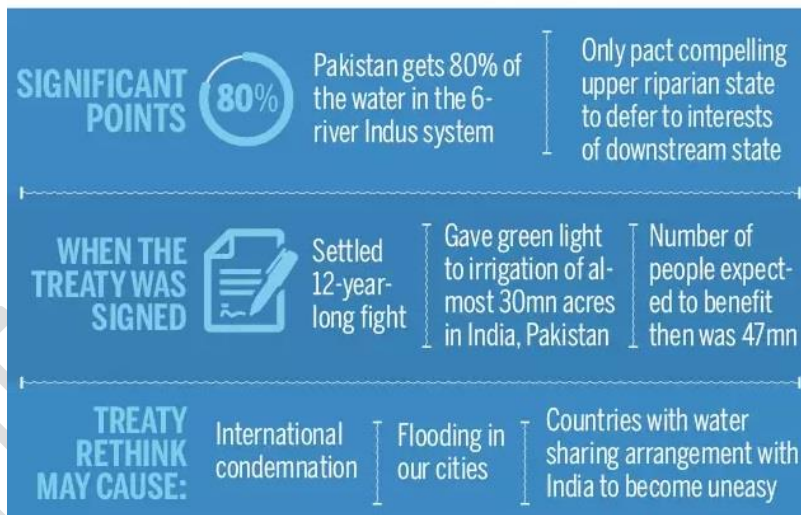
Significance of the treaty

- It is a treaty that is often cited as an example of the possibilities of peaceful coexistence that exist despite the troubled relationship.
- Well-wishers of the treaty often dub it “uninterrupted and uninteruptible”.

- The World Bank, which, as the third party, played a pivotal role in crafting the IWT, continues to take particular pride that the treaty functions.

Need for a rethink

- The role of India, as a responsible upper riparian abiding by the provisions of the treaty, has been remarkable.
- However, of late, India is under pressure to rethink the extent to which it can remain committed to the provisions, as its overall political relations with Pakistan becomes intractable.



Constitution of India

In News:

Recently, the Chief Minister of Telangana said India needs a new Constitution, as, according to him, governments at the Centre over the years have been suppressing the powers of the States.

Analysis of Background:

Drafting Committee Of the Constitution:

- It took two years, 11 months and 18 days to draft the present Constitution.
- The Drafting Commission was established by the Constitutional Council on August 29, 1947.
- The Drafting Committee had seven members: AlladiKrishnaswamiAyyar, N. Gopaldaswami; B.R. Ambedkar, K.M Munshi, Mohammad Saadulla, B.L. Mitter and D.P. Khaitan.
- At its first meeting on 30th August 1947, the Drafting Committee elected R Ambedkar as its Chairman.
- Towards the end of October 1947, the Drafting Committee began to scrutinise the Draft Constitution prepared by the B.N Rau, the Constitutional Advisor.
- It made various changes and submitted the Draft Constitution to the President of the Constituent Assembly on 21 February 1948.

BURKINA FASO SUSPENDED FROM AU FOLLOWING COUP

Issue:

The African Union suspended Burkina Faso a week after the volatile country suffered its latest coup, as envoys from West Africa and the UN headed for talks with the new junta.

Analysis of Background:

African Union:

- The African Union (AU) is a **continental union consisting of 55 countries** of the continent of Africa, with exception of various territories of European possessions located in Africa.
- **The bloc was founded on 26 May 2001** in Addis Ababa, Ethiopia and launched on 9 July 2002 in South Africa.
- The intention of the AU is to replace the **Organisation of African Unity (OAU), established on 25 May 1963 in Addis Ababa by 32 signatory governments.**
- The most important decisions of the AU are made by the Assembly of the African Union, a semi-annual meeting of the heads of state and government of its member states.
- The AU's secretariat, the African Union Commission, is based in Addis Ababa.

Objectives:

- To achieve **greater unity and solidarity** between the African countries and Africans.
- To defend the **sovereignty, territorial integrity and independence** of its Member States.
- To accelerate the **political and social-economic integration** of the continent.

Burkina Faso:

- A former French colony, **Burkina Faso has suffered chronic instability** since gaining independence in 1960, including several coups.
- Landlocked Burkina Faso, one of West Africa's **poorest countries despite being a gold producer**, has experienced numerous coups since independence from France in 1960.



BEIJING WINTER OLYMPICS

In News:

India has announced a diplomatic boycott of the Beijing Winter Olympics.

Analysis of Background:

- Other countries which announced boycott include the USA , United Kingdom, Australia, New Zealand, Canada, Japan, New Zealand and the Netherlands.

What is a diplomatic boycott?

- It simply means these countries will not send official government delegations to Beijing during the Games.
- These officials are often labeled as the 'VIP visitors'.

Does a diplomatic boycott affect athletes' participation?

- It doesn't. A diplomatic boycott is a token protest that has no impact on the sporting spectacle.
- However the Olympics are now a billion-dollar enterprise and a complete boycott could cost athletes, broadcasters and the organisers a fortune.

Why have the Beijing Winter Games been so controversial?

- In India's case, the boycott was announced after a Chinese soldier involved in the Galwan incident was made an Olympic torchbearer.
- The Western countries, led by the US, made the diplomatic snub over China's alleged treatment of the Uyghur Muslims and human rights issues.

- Some countries like Austria, New Zealand, Slovenia, Sweden and the Netherlands have cited pandemic-related risks for not sending government officials.

INDIA'S 'RETURN' TO CENTRAL ASIA

In News:

The inaugural India-Central Asia Summit, the India-Central Asia Dialogue, and the Regional Security Dialogue on Afghanistan in New Delhi — all held over the past four months — collectively indicate a renewed enthusiasm in New Delhi to engage the Central Asian region.

Analysis of Background:

Significance of Central Asia for India

- India has limited economic and other stakes in the region, primarily due to **lack of physical access**.
- And yet, the region appears to have gained a great deal of **significance in India's strategic thinking** over the years, particularly in the recent past.
- **New geopolitical realities:** India's mission Central Asia today reflects, and is responsive to, the **new geopolitical, if not the geo-economic, realities** in the region.

Factors driving India's engagement

- One of the factors driving this engagement and shaping it is the **great power dynamics there**.
- **Withdrawal of the US from Afghanistan:** The decline of American presence and power in the broader region (due primarily to the U.S. withdrawal from Afghanistan) has led to a **reassertion by China and Russia** seeking to fill the power vacuum.
- **India-Russia relations:** Moscow considers **India to be a useful partner in the region:** it helps it to not only win back New Delhi, which is moving towards the U.S., but also to subtly **checkmate the rising Chinese influence in its backyard**.
- For the U.S., while growing India-Russia relations is not a welcome development, it recognises the utility of Moscow-New Delhi relations in Central Asia to offset Beijing's ever-growing influence there.

- **India's dilemma:** In the wake of the U.S. withdrawal from Afghanistan, New Delhi faces a **major dilemma in the wider region**, not just in the pre-existing theatres like the **Line of Control and the Line of Actual Control**.
- **India's China challenge:** India in the region might get further hemmed in due to the combined efforts by China, Pakistan and Taliban-led Afghanistan.
- If so, it must ensure that there is **no China-led strategic gang up with Pakistan and the Taliban against India** in the region, which, if it becomes a reality, would severely damage Indian interests.
- **Consolidation of Afghan policy:** India's engagement of Central Asia would also help it to consolidate its post-American Afghan policy.
- Now that the Taliban have returned to Kabul, New Delhi is forced to devise **new ways of engaging Afghanistan**.
- That's where the **Central Asian Republics (CARs) and Russia could be helpful**.
- The announcement of a **Joint Working Group on Afghanistan** during the summit between India and the CARs is surely indicative of such interest.

Russia's prominence:

- In India's current vision for a regional security architecture, Russia appears prominent
- **Countering China:** By courting Russia — its traditional partner, also close to China and getting closer to Pakistan — to help it re-establish its presence in the Central Asian region, **India is seeking to work with one of the region's strongest powers** and also potentially create a rift between China and Russia.
- **Joint defence production** by India and Russia has been on the rise and the CARs could play a key role in it.
- **India's non-critical stance on developments in Ukraine and Kazakhstan:** This growing India-Russia partnership also explains India's non-critical stance on the **developments in Ukraine and Kazakhstan**.

Challenges in India's engagement with Central Asia

- **China's dominance in the region:** China, which shares a land border with the region, is already a major investor there.
- **Iran's role:** An even bigger challenge for India may be **Iran**.

- India's best shot at reaching the CARs is by using a hybrid model – via **sea to Chabahar** and then by road/rail through Iran (and Afghanistan) to the CARs.
- So, for New Delhi, the ongoing re-negotiations on the **Joint Comprehensive Plan of Action** are of crucial importance.
- While Iran getting close to the West is not preferred by Russia (but preferred by India), if and when it becomes a reality, **India would be able to use it to its advantage** and join Russia in engaging the CARs.
- **Delivering on the commitment:** Most importantly, India will have to walk the talk on its commitments to Central Asia.
- Does it have the political will, material capability and diplomatic wherewithal to stay the course in the region?

QUAD

In News:

External Affairs Minister S. Jaishankar will attend a meeting of the Foreign Ministers of the Quad to discuss cooperation on vaccines, technology and regional security issues including shared vision of a free, open and inclusive Indo-Pacific region.

Analysis of Background:

About QUAD:

- It is a bloc of countries positioning itself as a check against China's growing aggression in the Indo-Pacific and outside.
- India is a "critical and crucial" member of the Quad.

Background:

- In the aftermath of Indian Ocean tsunami of 2004, Australia, Japan, India, and America formed a Regional Core Group in 2004.
- Then Japanese PM Shinzo Abe proposed an "Arc of Freedom and Prosperity" in 2006.

- The first meeting of the initial Quad was held in May 2007 as officials gathered for the ASEAN Regional Forum meeting.
- Japanes PM Shinzo Abe after returning to office called for a “democratic security diamond,” a Quad 2.0.

The QUAD 2.0:

- The move to set up the quadrilateral also comes in the backdrop of growing Chinese assertiveness in the South China Sea and China’s aggressive posturing.
- Since its revival in late 2017, the Quad met twice a year in 2018 and 2019.
- In New York in September 2019, the four countries held the first ministerial-level meeting of the Quad “to discuss collective efforts in shared commitments and close cooperation on counter terrorism, mentoring, assistance in disaster relief, airtime security, cooperation, development, finance and cyber security efforts.”

Significance of quad- grouping:

- All four nations share a deep interest in maintaining a stable balance of power in the Indo-Pacific and preventing a regional state from becoming dominant.
- All four states share an interest in deterring the use of forceful or coercive practices to resolve political and territorial disputes in the region.
- All four states are committed to the current rules-based economic order in the Indo-Pacific. This is based on free trade, open investment environments, open competitive tendering, the rule of law, and standards of good governance from which all continue to benefit.
- All four nations support to strengthen liberal democratic governance within the Indo-Pacific. The region has not been immune to the global decline in observance of political rights and civil liberties.

How is china responding to quad?

- China's endeavor is to conflate the Quad with the Indo-Pacific vision, and link both to the so-called China Containment Theory.
- In 2016, China itself established a Quadrilateral Cooperation and Coordination Mechanism with Afghanistan, Pakistan and Tajikistan.
- More recently, China has established Quadrilateral Cooperation with Pakistan, Afghanistan and
- The strategic community in China, nevertheless, had branded it an emerging "Asian NATO".

Quad Nations and China:

- USA had followed a policy to contain China's increasing influence in East Asia. Therefore, USA sees the coalition as an opportunity to regain its influence in the Indo-Pacific region.
- Australia is concerned about China's growing interest in its land, infrastructure and politics, and influence on its universities.
- Japan has expressed concerns related to China's territorial transgression in the region.
- China's violation of international norms, particularly its construction of military facilities on reclaimed islands in the South China Sea, and its growing military and economic power, pose a strategic challenge to India.

QUAD Significance for India:

- Act East Policy: It gives a powerful platform to advance its interests in East Asia, coordinate strategies with powerful friends and add more strength to its Act East initiative.
- It will deepen India's ties with US, Australia and Japan and will provide New Delhi significant leverage in shaping US policies in Afghanistan-Pakistan to the benefit of India.

- Through QUAD India seeks to reassert rule based world order to counter China's growing power and assertion.
- Defense-related spending reduced in this time of COVID pandemic and associated with lockdowns, Quad will provide heavyweight to India's interests.
- Sustainable Development in the Indian Ocean Region: India holds the responsibility to act as the net security provider in the Indian Ocean region.
- Issue-based alliance or minilateralism: India has moved beyond non-alignment towards an issue-based alliance with no formal agreements. Therefore, joining Quad will be in line with the present foreign policies of the government.

Challenges:

- Translating intent into action will require a strengthening of ties in existing fields, as well as non-traditional areas such as cyber/information security, energy and climate change, disaster management, etc.
- Poor Indian and Japanese financial and logistical bandwidth to competitively invest in the IPR compounds the Quad's shortcomings.
- Complex economic relationships between the Core Quad and China— for all Quad members, China is either the first or the second largest trading partner, or a key import/export partner.
- If the Quad begins a Quad-plus initiative, it will not only be confronting these challenges, but will also have to contend with other issues such as disputes even amongst members, and differing dispositions towards China.

Challenges for India:

- Non-alignment: India is abandoning its "sacred" tradition of non-alignment.
- Trustworthiness of US: US military alliances with Japan and the Philippines has not provided any challenge to Chinese aggression in the region.
- No clarity on objectives: India wants advancing the security and economic interests of all countries having legitimate and vital interests in the Asia-

Pacific region whereas US is pitching for mutating the Indo-Pacific Quad into a more formal security grouping modelled on NATO.

- Individual visions of the Indo-Pacific: It would be difficult to align the combined vision of the grouping with that of their individual visions regarding Indo-Pacific.
- Internal economic changes: If India wants to engage the Quad partners on reforming the China-centred economic globalisation, it also requires to engineer many changes on trade-related aspects, which might prove to be difficult, given India's drive for self-reliance.

WFP TO ALLOT INDIAN WHEAT IN AFGHANISTAN

In News:

India signed an agreement with the United Nation's World Food Programme (WFP) for the distribution of 50,000 tonnes of wheat that it has committed to sending Afghanistan as part of humanitarian assistance.

Analysis of Background:

- According to the MoU, the wheat will be taken through Pakistan to the Afghan border crossing and handed over to WFP officials in Kandahar beginning February 22.
- The WFP runs its own logistics network inside Afghanistan, partnering with civil society groups, and has launched a global campaign for enough food and aid for the population facing malnutrition — estimated to be half the population or 22 million Afghans.

World Food Programme:

- The World Food Programme (WFP) is the leading humanitarian organization saving lives and changing lives, delivering food assistance in emergencies and working with communities to improve nutrition and build resilience.

- It was **founded in 1961 by the Food and Agriculture Organization (FAO) and United Nations General Assembly (UNGA)** with its headquarters in Rome, Italy.
- It is **also a member of the United Nations Sustainable Development Group (UNSDG)**, a coalition of UN agencies and organizations aimed at fulfilling the Sustainable Development Goals (SDGs).
- The international community has committed to end hunger, achieve food security and improve nutrition by 2030.
- It works closely with the other two Rome-based UN agencies:
- The **Food and Agriculture Organization (FAO)**, which helps countries draw up policy to support sustainable agriculture.
- The **International Fund for Agricultural Development (IFAD)**, which finances projects in poor rural areas.
- **Report Released by WFP: Global Report on Food Crisis**
- The report is produced by the Global Network against Food Crises, an international alliance working to address the root causes of extreme hunger.
- The WFP has been awarded with the Nobel Prize for Peace 2020 for its efforts to combat hunger, bettering conditions for peace in conflict-affected areas and preventing the use of hunger as a weapon of war and conflict.

ORGANIZATION OF ISLAMIC COOPERATION (OIC)

In News:

India has hit out at the Organisation of Islamic Cooperation (OIC), saying it was “hijacked by vested interests” over its remark on Karnataka Hijab Row.

Analysis of Background:

What is OIC?

- The OIC — formerly Organisation of the Islamic Conference — is the world’s second-largest inter-governmental organisation after the UN, with a membership of 57 states.
- The OIC’s stated objective is “to safeguard and protect the interests of the Muslim world in the spirit of promoting international peace and harmony among various people of the world”.
- OIC has reserved membership for Muslim-majority countries. Russia, Thailand, and a couple of other small countries have Observer status.

India and OIC

- At the 45th session of the Foreign Ministers’ Summit in 2018, Bangladesh suggested that India, where more than 10% of the world’s Muslims live, should be given Observer status.
- In 1969, India was dis-invited from the Conference of Islamic Countries in Rabat, Morocco at Pakistan’s behest.
- Then Agriculture Minister Fakhruddin Ali Ahmed was dis-invited upon arrival in Morocco after Pakistan President Yahya Khan lobbied against Indian participation.

Recent developments

- In 2019, India made its maiden appearance at the OIC Foreign Ministers’ meeting in Abu Dhabi, as a “guest of honour”.
- Then External Affairs Minister Sushma Swaraj addressed the Inaugural Plenary.
- This first-time invitation was seen as a diplomatic victory for New Delhi, especially at a time of heightened tensions with Pakistan following the Pulwama attack.
- Pakistan had opposed the invitation to Swaraj and it boycotted the plenary after the UAE turned down his demand to rescind the invitation.

What is the OIC's stand on Kashmir?

- It has been generally supportive of Pakistan's stand on Kashmir and has issued statements criticizing India.
- These statements over the last three decades became an annual ritual, of little significance to India.
- Last year, after India revoked Article 370 in Kashmir, Pakistan lobbied with the OIC for their condemnation of the move.
- To Pakistan's surprise, Saudi Arabia and the UAE — both top leaders among the Muslim countries — issued nuanced statements, and were not as harshly critical of New Delhi as Islamabad had hoped.
- Since then, Islamabad has tried to rouse sentiments among the Islamic countries, but only a handful of them — Turkey and Malaysia — publicly criticized India.

How has India been responding?

- India has consistently underlined that J&K is an integral part of India and is a matter strictly internal to India.
- The strength with which India has made this assertion has varied slightly at times, but never the core message.
- It has maintained its "consistent and well known" stand that the OIC had no locus standi,
- This time, India went a step ahead and said the grouping continues to allow itself to be used by a certain country "which has a record on religious tolerance, radicalism and persecution of minorities".

OIC members and India

- Individually, India has good relations with almost all member nations. Ties with the UAE and Saudi Arabia, especially, have looked up significantly in recent years.
- The OIC includes two of India's close neighbours, Bangladesh and Maldives.
- Indian diplomats say both countries privately admit they do not want to complicate their bilateral ties with India on Kashmir but play along with OIC.

Way ahead

- India now sees the duality of the OIC untenable, since many of these countries have good bilateral ties and convey to India to ignore OIC statements.

- But these countries sign off on the joint statements which are largely drafted by Pakistan.
- India feels it important to challenge the double-speak since Pakistan's campaign and currency on the Kashmir issue has hardly any takers in the international community.

UNITED NATIONS REFUGEE CONVENTION, 1951

In News:

Model laws on asylum and refugees that were drafted by the National Human Rights Commission (NHRC) decades ago but not implemented by the government could be revised by an expert committee.

Analysis of Background:

Why in news?

- India is not having a specific law for refugees and asylum-seekers.
- Though India has not signed the United Nations Refugee Convention, 1951, the refugees and asylum seekers were entitled to the rights in Articles 14, 20 and 21 of the Constitution.

UN Refugee Convention, 1951

- The 1951 Convention Relating to the Status of Refugees was the first comprehensive attempt to define refugees and charted a detailed guideline for host countries to ensure the adequate protection and preservation of the rights of all refugees.
- It puts out clearly who a refugee is and what kind of assistance, rights and legal protection a refugee is entitled to receive.
- It also lays down the obligations of refugees towards the host countries.
- The Convention also specifies certain categories of people, such as war criminals, who do not qualify for refugee status.

Definition of Refugee:

The 1951 convention defines a refugee as:

1. A person who is outside his or her country of nationality or habitual residence

2. Has a well-founded fear of being persecuted because of his or her race, religion, nationality, membership of a particular social group or political opinion
3. Unable or unwilling to avail him— or herself of the protection of that country, or
4. Unable to return there, for fear of persecution

Various Rights conferred to Refugees

- The right not to be expelled, except under certain, strictly defined conditions.
- The right not to be punished for illegal entry into the territory of a contracting State.
- The rights to work, housing, education, public relief and assistance, freedom of religion, access courts, and freedom of movement within the territory.
- The right to be issued identity and travel documents.
- The right to be protected from refoulement apply to all refugees.

Why hasn't India signed this convention?

- Dispute over definition: Another reason why India has not signed the Convention is the narrow definition of refugee under it. For instance, it does not include deprivation of economic rights as an eligibility criterion.
- National security: It is believed that the chief reason is related to security issues.
- Porous and open borders: South Asian borders are porous and any conflict can cause a huge displacement of people.
- Cultural strain: Finally, sometimes refugees also pose a threat to law and order due to cultural differences. Ex. North East states.
- Strain on economy: An influx of people during such times can put a lot of strain on the resources of the local economy and also, it can cause an imbalance in the delicate demography of the region.
- Many inhabited refugees: India has already houses many refugees and in many cases, without the support of the UN.
- Loss of sovereignty: Signing the convention would have meant allowing international scrutiny of 'India's internal security, political stability and international relations'.

- Ad-hocism of the convention: The convention lacks a strong implementation policy which has given rise to ad-hocism and warehousing of refugees.

Way forward

- The inability of international refugee law to reconcile itself with the practical realities that constrain states has culminated in its failure to provide asylum to persecuted persons.
- In these circumstances, India needs a specific legislation governing refugees and asylum seekers.
- Such a law would give legal sanctity and uniformity, ensuring the protection of human rights.
- Along with this, each state must take responsibility for hosting refugees during their darkest hours by devising a burden-sharing system.

RUSSIA- UKRAINE ISSUE

In News:

Russia has announced withdrawal of some troops from the Ukraine border, but US concerns remain around the Russia-to-Germany Nord Stream 2 gas pipeline.

Analysis of Background:

- Nord Stream 2 is an undersea Gas pipeline from Russia to Germany. It bypasses Ukraine thus deny its transit fee for Russia's Gas exports
- Some EU members have security concerns regarding Russia's presence in Baltic Sea.
- US fears that it could give Russia too much leverage in Europe and increase threat of Ukraine Invasion by Russia.

Nord Stream 2 Pipeline:

- This is a 1,200-km pipeline that runs from Ust-Luga in Russia to Greifswald in Germany through the Baltic Sea. It will carry 55 billion cubic metres of gas per year.
- It was decided to build this pipeline in 2015.

- Nord stream 1 system is already completed & functional since 2011 and together with NS2P, it will supply 110 billion cubic metre of gas a year to Germany.
- Russia's economy is mainly dependent on exports of oil & gas and Europe is its largest buyer.



INDIA-UAE TRADE PACT

In News:

THE Comprehensive Economic Partnership Agreement (CEPA) with the United Arab Emirates (UAE), likely to be signed on Friday.

Analysis of Background:

India-UAE trade relations:

- The United Arab Emirates is India's third largest trading partner after China and USA, and second largest export destination after USA as per Economic Survey 2021.
- Bilateral trade between India and the UAE stood at \$43.3 billion in 2020-21.

- India's major exports to the UAE include petroleum products, precious metals, stones, gems and jewellery, minerals, food items such as cereals, sugar, fruits and vegetables, tea, meat, and seafood, textiles, engineering and machinery products, and chemicals.
- India's top imports from the UAE include petroleum and petroleum products, precious metals, stones, gems and jewellery, minerals, chemicals and wood and wood products.
- India imported \$10.9 billion of crude oil from the UAE in 2019-2020.

INDIA-MALDIVES DEFENCE RELATION

In News:

India and Maldives signed a defence **Line of Credit agreement worth \$50 million** during Defence Cooperation Dialogue. The defence Line of Credit will "facilitate capability building in the maritime domain".

Analysis of Background:

Key highlights of the Defence Cooperation Dialogue:

- Both sides agreed to maintain peace and security in the Indian Ocean Region.
- Both sides to convene the first meeting of the Joint Working Group on Counter Terrorism, countering Violent Extremism and De-radicalisation at the the earliest.
- The defence and security collaboration focus on combating terrorism in "all its forms and manifestations".
- For deepening security cooperation, an agreement to develop, support and maintain a Maldives National Defence Force Coast Guard Harbour at Sifvaru was also signed.
- The Maldivian side assured Delhi of its support for permanent membership of India at the "expanded and reformed UNSC".

Why Maldives matters to India?

Strategic location:

- The location of the Maldives, at the intersection of commercial sea-lanes running through the Indian Ocean, makes it strategically important for India, particularly in the light of China's growing aggression in the region.
- Maldives holds strategic importance for India under the Modi government's 'Neighborhood First' policy due to its location in the Indian Ocean.
- The Eight Degree Channel is one of the major maritime lanes of the world.
- Stability, maturity and democratic systems in the Maldives can ensure peace and security in the Indian Ocean.

India-Maldives defence cooperation:

- Since 1988, defence and security have been major areas of cooperation between India and Maldives. This cooperation extends to assisting the Maldives with defence training and equipment requirements.
- In 2016, the two countries also signed a comprehensive action plan to consolidate defence partnership.
- Phase -I extension of the Composite Training Centre (CTC) of the MNDF were completed through an Indian grant.
- The Trinkat-class patrol vessel was gifted to the Maldivian Coast Guard in 2006. This vessel is used by the Maldives for coastal surveillance and for combating transnational crimes such as drug trafficking, illegal, unreported and unregulated fishing.
- India gave two Dhruv Advanced Light Helicopters (ALH) to the Maldives in 2010 and 2015 both of which were to be used for ocean search-and-rescue operations, maritime weather surveillance and for airlifting patients between islands.
- Capacity building: India provides the largest number of training opportunities for Maldivian National Defence Force (MNDF), meeting around 70 per cent of their defence training requirements.

EXAMINING THE RUSSIA-CHINA AXIS

In News:

Russian President Vladimir Putin's visit to China this month, as well as the Ukraine crisis, have turned the spotlight on Russia's relations with China.

Analysis of Background:

China-factor in Ukraine Crisis

- Many in the west have blamed the Russia-China axis for motivating Moscow's recent moves and ensuring it will not be completely isolated in the face of western sanctions.
- At the same time, Beijing has found itself walking a tightrope in its response and has so far stopped short of endorsing Russia's actions.

Russia-China Relations: A backgrounder

- Relations between China and the former Soviet Union were frosty, marked by mistrust and doctrinal differences for most of the Cold War decades.
 - The change came in 1989, when Mikhail Gorbachev became the first Soviet leader to land in Beijing since Nikita Khrushchev in 1958.
1. **Economic dependency:** A decade after the Soviet Union broke up, disappointed and humiliated and deep in economic crisis, Russia under Putin's first presidency turned to China under President Jiang Zemin.
 2. **Neighborhood:** In 2001, the two countries signed the Treaty of Good-Neighbourliness and Friendly Cooperation, paving the way for expanding economic and trade ties.
 3. **Technological support:** For the new People's Republic of China, the Soviet Union was the most important source of financial and technological support.
 4. **Respect for sovereignty:** Russia's backing for China's position on Taiwan is also a benchmark.

Current state of ties

- Last year, Russia's Foreign Minister has described relations as the "best in their entire history". Both premiers have met 38 times (in person and virtually) since 2013.
- The biggest factor behind their current closeness is:
 1. Shared discomfort with the US and its allies
 2. NATO and its ideological cold war approaches
 3. Indo-Pacific strategy and QUAD
 4. One-China Principle

Military closeness

- China in 2014 became the first foreign buyer of the S-400 missile defence system, which India has also purchased (although there have been reported delays in delivery for reasons unknown).
- Their joint exercises have also grown in scope.
- Last year, a third "joint strategic air patrol" was held over the East China Sea.

Trade and Commerce

- Russia is China's largest source of energy imports and second largest source of crude oil.
- Energy set to account for 35% of trade in 2022.
- China has been Russia's biggest trading partner for 12 consecutive years and accounts for close to 20% of Russia's total foreign trade (Russia, on the other hand, accounts for 2% of China's trade).
- But Russia is, for China, a key market for project contracts besides energy supplies.
- Chinese companies signed construction project deals worth \$5 billion last year — for the third straight year.

Chinese response to the Ukraine Crisis

- Given these deep trade linkages, China does not want instability (or, for that matter, a spurt in energy prices).

- China has iterated that the sovereignty, independence and territorial integrity of all countries should be respected and safeguarded.
- China has preferred resolution to the current crisis through diplomacy and a return to the Minsk Agreement.

k Agreement: They were a series of international agreements which sought to end war in the Donbas region of Ukraine.

Implications for the world

- China has repeatedly underlined that it is sympathetic to Russia's concerns on NATO, which mirror its own opposition to America's allies in the Indo-Pacific.
- As strategic back-to-back fraternal partners, China is obliged to bolster Russia in time of need.
- With consistent support from China, the Russian economy has become increasingly resilient following years of sanctions imposed by the US and other Western developed countries.
- A strong economy will back up Moscow to deflect ruthless economic coercion from the US.

Implications for India

- Strategists in the west and in India have often questioned the robustness of the relationship as well as Russia's possible unease at being the "junior partner" and increasingly beholden to Chinese interests.
- The Russian President's invite to Pak PM Imran Khan is the recent unwelcomed move for India.
- In this regard, New Delhi expects Sino-Russian closeness to continue, which poses its own challenges.
- This is not, however, an entirely new situation, as history reminds us, on how the Soviet Union responded to China's attack on India in 1962.

RUSSIAN AGGRESSION ON UKRAINE AND INTERNATIONAL LAW

In News:

The Russian annexation of Russia has been condemned widely and raised several questions concerning violation of international law.

Analysis of Background:

How is Russia violating the UN Charter?

Principle of Non-Intervention

- The Russian attack on Ukraine is violative of the non-intervention principle, and amounts to aggression under international law.
- The principle of non-intervention in domestic affairs is the foundational principle on which existing international order is based.
- The principle is enshrined in article 2(4) of the UN Charter requiring states to refrain from using force or threat of using force against the territorial integrity or political independence of any state.
- It prohibits any kind of forcible trespassing in the territory of another state, even if it is for temporary or limited operations such as an 'in and out' operation.

Principle of Non-Aggression

- The UN General Assembly Resolution 3314 (1974) defines aggression as the use of armed force by a state against the sovereignty, territorial integrity or political independence of another state.
- Additionally, allowing one's territory to be used by another state for aggression against a third state, also qualifies as an act of aggression.
- Accordingly, Belarus can also be held responsible for aggression as it has allowed its territory to be used by Russia for attacking Ukraine.
- Aggression is also considered an international crime under customary international law and the Rome statute establishing the International Criminal Court.

Principle of Political Independence

- Russia's desire to keep Ukraine out of NATO is a prime reason for its use of force against Ukraine.

- This is violative of Ukraine's political independence under article 2(4) as Ukraine being a sovereign state is free to decide which organizations it wants to join.
- Also, by resorting to use of force, Russia has violated article 2(3) which requires the states to settle their dispute by peaceful means in order to preserve international peace and security.

Principle of Self-Defence

- In face of the use of force by Russia, Ukraine has the right to self-defence under international law.
- The UN Charter under article 51 authorizes a state to resort to an individual or collective self-defense until the Security Council take steps to ensure international peace and security.
- In this case, it seems implausible for the UNSC to arrive at a decision as Russia is a permanent member and has veto power.

Russia's hype:

Nuclear escalation

- It has been claimed by Russia that Ukraine may acquire nuclear weapons with the help of western allies.
- However, the International Court of Justice (ICJ) in the Legality of Threat of Nuclear Weapons case held that mere possession of nuclear weapons does not necessarily constitute a threat.
- Thus, even if Ukraine has, or were to acquire nuclear weapons in the future, it does not become a ground for invoking self-defence by Russia.

Aggression against Russia

- Further, mere membership in a defence alliance such as NATO cannot necessarily be considered as a threat of aggression against Russia.
- Thus, here too Russia cannot invoke self-defence.

Act in self-defence

- Russia can also not invoke anticipatory self-defence.
- Such invocation according to the Caroline test would require that the necessity of self-defence was instant, overwhelming, leaving no choice of means, and no moment for deliberation.

- However, this is not the case with Russia.

What options is Ukraine left with?

- Ukraine has a right under international law to request assistance from other states in form of military assistance, supply of weapons etc.
- On the other hand, Russia has also claimed that it is acting in self-defence.
- This claim is questionable, as there has been no use of force, or such threats against Russia by Ukraine.

INDUS WATER TREATY

In News:

A 10-member Indian delegation will visit Pakistan for the annual meeting of the Permanent Indus Commission from March 1-3.

Agenda of meet: Pakistan's objections on Indian hydroelectric projects namely **Pakal Dul (1,000 MW)**, **Lower Kalnai (48 MW)** and **Kiru (624 MW)** in **Chenab basin** in Jammu and Kashmir and few small hydroelectric projects in Ladakh are likely to be on the agenda for discussion.

Analysis of Background:

Indus Water Treaty:

- It is a water-distribution treaty between India and Pakistan, brokered by the World Bank, to use the water available in the Indus River and its tributaries.
- It gives control over the waters of the three "eastern rivers" — the Beas, Ravi and Sutlej with a mean annual flow of 33 million acre-feet (MAF) — to India, while control over the waters of the three "western rivers" — the Indus, Chenab and Jhelum with a mean annual flow of 80 MAF — to Pakistan.
- India was allocated about 16% of the total water carried by the Indus system while Pakistan was allocated the remainder.

- The treaty allows India to use the western river waters for limited irrigation use and unlimited non-consumptive use for such applications as power generation, navigation, floating of property, fish culture, etc.
- It lays down detailed regulations for India in building projects over the western rivers.
- Under the provisions of Article VIII(5) of the Indus Waters Treaty, the Permanent Indus Commission is required to meet regularly at least once a year, alternately in India and Pakistan.
- According to the treaty, India has been given the right to generate hydroelectricity through run-of-the-river projects on the western rivers subject to specific criteria for design and operation.
- It also gives the right to Pakistan to raise objections to designs of Indian hydroelectric projects on the western rivers.

Permanent Indus Commission:

- It is a bilateral commission consisting of officials from India and Pakistan, created to implement and manage the goals and objectives and outlines of the Indus Waters Treaty.

Renegotiation of treaty:

- The parliamentary standing committee urged the government of India to initiate the process for renegotiating the treaty with Pakistan.
- **Reasons:** Present-day pressing issues such as climate change, global warming and environmental impact assessment etc. were not taken into account by the treaty. There is very little in the treaty for the best possible use of the water resources of the river system
- Renegotiation of IWT is possible only when both the parties, India and Pakistan, agree to do so. Afghanistan and China being the co-riparians of Indus basin, also have a stake in the basin.

RUSSIAN ACTIONS IN UKRAINE HARDLY PASS THE TEST FOR STRATEGIC VICTORY

In News:

On February 24, Russian President Vladimir Putin launched “special military operations” with the objective of “demilitarising Ukraine” but not “occupying” it.

Analysis of Background:

Why it was a crisis in the making?

- **Redrawing national boundaries by force:** After 1945, this is the second time that national boundaries are being redrawn by force; the first was the 1999 North Atlantic Treaty Organization (NATO) **air strikes on Serbian forces that led to the creation of Kosovo.**
- Russian and Chinese protests about NATO undertaking “out of area operations” without United Nations Security Council approval carried little weight.
- After the fall of the Berlin Wall in late-1989, then U.S. Secretary Of State had assured the Soviet President that “there would be no extension of NATO’s jurisdiction one inch to the east”.
- Rather than look for a new European security framework, the newly independent Baltic and central European states sought security in a U.S.-led NATO.
- Beginning in 1999, NATO has **added 14 new members in stages.**
- At the NATO summit in 2008, at U.S. President George Bush’s urging, an in-principle **opening for Ukraine and Georgia was announced**, though France and Germany, conscious of Russian concerns, successfully opposed defining a time frame.
- Later that year, Russia intervened in Georgia on the grounds of protecting the Russian minorities and took over the northern provinces of Abkhazia and South Ossetia.
- **Annexation of Crimea:** In 2014 Mr. Putin annexed Crimea.
- For Russia, Crimea is vital as the peninsula **hosts Russia’s Black Sea fleet**, providing it access to the Mediterranean and its bases at **Latakia and Tartus in Syria.**
- Despite no timeline for membership, **Ukraine was made a NATO Enhanced Opportunity Partner in 2020.**
- The presence of British and U.S. warships in the Black Sea began to increase.

- In 2019, the U.K. entered into a **cooperation agreement with Ukraine** to develop two new naval ports, Ochakiv on the Black Sea and Berdyansk on the Sea of Azov, a move that Russia saw as potentially threatening.
- Beginning with **NATO's bombing of Serbia in 1999**, interventions in Afghanistan, Iraq and Libya and colour revolutions to engineer regime changes, **the U.S.' unilateral withdrawal from the Anti-Ballistic Missile (ABM) Treaty in 2002** coupled with missile defence deployments in Poland and Romania, Russia's grievances were accumulating.

Faltering diplomacy

- France and Germany initiated talks between Ukraine and Russia under the Normandy format leading to **the Minsk agreements, in 2014 and 2015**.
- The first was for a **ceasefire between Ukraine and the Russian-backed separatists** and the second was between Ukraine, Russia, the two separatist regions of Luhansk and Donetsk and the Organization for **Security and Co-operation in Europe (OSCE)**.
- Supportive declarations by France and Germany **were intended to address Russian security concerns**.
- Ukraine undertook to introduce certain constitutional amendments to provide a degree of autonomy to the two provinces and Russia was to assist in withdrawal of all foreign forces.
- However, neither side implemented and positions have only hardened since.
- Russia's threatening moves made NATO members, especially the Baltic states (Estonia, Latvia and Lithuania) and the central Europeans like Poland and Romania, especially nervous.
- Finally, NATO remained united but unable to provide an off-ramps solution.

Implications for Russia

- NATO has been rejuvenated, the trans-Atlantic unity strengthened and Russia's economic ties with Europe have been adversely impacted.
- Given Russia's considerable foreign exchange reserves, of nearly **\$640 billion**, sanctions imposed by the U.S. and EU may not hurt immediately but eventually will begin to bite both the oligarchs and the common people.
- Worse, **Russia will become more dependent on China** — for political support as well as **a market for its energy exports**.

- This will eventually **weaken its hand in central Asia.**

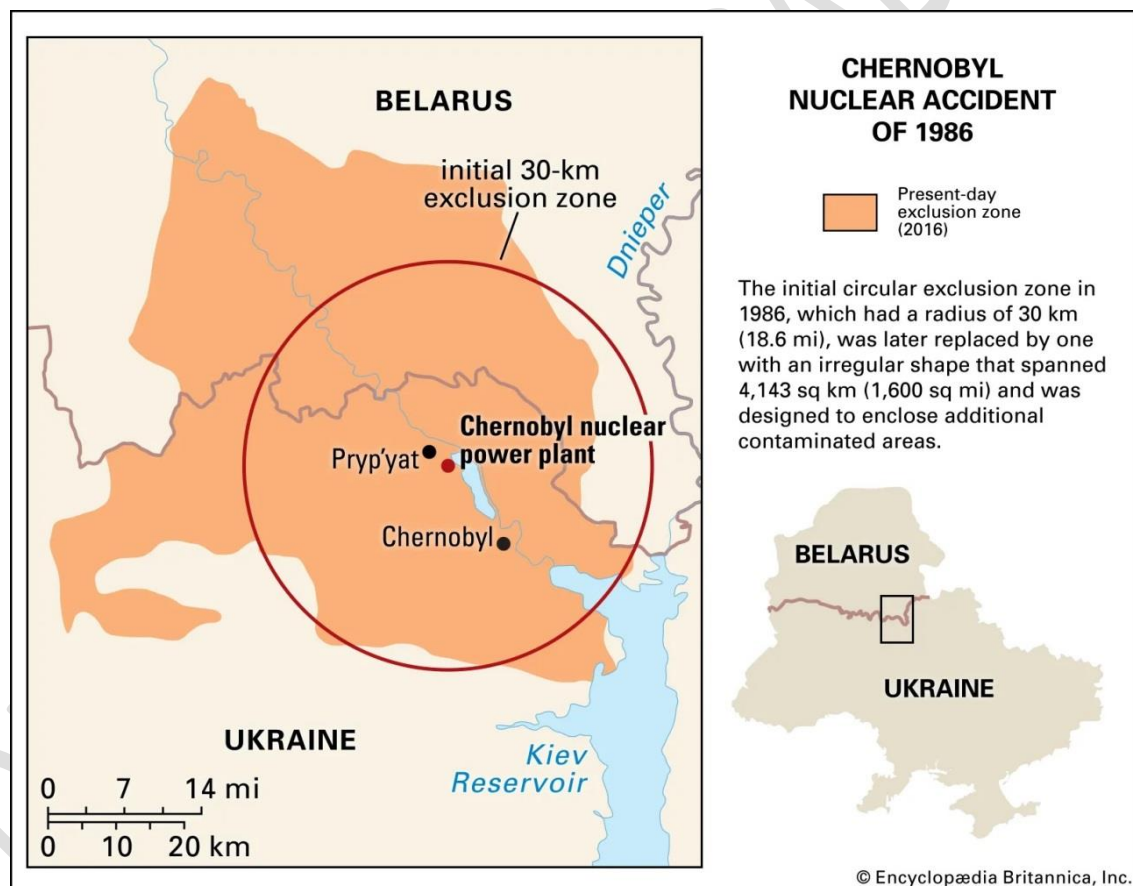
PLACES IN NEWS: CHERNOBYL

In News:

Ukrainian authorities said that radiation levels had increased in the Chernobyl exclusion zone after the Russian Invasion.

Analysis of Background:

What is Chernobyl Disaster?



- The Chernobyl disaster was a nuclear accident that occurred on 26 April 1986 at the No. 4 reactor in the Chernobyl Nuclear Power Plant, near the city of Prip'yat in the north of Ukraine (formerly USSR).

- It is considered the worst nuclear disaster in history both in cost and casualties.
- It is one of only two nuclear energy accidents rated at seven—the maximum severity—on the International Nuclear Event Scale.
- The other such incident was the 2011 Fukushima Daiichi nuclear disaster in Japan.

Destruction caused:

- Some sources state that two people were killed in the initial explosions, whereas others report that the figure was closer to 50.
- Dozens more people contracted serious radiation sickness; some of them later died.
- Between 50 and 185 million curies of radionuclides (radioactive forms of chemical elements) escaped into the atmosphere.
- This is several times more radioactivity than that created by the atomic bombs dropped on Hiroshima and Nagasaki, Japan.
- This radioactivity was spread by the wind over Belarus, Russia, and Ukraine and soon reached as far west as France and Italy.

UNSC RESOLUTIONS

In News:

India, along with China and the UAE, abstained from the United Nations Security Council (UNSC) resolution sponsored by the U.S. and Albania on Saturday, that sought to condemn Russian aggression and called for the immediate withdrawal of Russian military from Ukraine.

Analysis of Background:

About UNSC Resolutions:

- United Nations resolutions are formal expressions of the opinion or will of United Nations organs.
- A United Nations Security Council resolution is a United Nations resolution adopted by the fifteen members of the Security Council (UNSC), the United Nations (UN) body charged with “primary responsibility for the maintenance of international peace and security”.

- The UN Charter specifies in Article 27 passing and voting on the resolutions.

About UNSC:

- The Security Council was established by the UN Charter in 1945.
- The council is headquartered at New York.
- It is one of the six principal organs of the United Nations.
- The other 5 organs of the United Nations are—the General Assembly (UNGA), the Trusteeship Council, the Economic and Social Council, the International Court of Justice, and the Secretariat.
- Its primary responsibility is to work to maintain international peace and security.
- The council has 15 members: the five permanent members and ten non-permanent members elected for two-year terms.
- The five permanent members are the United States, the Russian Federation, France, China and the United Kingdom.
- Each year, the General Assembly elects five non-permanent members (out of ten in total) for a two-year term. The ten non-permanent seats are distributed on a regional basis.

Voting Powers:

- Each member of the Security Council has one vote.
- Decisions of the Security Council on matters are made by an affirmative vote of nine members including the concurring votes of the permanent members.
- A “No” vote from one of the five permanent members blocks the passage of the resolution.
- Any member of the United Nations which is not a member of the Security Council may participate, without vote.

MUNICH SECURITY CONFERENCE (MSC)

In News:

The latest edition of MSC a week ago assumed significance as it was here that the Ukrainian President appealed for help ahead of the Russian invasion.

Analysis of Background:

Munich Security Conference

- The Munich Security Conference is an annual conference on international security policy that has been held in Munich, Bavaria, Germany since 1963.
- It brings together heads of state, diplomats and business leaders from the world's leading democracies for three days of meetings and presentations.
- It is the world's largest gathering of its kind.
- Over the past four decades the MSC has become the most important independent forum for the exchange of views by international security policy decision-makers.

How did it begin?

- When the MSC was founded in 1963, it was envisioned as a way for leaders, mostly from the West, to discuss threats and dangers in an informal setting.
- Most of the concerns at the time stemmed from the Cold War, which had dominated world politics for nearly a half-century.
- Over time, the conference evolved into a platform for airing grievances and workshopping political agreements, some of them outside the realm of East-West relations.
- In recent years, the conference has often invited leaders from authoritarian countries, and even adversaries, to speak.

HAVANA SYNDROME

In News:

A recent US intelligence report says that ‘Havana Syndrome’ —a collection of symptoms and related brain injuries, reported by some US officials could be caused by pulsed electromagnetic energy or close-range ultrasound.

Analysis of Background:

What is Havana Syndrome?

- ‘Havana Syndrome’ is a colloquial name given to a set of symptoms such as dizziness, hearing loss, headaches, vertigo, nausea, memory loss and possible brain injuries.
- It was first reported by 16 American Embassy staff and their family members in Havana, Cuba, in 2016-17.
- There have been other instances of the phenomenon, which has mostly impacted US officials.



What did the latest investigation find?

- Such cases have been caused by pulsed electromagnetic energy in the radio frequency.
- The results of the investigation did not point to who may have been behind the phenomenon, nor commented on their motivations.
- A partially redacted report summary finds that the symptoms of AHI are “genuine and compelling.”

What can be the other reasons?

- Psychosocial factors alone do not explain the core characteristics, the report finds, although they may cause other incidents or contribute to long-term effects.
- These other incidents could occur via hyper-vigilance or reactions to stress especially among individuals who are security-oriented.

'OUTBREAK', 'EPIDEMIC', 'PANDEMIC' AND 'ENDEMIC'

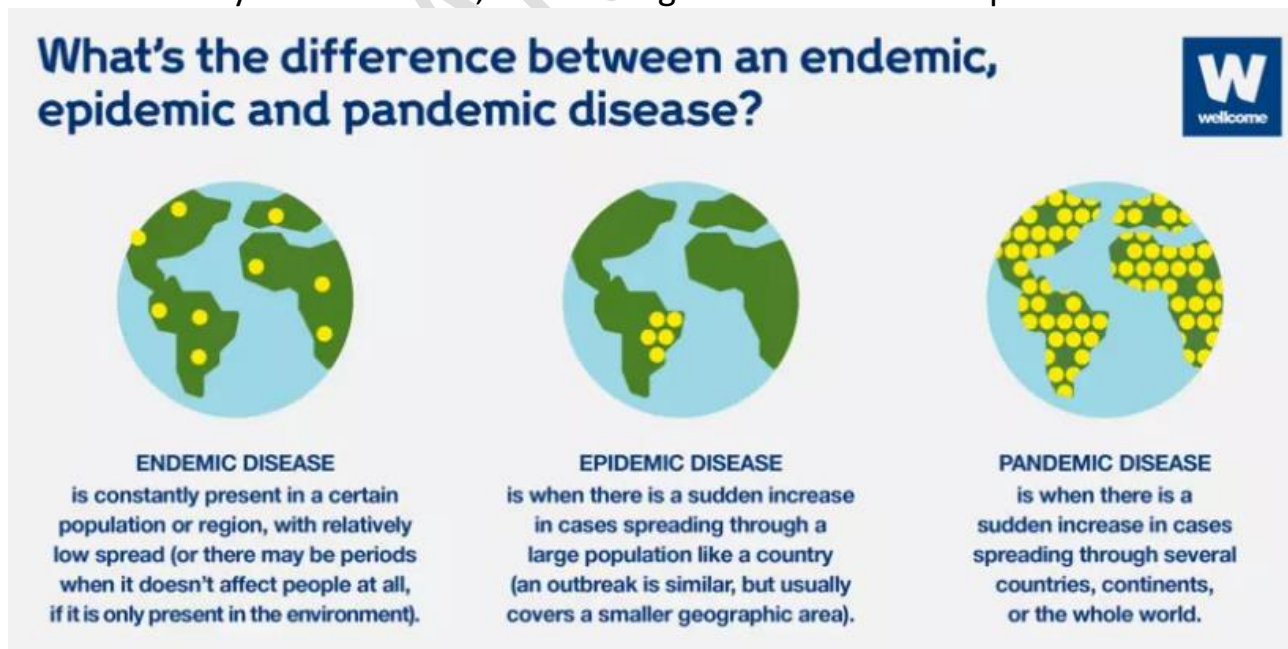
In News:

- The UK has eased restrictions while new measures in California approach Covid-19 as being endemic.

Analysis of Background:

Differences between Pandemics, Epidemics, Endemic etc:

- The WHO defines pandemics, epidemics, and endemics based on a disease's rate of spread.
- Thus, the difference between an epidemic and a pandemic isn't in the severity of the disease, but the degree to which it has spread.



Outbreak:

- An outbreak is a rise in disease cases over what is normally expected in a small and specific location generally over a short period of time.
- Foodborne diseases caused by Salmonella contamination provide frequent examples of this.

Epidemics:

- Epidemics are essentially outbreaks without the tight geographical restrictions.
- The Ebola virus that spread within three West African countries from 2014–2016 was an epidemic.

Pandemic:

- A pandemic is an epidemic that spreads across many countries and many continents around the world.
- Examples include those caused by influenza A(H1N1) or “Spanish Flu” in 1918, HIV/AIDS, SARS-CoV-1 and Zika virus.

Endemic:

- The word “endemic” comes from the Greek endēmos, which means “in population”.
- An endemic virus is relatively constant in a population with largely predictable patterns.
- Viruses can circulate endemically in specific geographical regions, or globally.
- Ross River virus circulates endemically in Australia and the Pacific island countries, but is not found in other regions of the world.















Endemic stage of a pandemic: SARS COV-2:

- An infection becomes endemic when the rates become static in a given geographical location.

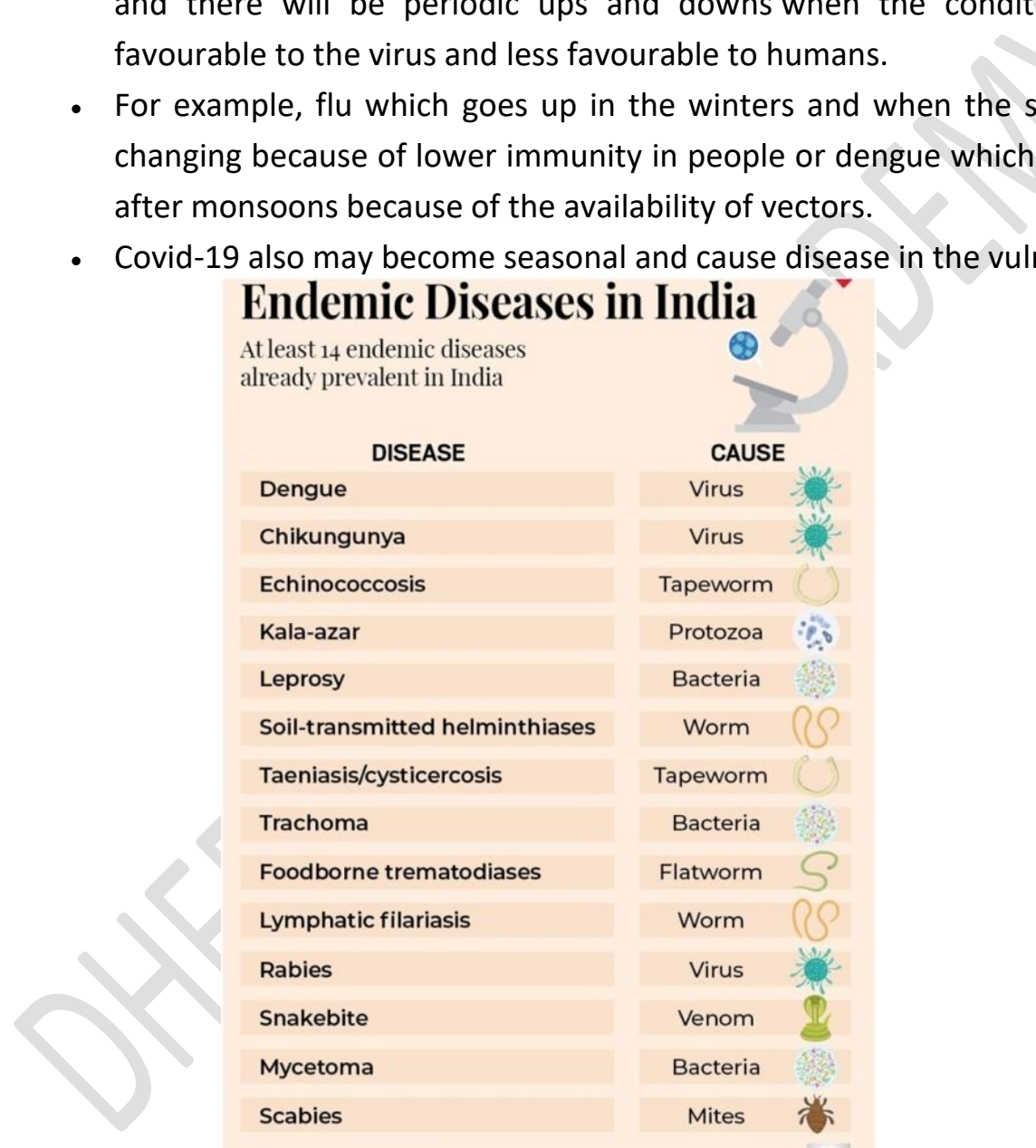
- The pathogen causing the disease — SARS-CoV-2 in this case — is likely to remain in circulation without causing large outbreaks as witnessed over the last two years.
- Endemic means that the virus will continue circulating in the population and there will be periodic ups and downs when the conditions are favourable to the virus and less favourable to humans.
- For example, flu which goes up in the winters and when the season is changing because of lower immunity in people or dengue which goes up after monsoons because of the availability of vectors.
- Covid-19 also may become seasonal and cause disease in the vulnerable.

Endemic Diseases in India

At least 14 endemic diseases already prevalent in India

DISEASE	CAUSE
Dengue	Virus 
Chikungunya	Virus 
Echinococcosis	Tapeworm 
Kala-azar	Protozoa 
Leprosy	Bacteria 
Soil-transmitted helminthiasis	Worm 
Taeniasis/cysticercosis	Tapeworm 
Trachoma	Bacteria 
Foodborne trematodiasis	Flatworm 
Lymphatic filariasis	Worm 
Rabies	Virus 
Snakebite	Venom 
Mycetoma	Bacteria 
Scabies	Mites 

Source: World Health Organisation



EAT RIGHT CAMPUSES

In News:

Four police stations of New Delhi district have been certified as 'Eat Right Campus' by the Food Safety and Standards Authority of India (FSSAI).

Analysis of Background:

Eat Right Campus

- **Eat Right India is a flagship mission of FSSAI**, which aims at ensuring that the citizens of the country get safe and nutritious food.
- The 'Eat Right Campus' initiative led by FSSAI aims to promote safe, healthy and sustainable food in campuses such as schools, universities, colleges, workplaces, hospitals, tea estates etc. across the country.
- The objective is to improve the health of people and the planet and promote social and economic development of the nation.
- The initiative is not mandatory to adopt.

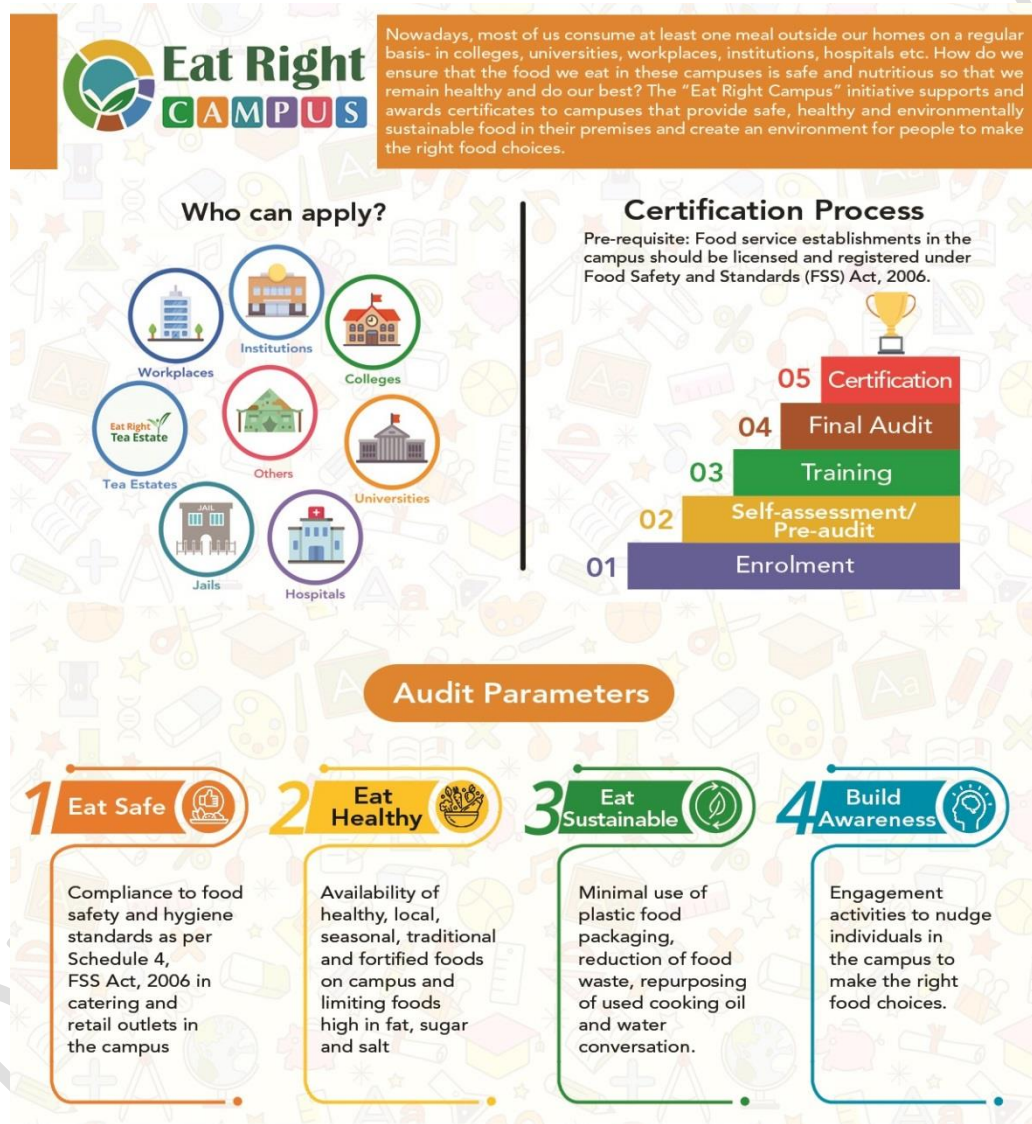
Evaluation Criteria

- Benchmarks have been created on four different parameters based on which campuses are evaluated and certified as 'Eat Right Campus'.
- These parameters include
 1. Food safety measures
 2. Steps to ensure provision of healthy
 3. Environmentally sustainable food and
 4. Building awareness to make the right food choices
- These practices include mandatory steps such as licensing and registration of food service providers in the campus and compliance to food safety and hygiene standards as per Schedule 4 of the Food Safety and Standards (FSS) Act, 2006.

Benefits of Eat Right Campus

- It can provide immense benefits to the campus and the individuals in the campus not only in terms of health but also economics.

- Safe, healthy and sustainable food in the campus would reduce the incidence of food borne illnesses, deficiency diseases and non-communicable diseases among the people in the campus.
- This means less absenteeism and loss of working hours and greater wellbeing, motivation and productivity of people.
- This would also reduce the burden of healthcare costs for the workplace, institution, hospital, jail or tea estate.



COWIN PORTAL

In News:

The government confirmed in the Supreme Court that Aadhaar is not mandatory for registration on the CoWIN portal for COVID-19 vaccination.

Analysis of Background:

- India has been using a vaccine intelligence system called eVIN (electronic vaccine intelligence network), which provides real-time feedback of vaccine stocks, power outages, temperature fluctuations etc.

About Cowin:

- CoWIN is essentially an extension of eVIN.
- CoWIN is a cloud-based IT solution for planning, implementation, monitoring, and evaluation of Covid-19 vaccination in India.

Features:

- Registration: The system allows for creation of users (admins, supervisors, vaccinators), registration of beneficiaries (bulk upload and individual registration), facilities/planning unit and session sites followed by planning and scheduling sessions and implementation of vaccination process.
- Level of user: It has utilities for every level of user — from civil servants in national and state capitals to public health system managers, vaccinators and, at a later stage, potential beneficiaries.
- Monitoring of wastage and utilization: CoWIN system on a real time basis will track not only the beneficiaries but also the vaccines, at national, state and district level. This will allow the system to monitor the utilisation, wastage, coverage of Covid-19 vaccination at national, state, district and sub-district level.
- Minute details: Every detail, from the sites where vaccinations are carried out to the number of beneficiaries and even the batch number, doses per vial and schedule of the vaccine, will be uploaded on the digital platform.

- Documents required: People willing to get vaccinated can register themselves by uploading any one of 12 identification documents.

These are:

- Aadhaar card
 - Driving licence
 - Health insurance smart card issued under the scheme of Ministry of Labour
 - MGNREGA job card
 - Official identity card issued to MPs/MLAs/MLCs
 - PAN card
 - Passbook issued by bank/post office
 - Passport
 - Pension document
 - Service identity card issued to employees by central/state govt/PSUs/public limited companies
 - Smart card issued by Registrar General of India under National Population Register
 - Voter ID card
- A person will have three authentication options to choose from — biometric, OTP-based and authentication using date of birth etc.

INTENSIFIED MISSION INDRADHANUSH (IMI) 4.0 LAUNCHED

In News:

The Union Health Minister has launched the Intensified Mission Indradhanush (IMI) 4.0.

Analysis of Background:

About IMI 4.0

- The IMI 4.0 will have three rounds and will be conducted in 416 districts (including 75 districts identified for Azadi ka Amrit Mahotsav) across 33 States and UTs, a Health Ministry statement said.
- It will immensely contribute in filling the gaps and make lasting gains towards universal immunisation.
- It will ensure that Routine Immunisation (RI) services reach the unvaccinated and partially vaccinated children and pregnant women” he said.

What is Mission Indradhanush ?

- With the aim to increase the full immunisation coverage, the PM launched Mission Indradhanush in December 2014.
- It aimed to cover the partially and unvaccinated pregnant women and children in pockets of low immunisation coverage, high-risk and hard-to-reach areas and protect them from vaccine preventable diseases.
- The first two phases of the Mission resulted in 6.7% increase in full immunisation coverage in a year.

Aims and objectives:

- It aims to immunize all children under the age of 2 years, as well as all pregnant women, against eight vaccine-preventable diseases.
- The diseases being targeted are diphtheria, whooping cough, tetanus, poliomyelitis, tuberculosis, measles, meningitis and Hepatitis B.
- In 2016, four new additions have been made namely Rubella, Japanese Encephalitis, Injectable Polio Vaccine Bivalent and Rotavirus.
- In 2017, Pneumonia was added to the Mission by incorporating the Pneumococcal conjugate vaccine under Universal Immunisation Programme

Prelims View:

1. About Universal Immunisation Programme.
2. About IMI 4.0.
3. About Hepatitis Disease.

TOPIC: EDUCATION

ISSUES WITH UGC'S 'ACADEMIC BANK OF CREDITS' SCHEME

In News:

The National Education Policy (NEP) 2020 has recommended a revamp of the higher education scene in India. A new initiative stemming from this desire is an 'Academic Bank of Credits' (ABC) in higher education idea, which was notified recently by the University Grants Commission (UGC).

Analysis of Background:

About the Academic Bank of Credits' (ABC)

- Any undergraduate or postgraduate student can create an account in the ABC portal and store information of his/her completed courses (i.e., subjects/papers in old terminology) and grades obtained.
- These grades are stored for a period of five years.
- As multiple institutes are connected to the ABC portal, one can be formally enrolled in university 'A' but can choose to do some courses from university 'B', some more from university 'C' and so on and all of these would count towards the student's degree.
- Flexible and multidisciplinary: One can enrol in an equivalent course from another college in the same city or join online courses offered by other universities; or can enrol in SWAYAM (a programme initiated by the Government of India) or the National Programme on Technology Enhanced Learning (NPTEL) and add these credits.
- Thus, education will truly become flexible and interdisciplinary, without forcing any single institute to float an unmanageable number of courses.

- This flexibility will offer students a chance to enrol in a course and learn from teachers from some of the best institutes such as the Indian Institutes of Technology (IIT) or the Indian Institutes of Science Education and Research.

Issues with ABC

- Limited seats: ABC regulations say that the institute should allow up to 20% supernumerary seats for students enrolling through the ABC scheme.
- There is no clarity on how the selection of students would be made if there are more than 20% seats.
- Massive Open Online Courses (MOOC) platforms such as SWAYAM and NPTEL are 'supposedly designed' for large enrolments.
- So far we have not found any evidence in the public domain that these MOOC platforms can provide a reliable assessment of learning achievement if there is massive enrolment for a course.
- Filtering criterion: The ABC portal will accept courses from a large number of higher education institutes.
- The filtering criterion in the original regulation was that higher education institutes should have obtained an 'A' grade or higher in the latest round of National Assessment and Accreditation Council (NAAC) accreditation.
- This filtering criterion is not satisfactory.
- Impact on small colleges: The ABC scheme specifies that students can avail up to 70% of courses from other institutes while being enrolled in a particular college.
- If students avail these credits outside the parent college, they need not enrol for the corresponding in-house courses.
- As the number of teaching posts in any higher education institute are calculated on the basis of student enrolment numbers, what happens when a large fraction of students do not enrol for the courses offered by you?

GENERAL STUDIES – 3

TOPIC: ECONOMY

TRIPS AGREEMENT

In News:

India runs the risk of being excluded from a proposal it co-authored at the World Trade Organization (WTO) negotiations, in 2020, to “temporarily waive” intellectual property rights (IPR) held, by primarily Western countries, on vaccines, therapeutics and diagnostics for COVID-19.

Analysis of Background:

What is the case?

- India and China are two major global suppliers of medicine.
- A small group of WTO members were discussing suggestions to exclude drug manufacturers in India and China from prospective waivers to IPR obligations.
- IPR obligations are as a result of the Trade Related Intellectual Property Rights (TRIPS) which WTO members are committed to upholding.

What is the Agreement on TRIPS?

- The Agreement on TRIPS is an international legal agreement between all the member nations of the World Trade Organization (WTO).
- It establishes minimum standards for the regulation by national governments of different forms of intellectual property (IP) as applied to nationals of other WTO member nations.
- TRIPS was negotiated at the end of the Uruguay Round of the General Agreement on Tariffs and Trade (GATT) between 1989 and 1990 and is administered by the WTO.
- It introduced intellectual property law into the multilateral trading system for the first time and remains the most comprehensive multilateral agreement on intellectual property to date.

Key provisions

- TRIPS require member states to provide strong protection for intellectual property rights.

- It seeks to provide copyright rights, covering authors and other copyright holders, as well as holders of related rights, namely performers, sound recording producers and broadcasting organisations.
- It provides for geographical indications (GI); industrial designs; integrated circuit layout-designs; patents; new plant varieties; trademarks; trade names and undisclosed or confidential information.
- It also specifies enforcement procedures, remedies, and dispute resolution procedures.
- TRIPS also has a most favored nation (MFN) clause.

Why TRIPS?

- The obligations of the main international agreements of the World Intellectual Property Organization (WIPO) that already existed before the WTO was created:
 1. Paris Convention for the Protection of Industrial Property (patents, industrial designs, etc)
 2. Berne Convention for the Protection of Literary and Artistic Works (copyright).
- Some areas are not covered by these agreements. In some cases, the standards of protection prescribed were thought inadequate.
- So the TRIPS Agreement adds significantly to existing international standards.

What else is covered under TRIPS Agreement?

- Copyright terms must extend at least 50 years, unless based on the life of the author.
- Computer programs must be regarded as “literary works” under copyright law and receive the same terms of protection.
- Patents must be granted for “inventions” in all “fields of technology and must be enforceable for at least 20 years.

LIC DISINVESTMENT

In News:

The Union government has filed a draft document with the stock market regulator for selling 5% of its shares in the Life Insurance Corporation (LIC) of India.

Analysis of Background:

Details of the IPO:

- The IPO is a 100% OFS [offer for sale] by the Government of India and entails no fresh issue of shares by LIC.
- 6 Crore shares are on offer representing 5% of the government's equity in the firm.
- As much as 10% of the offer could be reserved for LIC policy holders, as per the regulatory filing, and another 5% of the shares may be reserved for employees.

About Life Insurance Corporation of India (LIC)

- LIC is an Indian state-owned insurance group and investment corporation owned by the Government of India.
- It was founded in 1956 when the Parliament of India passed the Life Insurance of India Act that nationalized the insurance industry in India.
- Over 245 insurance companies and provident societies were merged to create the state-owned LIC.

Why LIC?

- LIC is India's largest financial institution.
- When listed on stock exchanges, it could easily emerge as the country's top listed company in terms of market valuation, overtaking current leaders Reliance and TCS.
- It is also the largest investor in government securities and stock markets every year.
- On an average, LIC invests Rs 55,000 crore to Rs 65,000 crore in stock markets every year and emerges as the largest investor in Indian stocks.
- LIC also has huge investments in debentures and bonds besides providing funding for many infrastructure projects.

Impacts of listing of LICs

- **Profit making for govt:** The government is trying to make the most of the brand value of LIC, given that it is one of the few remaining profit-making entities owned by the state.
- **Better returns:** Listing will boost LIC's efficiency and thereby policy returns.
- **Reforming insurance sector:** LIC will also become more competitive. This will put pressure on its peers to innovate, benefitting policyholders in terms of pricing, product features and services.
- **Better financial position:** Less govt interference will be a positive for LIC's financial health.
- **Risk free:** As long as sovereign guarantee over the maturity proceeds and sum assured continue, policyholders won't perceive any risk.

Various challenges

- **Structural challenges:** LIC can even evolve into a bank like many of its global peers like Axa, Berkshire, and Munich Re.
- **Market hurdles:** LIC's own issues are not the only challenge the company would face in going public. It also remains to be seen if the Indian share market is ready to absorb such a large public issue.
- **Impact on growth:** The size of the IPO will determine the extent of liquidity it will suck out, but Indian markets do not have depth to take the issue of a very size.
- **Fears of disclosure:** The Company's books and operations have been opaque for far too long but it is trusted by 250 million policyholders.
- **Investors trust at risk:** Being one of the biggest financial institutions of the country, the move to privatise LIC will shake the confidence of the common man and will be an affront to our financial sovereignty.

REPO & REVERSE REPO RATES

In News:

Banks interest rates are based on repo & reverse repo rates.

Analysis of Background:

- Repo Rate: The interest rate that the RBI charges when commercial banks borrow money from it is called the repo rate.
- Reverse Repo: The interest rate that the RBI pays commercial banks when they park their excess cash with the central bank is called the reverse repo rate.
- Since RBI is also a bank and has to earn more than it pays, the repo rate is higher than the reverse repo rate.
- At present, the repo rate is 4%, and the reverse repo rate is 3.35%.
- It is a key deciding factor for the interest rates that commercial banks themselves pay (or get) when they borrow (or deposit) money from (or in) the Reserve Bank of India.

INDIA RENEWABLE ENERGY DEVELOPMENT AGENCY LIMITED (IREDA)

In News:

Infusion of equity in India Renewable Energy Development Agency Limited (IREDA) approved by Cabinet.

Analysis of Background:

- Capital infusion of Rs 1,500 crore in India Renewable Energy Development Agency Limited (IREDA) approved by the Union Cabinet.
- The equity infusion aims to:
 - Reduce emission by 7.49 million tonnes of CO₂ per year.
 - Generate 10,200 jobs.

India Renewable Energy Development Agency Limited (IREDA):

- IREDA is an enterprise under the Ministry of New and Renewable Energy.

- It was established in 1987 as a Public limited Government Company under the Companies Act, 1956.
- IREDA provides financial support to the renewable energy sector.
- Vision of IREDA is to expand and promote sustainability and affordability in the renewable energy sector in the country."
- IREDA gets "Mini Ratna" status by Ministry of New and Renewable Energy in 2015
- IREDA's Motto is "Energy for Ever."

MONEY LAUNDERING

In News:

ED arrests Maharashtra Minister Nawab Malik in money laundering case.

Analysis of Background:

Money Laundering:

- Money laundering is concealing or disguising the identity of illegally obtained proceeds so that they appear to have originated from legitimate sources.
- Money Laundering is an offshoot of parallel economy, which deprives most governments of legitimate revenue.
- It involves three steps: placement, layering and integration.

Prevention of Money-Laundering Act, 2002 (PMLA):

- The specific legislation dealing with money laundering is the Prevention of Money-Laundering Act, 2002 (for short 'PMLA').
- The law was enacted to combat money laundering in India and has three main objectives:
 - To prevent and control money laundering;
 - To provide for confiscation and seizure of property obtained from laundered money;

- To deal with any other issue connected with money-laundering in India.
- It came into force with effect from 1st July 2005.
- It extends to the whole of India including the state of Jammu & Kashmir.
- The provisions of this act are applicable to all financial institutions, banks (Including RBI), mutual funds, insurance companies, and their financial intermediaries.

Authorities for the implementation of the Act:

Financial Intelligence Unit-IND:

- It is an independent body reporting directly to the Economic Intelligence Council (EIC) headed by the Finance Minister.
- FIU-IND under the Department of Revenue, Ministry of Finance is the central national agency responsible for receiving, processing, analyzing and disseminating information relating to suspect financial transactions to enforcement agencies and foreign FIUs.

Enforcement Directorate (ED):

- The Directorate of Enforcement, in the Department of Revenue, Ministry of Finance, is responsible for investigating the cases of offence of money laundering under Prevention of Money Laundering Act, 2002.
- Some Predicate Offences can also be investigated by agencies such as Police, Customs, SEBI, NCB and CBI, etc. under their respective Acts.

SOCIETY FOR WORLDWIDE INTERBANK FINANCIAL TELECOMMUNICATION (SWIFT)

In News:

The U.S., Europe and several other western nations are moving to exclude Russia from SWIFT, an international network for banks worldwide to facilitate smooth money transactions globally.

Analysis of Background:

What is SWIFT?

- SWIFT is an international network for banks worldwide to facilitate smooth money transactions globally.
- It is basically a messaging network used by banks and financial institutions globally for quick and faultless exchange of information pertaining to financial transactions.
- The Belgium-headquartered SWIFT connects more than 11,000 banking and securities organizations in over 200 countries and territories.
- First used in 1973, it went live in 1977 with 518 institutions from 22 countries, its website states.

What exactly is it?

- SWIFT is merely a platform that sends messages and does not hold any securities or money.
- It facilitates standardized and reliable communication to facilitate the transaction.

How does it facilitate banking?

- Each participant on the platform is assigned a unique eight-digit SWIFT code or a bank identification code (BIC).
- If a person, say, in New York with a Citibank account, wants to send money to someone with an HSBC account in London, the payee would have to submit to his bank the London-based beneficiary's account number along with the eight-digit SWIFT code of the latter's bank.
- Citibank would then send a SWIFT message to HSBC. Once that is received and approved, the money would be credited to the required account.

How is the organization governed?

- SWIFT claims to be neutral. Its shareholders, consisting of 3,500 firms across the globe, elect the 25-member board, which is responsible for oversight and management of the company.
- It is regulated by G-10 central banks from Belgium, Canada, France, Germany, Italy, Japan, The Netherlands, the UK, the US, Switzerland, and Sweden, alongside the European Central Bank.
- Its lead overseer is the National Bank of Belgium.
- The SWIFT oversight forum was established in 2012.

- The G-10 participants were joined by the central banks of India, Australia, Russia, South Korea, Saudi Arabia, Singapore, South Africa, the Republic of Turkey, and the People's Republic of China.
- Europe, Middle East, and Africa are highest contributors to SWIFT.

What happens if one is excluded from SWIFT?

- US excluding Russia from SWIFT could have serious repercussions on how Russian banks carry out international financial transactions.
- If a country is excluded from the most participatory financial facilitating platform, its foreign funding would take a hit, making it entirely reliant on domestic investors.
- This is particularly troublesome when institutional investors are constantly seeking new markets in newer territories.
- An alternative system would be cumbersome to build and even more difficult to integrate with an already expansive system.

Are any countries excluded from SWIFT?

- Iranian banks were ousted from the system in 2018 despite resistance from several countries in Europe.
- This step, while regrettable, was taken in the interest of the stability and integrity of the wider global financial system, and based on an assessment of the economic situation.

NEW APPROACH FOR INDIA'S FOOD SYSTEMS

In News:

The country faces the dual challenge of achieving nutrition security, as well as addressing declining land productivity, land degradation and loss of ecological services with change in land use. Not surprisingly, widespread concerns about poverty, malnutrition and the need for a second Green Revolution are being made in tandem.

Analysis of Background:

Challenges for India:

- **Macro- and micronutrient malnutrition** is widespread in India.

- 18.7% of women and 16.2% of men are **unable to access enough food** to meet basic nutritional needs.
- Over 32% of children below five years are still underweight as per the recently released fifth **National Family Health Survey (2019-2021) phase 2 compendium**.
- India is ranked **101 out of 116 countries in the Global Hunger Index, 2021**.
- Although India is now self-sufficient in food grains production in the macro sense, it has about a quarter of the world's food insecure people, a pointer to the amount of food necessary to allow all income groups to reach the caloric target (**2,400 kcal in rural and 2,100 kcal in the urban set-up**).

India needs to adopt 'food systems' for 'sustainability' and 'better nutrition'

- The **UN Food Systems Summit** called for action by governments in five areas: nourish all people; boost nature-based solutions; advance equitable livelihoods, decent work and empowered communities; build resilience to vulnerabilities, shocks and stresses; and accelerate the means of implementation.
- **Wholistic policy approach:** In the context of the intensifying **economic, environmental and climate challenges and crisis**, the need of the hour is a good theory of transition encompassing **the spatial, social and scientific dimensions**, supported by policy incentives and mechanisms for achieving a sustainable, resilient and food secure agriculture.
- **Agro-climatic approach:** An agro-climatic approach to agricultural development is important for sustainability and better nutrition.
- **Potential for crop diversification:** Data compiled in the agro-climatic zones reports of the Indian Council of Agricultural Research and the erstwhile Planning Commission of India reveal enormous potential for crop diversification and precision for enhanced crop productivity based on soil type, climate (temperature and rainfall), and captive water resources.
- The focus should be on improving **farmers' competitiveness**, supporting business growth in the rural economy, and incentivising farmers to improve the environment.
- **Review of agro-climatic zones:** It is assumed that a meticulous **review of agro-climatic zones** could make smallholders farming a profitable business, enhancing agricultural efficiency and socio-economic development, as well as sustainability.

- **Strengthening and shortening food supply chains**, reinforcing **regional food systems**, food processing, agricultural resilience and sustainability in a climate-changing world will require prioritising research and investments along these lines.
- **A stress status of the natural resource base** — soil and water in different agro-climatic zones — will help understand the micro as well as meso-level interventions needed with regard to technologies, extension activities and policies.
- **Infrastructure:** Lastly, infrastructure and institutions supporting producers, agripreneurs and agri micro, small and medium enterprises (MSMEs) in their production value chain are central to the transition.
- **Alignment with national and State policies:** This should be aligned to the national and State policy priorities such as the National Policy guidelines 2012 of the Ministry of Agriculture for the promotion of farmer producer organisations, and the National Resource Efficiency Policy of 2019 of the Ministry of Environment, Forest and Climate Change.

TOPIC: ENVIRONMENT

WETLANDS

Issue:

Union Minister for Environment, Bhupender Yadav, addressed the national level celebration of World Wetlands day 2022 held at Sultanpur National Park, a Ramsar site of Haryana.

Analysis of Background:

- World Wetlands Day is observed every year on February 2nd all over the world.
- It is celebrated to raise global awareness about the vital role of wetlands for people and our planet.
- This day also marks the date of the adoption of the Convention on Wetlands on February 2, 1971, in the Iranian city of Ramsar.

- This year's theme of World Wetlands Day is "Wetlands Action for People and Nature", which highlights the importance of actions to ensure the conservation and sustainable use of wetlands for humans and planetary health.

New Ramsar sites:

- Two new Ramsar sites (Wetlands of International Importance), Khijadia Wildlife Sanctuary in Gujarat and Bakhira Wildlife Sanctuary in U.P were also announced on the occasion by Shri Yadav.
- India now has a network of 49 Ramsar sites covering an area of 10,93,636 hectares, the highest in South Asia. Bakhira Wildlife Sanctuary in UP provides a safe wintering and staging ground for a large number of species of the Central Asian Flyway.
- Khijadia Wildlife Sanctuary in Gujarat is a coastal wetland with rich avifaunal diversity providing a safe habitat to endangered and vulnerable species.

National Wetland Decadal Change Atlas:

- On the occasion, "National Wetland Decadal Change Atlas" prepared by the Space Applications Centre (SAC), Ahmedabad was also released highlighting the changes which have happened in Wetlands across the country in the past decade.
- The original Atlas was released by SAC in 2011 and has over the years been used extensively by all the State Governments also in their planning processes.

SPECIES IN NEWS: GOLDEN LANGUR

In News:

Neighbours of a golden langur habitat in western Assam's Bongaigaon district have opposed a move by the State government to upgrade it to a wildlife sanctuary.

Analysis of Background:

Kajoijana Bamuni Hill Wildlife Sanctuary

- The Assam Forest Department has issued a preliminary notification for converting the 19.85 sq. km. patch of forest into the Kajoijana Bamuni Hill Wildlife Sanctuary.
- It is one of the better-known homes of the golden langur (*Trachypithecus geei*) found only in Assam and Bhutan.

About Golden Langur

- Gee's golden langur (*Trachypithecus geei*), also known as simply the golden langur, is an Old World monkey.
- It is found in a small region of Western Assam and in the neighboring foothills of the Black Mountains of Bhutan.
- Long considered sacred by many Himalayan people, the golden langur was first brought to the attention of the western world by the naturalist Edward Pritchard Gee in the 1950s.
- Adult males have a cream to golden coat with darker flanks while the females and juveniles are lighter.
- It has a black face and a long tail up to 50 cm in length.

Its habitat

- It lives in high trees and has a herbivorous diet of ripe and unripe fruits, mature and young leaves, seeds, buds and flowers.
- The average group size is eight individuals, with a ratio of several females to each adult male.
- It is one of the most endangered primate species of India and Bhutan.

Distribution

- Its habitat is bounded on the south by the Brahmaputra River, on the east by the Manas River, on the west by the Sankosh River, in Assam and on the north by the Black Mountains of Bhutan.

Conservation status

- **IUCN Red List:** Endangered
- **CITES:** Appendix I
- **Wildlife Protection Act, 1972:** Schedule I

BASAI WETLANDS

In News:

The Basai Wetlands in Gurugram has shrunk to a quarter of its original size over the years.

Analysis of Background:

Basai Wetlands

- Basai wetland, located in Basai village in Gurgaon Haryana is a flora and fauna rich water body.
- It lies in one of the paleochannel of the Sahibi River, a tributary of Yamuna which originates from the Aravalli range in Rajasthan and flows through the region.

Its significance

- It is recognized as one of India's Important Bird and Biodiversity Areas and is of global conservation significance.
- It supports populations of several endangered, vulnerable, and threatened bird species.
- It is recognized globally as an Important Bird Area (IBA) by the BirdLife International housing 20,000 birds of over 280 species including migratory birds and endangered birds.
- However, it has not yet been declared a protected wetland by the Government of Haryana.

Threats

- Given the accelerated expansion of the city of the future, the wetland continues to disappear under newly laid roads, modern housing constructions and other infrastructure development.
- An upcoming expressway, cutting through the terrain here, has majorly impacted the flyway of thousands of migratory birds from Europe and Central Asia.

ANTARCTIC MICROBES FOR PLASTIC CLEAN-UP

In News:

A team of Argentine scientists is using microorganisms native to Antarctica to explore the idea of cleaning up pollution from fuels and, potentially, plastics in the pristine expanses of the white continent.

Analysis of Background:

About:

- The tiny microbes munch through the waste, creating a naturally occurring cleaning system for pollution caused by diesel that is used as a source of electricity and heat for research bases in the frozen Antarctic.
- The continent is protected by a **1961 Madrid Protocol** that stipulates it must be kept in a pristine state.
- The research on how the microbes could help with plastic waste could have potential for wider environmental issues. This work uses the potential of native microorganisms - bacteria and fungi that inhabit the Antarctic soil, even when it is contaminated.

WAYANAD SANCTUARY

In News:

With the onset of summer, the seasonal migration of wild animals has begun from the adjacent wildlife sanctuaries in Karnataka and Tamil Nadu to the Wayanad Wildlife Sanctuary (WWS).

Analysis of Background:

About:

- Wayanad Wildlife Sanctuary is a wildlife sanctuary in Wayanad, Kerala, India with an extent of 344.44 km² and four hill ranges namely Sulthan Bathery, Muthanga, Kurichiat and Tholpetty.
- A variety of large wild animals such as gaur, Asian elephant, deer and tiger are found there.

- In particular, Indian peafowl tend to be very common in the area. Wayanad Wildlife Sanctuary is the second largest wildlife sanctuary in Kerala.
- Established in 1973, the sanctuary is now an integral part of the Nilgiri Biosphere Reserve. It is bounded by protected area network of Nagarhole National Park and Bandipur National Park in Karnataka in the northeast, and on the southeast by Mudumalai National Park in Tamil Nadu.
- The sanctuary is a haven for wild animals during summer owing to the easy availability of fodder and water throughout the year.

AGRICULTURE INFRASTRUCTURE FUND

In News:

The Centre has approved over 9,000 applications and sanctioned Rs 6,540 crore so far, for the development of agri-infra projects. This amount has been sanctioned under the Agriculture Infra Fund (AIF).

About Agriculture infrastructure Fund:

- The Agriculture Infrastructure Fund is a **medium - long term debt financing** facility for investment in viable projects for post-harvest management infrastructure and community farming assets through interest subvention and credit guarantee
- **Duration:** The duration of the scheme is from FY2020 to FY2029 (10 years).
- **Provisions:** Under the scheme, Rs. 1 Lakh Crore will be provided by banks and financial institutions as loans with interest subvention of 3% per annum and credit guarantee coverage under CGTMSE for loans up to Rs. 2 Crores.
- **Eligible beneficiaries:** include farmers, FPOs, PACS, Marketing Cooperative Societies, SHGs, Joint Liability Groups (JLG), Multipurpose Cooperative Societies, Agri-entrepreneurs, Start-ups, and Central/State agency or Local Body sponsored Public-Private Partnership Projects.



NATIONAL ADAPTATION FUND ON CLIMATE CHANGE

In News:

Recent data show that the central government grants released under the National Adaptation Fund on Climate Change (NAFCC) have declined steadily for the last five years.

Grants released under NAFCC fell from Rs 115.36 crore in 2017-18 to Rs 42.94 crore in 2020-21, and Rs 27.76 crore (till December 2021) in the current year.

Analysis of Background:

About NAFCC:

- It is a Central Sector Scheme which was set up in the year 2015-16.
- **Aim:** The overall aim of NAFCC is to support concrete adaptation activities which mitigate the adverse effects of climate change.
- **Mandate:** The activities under this scheme are implemented in a project mode. The projects related to adaptation in sectors such as agriculture,

animal husbandry, water, forestry, tourism etc. are eligible for funding under NAFCC.

- **Implementing Entity:** National Bank for Agriculture and Rural Development (NABARD) is the National Implementing Entity (NIE).

CROP DIVERSIFICATION

In News:

- There is an urgent need for crop: 2021-22 Annual Economic Survey.

Analysis of Background:

Crop Diversification:

- Crop diversification means growing more than one crop in an area.
- Diversification can be accomplished by adding a new crop species or different variety, or by changing the cropping system currently in use. It can also include an integration of crops and livestock, defined as mixed farming.
- Crop diversification is a strategy applied to grow more diverse crops from shrinking land resources with an increase in productivity in the same arable land.

Need for Crop Diversification

Water Stress

- Areas growing paddy, wheat and sugarcane are seeing baseline water stress of over 80%, with the ground water extraction rate having crossed 100% in Haryana, Punjab, Rajasthan and Delhi,
- Himachal Pradesh, Tamil Nadu and Uttar Pradesh have also seen dangerously high levels of ground water usage.

Poor oilseed production

- Failure of oilseed production to match consumption requirements, leading to a crippling import bill. It's important to reduce dependency on imports of cooking oil.

Climatic vagaries

- A farmer confronts a series of adversities and climatic vagaries during agricultural production, such as erratic rainfall, stone hail, drought, flood, and so on.

Post harvest challenges

- Challenges like post-harvest losses, storage and unavailability of accessible proper marketing are further aggravating the problem.

Productivity proportional to input cost

- For more than five decades, Indian agriculture has been facing severe problems related to an increase in input cost to increase productivity.
- However, the productivity proportional to input maintains for a certain time before plateauing and then progressively declines in many cases.

Declining soil quality

- Farmers have been using the common government-promoted Green Revolution cropping pattern — rice-wheat-rice for a longer time to enhance productivity.
- Unilaterally, following the same cropping pattern for a longer period of time has extracted the specific nutrients from the soil, resulting in soil deficiency in those nutrients along with a declined population of micro-fauna in the soil.
- The microfaunal population is responsible for the mobilization and absorption of particular nutrients in the crop rhizosphere.
- Reduction of the micro-faunal population in the soil is a serious issue because without micro-faunal activities, the soil is lost to self-perpetuate and its ecology for crop production.
- If we continue to follow the same cropping pattern for a few more years, it will create a deficiency of soil nutrients.

Impact of Fertilizers and weedicides

- To meet the deficiency of soil nutrients, farmers apply fertilizers periodically, which further results in a change in the soil's chemical and biological properties.
- Weed infestations are on the rise too, necessitating the application of weedicides or herbicides to eradicate them. Thus, persistent use of chemicals declines productivity, reduces resource-use efficiency and deteriorates soil health.

Pollution of soil, crop and environment

- Mono-cropping patterns have more chances to be attacked by the same types of insects and pests, which in turn are controlled by pumping the insecticides and pesticides.
- This accumulates the residue of these chemicals in soil which pollutes the soil, crop and environment.

Reduced resource use efficiency

- The mono-cropping pattern also reduces resource-use efficiency.
- Thus, breaking the mono-cropping pattern by the introduction of diverse crops and cropping patterns helps in reviving the soil health and increasing the resource-use efficiency.

Other issues

- Currently, the human-wildlife and / or human-crops conflict, forest fires, organic matter deficit soil, monoculture, plant disease and infestation, migration and the reluctance of youth towards agriculture are a new array of problems.

Benefits of crop diversification

- Increases income on small farm holdings.

- Through crop diversification, farming households can spread production and economic risk over a broader range of crops, thus reducing financial risks associated with unfavorable weather or market shocks.
- Growing diverse produce will financially expand the market potential.
- Helps withstand fluctuation in commodity prices.
- Provides resilience to highly variable weather conditions resulting from climate change.
- Increases profits by reducing the cost of production.
- Provides more varied and healthful food, both for humans and livestock.
- Decreases pest pressure, including diseases, insects and weeds.
- Enhances beneficial pollinator populations.
- Improves soil quality.
- Increases employment opportunities.
- Diverse rotations may increase crop yields and produce quality.
- Diverse cropping systems tend to decrease the probability of widespread crop failures and pest pressure, and improve soil quality and crop yields.
- Production of diverse crops on the same land can produce many agronomic benefits in pest management by breaking insect and disease cycles, reducing weeds and soil erosion, and conserving soil moisture.
- The more diverse a farming system is with plants, animals and soil-borne organisms, the more varied the population of beneficial pest-fighting microbes in the soil.

Type of diversification	Nature of diversification	Potential benefit
Improved structural diversity	Makes crops within the field more structurally diverse	Pest suppression
Genetic diversification in monoculture	Cultivation of mixture of varieties of same species in a monoculture	Disease suppression, Increased production stability
Diversify field with fodder grasses	Growing fodder grasses alongside of food/pulse/oilseed/ vegetable etc.	Pest suppression, opportunity to livestock farming
Crop rotations	Temporal diversity through crop rotations (Sequential cropping)	Disease suppression, Increased production stability
Polyculture	Spatial and temporal diversity of crops (Growing two or more crop species within the field)	Insect, pest disease suppression, climate change buffering and increased production
Agroforestry	Growing crops and trees together (Spatial and temporal diversity)	Pest suppression and climate change buffering
Mixed landscapes	Development of larger-scale diversified landscapes through mixture of crops and cropping system with multiple ecosystems	Pest suppression and climate change buffering
Micro-watershed based diversification	Integration of crop with other farming components for year round income and employment generation, besides sustaining soil and environmental health	Insect, pest and disease suppression, climate change buffering and increased production, employment and income

Agroforestry and Crop Diversification

About

- Agroforestry is a land-use system that includes trees, crops and / or livestock in a spatial and temporal manner, balancing both ecological and economic interactions of biotic and abiotic components.

Benefits

- It harnesses the complementarity between trees and crops for efficient utilization of available resources.
- Agroforestry can generate food, feed, fruits, fibre, fuel, fodder, fish, flavour, fragrance, floss, gum and resins as well as other non-wood products for food and nutritional security.

- It can also **support livelihoods and promote productive, resilient agricultural environments** in all ecologies.
- Agroforestry **contributes to a multifunctional production system** which enhances biodiversity due to the creation of diverse habitat for macro- and micro-organisms and maintaining landforms for future generations.
- It **provides opportunities to integrate traditionally grown crops, with other commercial crops** such as cereals, oilseeds, pulses, vegetables, fruits in agrihorticulture, hortisilviculture, silviculture, silvofloriculture, silvimedical, agrihortisilviculture, aquaforestry, silvipasture, hortipasture.
- Agroforestry is **an important land-use system for diversification around the world** in different spheres of biological, ecological, economical and sociological considerations.

Examples

- Globally, different agroforestry practices have played a key role in crop diversification. In **North America**, for instance, farmers preferred agroforestry over agriculture to improve their economic gain and natural resource conservation.
- In **Europe**, agroforestry trees are dominated by oaks, pines, junipers and firs. In Australia, *Pinus radiata* and *Eucalyptus globulus* while in the African continent, coffee, cocoa, coconut, oil palm, and rubber are common agroforestry trees on farms.
- The major agroforestry practices in **India** include multifunctional improved fallows, home gardens, plantation crop-based mixed-species production systems, alley cropping, woodlots, windbreaks, protein banks, shifting cultivation and Taungya in different regions.

Integrated Farming System

- The integrated farming system is an offshoot of agroforestry, advocating the diversification of the agri-production with other associated secondary and tertiary agriculture practices.

- The role of micro-organisms, nitrogen-fixing trees, leaf litter decomposition, forest hydrology and nutrient fluxes in agroforestry is well known to promote the crop diversification with various underutilized and wild crops.

Challenges

Some potential challenges to increased adoption of crop diversification on the farm are:

- Market demand may be limited by a range of factors, such as government policies, subsidies, etc.
- Lack of infrastructure for storage and transportation.
- Absence of suitable equipment.
- Price and supply of inputs.
- Lack of technical knowledge and references regarding their production practices.
- Lack of crop varieties adapted to the specific region.
- Fear of increased complexity.
- Public regulations.

Way ahead and suggestions

Intercrop, Multi-crop and Integrated Crop

- There is an urgent need to change the crops and cropping pattern by way of addition of new crop(s) as intercrop and / or predecessor or successor crops, changing numbers of the crop (multi-cropping), modified cropping system and adopting a new, integrated cropping pattern with changing agronomical practices.

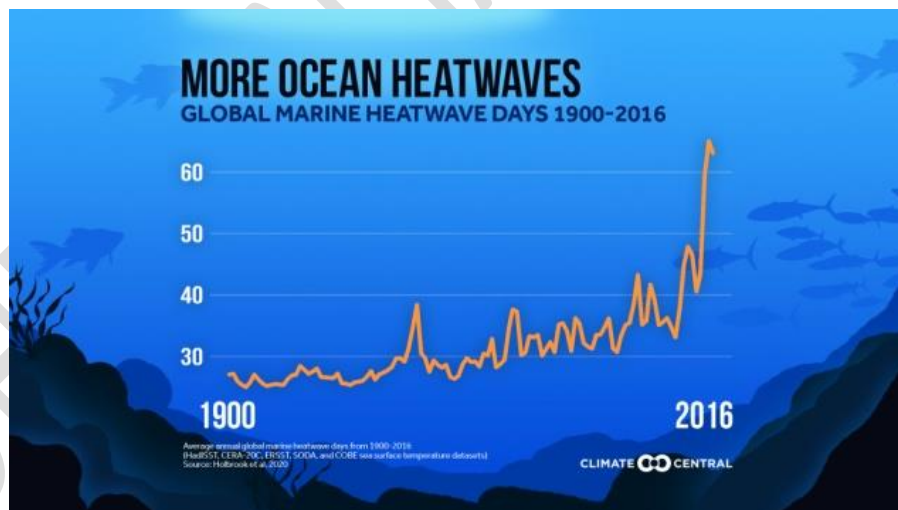
MARINE HEAT WAVES

In News:

- Marine heat waves (MHW), which are periods of increased temperatures over seas and oceans, in the Indian Ocean region have increased significantly in the past few decades: study published in the journal JGR Oceans.
- The increase in marine heat waves was due to rapid warming in the Indian Ocean and strong El Nino events.

Analysis of Background:

- A marine heat wave (MHW) is a short period of abnormally high temperatures in a sea or ocean.
- During an MHW, the average temperatures of the ocean surface (up to a depth of 300 feet) goes 5-7 degrees Celsius above normal.
- A marine heat wave is defined as when seawater temperatures exceed a seasonally-varying threshold **for at least 5 consecutive days.**



Causes:

- Such heat waves are caused by an increase in the heat content of oceans, especially in the upper layers.
- Worldwide, they are one of the major results of human-induced global warming.
- Around 90 per cent of the warming caused by greenhouse gas emissions is absorbed by the oceans. The year 2021 broke all previous records for ocean heat.
- The most common drivers of marine heat waves include ocean currents which can build up areas of warm water and air-sea heat flux, or warming through the ocean surface from the atmosphere.
- Winds can enhance or suppress the warming in a marine heat wave, and climate models like El Niño can change the likelihood of events occurring in certain regions.

Impact:**Ecosystem**

- Marine heat waves affect ecosystem structure, by supporting certain species and suppressing others.
- For example, after the 2011 marine heat wave in Western Australia the fish communities had a much more “tropical” nature than previously and switched from kelp forests to seaweed turfs.

Habitat changes

- Marine heat waves can change the habitat ranges of certain species, such as the spiny sea urchin off southeastern Australia which has been expanding southward into Tasmania at the expense of kelp forests which it feeds upon.
- Rogue animals can also find their way well outside their normal range, following the warm waters of a marine heat wave, such as this tropical fish found off Tasmania during the 2015/16 marine heat wave.

Economy

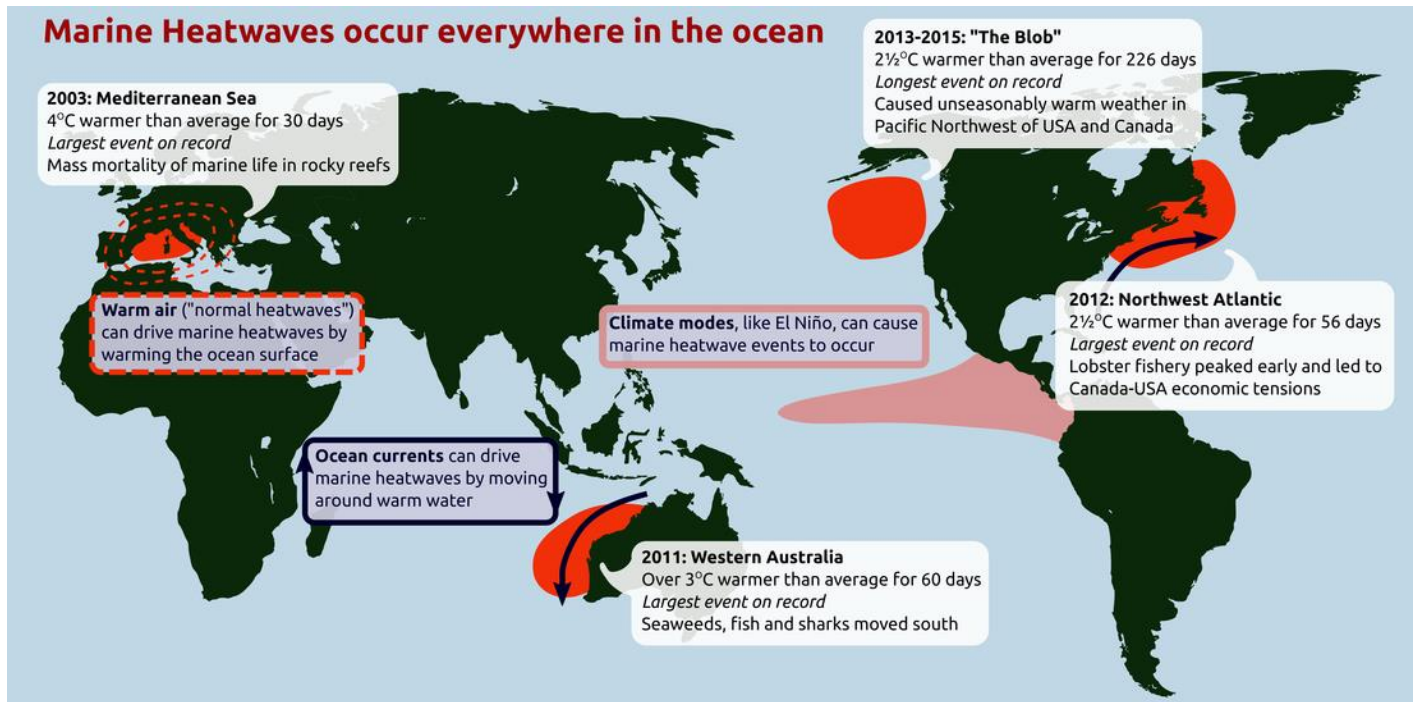
- Marine heat waves can cause economic losses through impacts on fisheries and aquaculture.
- In 2011 in Western Australia, the marine heat wave impacted the abalone fishery in the north of the state and in 2015/16 the marine heat wave off southeastern Australia led to high levels of abalone mortality in Tasmania.
- That event also led to outbreaks of Pacific oyster mortality syndrome and also poor performance in Atlantic salmon aquaculture.

Biodiversity

- Biodiversity can be drastically affected by marine heat waves.
- In 2016, marine heat waves across northern Australia led to severe bleaching of the Great Barrier Reef and have been speculated to be linked to mangrove die-offs in the Gulf of Carpentaria.

Past Instances

- A marine heat wave spanning over 6.5 million square kilometers had affected the Pacific Ocean off the coast of the state of Oregon in the United States in September 2019.
- Other major marine heat wave events such as Great Barrier Reef 2002, Mediterranean 2003, Northwest Atlantic 2012, and Northeast Pacific 2013-2016.



Recent Findings pertaining to Indian Ocean

- In the Indian Ocean, the worst-affected were its western part and northern Bay of Bengal, according to the study.
- The number of MHWs in the West Indian ocean increased by around 1.5 events per decade between 1982 and 2018.
- The occurrences went up by around 0.5 events per decade in North Bay of Bengal in the same period.
- There were a total of 66 events in West Indian Ocean and 94 in North Bay of Bengal in the 36 years.
- The Intergovernmental Panel on Climate Change (IPCC) report on Global Warming of 1.5 °C is "virtually certain" that the global ocean has absorbed more than 90% of the excess heat in our climate systems, the rate of ocean warming has doubled, and MHW events have doubled in frequency since 1982.
- **Impact:** The marine heat waves in the Indian Ocean are also majorly impacting the southwest monsoon — the main rain-bearing system over the Indian subcontinent. The MHWs in the two worst-hit regions reduce

monsoon rainfall over central India. Note: This is the first time a study has demonstrated a close link between marine heat waves and atmospheric circulation and rainfall.

ARAVALLI BIODIVERSITY PARK

In News:

- Aravalli Biodiversity Park in Gurugram declared as **India's first "other effective area-based conservation measures" (OECM) site.**
- The proposal to declare Aravalli Biodiversity Park an OECM site was sent by the **National Biodiversity Authority** to the IUCN in December 2020.

Analysis of Background:

About other effective area-based conservation measures" (OECM) tag:

- It is a conservation designation for areas that are achieving the effective **in-situ conservation of biodiversity outside of protected areas.**
- **Definition of OECM:** A geographically defined area other than a Protected Area, which is governed and managed in ways that achieve positive and sustained long-term outcomes for the in situ conservation of biodiversity, with associated ecosystem functions and services and where applicable, cultural, spiritual, socio-economic, and other locally relevant values.
- **Given by:** This tag is given by the **International Union for Conservation of Nature (IUCN)** to areas that are not protected but support rich biodiversity.
- **No legal implications:** OECM tag does not bring any legal, financial or management implications, but designates the area as a biodiversity hotspot on the international map.
- **Significance:** Help this biodiversity hotspot to get worldwide recognition.

About Aravalli Biodiversity Park:

- **Located in:** Gurugram, Haryana.

- It had several mining pits and large, barren valley-like spaces. That is restored with native plants that helped in **seasonal water accumulation**, making them special micro-habitats within the larger Aravalli landscape.
- The Aravallis, are one of the oldest mountain ranges in the world.
- **Vegetation:** The natural vegetation of the park falls within the Northern Tropical Dry Deciduous Forest and Northern Tropical Thorn Forest types recognised by **Champion and Seth**.
- The area is highly degraded due to **past mining** and infested with **Prosopis juliflora**.
- It has **medicinal plant conservatory** to promote conservation, education and awareness on the importance of plants in health care system.
- **Sacred Grove** has been developed in this park. Which have plant species with religious importance such as Ficus, Aegle, Nyctanthes arbor tristis, Sapindus, Madhuca etc.

CHEETAH REINTRODUCTION

In News:

An expert team of wildlife officials from Madhya Pradesh, the Indian Forest Department and the Wildlife Institute of India that visited **Namibia** but a formal Memorandum of Understanding (MoU) regarding the transfer is yet to be signed.

Analysis of Background:

Action Plan for Reintroduction of cheetah in India:

- With help from the Wildlife Institute of India and the Wildlife Trust of India, the ministry of Environment will be translocating around 10-12 young cheetahs from Namibia, South Africa and Botswana.
- These countries have the world's largest populations of the animal.
- The proposed site for introduction is the Kuno Palpur National Park (KNP) in Madhya Pradesh, though at least three other reserves in Central India are being considered.

- The Kuno National Park was also supposed to be a site for the Asiatic Lion that is now confined to Gir.

About Cheetah:

- The cheetah, *Acinonyx jubatus*, is one of the oldest of the big cat species, with ancestors that can be traced back more than five million years to the Miocene era.
- The cheetah is also the world's fastest land mammal.
- It is listed as vulnerable in IUCN red listed species.
- The country's last spotted feline died in Chhattisgarh in 1947. Later, the cheetah — which is the fastest land animal — was declared extinct in India in 1952.
- The Asiatic cheetah is classified as a “critically endangered” species by the IUCN Red List is believed to survive only in Iran.

TACKLING THE PLASTIC PROBLEM

In News:

The UN Environment Assembly meeting in February-March 2022 may finalise a way forward for global cooperation on the emissions of plastic waste into the aquatic ecosystems.

Analysis of Background:

Plastic as a consumption externality:

- Plastics represent an example of a consumption externality, **which involves many people**, rather than a production externality, which involves one or multiple firms.
- **Why is it challenging to address?** Consumption externality is more challenging to address, as it is difficult to differentiate the behaviour of consumers.

Approaches and issues with them

- Imposing the **cost of the harm on all consumers** may not yield efficient solutions.

- As the number of consumers is high, the cost of controlling them is also high.
- **Banning plastic:** This approach promotes a **sustainable environment**, intergenerational equity, saves marine and wildlife ecosystems, and restores soil quality.
- But it also causes **inconvenience for consumers, increases substitution cost, and creates unemployment shocks** as it affects the production of plastics, leading to less economic activity, less income generation and finally less employment.
- **Tax on plastic:** Other key aspects that may be considered for global cooperation are the options if plastics are banned, the effectiveness of imposing tax and the potential problems with both these approaches.
- It is difficult **to identify the exact tax to be imposed**, which may depend on country-specific circumstances.

Way forward

1. Command and control approach

- The environment regulation for plastics may include a **'command and control'** approach, and fiscal reforms like eco-taxes or subsidies.
- The efficiency of such a regulation depends on its architecture — how well it is planned, designed and executed. It should be credible, transparent and predictable.

2. Fiscal reforms like eco-taxes or subsidies

- Eco-taxes may be imposed in the **various stages of production, consumption or disposal of plastics.**
- Pollution due to plastics **may happen during the production stage.**
- That is the **logic for imposing tax on polluting inputs**, as it forces the producer to look for cleaner substitutes.
- Pollution also occurs **during the consumption stage**, and thus an eco-tax is recommended to discourage consumption.

3. Estimating the social cost at the local and global level

- Social cost should be evaluated differently in the **local/regional and global contexts.**

- While health and hygiene are predominant considerations in the former case, climate change is the predominant consideration in the latter.
- Ideally, **eco-tax rates on plastics** ought to be equal to the marginal social cost arising from the negative externality associated with production, consumption or disposal of goods and services.

Comprehensive policy measures

- Comprehensive policy measures against plastics may generally involve three complementary activities:
- The **removal of existing taxes and subsidies** that have a negative environmental impact.
- Taking into account the different types or grades of plastics.
- **Restructuring existing taxes** in an environmentally friendly manner.
- **Other suggestions include:** Promoting **multiple use of plastics** through better waste management,
- **Educating the public** on the harmful use of plastics,
- Providing **subsidy for research and development** activity for substitute development.
- Appropriate disposal mechanisms and waste management and use of waste for constructive usage like roads.

TOPIC: SCIENCE AND TECH

CHANDRAYAAN-3

In News:

ISRO plans to execute the Chandrayaan-3 mission in August this year.

Analysis of Background:

What is Chandrayaan-3 Mission?

- The Chandrayaan-3 mission is a follow-up of Chandrayaan-2 of July 2019, which aimed to land a rover on the lunar South Pole.

Chandrayaan-2:

- Chandrayaan-2 consisted of an Orbiter, Lander and Rover, all equipped with scientific instruments to study the moon.
- The Orbiter would watch the moon from a 100-km orbit, while the Lander and Rover modules were to be separated to make a soft landing on the moon's surface.
- ISRO had named the Lander module as Vikram, after Vikram Sarabhai, the pioneer of India's space programme, and the Rover module as Pragyaan, meaning wisdom.

Utility of the Orbiter:

- The Orbiter part of the mission has been functioning normally. It is carrying eight instruments.
- Each of these instruments has produced a handsome amount of data that sheds new light on the moon and offers insights that could be used in further exploration.

Inception of Chandrayaan 3:

- The subsequent failure of the Vikram lander led to the pursuit of another mission to demonstrate the landing capabilities needed for the Lunar Polar Exploration Mission proposed in partnership with Japan for 2024.

Its design:

- The lander for Chandrayaan-3 will have only four throttle-able engines.
- Unlike Vikram on Chandrayaan-2 which had five 800N engines with a fifth one being centrally mounted with a fixed thrust.
- Additionally, the Chandrayaan-3 lander will be equipped with a Laser Doppler Velocimeter (LDV).

About Chandrayaan-1 Mission:

- The Chandrayaan-1 mission was launched in October 2008 was ISRO's first exploratory mission to the moon, in fact to any heavenly body in space.
- The mission was designed to just orbit around the moon and make observations with the help of the instruments onboard.
- The closest that Chandrayaan-1 spacecraft came to the moon was in an orbit 100 km from its surface.

Prelims View:

1. **About:** Chandrayaan-1, Chandrayaan-2, Chandrayaan-3 Mission Objectives.
2. Which countries are launch satellite in lunar South Pole?
3. What are benefits India will get from this Chandrayaan-2,3 Mission?

EOS-04

In News:

- ISRO successfully launches earth observation satellite EOS-04 along with two other satellites.
- India's Polar Satellite Launch Vehicle PSLV-C52 successfully injected Earth Observation Satellite EOS-04, into an intended sun synchronous polar orbit of 529 km altitude.

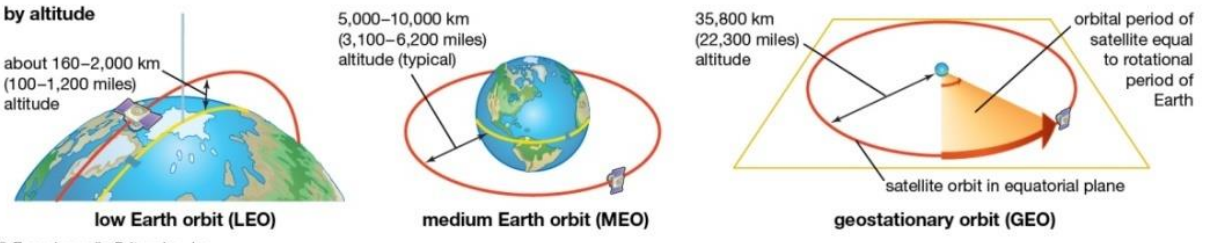
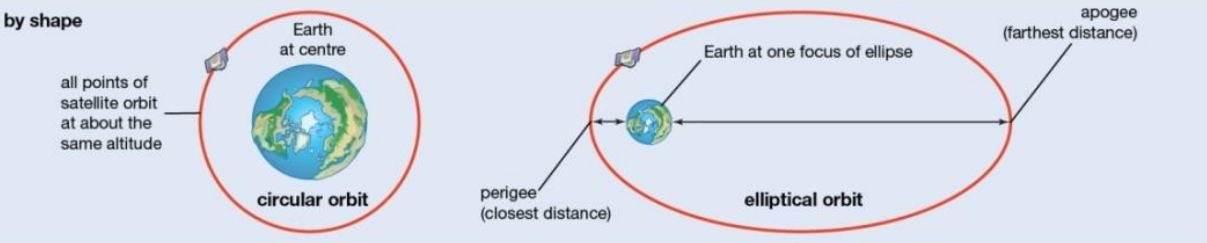
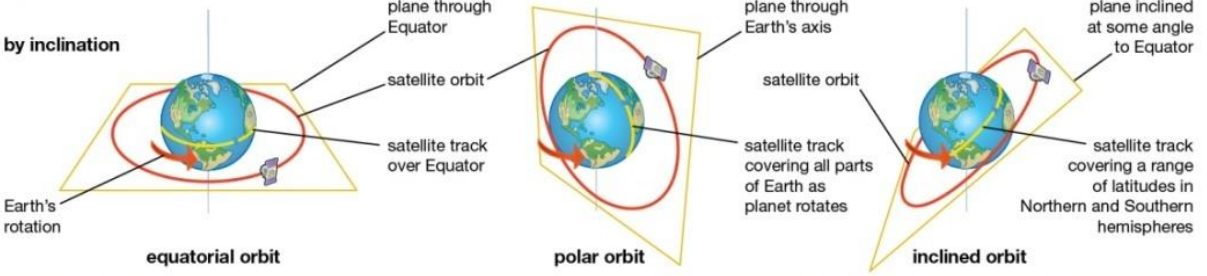
Analysis of Background:

- **About:** The satellite EOS-04 is a Radar Imaging Satellite designed to provide high-quality images under all weather conditions for applications such as Agriculture, Forestry & Plantations, Soil Moisture & Hydrology and Flood mapping. Weighing about 1710 kg, it generates 2280 W power and has a mission life of 10 years.
- **Mandate:** It is designed to provide high-quality images under all weather conditions for applications such as agriculture, forestry & plantations, soil moisture and hydrology, and flood mapping.
- **Further details:** The mission will also carry two small satellites as co-passengers — a student satellite, INSPIRESat-1, and a technology demonstrator satellite, INS-2TD.

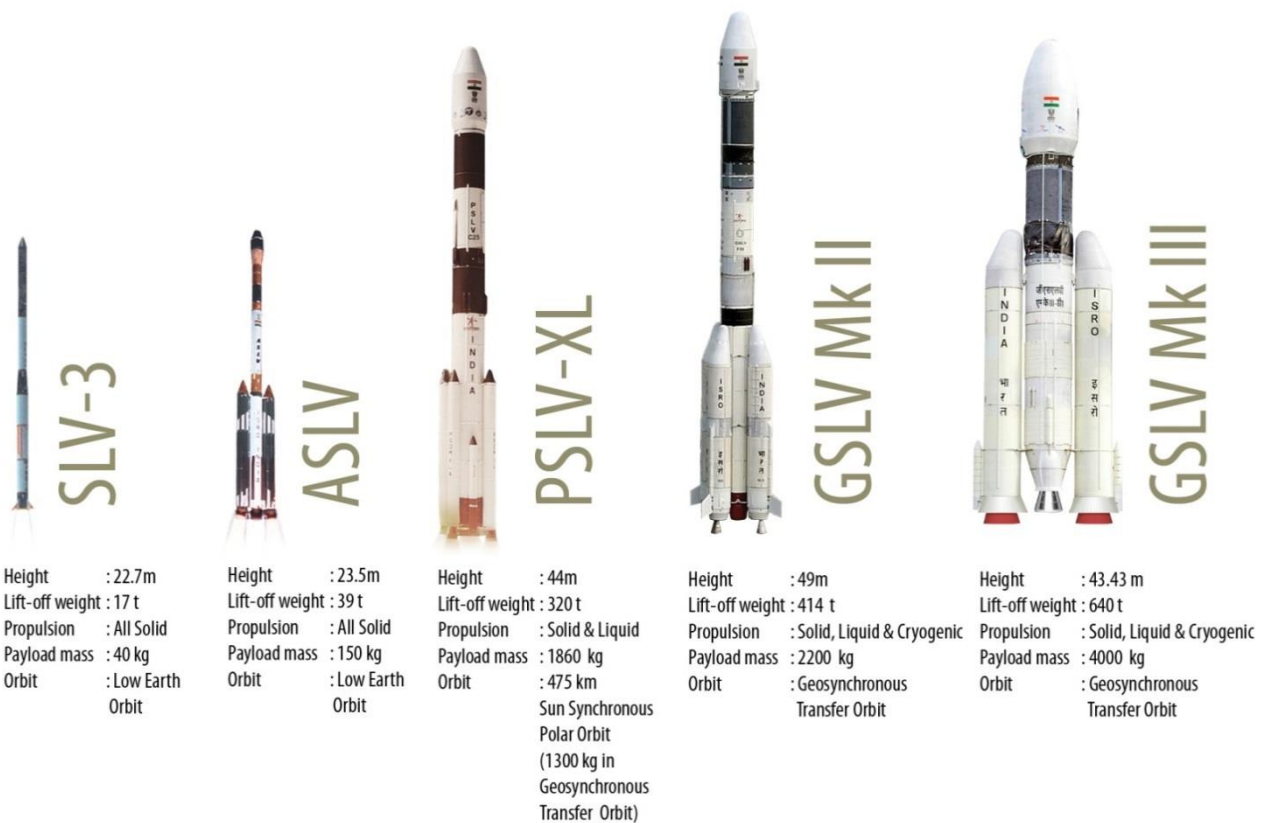


PSLV-C52/ EOS-04 MISSION

Types of Earth orbit



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INDIA'S FIRST INDIGENOUS BIO-SAMPLE COLLECTION KIT: MWRAPR

In News:

The Indian Institute of Science (IISc.) led start-up has launched mWRAPR, a biological transport and storage medium for genomic sequencing labs, biobanks, and research labs handling biological samples for molecular analysis.

Analysis of Background:

mWRAPR

- It is India's first indigenous bio-sample kit, a biological transport and storage medium.
- It would help in preserving genetic content in all types of biological samples, including microbiomes, saliva, cells, tissues, blood, body fluids, and fecal tubes.
- It is the only Molecular Transport Medium to be manufactured in India that competes with sample stabilisation and transporting media of notable foreign brands.

Significance

- The disruptions in global supply chain limits accessibility to materials for molecular diagnostics.
- India required to move to molecular tests (PCR/ RT-PCR test), but sample collection kits currently used were very cheap and not of molecular grade.
- RNA WRAPR is the kind of molecular grade sample collection medium that India needs right now.

M-RNA VACCINE

In News:

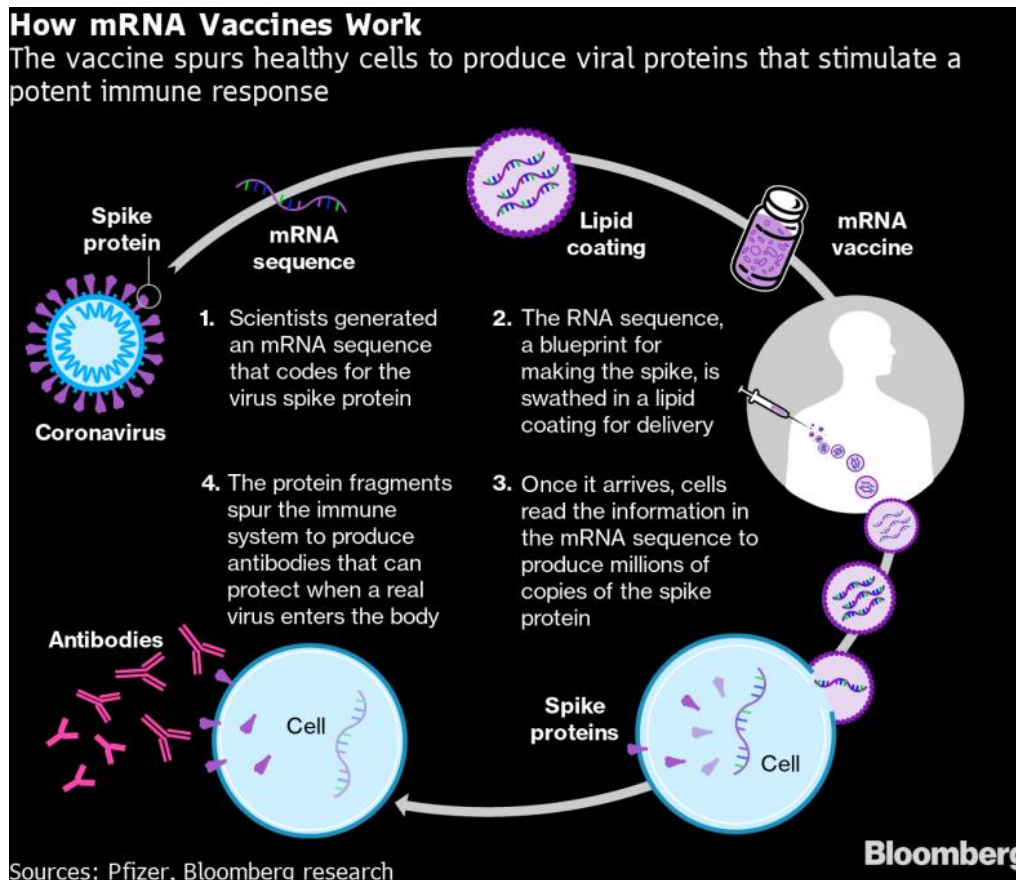
India's first homegrown mRNA vaccine against coronavirus are aiming to roll out before April.

Analysis of Background:

Understanding mRNA Vaccines:

Traditional Vaccines:

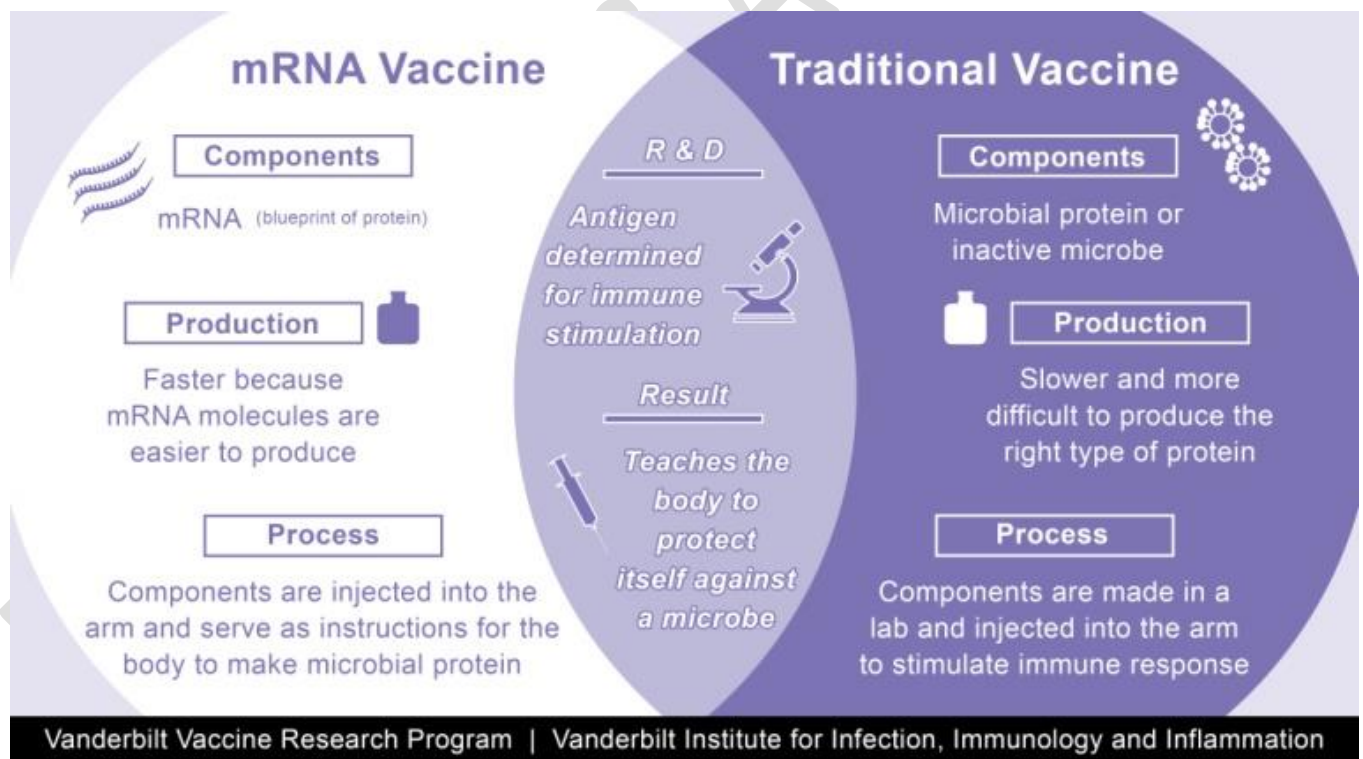
- Vaccines help prepare the body to fight foreign invaders (pathogens such as bacteria or viruses), to prevent infection.
- All vaccines introduce into the body a harmless piece of a particular bacteria or virus, triggering an immune response.
- Most vaccines contain a weakened or dead bacteria or virus.



mRNA Vaccines:

- Scientists have developed a new type of vaccine that uses a molecule called messenger RNA (or mRNA for short) rather than part of an actual bacteria or virus.
- Messenger RNA is a type of RNA that is necessary for protein production in our body. In cells, mRNA uses the information in genes to create a blueprint for making proteins. Once cells finish making a protein, they quickly break down the mRNA.
- mRNA from vaccines does not enter the nucleus and does not alter DNA.
- mRNA vaccines work by introducing a piece of mRNA that corresponds to a viral protein, usually a small piece of a protein found on the virus's outer membrane. (Individuals who get an mRNA vaccine are not exposed to the virus, nor can they become infected by the vaccine.)
- Using this mRNA blueprint, cells produce the viral protein.

- As part of a normal immune response, the immune system recognizes that the protein is foreign and produces specialized proteins called antibodies.
- Antibodies help protect the body against infection by recognizing individual viruses or other pathogens, attaching to them, and marking the pathogens for destruction.
- Once produced, antibodies remain in the body, even after the body has rid itself of the pathogen, so that the immune system can quickly respond if exposed again.
- If a person is exposed to a virus after receiving mRNA vaccination for it, antibodies can quickly recognize it, attach to it, and mark it for destruction before it can cause serious illness.



Earth Observation Satellite (EOS-04)

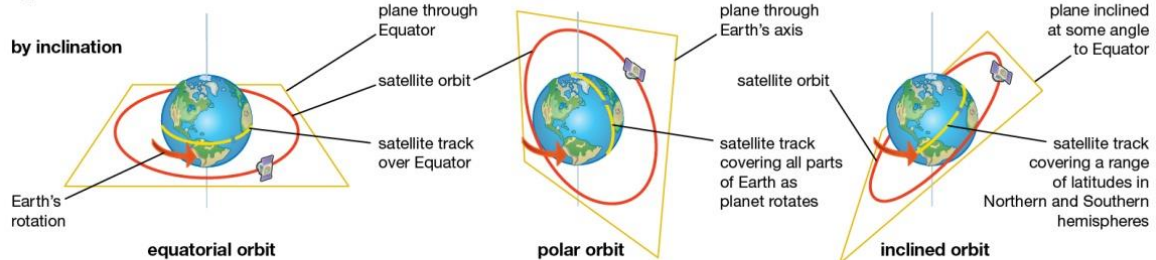
In News:

ISRO plans to place, into orbit, an Earth Observation Satellite (EOS-04) on board the PSLV C-52 on February 14.

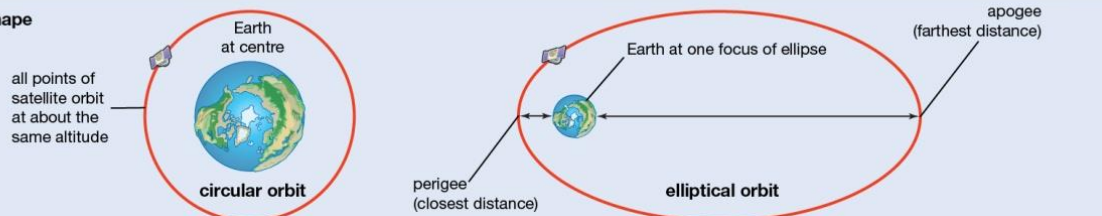
Analysis of Background:

- **About:** EOS-04 is a 1,170 kgs radar-imaging satellite that will be placed in a sun synchronous polar orbit of 529 km.
- **Mandate:** It is designed to provide high-quality images under all weather conditions for applications such as agriculture, forestry & plantations, soil moisture and hydrology, and flood mapping.
- **Further details:** The mission will also carry two small satellites as co-passengers — a student satellite, INSPIRESat-1, and a technology demonstrator satellite, INS-2TD.

Types of Earth orbit



by shape



by altitude



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A MIRACLE CURE AGAINST HIV

In News:

There is considerable excitement in the world of medicine after scientists reported that a woman living with HIV (Human Immunodeficiency Virus) and administered an experimental treatment is likely 'cured'.

Analysis of Background:

What is HIV/AIDS?

- HIV (human immunodeficiency virus) is a virus that attacks cells that help the body fight infection, making a person more vulnerable to other infections and diseases.
- First identified in 1981, HIV is the cause of one of humanity's deadliest and most persistent epidemics.
- It is spread by contact with certain bodily fluids of a person with HIV, most commonly during unprotected sex, or through sharing injection drug equipment.
- If left untreated, HIV can lead to the disease AIDS (acquired immunodeficiency syndrome).
- The human body can't get rid of HIV and no effective HIV cure exists.

Treating HIV

- However, by taking HIV medicine (called antiretroviral therapy or ART), people with HIV can live long and healthy lives and prevent transmitting HIV to their sexual partners.
- In addition, there are effective methods to prevent getting HIV through sex or drug use, including pre-exposure prophylaxis (PrEP) and post-exposure prophylaxis (PEP).

What is the new breakthrough?

- US researchers have described the case of a 60-year-old African American woman who was diagnosed with an HIV infection in 2013.
- She was started on the standard HIV treatment regimen of anti-retroviral treatment (ART) therapy consisting of tenofovir, emtricitabine and raltegravir.
- She was given cord blood, or embryonic stem cells, from a donor with a rare mutation that naturally blocks the HIV virus from infecting cells.

- She was also given blood stem cells, or adult stem cells, from a relative.

What actually worked?

- The adult stem cells boosted the patient's immunity and possibly helped the cord blood cells fully integrate with the lady's immune system.
- Now she has no sign of HIV in her blood and also has no detectable antibodies to the virus.
- Embryonic stem cells are potentially able to grow into any kind of cell and hence their appeal as therapy, though there is no explanation for why this mode of treatment appeared to be more effective.

Is this treatment the long-sought cure for AIDS?

- Not at all. While this approach is certainly a welcome addition to the arsenal of treatments, stem cell therapy is a cumbersome exercise and barely accessible to most HIV patients in the world.
- Moreover, this requires stem cells from that rare group of individuals with the beneficial mutation.
- Anti-retroviral therapy, through the years, has now ensured that HIV/AIDS isn't always a death sentence and many with access to proper treatment have lifespans comparable to those without HIV.
- A vaccine for HIV or a drug that eliminates the virus is still elusive and would be the long sought 'cure' for HIV/AIDS.

What is the prevalence of HIV/AIDS in India?

- As per the India HIV Estimation 2019 report, the estimated adult (15 to 49 years) HIV prevalence trend has been declining in India since the epidemic's peak in the year 2000 and has been stabilising in recent years.
- In 2019, HIV prevalence among adult males (15–49 years) was estimated at 0.24% and among adult females at 0.20% of the population.
- There were 23.48 lakh Indians living with HIV in 2019.
- Maharashtra had the maximum at 3.96 lakh followed by Andhra Pradesh (3.14 lakh) and Karnataka.
- ART is freely available to all those who require and there are deputed centres across the country where they can be availed from.

INDIAN NEUTRINO OBSERVATORY

In News:

The Tamil Nadu government filed an affidavit in the apex court stating the INO project at Bodi West Hills in Theni would cause irreparable damage to the Western Ghats

Analysis of Background:

- The project, if implemented, will affect the flora and fauna of the Periyar Tiger Reserve and Mathikettan Shola National Park in the Western Ghats — which have earned global reputation for effective conservation — the affidavit claimed.

What is a neutrino?

- Neutrinos are the smallest particles that form the universe.
- Neutrinos which are elementary particles have no charge and almost no mass and therefore do not affect anything they pass through.
- They are naturally produced in the atmosphere of the Earth and are present around us at all times, causing no damage.

About Indian Neutrino Observatory:

- INO Project is a multi-institutional effort aimed at building a world-class underground laboratory with a rock cover of approx. 1200 m for non-accelerator based high energy and nuclear physics research in India.
- The proposed site is spread across Kerala and Tamil Nadu.
- It is funded by Dept. of Atomic Energy (DAE) and the Dept. of Science and Technology (DST).
- Objectives: INO will observe neutrinos and antineutrinos produced in the atmosphere of the Earth.
- This observation will tell us more about the properties of neutrino particles, whose main source is the Sun and the Earth's atmosphere.
- The project includes:

- Underground laboratory and associated surface facilities at Bodi West Hills.
- Construction of a magnetized Iron Calorimeter (ICAL) detector for studying neutrinos. When completed, ICAL will have the world's largest magnet.
- Setting up Inter Institutional Centre for High Energy Physics (IICHEP) at Madurai

What's special about locating the INO in the South?

- A project report says most of the neutrino detectors are at latitudes over 35 deg.
- It is possible to push such a detector down to almost 8 deg latitude in South India, within proximity to the Equator.
- This permits neutrino astronomy searches covering the whole celestial sky and study of solar neutrinos passing through the Earth's core.

Periyar Tiger Reserve:

- It falls in the districts of Idukki and Pathanamthitta in Kerala (southern region of Western Ghats).
- Declared a Sanctuary during 1950 and Tiger Reserve in 1978.
- It gets its name from the River Periyar which has its origin deep inside the reserve.

Mathikettan Shola National Park:

- Mathikettan Shola National Park is a national park in Poopara village in Idukki district of Kerala.
- Considering the unique nature of the shola forest in Mathikettan and its importance as an elephant strip, the state government has declared it as a National park in 2008.



BT. BRINJAL

In News:

- Maharashtra farmers, under the aegis of Shetkari Sanghatana, launched a drive on Thursday to cultivate Bt brinjal from Ahmednagar district despite the genetically modified variety not being approved for commercial cultivation.

Analysis of Background:

- To date, the Centre has approved only GM cotton for commercial cultivation in India.
- Under Section 22 of the Food Safety and Standards Act, 2006, GM foods are not allowed to be manufactured, imported or sold in India unless approved under the Act.
- Legally, sale, storage, transportation and usage of unapproved GM seeds is a punishable offence under the Rules of Environmental Protection Act 1989.
 - Genetic Engineering Appraisal Committee (GEAC) is the appraisal body that allows for commercial release of GM crops.
 - GEAC functions in the Ministry of Environment, Forest and Climate Change (MoEF&CC).
- Also, sale of unapproved seeds can attract action under the Seed Act of 1966 and the Cotton Act of 1957.

Bt Brinjal:

- Bt Brinjal was developed by Mahyco (Maharashtra Hybrid Seeds Company) in collaboration with the Dharwad University of Agricultural Sciences and the Tamil Nadu Agricultural University.
- Bt Brinjal is a transgenic brinjal created by inserting a gene cry1Ac from the soil bacterium *Bacillus thuringiensis* into Brinjal.
- This genetically modified brinjal gives resistance against insects such as the Brinjal Fruit and Shoot Borer.

KISAN DRONES

In News:

PM Modi has flagged off 100 “kisan drones” in different parts of the country for spraying pesticides and other farm materials.

Analysis of Background:

- Drones will also be promoted for crop assessment, digitisation of land records, spraying of insecticides and nutrients.
- Farmers can use high-capacity drones in the coming times to transport their produce like fruits, vegetables and flowers to markets in a minimal time, boosting their income.

Drone Shakti Scheme:

- The Union Budget pushed for promotion of drones through startups and skilling at Industrial Training Institutes (ITIs).
- Startups will be promoted to facilitate ‘Drone Shakti’ for Drone-As-A-Service (DrAAS). Courses for skilling will also be started in selected ITIs across all States.
- Sectors where drones can be employed include photography, agriculture, mining, telecom, insurance, telecom, oil & gas, construction, transport, disaster management, geo-spatial mapping, forest and wildlife, defence and law enforcement to name a few.

Drone:

- It is a layman terminology for Unmanned Aircraft (UA).
- A drone’s autonomy level can range from remotely piloted (a human controls its movements) to advanced autonomy, which means that it relies on a system of sensors and LiDAR (Light Detection and Ranging) detectors to calculate its movement.

MH-60 R HELICOPTERS

In News:

- The first batch of three MH-60R Multi-Role Helicopters contracted by the Navy from the United States are scheduled to arrive in India by mid-July, according to defence officials.

Analysis of Background:

- India had signed a \$2.2 bn deal for MH-60R helicopters built by Lockheed Martin during the visit of then U.S. President Donald Trump in February 2020. Deliveries are expected to be completed by 2025.

About MR-60 R Helicopters:

- The MH-60Rs are a replacement of the Sea King 42/42A helicopters already decommissioned in the 1990s.
- These helicopters are considered to be the world's most advanced maritime helicopter.
- It will provide India the capability to perform anti-surface and anti-submarine warfare missions.
- It will also enhance the Navy's ability to perform secondary missions, including search and rescue, and communications relay.

DARK MATTER

In News:

Astronomical observations suggest that a significant part of the universe is made up of dark matter which interacts with the rest of the universe only through the gravitational pull.

Analysis of Background:

Primordial black holes:

- One hypothesis is that dark matter comprises a large number of compact objects such as primordial black holes.
- When the universe was very young, hot and dense – soon after the Big Bang, it must have had quantum fluctuations of its density.

- This, in turn, would have caused some regions to become extremely dense, and therefore, to collapse under their own gravity to form the primordial black holes.

Gravitational lensing:

- When light travels through space and passes near a massive or compact body – a star, a galaxy or a black hole, for example, the intense gravity of that body may attract the light towards it, bending it from its rectilinear (straight line) path.
- This phenomenon is known as gravitational lensing and was first observed by Arthur Eddington in 1919.
- Massive objects like galaxies can bend light significantly, producing multiple images, this is called strong lensing.
- Lighter objects like stars or black holes bend light less, and this is called microlensing.
- A similar lensing can happen to gravitational waves travelling towards the Earth, and this would leave signatures in the detected gravitational waves. This can be used to detect the presence, or the existence, of primordial black holes.

BLACK HOLES

In News:

The supermassive black hole at the centre of the Milky Way, which has a mass 4 million times greater than the Sun, is observed.

Analysis of Background:

- Observations showing a roughly dough-nut-shaped cloud of cosmic dust and gas shrouding a supermassive black hole at the centre of galaxy Messier 77 similar in size to our Milky Way.

About Black Holes:

- Black holes are extraordinarily dense objects possessing gravitational pulls so powerful even light cannot escape them.

- It refers to a point in space where the matter is so compressed as to create a gravity field from which even light cannot escape.
- The concept was theorized by Albert Einstein in 1915 and the term 'black hole' was coined in the mid-1960s by American physicist John Archibald Wheeler.
- The black holes belong to two categories:
 - One category ranges between a few solar masses and tens of solar masses. These are thought to form when massive stars die.
 - The other category is of supermassive black holes. These range from hundreds of thousands to billions of times that of the sun from the Solar system to which Earth belongs.

Messier 77:

- Messier 77, also called NGC 1068 or the Squid Galaxy, is located 47 million light years – the distance light travels in a year, 9.5 trillion km – from the Earth in the constellation Cetus.
- Its supermassive black hole has a mass roughly 10 million times greater than our sun.

CRZ NORMS

In News:

The Brihanmumbai Municipal Corporation (BMC) inspected a bungalow owned by a Union Minister for alleged violation of Coastal Regulation Zone (CRZ) norms.

Analysis of Background:

What is the news?

- The Union Minister's bungalow named has been illicitly constructed within 50 metres of the sea in violation of the CRZ rules.
- The crackdown assumes significance in the escalating verbal spats between the two political rivals (which were allies for years).

What are CRZ norms?

COAST CUTTER

CLASSIFICATION

CRZ I | Ecologically sensitive areas like sanctuaries, reserve forests, mangroves, coral reefs, turtle-nesting grounds, which could be inundated due to rise in sea level

CRZ II | Areas which have already been developed up to the shoreline within municipal or corpn limits

CRZ III A | CRZ III areas with a population of more than 2,161 per sqkm. Here, 50m from high tide will be no-development zone (NDZ)

CRZ III B | Other CRZ III areas with less population. Here area up to 200m from the HTL on the landward side will be earmarked as NDZ





BACKGROUND

➤ Under Environment Protection Act, 1986 a notification was issued in February 1991 for regulation of activities in coastal area by the ministry of environment and forests


➤ Coastal land up to 500m from the high tide line (HTL) and area of 100m along banks of estuaries, backwater, creeks and rivers which are subject to tidal fluctuations are called coastal regulation zone (CRZ)


BOOST FOR TOURISM

➤ With the freeze on constructions along the coastal zone more or less lifted, the tourism sector will be the biggest beneficiary 

➤ Toilets, changing rooms, drinking water facility and temporary shacks can be constructed even on beaches 

➤ Existing residential buildings can be converted into homestays without increasing the plinth area 

➤ CRZ will not be a bar for public utilities like roads even if it passes through mangrove forests 

➤ Introduction of CRZ-III into A and B clauses will address state's main concern of issuing permission to dwelling units as well 

- In India, the CRZ Rules govern human and industrial activity close to the coastline, in order to protect the fragile ecosystems near the sea.
- They restrict certain kinds of activities — like large constructions, setting up of new industries, storage or disposal of hazardous material, mining, reclamation and bunding — within a certain distance from the coastline.
- After the passing of the Environment Protection Act in 1986, CRZ Rules were first framed in 1991.
- After these were found to be restrictive, the Centre notified new Rules in 2011, which also included exemptions for the construction of the Navi Mumbai airport and for projects of the Department of Atomic Energy.

- While the CRZ Rules are made by the Union environment ministry, implementation is to be ensured by state governments through their Coastal Zone Management Authorities.

Where do they apply?

- In all Rules, the regulation zone has been defined as the area up to 500 m from the high-tide line.
- The restrictions depend on criteria such as the population of the area, the ecological sensitivity, the distance from the shore, and whether the area had been designated as a natural park or wildlife zone.
- The latest Rules have a no-development zone of 20 m for all islands close to the mainland coast, and for all backwater islands in the mainland.

New Rules under CRZ regulations

- The government notified new CRZ Rules with the stated objectives of promoting sustainable development and conserving coastal environments.
- For the so-called CRZ-III (Rural) areas, two separate categories have been stipulated.
- In the densely populated rural areas (CRZ-IIIA) with a population density of 2,161 per sq km as per the 2011 Census, the no-development zone is now 50 m from the high-tide level, as against the 200 m stipulated earlier.
- In the CRZ-IIIB category (rural areas with population density below 2,161 per sq km) continue to have a no-development zone extending up to 200 m from the high-tide line.
- The new Rules have a no-development zone of 20 m for all islands close to the mainland coast, and for all backwater islands in the mainland.

EV BATTERY SWAPPING POLICY

In News:

NITI Aayog is holding a consultation on the upcoming electric vehicle (EV) battery swapping policy.

Analysis of Background:

What is BaaS?

- Battery-as-a-service (BaaS) is seen as a viable charging alternative.
- Manufacturers can sell EVs in two forms: Vehicles with fixed or removable batteries and vehicles with batteries on lease.
- If you buy an electric scooter with battery leasing, you do not pay for the cost of the battery—that makes the initial acquisition almost 40% cheaper.
- Users can swap drained batteries for a fully charged one at a swap station. The depleted batteries are then charged on or off-site.
- The advantages of swapping include low downtimes for commercial fleets, reduced space requirements, and lower upfront costs.
- It is also a viable solution for those who don't have parking spots at home.

What is battery interoperability?

- That's when a battery is compatible across vehicles and chargers, so you can seamlessly swap a battery at any swap station. This can help achieve scale.
- However, manufacturer and service providers say there are safety concerns around the 'one-size-fits-all' model and caution too much standardization can kill innovation.

Why hasn't BaaS taken off yet?

- There are economic and operational constraints.
- Energy service providers offering swapping solutions have to charge 18% goods and services tax (GST) for swapping, compared to 5% GST on the purchase of an EV.
- Additionally, the government's FAME-II incentives are not offered to vehicles sold with BaaS or swap station operators.

- While these are economic disadvantages compared to direct charging solutions, the lack of a dense and interoperable battery swap infrastructure has also hindered the roll-out.
- Manufacturers, on the other hand, are keen to create proprietary battery and charging systems.

Issues with BaaS

- There is a need for standardization of safety specifications as well as the battery.
- Swapping in the various permutations and combinations of batteries at a station where they have not been tested for compatibility could lead to safety hazards.
- Also, mandating only one type of battery to be eligible for concessions would be disadvantageous to many players.

Who offers BaaS in India?

- Bengaluru-based startup Bounce is the first e-two-wheeler maker to sell its scooters with BaaS, and claims to have achieved a million battery swaps.
- Others like Ola Electric and Ather have stuck to direct charging solutions, while Hero Electric offers both fixed and removable batteries.
- Many makers are working with energy service providers to offer battery swapping.
- The global precedent is a mixed bag: Ample, which offers swaps in the US, has found success with commercial fleets, while most personal users charge at home.

Why is Battery Swapping needed?

- **High Cost of EVs:** An EV, by industry standards, is 1.5-2x costlier than IC Engine counterpart and at least half the cost is from the battery pack.
- **Cost reduction:** Many manufacturers are offering batteries separately from a vehicle, reducing the cost. In that case, a fleet owner can buy vehicles without battery and utilize battery swapping.
- **Range Anxiety:** Another major reason stopping people from buying EVs is range anxiety, or in simple terms, the fear of battery getting empty without finding a charging station.

- **Inadequate charging infrastructure:** Unlike petrol pumps, EV charging stations are rare to spot and that further increases the range anxiety exponentially, especially while going on a road trip.
- **Hazard management:** In case of a Swapping Station, one can simply locate a station, go and replace the empty battery with a new one.

NASA TO DECOMMISSION THE INTERNATIONAL SPACE STATION

In News:

The National Aeronautics and Space Administration (NASA) has announced plans to retire and decommission the International Space Station (ISS) by 2031.

Analysis of Background:

What is the ISS?

- The ISS was launched in 1998 as part of joint efforts by the U.S., Russia, Japan, Canada and Europe.
- The idea of a space station originated in the 1984 State of the Union address by former U.S. President Ronald Reagan.
- The space station was assembled over many years, and it operates in low-earth orbit.
- Since its inception, it has served as a laboratory suspended in space and has aided multiple scientific and technological developments.
- The ISS was originally built to operate for 15 years.

Why was ISS launched?

- A space station permits quantum leaps in research in science, communications, and in metals and lifesaving medicines which could be manufactured only in space.
- ISS has consistently maintained human presence for the past 21 years, providing astronauts with sophisticated technologies for scientific research.

Why is NASA planning to decommission the ISS?

- The space station has already surpassed that checkpoint by being active for 21 years, with plans to continue operations till 2030.
- The ISS goes through 16 rotations of the earth per day, causing extreme temperature changes on the exterior.

- The side facing the sun can get heated up to 121°C while the temperature on the opposite, darker side can fall to –157°C, causing intense expansion and contraction of the building material.
- This orbital thermal cycling, coupled with dynamic loading, affects the longevity of the primary structure of the space station.
- The technical lifetime is also limited by parts like radiators, modules and truss structures that tend to degrade over time.

What is the procedure to de-orbit the ISS?

- NASA plans to remove the ISS from its orbit around the earth and eventually plunge it into the ocean at a point farthest from human civilisation.
- The space agency will use the dual method of natural orbit decay and a re-entry manoeuvre to bring an end to the ISS as we know it.
- According to the plan, the earth's natural atmospheric drag will be used in lowering the altitude of the ISS while setting up the de-orbit.
- The space station operators will then provide the final push to it to lower the structure to the maximum possible height and ensure safe re-entry into the earth's atmosphere.
- It would then lead to Point Nemo over the South Pacific Oceanic Uninhabited Area (SPOUA).
- Disassembling process would have posed huge logistical and financial challenges.

How big is it?

- The ISS is a huge structure — almost the size of a football field — and it was not designed to be disassembled easily in space.
- The station currently operates in low-earth orbit above 400 km in altitude, at a point where it still experiences atmospheric drag and requires re-booster to continue in its orbit.
- The station also has a mass of over 4,30,000 kg.
- Existing propulsion systems do not have the capacity to raise the station's altitude to a high target and escape low-earth orbit.
- The random re-entry method was discarded since it carries a huge risk for the human population on the ground.

What is the future of space stations?

- As the ISS plans to end operations in space, new players are already lining up to replace it.
- In January 2022, China announced that its space station will be ready for operations this year.
- Blue Origin, the aerospace company founded by Jeff Bezos, has also announced its plans to build Orbital Reef, a commercially developed, owned, and operated space station in low-earth orbit.
- Blue Origin is working alongside Sierra Space on the project.

TIME DILATION

In News:

In a feat of measurement science, physicists, publishing in Nature, have shown that two tiny atomic clocks placed a millimeter away from each other tick at different rates.

Analysis of Background:

About Time Dilation:

- Time dilation is a phenomenon predicted by Albert Einstein
- It refers to the stretching of time intervals when moving at high speeds or passing near intense gravitational fields.
- Time dilation is the difference in the elapsed time as measured by two clocks.
- It is either due to a relative velocity between them or to a difference in gravitational potential between their locations.
- These can be used for the predictions of the theory of relativity.

TOPIC: DEFENCE AND SECURITY

Z' CATEGORY SECURITY

In News:

A noted Parliamentarian from Hyderabad has rejected the 'Z' category security by the Central Armed Police Forces (CAPF) accorded to him.

Analysis of Background:

Security Provisions in India

- In India, security is provided to high-risk individuals by the police and local government.
- The level of security needed by any individual is decided by the Ministry of Home Affairs, based on inputs received from intelligence agencies which include the IB and R&AW.
- Individuals such as PM, home minister and other officials such as the National Security Advisor generally get security cover because of the positions they occupy.
- In addition to this, persons who are believed to be under threat also receive security cover.

What is 'Z' Category Security?

In India, the category covers are: X, Y, Y-plus, Z, Z-plus, and SPG (Special Protection Group).

- **X Category:** The protectee gets one gunman. Protectees in the Y category has one gunman for mobile security, and one (plus four on rotation) for static security.
- **Y Plus category:** It receive the cover of two gunmen (plus four on rotation) for mobile security, and one (plus four on rotation) for residence security,
- **Z Category:** It has six gunmen for mobile security and two (plus 8) for residence security. They get 10 security personnel for mobile security, and two (plus 8) for residence security.
- **Z Plus Category:** It is provided by National Security Guard commandos whereas the other category of security is provided by the Delhi police or the ITBP or CRPF personnel.

What about Special Protection Group (SPG) Cover?

- The SPG cover is meant only for the PM and his immediate family.
- After Indira Gandhi was assassinated by her own security guards in 1984, the Rajiv Gandhi government decided to create a special cadre of security personnel for the PM.
- In March 1985, following the recommendations of a committee set up by the Home Ministry, a special unit was created for this purpose under the Cabinet Secretariat.
- This unit, initially called the Special Protection Unit, was renamed as Special Protection Group in April 1985.

EXERCISE MILAN 2022

In News:

Exercise Milan as well as the Fleet Review by President is scheduled to be held this month for which 46 countries have been invited.

Analysis of Background:

Exercise Milan

- Milan began in 1995 and is held biennially and brings together Navies of all the countries in the region.
- It has so far been held at Port Blair in Andaman and Nicobar but is now being shifted to Visakhapatnam which offers more infrastructure as well as sea space for the exercise.
- It has several themes such as anti-submarine warfare among others along with deliberations, including by subject matter experts.

What is Fleet Review?

- A Fleet Review is usually conducted once during the tenure of the President.
- The first PFR was held in 1953 for the first President Dr. Rajendra Prasad.
- Since Independence 11 PFRs have been conducted by the Navy, of which two have been International Fleet Reviews in 2011 and 2016.
- In terms of significance, the Navy's Presidential review is second only to the Republic Day Parade.

PANEL ON AFSPA REMOVAL MISSES '45-DAY' DEADLINE

In News:

A committee constituted by the Union Home Ministry to study the withdrawal of the Armed Forces (Special Powers) Act, or AFSPA, from Nagaland, slated to submit a report within 45 days is yet to conclude its findings.

Analysis of Background:

AFSPA: A Backgrounder

- The AFSPA, 1958 came into force in the context of insurgency in the North-eastern States decades ago.
- It provides “special power” to the Armed Forces applies to the Army, the Air Force and the Central Paramilitary forces etc.
- It has been long contested debate whether the “special powers” granted under AFSPA gives total immunity to the armed forces for any action taken by them.

Armed Forces (Special Powers) Act, 1958

- Armed Forces Special Powers Act, to put it simply, gives armed forces the power to maintain public order in “disturbed areas.”
- AFSPA gives armed forces the authority use force or even open fire after giving due warning if they feel a person is in contravention of the law.
- The Act further provides that if “reasonable suspicion exists”, the armed forces can also arrest a person without warrant; enter or search premises without a warrant; and ban the possession of firearms.

What are the Special Powers?

The ‘special powers’ which are spelt out under Section 4 provide that:

(a) Power to use force, including opening fire, even to the extent of causing death if prohibitory orders banning assembly of five or more persons or carrying arms and weapons, etc are in force in the disturbed area;

(b) Power to destroy structures used as hide-outs, training camps, or as a place from which attacks are or likely to be launched, etc;

(c) Power to arrest without warrant and to use force for the purpose;

(d) Power to enter and search premises without a warrant to make arrest or recovery of hostages, arms and ammunition and stolen property etc.

What are the Disturbed Areas?

- A disturbed area is one that is declared by notification under Section 3 of the AFSPA.
- As per Section 3, it can be invoked in places where “the use of armed forces in aid of the civil power is necessary”.

Who can declare/notify such areas?

- The Central Government or the Governor of the State or administrator of the Union Territory can declare the whole or part of the State or Union Territory as a disturbed area.
- A suitable notification would have to be made in the Official Gazette.

Presently ‘Disturbed Areas’

- AFSPA is currently in force in Assam, Nagaland, Manipur, 3 districts of Arunachal Pradesh, and areas falling within the jurisdiction of 8 police stations in Arunachal Pradesh bordering Assam.
- In Jammu and Kashmir, a separate law Armed Forces (Jammu and Kashmir) Special Powers Act, 1990 has been in force.

Is it a License to Kill?

While the operation of the Section has been controversial in itself, it has attracted much criticism when actions have resulted in the death of civilians.

- **Power to kill:** Section 4 of the Act granted officers the authority to “take any action” even to the extent to cause the death.
- **Protection against prosecution:** This power is further bolstered by Section 6 which provides that legal can be instituted against the officer, except with the previous sanction of the Central Government.

Supreme Court’s Observations over AFSPA

- These extra-judicial killings became the attention of the Supreme Court in 2016.

- It clarified that the bar under Section 6 would not grant “total immunity” to the officers against any probe into their alleged excesses.
- The judgment noted that if any death was unjustified, there is no blanket immunity available to the perpetrator(s) of the offense.
- The Court further noted that if an offense is committed even by Army personnel, there is no concept of absolute immunity from trial by the criminal court constituted under the CrPC.

Constitutionality of AFSPA

- Attempts have been made to examine the constitutionality of the Act on the grounds that it is contravention to the:
 1. **Right to Life and Personal Liberty** (Article 21) and
 2. **Federal structure** of the Constitution since law and order is a **State subject**

Recommendations to repeal AFSPA

(1) Justice B.P. Jeevan Reddy Commission

- The 2004 Committee headed by Justice B.P. Jeevan Reddy, the content of which has never officially been revealed by the Government, recommended that AFSPA be repealed.
- Additionally, it recommended that appropriate provisions be inserted in the Unlawful Activities Prevention Act, 1967 (UAPA) instead.
- It also recommended that the UAPA be modified to clearly specify the powers of the armed forces and paramilitary forces and grievance cells should be set up in each district where the armed forces are deployed.

(2) ARC II

- The Administrative Reforms Commission in its 5th Report on ‘Public Order’ had also recommended that AFSPA be repealed.
- It recommended adding a new chapter to be added to the Unlawful Activities Prevention Act, 1967.
- However, the recommendation was considered first and then rejected.

Controversies with AFSPA

(1) Sexual Misconduct by Armed Forces

- The issue of violation of human rights by actions of armed forces came under the consideration of the Committee on Amendments to Criminal Law (popularly known as Justice Verma Committee) set up in 2012.
- It observed that- in conflict zones, legal protection for women was neglected.

(2) Autocracy

- The reality is that there is no evidence of any action being taken against any officer of the armed forces or paramilitary forces for their excesses.

Caution given by the Supreme Court

A July 2016 judgment authored by Justice Madan B. Lokur in Extra Judicial Execution Victim Families Association quoted the “Ten Commandments” issued by the Chief of the Army Staff for operations in disturbed areas:

1. **Definite circumstances:** The “power to cause death is relatable to maintenance of public order in a disturbed area and is to be exercised under definite circumstances”.
2. **Declaration preconditions:** These preconditions include a declaration by a high-level authority that an area is “disturbed”.
3. **Due warning:** The officer concerned decides to use deadly force on the opinion that it is “necessary” to maintain public order. But he has to give “due warning” first.
4. **No arbitrary action:** The persons against whom the action was taken by the armed forces should have been “acting in contravention of any law or order for the time being in force in the disturbed area”.
5. **Minimal use of force:** The armed forces must use only the “minimal force required for effective action against the person/persons acting in contravention of the prohibitory order.”
6. **Empathy with perpetrators:** The court said that: the people you are dealing with are your own countrymen. All your conduct must be dictated by this one significant consideration.

7. **People friendliness:** The court underscored how the Commandments insist that “operations must be people-friendly, using minimum force and avoiding collateral damage – restrain must be the key”.
8. **Good intelligence:** It added that “good intelligence is the key to success”.
9. **Compassion:** It exhorted personnel to “be compassionate, help the people and win their hearts and minds. Employ all resources under your command to improve their living conditions”.
10. **Upholding Dharma (Duty):** The judgment ended with the final Commandment to “uphold Dharma and take pride in your country and the Army”.

MISCELLANEOUS

PM MATRU VANDANA YOJANA

In News:

The government's has recently announced that the maternity benefit programme which provides ₹5,000 for first child will be extended to cover the second child only if it is a girl.

Analysis of Background:

The Pradhan Mantri Matru Vandana Yojana (PMMVY):

- The Pradhan Mantri Matru Vandana Yojana (PMMVY), launched in 2017, provides ₹5,000 for the birth of the first child to partially compensate a woman for loss of wages.
- It is a **centrally sponsored scheme** being executed by the **Ministry of Women and Child Development**.
- **Direct Benefit Transfer Scheme:** Cash benefits are provided to pregnant women in their bank account directly to meet enhanced nutritional needs and partially compensate for wage loss.
- It also aims to improve the nutritional well-being of the mother and the child.
- Beneficiaries receive a cash benefit of Rs. 5,000 in three installments on fulfilling the following conditions:

- Early registration of pregnancy
- Ante-natal check-up
- Registration of the birth of the child and completion of first cycle of vaccination for the first living child of the family.
- It is **combined with another scheme, Janani Suraksha Yojana**, under which nearly ₹1,000 is given for an institutional birth, so that a woman gets a total of ₹6,000.
- Under the **revamped PMMVY under Mission Shakti**, the maternity benefit amounting to ₹6000 is also to be provided for the second child, but only if the second is a girl child, to discourage pre-birth sex selection and promote the girl child.
- **National Food Security Act, 2013 lays down that every pregnant woman and lactating mother are entitled to maternity benefits.**

COASTAL VULNERABILITY INDEX

In News:

Indian National Centre for Ocean Information Services (INCOIS) has carried out coastal vulnerability assessment for entire Indian coast at states level.

Analysis of Background:

Coastal Vulnerability Index (CVI)

- Under the CVI, INCOIS has brought out an Atlas comprising 156 maps on 1:1,00,000 scales to prepare a CVI.
- These maps determine the coastal risks due to future sea-level rise based on the physical and geological parameters for the Indian coast.
- The CVI uses the relative risk that physical changes will occur as sea-level rises are quantified based on parameters like:
 1. Tidal range
 2. Wave height
 3. Coastal slope
 4. Coastal elevation
 5. Shoreline change rate

6. Geomorphology
7. Historical rate of relative sea-level change

Other components: MHVM

- A coastal Multi-Hazard Vulnerability Mapping (MHVM) was also carried out using above mentioned parameters.
- These parameters were synthesized to derive the composite hazard zones that can be inundated along the coastal low-lying areas due to extreme flooding events.
- This MHVM mapping was carried for the entire mainland of India on a 1:25000 scale.
- These maps depict the coastal low-lying areas exposed to the coastal inundation.

Significance of CVI

- India has a coastline of 7516.6 Km i.e. 6100 km of mainland coastline plus coastline of 1197 Indian islands touching 13 States and Union Territories (UTs).
- Coastal vulnerability assessments can be useful information for coastal disaster management and building resilient coastal communities.

About INCOIS

- Indian National Centre for Ocean Information Services (INCOIS) is an autonomous body under Ministry of Earth Sciences (MoES).
- It has been issuing alerts on Potential Fishing Zone, Ocean State Forecast, Tsunami Early Warning, Storm Surge Early Warning, High Wave Alerts, etc.
- It works through a dedicated ocean modeling, observations, computation facilities and the marine data center.

INDIA'S FIRST WATER TAXI SERVICE

In News:

India's first water taxi service was inaugurated in Maharashtra connecting the Navi Mumbai area to mainland Mumbai.

Analysis of Background:

What's a water taxi?

- A water taxi is used to provide public or private transport, usually, but not always, in an urban environment.
- The earliest water taxi service was recorded as operating around the area that became Manchester, England.
- Water taxis are most popular in Venice where most people use the taxi to navigate the waterways.
- Route of the water taxi for Mumbai: The water taxis will operate on three routes,
 - Domestic Cruise Terminal at Ferry Wharf, Mazgaon and the terminals at Belapur
 - Belapur and Elephanta Caves
 - Belapur and Jawaharlal Nehru Port Trust

NEED FOR INTEGRATED APPROACH TO POWER SECTOR

In News:

Electricity and development sectors need a more integrated approach to achieve the vision set forth in instruments such as the Union Budget that guide policy implementation at other administrative levels.

Analysis of Background:

Reduction in allocation

- While the health sector witnessed a 16% increase in estimated Budget allocations from last year, medical and **public health spending was reduced by 45% for 2022-23.**

- Budget estimates demonstrate intent, but the proof of the pudding lies in the actual expenditure which reiterates the need for greater attention to be paid to our health and education sectors.
- While the health sector was **allocated ₹74,602 crore in 2021-22**, the Government exceeded its spending by over ₹5,000 crore more (₹80,026 crore) on health, signalling a spike in demand, likely propelled by the ongoing COVID-19 pandemic.
- Given this scenario, a less than ₹1,000 crore increase in the Budget Estimate (₹86,606 crore) in 2022-23 when compared with last year's Revised Estimates (₹85,915 crore) appears **incongruent with the Government's aim of providing quality public health care at scale.**

Role of reliable energy

- It is widely recognised that the availability of reliable electricity supply can **improve the delivery of health and education services.**
- 74% of the targets of the Sustainable Development Goals are interlinked with universal access to reliable energy.
- Its reliability in terms of the number of hours that electricity is available steadily without any voltage fluctuations also plays a significant role in delivering services.
- Sometimes, **multiple policies can complement each other** to achieve the larger sectoral objectives.
- For example, in Assam, the Energy Vision document that lays out the electricity and development outcomes is to be applied in tandem with the **Solar Energy Policy 2017** that operationalises this vision via an action plan.

Reasons for lack of integration of electrification in the development sector

- The lack of integration of electrification requirements in development sector policy documents may be partly due **to lack of information about electricity and development linkages, poor coordination mechanisms** between the sectors and departments, and poor access to appropriate finance.
- Even while electricity is considered, it is to the limited extent of being a one-time civil infrastructure activity rather than a continuous feature necessary for the day-to-day operations of these services.

Way forward

- To successfully integrate electricity provisioning and maintenance, policy frameworks should include innovative coordination and financing mechanisms.
- These mechanisms, while developing clear compliance mandates, must also allow sufficient room for flexibility to respond to local contexts.
- Providing reliable electricity for health centres and schools should be the **responsibility of centralised decision-making entities at the State or national level.**
- As India has witnessed with other cross-sectoral and centralised statistical, planning, and implementation data governance, diverse contexts must support **oversight mechanisms that ensure data credibility.**
- Finance is largely unavailable to ensure reliable electricity supply to schools and health facilities.
- Some directives, such as those governing the use of untied funds, **need to be more flexible** in allowing these facilities to prioritise providing reliable and sustainable electricity.

ECONOMIC SURVEY AND BUDGET SPEECH TOPICS



CROP DIVERSIFICATION

News in Economic Survey: Centre has adopted MSP, but States must facilitate crop shift' says MSP panel in Economic Survey.

Brief information about Crop Diversification:



RECOMMENDATIONS:-

-  Shift focus towards harnessing potential of allied activities like animal husbandry, dairying and fisheries
-  Develop and implement small holding farm technologies to improve productivity of small and marginal farmers
-  Prioritize crop diversification towards oilseeds, pulses and horticulture
-  Coordinated action from State Governments needed to facilitate shift to high value and less water consuming crops

- There is an urgent need for **crop diversification** in view of the **severe water stress** in areas where paddy, wheat and sugarcane are grown as well as to increase oil seed production and reduce dependency on imports of cooking oil.
- While the Centre had adopted minimum support prices (MSP) for farm produce as a key tool to encourage crop diversification, the onus was on States to take coordinated action to facilitate a shift towards crops with higher value and lower water consumption.

- The survey urged for an **increase in funding for agricultural research rather than farm subsidies**, noting that “every rupee spent on agricultural research and development yields better re- turns compared subsidies.
- The government noted that agriculture continued to be a major driver of the economy in the pandemic era, with the **sector’s growth rate rising from 3.6% in 2020-21 to 3.9% in 2021-2022.**

Crop Diversification Definition:

Crop diversification refers to the **addition of new crops or cropping systems to agricultural production** on a particular farm taking into account the different returns from value- added crops with complementary marketing opportunities.

Benefits:

- ✓ Increases Farmers’ income:
- ✓ Increases natural biodiversity and productivity
- ✓ Reduces the risk of total crop failure
- ✓ Food security:
- ✓ Access to national and international markets
- ✓ Manage price risk.
- ✓ Conservation:

CROSS-BORDER INSOLVENCY

News in Economic Survey:

The Economic Survey 2021-22 has called for a standardized framework for cross-border insolvency as the Insolvency and Bankruptcy Code (IBC) at present does not have an instrument to restructure firms involving cross-border jurisdictions.

About IBC and Cross Border insolvency:

What is the Insolvency and Bankruptcy Code (IBC)?

- The IBC, 2016 is the bankruptcy law of India that seeks to consolidate the existing framework by creating a single law for insolvency and bankruptcy.
- It is a one-stop solution for resolving insolvencies which previously was a long process that did not offer an economically viable arrangement.
- The code aims to protect the interests of small investors and make the process of doing business less cumbersome.

Cross-border insolvency proceedings:

- Cross-border insolvency proceedings are relevant for the resolution of distressed companies with assets and liabilities across multiple jurisdictions.
- A framework for cross border insolvency proceedings allows for:
 1. Location of such a company's foreign assets
 2. Identification of creditors and their claims
 3. Establishing payment towards claims and
 4. Process for coordination between courts in different countries

Current status of foreign stakeholders and courts in other jurisdictions under IBC:

- Foreign creditors can make claims against a domestic company.
- However, the IBC currently does not allow for automatic recognition of any insolvency proceedings in other countries.
- Current provisions do not allow Indian courts to address the issue of foreign assets of a company being subjected to parallel insolvency proceedings in other jurisdictions.

What is the UNCITRAL Model?

- The UNCITRAL model is the most widely accepted legal framework to deal with cross-border insolvency issues.
- It has been adopted by 49 countries, including the UK, the US, South Africa, South Korea and Singapore.
- It is designed to assist States in reforming and modernizing their laws on arbitral procedure so as to take into account the particular features and needs of international commercial arbitration.

UNCITRAL:

- It is an affiliate organization to the UN made up of business and legal professionals.
- This group develops model standards and procedures for dealing with issues affecting international business.
- Perhaps most notably, UNCITRAL promulgated the Convention on International Sale of Goods (CISG).
- The CISG is a model law commonly used as the governing provisions in contracts between parties from different nations.

Key provisions:

This law works on four main principles: **access, recognition, cooperation and coordination:**

1. **Direct access to foreign insolvency professionals and foreign creditors** to participate in or commence domestic insolvency proceedings against a defaulting debtor.
2. **Recognition of foreign proceedings & provision of remedies.**
3. **Cooperation between domestic and foreign courts & domestic and foreign insolvency practitioners.**
4. **Coordination between two or more concurrent insolvency proceedings in different countries:** The main proceeding is determined by the concept of Centre of Main Interest (COMI).

Implications for India:

- The framework for cross border insolvency adopted in India may like in the case of some other countries require reciprocity from any country which seeks to have its insolvency proceedings recognised by Indian courts.
- This would allow Indian proceedings for foreign corporate debtors to be recognised in foreign jurisdictions.

How is IBC different from the model law?

- Many countries that adopt the UNCITRAL model law do make certain changes to suit their domestic requirements.

- The Indian cross border insolvency framework exclude financial service providers from being subjected to cross border insolvency proceedings.
- This is because many countries exempt businesses providing critical financial services, such as banks and insurance companies, from the provisions of cross- border insolvency frameworks.

GOVT. ON TRACK TO MEET THE FY22 FISCAL DEFICIT TARGET

News in Economic Survey: The Centre is well on track to meeting its fiscal deficit target for the current fiscal on the back of a robust rebound in tax revenues, as per the Economic Survey for 2021-22.



Brief About Fiscal Deficit Target:

- The agile fiscal policy approach adopted by the Central Government, coupled with the buoyant revenue collection received so far this year, has created headroom for taking up additional fiscal policy interventions based on the need of the evolving situation.
- In Budget 2021-22, Finance Minister Nirmala Sitharaman had, in the wake of the Covid-19 pandemic, disbanded the government's fiscal consolidation

roadmap to reach a fiscal deficit of 3 per cent of GDP, but announced its medium-term objective to reduce the fiscal deficit to 4.5 per cent of GDP by 2025-26. She had pegged the fiscal deficit target at 6.8 per cent of GDP for 2021-22 against 9.2 per cent in the previous fiscal.

- In the first eight months of the current fiscal, the Centre's fiscal deficit stood at 46.2 per cent of the full-year target.
- As per IMF's latest World Economic Outlook projections, India's real GDP projected to grow at 9 percent in 2021-22 and 2022-23 and at 7.1 percent in 2023-2024, which would make India the fastest growing major economy in the world for all 3 years.
- Agriculture and allied sectors expected to grow by 3.9 percent; industry by 11.8 percent and services sector by 8.2 percent in 2021-22.
- On demand side, consumption estimated to grow by 7.0 percent, Gross Fixed Capital Formation (GFCF) by 15 percent, exports by 16.5 percent and imports by 29.4 percent in 2021-22.
- The Economic Survey noted that India's public debt portfolio is "stable and also sustainable".
- "Public debt portfolio exhibits low currency and interest rate risk owing to low reliance on external borrowing and issuance of majority of securities at fixed coupon rate. Further, most of the external borrowing are from official sources which are of long term and concessional in nature.

AGILE APPROACH

News in Economic Survey: The central theme of this year's Economic Survey is the “**Agile approach**”, implemented through India's economic response to the COVID-19 Pandemic shock.

About Agile Approach:

- The preface of Economic Survey states that the “Agile approach” is **based on feed-back loops, real-time monitoring of actual outcomes, flexible responses, safety-net buffers** and so on.
- The Economic Survey 2021-22 argues that the “Agile framework: is particularly relevant today because of the explosion of real-time data that allows for constant monitoring.
- Such information includes GST collections, digital payments, satellite photographs, electricity production, cargo movements, internal/external trade, infrastructure roll-out, delivery of various schemes, mobility indicators etc.

What is an Agile Framework?

- It is a framework for project and policy implementation that is considered highly efficient for getting work done.
- It was developed in 2001 and is based on 12 principles, which include customer satisfaction, collaboration, adapting to change, feed- back loops and breaking project silos.

What was the framework that India followed earlier?

- India and most countries across the world typically follow the **Waterfall Approach**. This involves analysis of the issue, detailed planning and meticulous implementation.
- **India's earlier five-year plans were based on this.**
- Waterfall Framework is linear and is developed systematically from phase to phase.
- This approach works best for projects with concrete timelines, well-defined deliverables and little uncertainties.

Why is the Agile Framework preferred today?

- Real time availability of data allows constant monitoring of a policy at a time when there are lot of uncertainties helps governments to adopt the Agile Framework.
- The Short term policy responses can be tailored to an evolving situation rather than what a model may have predicted.
- **Is the Agile Framework economical to implement?**
- According to some studies, projects implemented through Agile Framework are **four times cheaper** than a similar project implemented through Waterfall Strategy.

MOVE OVER BENGALURU- DELHI IS NOW START-UP CAPITAL

News in Economic Survey: Delhi has replaced Bangalore as the start-up capital of India, according to the Economic Survey 2021-22.

Brief about Bengaluru to Delhi Start-Up Capital Project:

- The national capital added over 5,000 recognised start-ups compared to the 4,514 start-ups added in India's software capital between April 2019 and December 2021.
- Maharashtra emerged the State with the highest number of recognised start-ups with 11,308 ventures.
- Gurgaon and Noida are drivers of this trend with their cosmopolitan neighbourhoods, co-working spaces, affordable rentals, and access to the largest urban MRT system in the country.
- Several things have combined to build this momentum in favour of Delhi-NCR.
 - The early set of successful internet entrepreneurs from Delhi-NCR sparked a lot of enthusiasm and aspiration among younger people.

- They were then followed by the next wave of success that included Zomato, Policybazaar, PayTM, etc., which have gone all the way to IPO.
- Delhi as the start-up capital seemed to rest **primarily on the number of recognised start-ups registered in Delhi** over Bengaluru over a 33-month period.
- The Economic Survey noted that **India had a record number of start-ups (44) reach Unicorn status in 2021, and overtook the UK to emerge the No 3 country by number of unicorns after the US and China.** As of January 14, 2022, India had 83 unicorns with a total valuation of \$277.77 billion.

GOVT SWAPS ₹1.2-LAKH-CR G-SECS OIL BONDS

News in Budget: In the run-up to the Budget for FY23, the Union government did a conversion transaction for G-Secs and oil bonds with RBI on January 28 for ₹1,19,701 crore.

About the news:

- The transaction involved **buying back securities** maturing in FY2022-23, FY2023-24 and FY2024-25 from the RBI and issuing fresh securities for equivalent market value, to make the transaction **cash-neutral**.
- Conversion of G-Secs maturing in the next three financial years into new G-Secs maturing at a later date will ease the redemption pressure on the government.
- Of the six G-Secs (aggregating ₹63,648 crore) maturing in 2022, three each were converted into G-Secs maturing in 2028 and 2029, respectively.
- The GoI Floating Rate Bond maturing in 2024 (aggregating ₹27,330 crore) has been converted into a G-Sec maturing in 2035.

Oil bonds:

- Six oil bonds maturing between 2023 and 2025, were converted into G-Secs maturing in 2030

- The oil bonds were issued by the previous UPA regime as compensation to oil marketing companies in lieu of cash subsidies.
- Bidding in the auction for conversion implies that the market participants agree to sell the source security/ies to the government and simultaneously agree to buy the destination security from the government.

CLEAN ENERGY STORAGE 'KEY TO NET ZERO PLAN'

News in Budget: The government's move to ensure a committed supply of raw material, especially for renewable energy (RE) and e- mobility sectors.

About:

- The recent surge in prices of natural gas in Europe due to high energy demand, coupled with cold spells across the region and slower winds to run wind turbines, have resulted in lower electricity output.
- The energy crisis being experienced by Europe brings to the fore the need to have a diversified mix of sources of energy, with fossil fuels as an integral part.
- India is working on acquiring mines of strategic minerals such as lithium and cobalt in producing countries like Australia and Lithium Triangle (Argentina, Bolivia and Chile).
- As India prepares a roadmap for net zero carbon emissions by 2070, the transformation is "mineral-intensive" and it is "pertinent" that government policy addresses the issue of supply of metals used for making solar PV modules and storage batteries, Economic Survey said.
- The **World Bank**, in its report '**Minerals for Climate Action**', has mentioned that the transition from conventional fossil fuel-based energy to clean energy as well as battery storage will be more mineral-intensive.
- Minerals and metals like copper, aluminium, iron, manganese, nickel, etc are critical for developing clean energy sources like solar photo- voltaic

(PV), wind, nuclear, while minerals like lithium and graphite are important for energy storage.

- The inelastic supply of minerals is already increasing the prices of minerals which are likely to shoot up in the future.
- The Survey also recommended encouraging R&D to ensure effortless switch to renewable sources of energy, which may also include focus on developing technology that recycles, re-uses and repurposes minerals.

CAPITAL MARKETS MORE IMPORTANT THAN BANKS FOR ECONOMIC REVIVAL

News in Economic Survey: The Survey says that capital markets have been more important than banks for the economy's revival in the current fiscal.

About Economic Revival:

- It pointed out that the current financial year proved to be exceptional for primary markets with a boom in fund-raising through IPOs by many new-age companies/tech start-ups/unicorns.
- In 2021-22, the risk capital (that is money raised from capital markets) has so far been more important than the banks in providing finance to the revival. Overall, debt mobilisation slowed, in contrast with the equity market said the Survey.
- Corporate bonds
 - On the debt side, funds raised through corporate bonds was around ₹3.7-lakh crore in April- November 2021 which declined compared to ₹4.9-lakh crore mobilised during April-November 2020.

A primary market is a source of new securities. Often on an exchange, it's where companies, governments, and other groups go to obtain financing through debt-based or equity-based securities.

- In the primary market, new stocks and bonds are sold to the public for the first time.

- In a primary market, investors are able to purchase securities directly from the issuer.
- Types of primary market issues include an initial public offering (IPO), a private placement, a rights issue, and a preferred allotment.
- Stock exchanges instead represent secondary markets, where investors buy and sell from one another.
- After they've been issued on the primary market, securities are traded between investors on what is called the secondary market—essentially, the familiar stock exchanges.

NON-FARMING BUSINESSES

News in Budget:

The allocation for the Ministry of Fisheries, Animal Husbandry and Dairying was increased by 23 per cent to ₹4,820.82 crore during 2021-22 (BE) from ₹3,918.31 crore during 2020-21 (RE).

About Non-Farming Business:

Animal husbandry:

- **Animal husbandry** refers to livestock raising and selective breeding. It is the management and care of animals in which the genetic qualities and behaviour of animals are further developed for profit.

A large number of farmers depend upon animal husbandry for their livelihood. It supports the livelihood of almost 55% of the rural population.

India is the highest livestock owner of the world:

- **As per the 20th Livestock Census**, the total Livestock population is **535.78 million in the country showing an increase of 4.6% over Livestock Census-2012.**

Animal rearing has multidimensional potential:

- **For instance, Operation Flood, launched in 1970,** helped dairy farmers direct their own development, increased milk production (“**a flood of milk**”), augmented rural incomes and ensured reasonable prices for consumers.

Dairy sector:

- With the help of **White Revolution**, India has transitioned from a milk-deficient country to the largest producer of milk globally.
- The **Anand model (Amul)**, which has been replicated across the country, boosted milk production.
- Harvesting animals for dairy and animal-based products is crucial for food security, poverty alleviation and other social needs.
- Harvesting animals for dairy and animal-based products in India is a **major source of livelihood for 150 million dairy farmers.**
- The dairy sector **accounts for 4.2%** of the national gross domestic product.
- Dairy sector is the **second-largest employment sector** after agriculture in India.

Fisheries:

- Fisheries and aquaculture are an important source of food production, nutritional security, employment, and income in India.
- **The fisheries sector is a direct source of livelihoods for more than 20 million fishers and fish farmers; contributes INR 1.75 trillion annually** to the gross value added to India’s economy; and is a major export earner, with fish being one of the most important agricultural commodities to be exported from India.
- **Blue Revolution, the Neel Kranti Mission** has the vision to achieve economic prosperity of the country and the fishers and fish farmers as well as contribute towards **food and nutritional security through full potential utilization of water resources for fisheries development** in a sustainable manner, keeping in view the bio-security and environmental concerns.

Status of Indian fisheries:

- Fisheries are the primary source of livelihood for several communities.
- **India is the world's second-largest fish producer** with exports worth more than **Rs 47,000 crore**.
- Fisheries are the country's **single-largest agriculture export**, with a growth rate of **6 to 10 per cent in the past five years**.
- Its significance is underscored by the fact that the growth rate of the **farm sector in the same period is around 2.5 per cent**.
- It has a marine fisher population of **5 million**; **10.5 million** people are engaged in inland fishery and fish farming.
- **The investment of Rs 3,000 crore in the Blue Revolution** is being supplemented through the **Rs 7,523-crore Fisheries and Aquaculture Infrastructure Development Fund**. This will meet the capital investment requirement of this sector.
- The productivity of freshwater fish farms has gone up to **more than 3 metric tonnes per hectare from the 2.5 tonnes per hectare**.
- Productivity of brackish water coastal aquaculture has **touched 10 to 12 metric tonnes per hectare** — a sharp increase from the previous **two to four tonnes per hectare**.
- The marine fishery potential in the Indian waters have been estimated at **31 MMT constituting about 43.3% demersal, 49.5% pelagic and 4.3% oceanic groups**.

FDI IN FOOD PROCESSING:

Issue:

FDI in food processing surged 86% in April-Sept FY22.

Analysis of Background:

- The food processing sector witnessed a surge in Foreign Direct Investment (FDI) inflows in FY22 after it had recorded a massive dip in inflows in the previous fiscal.
- **According to the Survey, FDI in the food processing sector in April-September 2021-22 stood at \$410.62 million.**
- **This was up 86 per cent compared to the corresponding period in the previous year.**
- FDI inflows in the sector in the **April-September period in 2020-21 was at \$220.42 million.**
- Overall, in FY21, FDI inflows in the sector had declined by about 56 per cent to about \$393.4 million from \$904.7 million in FY 2019-20. The massive dip was likely due to the pandemic outbreak in the year.
- “The sector has witnessed **FDI equity inflow of \$4.99 billion during the period April 2014 to September 2021.**
- **The FDI equity inflow in sector during April to September 2021 was \$410.62 million in comparison to \$220.42 million in the corresponding period last year,” the Survey said.**
- **The government allows 100 per cent FDI in the food processing sector under the automatic route.**
- However, in case of trading of food products manufactured or produced in India, including through e-commerce, 100 per cent FDI is allowed under the Government approval route.

Food processing:

- Food processing sector in India is a **composite sector comprising two broad segments viz. organized and unorganized segments.**
- **There are an estimated 25-lakh micro food processing enterprises in the country, which are unorganized and unregistered.**
- **With 7% of investment in plant & machinery, the unorganized enterprises contribute of 74.3% of employment (a third of which are women), 12% of output and 27% of value addition in the food-processing sector.**

- **Nearly 66 per cent of these units** are located in rural areas and **about 80 per cent of them are family-based enterprises.**
- The organized sector with **nearly 40,000 units** accounts for **93%** of the plant & machinery in the sector, in value terms.
- This segment accounts for **26% of employment** and **contributes around 90% of output and 72% GVA**

Government initiatives:

The various component schemes under **PMKSY** being implemented by the **Ministry include,**

- Mega food parks,
- Integrated cold chain and value addition infrastructure,
- Infrastructure for agro-processing clusters,
- Creation of backward and forward linkages,
- Creation and expansion of food processing and preservation capacities,
- Operation Greens and
- Food Testing Laboratories.

INDIA RANKS THIRD GLOBALLY IN FOREST AREA GAIN: SURVEY

About Forest area in india:

- **India has increased its forest area in the past decade and ranks third globally in average**
- India annually **added an average 2,66,000 hectares** of forest area over the period.
- **Forests covered 24% of India's geographical area, accounting for 2% of the world's total forest area in 2020,** the department said.

- The top 10 countries account for 66% of the world's forest area. **Brazil (59%), Peru (57%), Democratic Republic of Congo (56%) and Russia (50%)** have half or more of their geographical area under forests.
- **“Much of India's increase in forest cover from 2011-21 is attributed to enhancement in very dense forest cover, which rose by approximately 20%,”** the DEA said.
- Social forestry could also play a **significant role in this regard,”** said the report.

Social forestry:

- **Social forestry is the management and development of forests with afforestation on barren lands to achieve environmental benefit and rural development.**
- The term was first used by **National Commission on Agriculture, Government of India, in 1976.**
- It was then that India embarked upon a social forestry project with the aim of taking the pressure off the forests and making use of all unused and fallow land.

FDI IN PHARMA

News in Economic Survey:

FDI in pharma jumped 53% in April-Sept. period FY21 witnessed a 200% spurt: Survey.

Analysis of Pharma industry investments:

- **Foreign direct investment (FDI) in the pharma sector** in the first half (April-September) of this fiscal increased 53% to ₹4,413 crore from the year earlier.
- The inflows continued to be buoyant, the **Department of Economic Affairs said in the annual Economic Survey (2021-22) citing how FDI in**

pharmaceutical sector had witnessed a sudden spurt in 2020-21, **showing a 200% increase over the previous fiscal.**

- The extraordinary growth of foreign investments in pharma sector is mainly on account of investments to meet COVID-19 related demands for the rapapeutics and vaccines.

Reasons for surplus:

- In the section on pharmaceuticals, **the government said the country was the largest supplier of generic medicines with a 20% share in the global supply.**
- Price competitiveness and good quality were two factors behind Indian medicines producers becoming dominant players in the global market.
- The Indian pharmaceutical **industry ranks third in the world** in pharmaceutical production by volume.
- **During 2020-21, pharma exports totalled \$24.4 billion**, while pharma import stood at **\$7 billion**, there by generating a **\$17.5 billion** trade surplus.

Scenario of Indian pharma industry:

- India enjoys an important position in the **global pharmaceuticals sector, as India is the largest provider of generic drugs globally.**
- The Indian pharmaceutical industry meets over **50% of global demand for various vaccines, 40% of generic demand in the U.S. and 25% of all medicine in the U.K.**
- Presently, **over 80% of the antiretroviral drugs** used globally to combat AIDS (Acquired Immune Deficiency Syndrome) are supplied by Indian pharmaceutical firms.
- In 2020, India is expected to be amongst the top three pharmaceutical markets in terms of incremental growth.

- The Indian pharmaceuticals market is the **world's third-largest in terms of volume and thirteenth-largest in terms of value**. It has established itself as a global manufacturing and research hub.
- India has one of the lowest manufacturing costs in the world – **lower than that of the U.S. and almost half of the cost in Europe**.

ETHANOL BLENDING

News in Economic Survey:

The ethanol supply in the country to enable blending with petrol is likely to reach 302 crore litres, according to the Economic Survey 2021-2022.

About Ethanol Blending:

- The Centre has set a **target of 20% ethanol blending** with petrol to be **achieved by 2025** to reduce the country's crude oil import bill, give a boost to the agriculture sector and reduce environmental pollution.
- **Ethanol supply under the Ethanol Blended Petrol (EBP) Programme** is expected to **exceed 302 crore litres by the end of Ethanol Supply Year (ESY) 2020-2021 (December 1, 2020 -November 30, 2021)** to achieve approximately **1% blending**, the Survey noted. This is an increase of **74.5%** compared with the previous year.
- **The ethanol blending target for ESY 2021-22 is 10%.**
- The government last year notified mass emission standards for **E12 (12% ethanol blended with petrol)** and **E15 (15% ethanol blended with petrol)** to enable the automobile industry to **manufacture E12- and E15-compliant motor vehicles**.

Ethanol blending programme:

- The Ministry of Petroleum & Natural Gas (MoP & NG) vide its notification dated 20th September, 2006 directed the Oil Marketing Companies (OMCs) to sell 5% Ethanol Blended Petrol subject to commercial viability as per Bureau of Indian Standards specifications in notified 20 States and 4 UTs with effect from 1st November, 2006.

- At present, this programme has been extended to whole of India except Union Territories of Andaman Nicobar and Lakshadweep islands with effect from 01st April, 2019 wherein OMCs sell petrol blended with ethanol up to 10%.

DESIGN LINKED INCENTIVE (DLI) SCHEME

Issue: India has invited applications from 100 domestic companies, startups and small and medium enterprises to become a part of the design-linked incentive (DLI) scheme.

DESIGN LINKED INCENTIVE (DLI) SCHEME

Fiscal support from Government of India:

- Product Design Linked Incentive - Reimbursement of up to 50% of the eligible expenditure subject to a ceiling of ₹15 Crore per application
- Deployment Linked Incentive - Incentive of 6% to 4% of net sales turnover over 5 years subject to a ceiling of ₹30 Crore per application will be provided to approved applicants

C-DAC to establish the semiconductor design infrastructure under the scheme and make available to the supported companies

Tenure of Scheme:
5 years starting from 01.01.2022

Beneficiaries:
100 Domestic semiconductor design companies

What is the DLI scheme?

- The DLI scheme aims to provide financial and infrastructural support to companies **setting up fabs or semiconductor making plants in India.**

- It aims to attract existing and global players as it will support their expenditures related to design software, IP rights, development, testing and deployment.
- Centre for Development of Advanced Computing (CDAC), a scientific society operating under MeitY, will serve as the nodal agency for the implementation of the DLI scheme.

Components of the scheme:

It has three components which are

1. **Chip Design infrastructure support:** C-DAC will set up the India Chip Centre to host the state-of-the-art design infrastructure (viz. EDA Tools, IP Cores and support for MPW (Multi Project Wafer fabrication) & post-silicon validation) and facilitate its access to supported companies.
2. **Product Design Linked Incentive:** Reimbursement of up to 50% of the eligible expenditure subject to a ceiling of Rs. 15 Crore per application will be provided as fiscal support to the approved applicants who are engaged in semiconductor design.
3. **Deployment Linked Incentive:** An incentive of 6% to 4% of net sales turnover over 5 years subject to a ceiling of 30 Crore per application will be provided to approved applicants whose semiconductor design for Integrated Circuits (ICs), Chipsets, System on Chips (SoCs), Systems & IP Cores and semiconductor linked design are deployed in electronic products.

Why need such a scheme?

- The semiconductor industry is growing fast and can reach \$1 trillion dollar in this decade. India can grow fast and reach \$64 billion by 2026 from \$27 billion today.
- Mobiles, wearables, IT and industrial components are the leading segments in the Indian semiconductor industry contributing around 80% of the revenues in 2021.
- The mobile and wearables segment is valued at \$13.8 billion and is expected to reach \$31.5 billion in 2026.

A boost to semiconductor manufacturing:

- The sudden surge in demand of chips and semiconductor components has underpinned the need to establish a robust semiconductor ecosystem in India.
- Several sectors, including auto, telecom, and medical technology suffered due to the unexpected surge leading to the scarcity of chips manufactured by only a few countries.
- The inception of new companies will help in meeting the demand and supply and encourage innovation in India.

What are other countries doing to be dominant in the race of chip making?

- Currently, semiconductor manufacturing is dominated by companies in the U.S., Japan, South Korea, Taiwan, Israel and the Netherlands.
- They are also making efforts in solving the chip shortage problem.
- US wants to bring manufacturing back to America and reduce the country's reliance on a small number of chipmakers based largely in Taiwan and South Korea.
- These chipmakers produce up to 70% of the world's semiconductors.

Challenges in India:

- **No incubation:** In India, more than 90% of global companies already have their R&D and design centres for semiconductors but never established their fabrication units.
- **Strategic sector:** Although India has semiconductor fabs in Mohali and Bangalore, they are purely strategic for defence and space applications only
- **Capital requirement:** Setting up fabs is capital intensive and needs investment in the range of \$5 billion to \$10 billion.
- **Lack of supportive policies:** Lack of investments and supportive government policies are some of the challenges to set up fabs in India.
- **Geopolitical limitations:** A combination of capital and the geopolitical situation comes into play to build new fabs.

PRESIDENT QUOTES THIRUKKURAL WHILE ADDRESSING PARLIAMENT

News: President Ram Nath Kovind quoted a couplet from Thirukkural while addressing the joint Houses of Parliament for Budget Session.

Analysis of Background:

What did the President quote?

- '*Karka Kasadara Karpavai Kattrapin Nirka Atharku Thaka*' was the couplet chosen by him to reiterate the importance of the New Education Policy.
- The couplet insists on thorough and flawless learning and adhering to what one has learnt.

What is Thirukkural?

- The Tirukkural (meaning 'sacred verses'), or shortly the Kural, is a classic Tamil language text consisting of 1,330 short couplets, or kural, of seven words each.
- The text is divided into three books with aphoristic teachings on virtue (aram), wealth (porul) and love (inbam), respectively.
- Considered one of the greatest works ever written on ethics and morality, it is known for its universality and secular nature.

Three major parts of the book

- **Aram** : Book of Virtue (Dharma), dealing with moral values of an individual and essentials of yoga philosophy
- **Porul** : Book of Polity (Artha), dealing with socio-economic values, polity, society and administration
- **Inbam**: Book of Love (Kama), dealing with psychological values and love

Who authored it and when?

- Its authorship is traditionally attributed to Valluvar, also known in full as Thiruvalluvar.
- The text has been dated variously from 300 BCE to 5th century CE.
- The traditional accounts describe it as the last work of the third Sangam, but linguistic analysis suggests a later date of 450 to 500 CE and that it was composed after the Sangam period.

Cultural significance of Thirukkural

- The Kural is traditionally praised with epithets and alternative titles, including “the Tamil Veda” and “the Divine Book.”
- Written on the foundations of ahimsa, it emphasizes non-violence and moral vegetarianism as virtues for an individual.
- In addition, it highlights truthfulness, self-restraint, gratitude, hospitality, kindness, goodness, duty, giving, and so forth.
- It covers a wide range of social and political topics such as king, ministers, taxes, justice, forts, war, greatness of army and soldier’s honor.
- It emphasizes death sentence for the wicked, agriculture, education, abstinence from alcohol and intoxicants.
- It also includes chapters on friendship, love, sexual unions, and domestic life.



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