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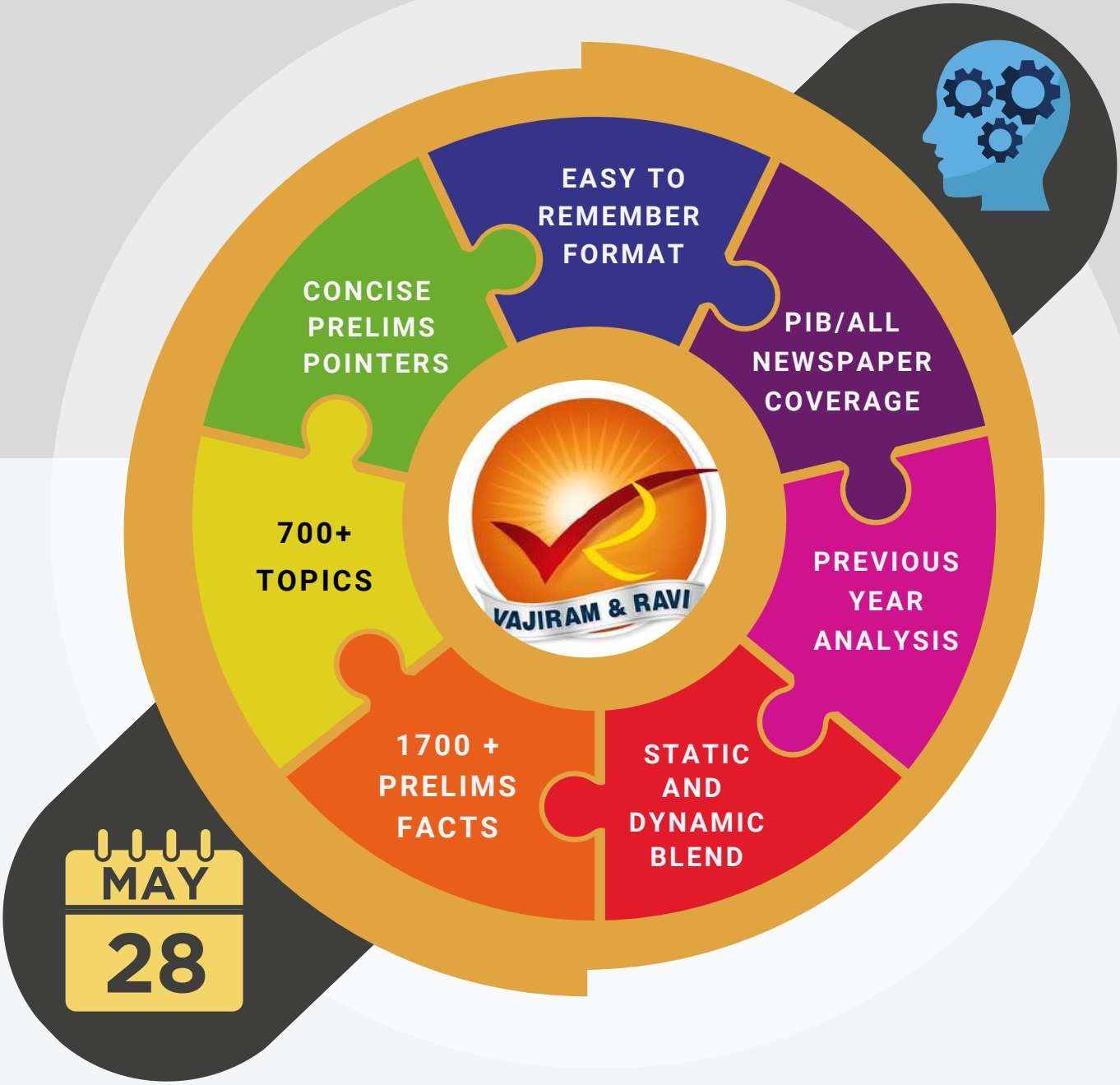

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- ANEURYSM
- FIBERISATION
- SEROTONIN
- INS SINDHUDHVAJ
- CHINOOK HELICOPTER
- INFLATED AERODYNAMIC DECELERATOR (IAD)
- QIMINGXING-50
- MINUTEMAN III
- LONG RANGE RADIO (LORA)
- COFFEE-RING EFFECT
- VERY SHORT-RANGE AIR DEFENSE SYSTEM (VSHORADS) MISSILE
- DART MISSION
- RASHID ROVER
- INDIA'S 1ST DARK SKY RESERVE (DSR)
- PARTNERSHIP BETWEEN ONEWEB AND NSIL
- LCH PRACHAND
- VYOMMITRA
- SUPER APP
- KUAFU-1
- CYBER-KNIFE SYSTEM
- NEXT-GEN LAUNCH VEHICLE (NGLV)
- KAMIKAZE DRONE
- RUSTOM-2
- PILLARS OF CREATION (POC)
- SAMPURNANAND TELESCOPE
- HAWK AIR DEFENSE
- DIRTY BOMB
- ANTI-RADIATION MISSILE
- STANDALONE VS NON-STANDALONE MODE OF 5G TECHNOLOGY
- QUANTUM ENTANGLEMENT
- BECQUEREL, GRAY, SIEVERT
- GAMMA RAY BURSTS (GRB)
- VERY LARGE-SCALE INTEGRATION (VLSI)
- EMIT MISSION
- CORONAL HOLES
- LONG MARCH 5B ROCKET
- FALCON HEAVY ROCKET
- VIKRAM-S
- CHALLENGER SPACESHIP DISASTER
- POLLUTED WHITE DWARF STARS
- GOOGLE'S 1,000 LANGUAGE AI MODEL
- OCEANSAT-3 EARTH OBSERVATION SATELLITE-6 (EOS-6)
- BLUEBUGGING
- WHY DOES THE MOON TURN RED DURING A LUNAR ECLIPSE?
- PHOTONIC CRYSTALS
- GRAM-NEGATIVE BACTERIA
- TZIELD
- NARCO TEST
- MEASLES
- CORDY GOLD NANOPARTICLES (COR-AUNPS)
- XENOTRANSPLANTATION
- MYOSITIS
- CAR T CELLS
- ORS
- TROPONIN
- GENE DRIVE
- DIETHYLENE GLYCOL (DEG) AND ETHYLENE GLYCOL (EG)
- LECANEMAB
- ADDERALL
- PLANT BASED MEAT
- STORING SPENT NUCLEAR FUEL
- PIVOT
- MARBURG VIRUS DISEASE
- WOLBACHIA
- WORLD ZOONOSES DAY
- LARGE HADRON COLLIDER (LHC)
- SINGLE-CRYSTALLINE SCANDIUM NITRIDE (SCN)
- OCEAN THERMAL ENERGY CONVERSION PLANT (OTEC)
- BIOENGINEERED CORNEA IMPLANT
- POLYCYCLIC AROMATIC HYDROCARBONS (PAHS)
- MIST SUBMARINE CABLE NETWORK
- TALC AND ASBESTOS
- CAR-T THERAPY
- APOBEC PROTEIN IN HUMAN BODY
- SICKLE CELL DISEASE (SCD)
- NATIONAL AUTOMATED FINGERPRINT IDENTIFICATION SYSTEM (NAFIS)
- BIOENGINEERED CORNEA IMPLANT
- FACIAL RECOGNITION TECHNOLOGY (FRT)
- ADVANCED TOWED ARTILLERY GUN SYSTEM (ATAGS)
- BUTTERFLY MINE
- VASCULITIS
- AGM-88 HARM
- LANGYA HENIPAVIRUS (LAYV)
- HELLFIRE R9X MISSILE
- AFRICAN SWINE FEVER (ASF)
- CSA6 GENE
- INCOVACC
- ANTI-RADIATION PILLS
- LASSA FEVER
- VIRTUAL AUTOPSY
- SOVA VIRUS
- BIRD FLU DETECTED IN CETACEANS
- TUBERCULOSIS
- CYBORG COCKROACHES
- LEGIONELLOSIS
- METHAMPHETAMINE

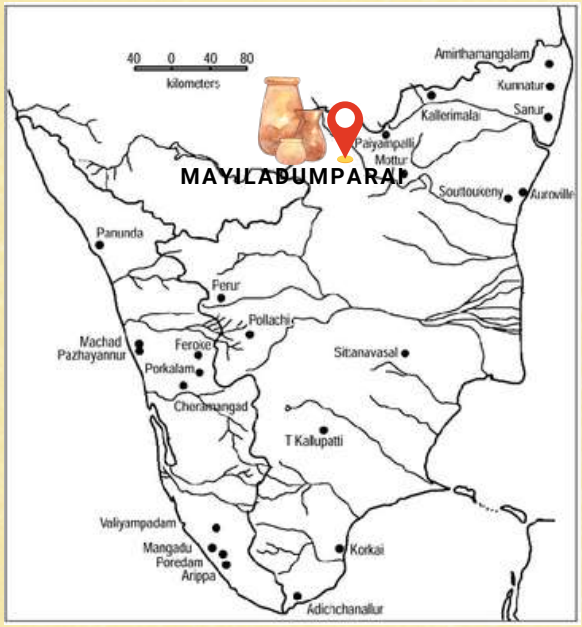
MAPPING.....(340 - 354)

ART AND CULTURE

IRON EXCAVATIONS FROM TAMIL NADU

- Carbon dating of deposits found during archaeological excavations in Tamil Nadu has pushed the evidence of iron being used in India to 4,200 years ago.
- The excavations are from **Mayiladumparai near Krishnagiri in Tamil Nadu**, about 100 km south of Bengaluru.
- Before this, the earliest evidence of **iron use was from 1900-2000 BCE for the country** (Malhar near Varanasi and Brahmagiri in North Karnataka), and from 1500 BCE for Tamil Nadu. The latest evidence dates the findings from Tamil Nadu to 2172 BCE.
- Among other important findings is evidence that the late Neolithic phase in Tamil Nadu has been identified to have begun before 2200 BCE.
- Archaeologists also found that **black and red ware pottery was introduced in the late Neolithic phase** itself, rather than the widely held belief that this occurred in the Iron Age.

Significance



- Iron is not known to have been used in the Indus Valley, from where the use of copper in India is said to have originated (1500 BCE). But non-availability of copper for technological and mass exploitation forced other regions to remain in the Stone Age.
- When **iron technology** was invented, it **led to the production of agricultural tools and weapons**, leading to production required for a civilisation ahead of economic and cultural progress.
- While useful **tools were made out of copper, these were brittle** and not as strong as iron tools would be.
- As it would have been difficult to use copper tools to clear dense forests and bring land under agriculture, it is inferred that **deforestation took place only after humans began using iron**.
- With the latest evidence tracing the country's Iron Age to 2000 BCE, it can be assumed that the **India's cultural seeds were laid in 2000 BCE**.
- The benefit of socio-economic changes and massive production triggered by the iron technology gave its first fruit around 600 BCE — **the Tamil Brahmi scripts**.
- The Tamil Brahmi scripts were once believed to have originated around 300 BCE, until a landmark finding in 2019 pushed the date back to 600 BCE.
- This dating narrowed the gap between the Indus Valley civilisation and Tamilagam/South India's Sangam Age.

ANANG TAL LAKE

- The Ministry of Culture recently asked the Delhi Development Authority (DDA), to restore the historic Anang Tal lake in Mehrauli in South Delhi. It is believed to have been created by **Tomar King, Anangpal II, in 1,060 AD.**
- Moreover, the **proposal to declare Anang Tal as a national monument** is also under consideration.

Anangpal II

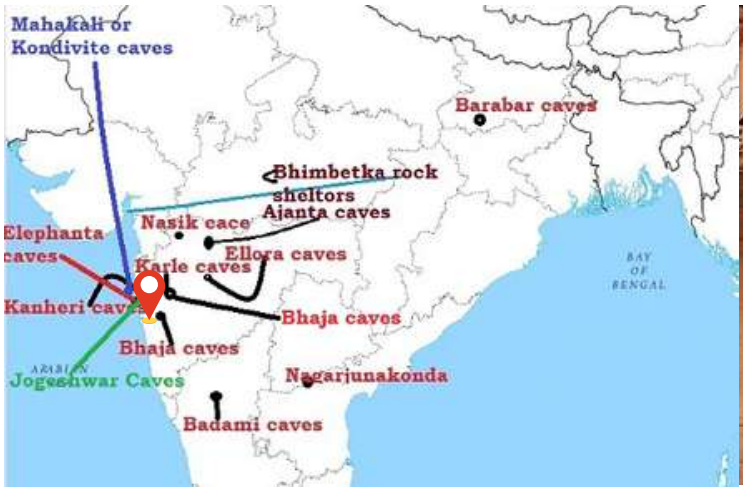
- Anangpal II, popularly known as **Anangpal Tomar**, belonged to the **Tomar dynasty** that ruled parts of present-day Delhi and Haryana between the **8th and 12th centuries.**
- The most reliable evidence about the early history of Delhi is inscribed on the **iron pillar of Masjid Quwaatul Islam, adjacent to the Qutab Minar.**
- According to this inscription, Anangpal of the Tomar Rajputs founded Delhi between 1053 and 1109 AD.
- Anangpal II built Lal Kot fort (also known as Qila Rai Pithora) and Anang Tal Baoli.
- Anangpal Tomar II was succeeded by his grandson **Prithviraj Chauhan.**
- The Delhi Sultanate was established in 1192 after Prithviraj Chauhan's defeat in the **Battle of Tarain** (present-day Haryana) by the Ghurid forces.

Tomar Dynasty

- The Tomars were the **feudatories of the Pratiharas.**
- They founded the city of Delhi in 736 A.D.
- Their rule is attested by **multiple inscriptions and coins.**
- The Tomars Dynasty had a **monarchical administrative structure.**
- The King was aided by a **group of ministers** who were hereditary and nominated by the King from prominent families.
- The language of Tomars was **Apabhraṃśa** and the religion was **Hinduism.**

KANHERI CAVES

- The Ministry of Culture inaugurated various amenities at the Kanheri Caves on the occasion of Buddha Purnima.
- The Kanheri caves comprise more than 110 different rock-cut monolithic excavations and is one of the largest single excavations in the country.
- The name Kanheri is derived from **Kanhagiri in Prakrit** (which means **black mountain**) and occurs in the Nasik inscription of the **Satavahana ruler Vasisthiputra Pulumavi.**
- Named after its **black basaltic stone,** it is located in the forests of **Sanjay Gandhi National Park in Mumbai.**
- The earliest reference of Kanheri is ascribed to **Fa-Hein** who visited India during 399-411 CE.
- Kanheri consists of excavations primarily undertaken during the **Hinayana phase** but also has several examples of the **Mahayana stylistic architecture** as well as few printings of the **Vajrayana order.**
- It is the only centre where a continuous progression of **Buddhist faith and architecture** is observed from 2nd century CE to 9th century CE.
- Kanheri flourished under the patronage of Satavahana, Traikutakas, Vakatakas and Silaharas and through donations made by the wealthy merchants of the region.



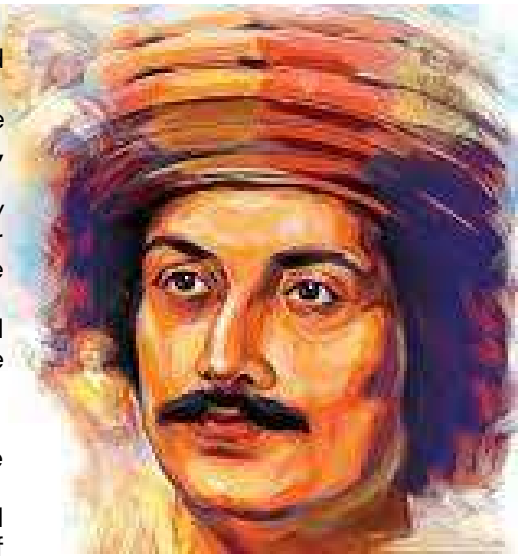
KANHERI CAVES (MUMBAI)

- Kanheri thrived for nearly a millennium due to its proximity to the ancient port towns of Sopara (Nalasopara – known for its trading ties with Mesopotamia and Egypt), Kalyan, Thane and Bassein (Vasai).
- The scale and extent of excavations, with its numerous water cisterns, epigraphs, one of the oldest dams, a stupa burial gallery and excellent rainwater harvesting system, indicate its **popularity as a monastic and pilgrim centre.**
- The architectural and engineering excellence of heritage sites like Kanheri caves signifies the knowledge about art, engineering, management and construction back then.

RAJA RAM MOHAN ROY

- The Ministry of Culture held the inaugural ceremony to commemorate the year-long celebration of the 250th birth anniversary of Raja Ram Mohan Roy.
- Raja Ram Mohan Roy is considered as the **Father of modern Indian Renaissance** for the remarkable reforms he brought in the 18th and 19th century India. He was given the **title of 'Raja' by Mughal Emperor Akbar II in 1831**.
- Among his efforts, **abolition of the inhuman practice of Sati** was the most prominent. His efforts were also instrumental in **eradicating the purdah system and child marriage.** He also demanded property inheritance rights for women.
- Ram Mohan Roy was greatly **influenced by western modern thought** and stressed on **rationalism and modern scientific approach.**
- Ram Mohan was **attracted to Islamic monotheism**. He said that monotheism is also the **fundamental message of Vedanta.**

Contributions in the field of Education



- He was a great scholar of Sanskrit, Persian and English languages and also knew Arabic, Latin and Greek.
- He advocated the **introduction of an English Education System** in the country teaching scientific subjects like **Mathematics, Physics, Chemistry and even Botany.**
- He paved the way for revolutionizing education system in India by **establishing Hindu College in 1817** along with David Hare, which later went on to become one of the best educational institutions in the country.
- In order to combine theological doctrines along with modern rational lessons he established the **Anglo-Vedic School in 1822** followed by the **Vedanta College in 1826.**

Religious Contributions

- Ram Mohan Roy was against unnecessary ceremonialism and the idolatry advocate by priests.
- He had studied religious scriptures of different religions and advocated that Hindu Scriptures like Upanishads upheld the concept of monotheism.
- He founded the **Atmiya Sabha in 1928,** which later reorganized itself into the Brahma Sabha, a precursor organisation of the Brahmo Samaj. It **propagated monotheism, independence from the scriptures and renouncing the caste system.**
- With time, the Brahmo Samaj became **a strong progressive force to drive social reforms in Bengal, especially women education.**

Journalistic Contributions

- Ram Mohan Roy was a strong supporter of free speech and expression. He fought for the rights of vernacular press.
- He also brought out a newspaper in Persian called **Mirat-ul- Akhbar (**the Mirror of News) and a Bengali weekly called **Sambad Kaumudi** (the Moon of Intelligence).
- In those days, items of news and articles had to be approved by the Government before being published. Ram Mohan protested against this control by arguing that newspapers should be free and that the truth should not be suppressed.
- His 'Gaudiya Byakaran' in Bengali is one of his best prose works.

BUDDHA'S RELICS TAKEN TO MONGOLIA

- Four Holy Relics of Lord Buddha were taken to Mongolia for an 11-day exposition to coincide with Mongolian Budhha Purnima celebrations.
- The relics were displayed at the **Batsagaan Temple in Gandan Monastery complex in Ulaanbaatar.**
- In 2015, the Holy Relics were placed under the **'AA' category** of *Antiquities and Art Treasures* which should not be ordinarily taken out of the country for exhibition, considering their delicate nature.
- However, upon the request of Mongolian government, the government has made a special exception. The relics will be accorded the status of a 'state guest' in Mongolia and will be taken again at the National Museum, India.

Relics

- Relics are the **physical remains of saints or holy people** or, more generally, **objects that have been in contact with holy individuals.**
- Examples of relics include teeth, bones, hairs, and fragments of objects such as fabrics or wood.

Buddha's Relics

- The four relics come from **among 22 Buddha relics,** currently housed at Delhi's National Museum.
- Together, they are known as the **'Kapilvastu Relics'** since they are from a site in Bihar believed to be the ancient city of Kapilvastu. The site was discovered in 1898.
- At the age of 80, according to Buddhist beliefs, **Buddha attained salvation in Uttar Pradesh's Kushinagar district.** The Mallas of Kushinagar cremated his body with ceremonies befitting a universal king.
- His relics from the funeral pyre were collected and **divided into eight shares** to be distributed among:

- The purpose was erecting stupas over the sacred relics. Two more stupas came up — one over the urn in which the relics had been collected and the other over the embers.
  - Stupas erected over the bodily relics of Buddha (Saririka stupas) are the earliest surviving Buddhist shrines.
  - It is said that Ashoka (272–232 BC), opened up seven of these eight stupas, and collected major portion of the relics for enshrinement within 84,000 stupas built by him to popularise Buddhism as well as the cult of the stupas.

Kapilavastu Relics

- The discovery of an inscribed casket in 1898 at the stupa site in Piprahwa (near Siddharthnagar in Uttar Pradesh) helped identify the place with ancient Kapilavastu.
- The inscription on the lid of the casket referred to the relics of Buddha and his community, the Sakya.

SANT TUKARAM

- The Prime Minister inaugurated the **Sant Tukaram Shila (rock) Mandir** in the temple town of Dehu in Pune district.
- Sant Tukaram was a **17th century Marathi poet and saint of Warkari sect (Marathi Vaishnaw tradition)**. The Warkari sect worships Lord Vitthal, considered a form of Lord Vishnu.
- Tukaram is best known for his **devotional poetry** called **Abhanga** (poetry sung in praise of **Lord Vitthal)** and community-oriented worship with spiritual songs known as kirtans.
- His *poetry refers to earlier Bhakti saints Namdev, Dnyaneshwar, Kabir, and Eknath*, who influenced his spiritual growth.

SANT KABIR

- The President inaugurated Sant Kabir Academy and Research Centre at Kabir Chaura Dham, Maghar, Uttar Pradesh.
- Born in the city of Varanasi in Uttar Pradesh, Kabir was a 15th-century Indian mystic poet and saint, whose writings influenced Hinduism's Bhakti movement.

Kabir's Compositions

- These can be classified into three literary forms – **dohas** (short two liners), ramanas (rhymed 4 liners), sung compositions of varying length, known as **padas** (verses) and **sabdas** (words).
- He composed his verses orally and is generally assumed to be illiterate.
- His poems were in **vernacular Hindi,** borrowing from various dialects including **Braj, Bhojpuri and Awadh**i. Most of his work was concerned with devotion, mysticism and discipline.
- His verses are found in Sikhism's scripture Guru Granth Sahib, Satguru Granth Sahib of Sant Garib Das and Kabir Sagar.

Kabir and the Bhakti Movement

- The Bhakti movement, which began in the 7th century in South India, had begun to spread across north India in the 14th and the 15th centuries.
- The movement was characterized by popular poet-saints who sang devotional songs to God in vernacular languages. They emphasized on **intense emotional attachment with God.**
- One school within the Bhakti movement was the **Nirguni tradition** and Sant Kabir was a prominent member of it. In this tradition, God was understood to be a **universal and formless being.**
- Many of the saints of the Bhakti movement came from the **ranks of the lower to middle artisanal classes**. Kabir was a low caste weaver (Julaha), Raidas was a leather worker and Dadu a cotton carder.

Kabir's Legacy

- Kabir's message of equality led to a community of his followers called the Kabir Panth - a sect in northern and central India.
- Historians estimate that it was **established in India between 1600 and 1650,** one or two centuries after his death.
- Today, the sect exists as a large and distinct community, with various sects under different spiritual leaders. However, **all regard Kabir as their guru** and treat the **Bijak as their holy scripture**.
- The Bijak contains **works attributed to Kabir** and is believed to have been written in the 17th century.

SAO JOAO FESTIVAL

- It was recently celebrated in Goa after a two year coronavirus induced gap.
- It is celebrated on 24th June and is dedicated to St. John the Baptist, who baptised Lord Jesus on the river of Jordan.
- The celebrations include people jumping into the wells, streams and ponds. This jump is to signify the joy that St. John felt when Jesus was born.
- People wear the Kopel (crown of fruits, flowers and leaves) and play instruments like Gumott (percussion instrument) and Cansaim (cymbal).

GULABI MINAKARI

- During the G7 meet in Germany, the Indian Prime Minister gifted a Gulabi Minakari brooch to US President Joe Biden.
- Gulabi Minakari is a **GI-tagged art form of Varanasi** in Uttar Pradesh that involves colouring the surface of metals by fusing different colours.
- It is originally from Persia and was brought to Varanasi by Persian enamellists during the Mughal era around the early 17th century.
- Minakari can be found popularly in three forms:

Ek Rang Khula Meena	Panch Rangi Meena	Gulabi Meena
Only gold outlines are exposed and a single transparent colour is used	**Five colours of red, white, green, light blue and dark blue are used**	**In which pink is the dominant colour**

AUROBINDO GHOSE

- The 150th birth anniversary of spiritual leader Sri Aurobindo was celebrated on 15th August, 2022.
- He was an Indian philosopher, yoga guru, poet and Indian nationalist. Born in 1872, in Calcutta he went on to complete his education at King's College in England. After returning to India he took up various civil service works under the Maharaja of the Princely state of Baroda.
- He published articles in the Bombay-based journal **Indu Prakash** attacking the British. Aurobindo's pragmatic strategies to get rid of British rule marked him as "**the Prophet of Indian Nationalism".**
- In 1893, 22 years before Gandhi, he had asked the Congress to give the leadership of the independence struggle to the **proletariat (working class people)**.
- The partition of Bengal in 1905 provoked Aurobindo to leave his job in Baroda. He became increasingly involved in the nationalist politics and joined the Indian National Congress in 1906.
- He started the patriotic journal **Bande Mataram** to propagate radical methods and revolutionary tactics instead of moderate ways.
- He was the first proponent of 'Purna Swaraj' more than 20 years before the Indian National Congress' declaration in 1930
- He was one of the founders of the youth club **Anushilan Samiti** which protested against the atrocities of the British government
- Aurobindo, a revolutionary and a militant nationalist, was charged in the **Alipore Bomb Case** and was sentenced to jail in 1908

MANDALA ART

- A mandala, the size of one and a half football pitches in length was created by artist James Brunt, in Liverpool, UK with materials such as leaves and rocks.
- Mandala literally means **"circle" or "centre"** in Sanskrit. It is defined by a *geometric configuration that usually incorporates the circular shape in some form.*

Background

- It is believed to be **rooted in Buddhism**, appearing in the 1st century BC in India.
- Over the next couple centuries, Buddhist missionaries travelling along the silk-road took it to other regions.
- By the 6th century, mandalas have been recorded in China, Korea, Japan, Indonesia and Tibet.
- In Hinduism, the mandala imagery first appeared in **Rig Veda (1500 – 500 BCE)**.

Mandala in modern Indian art

- Deep-rooted in ancient philosophy, the mandala has attained varied forms in modern and contemporary Indian art.
- While it continues to appear in **thangka paintings**, it has a central place in the practice of mainstream artists associated with the tantric and neo-tantric spiritual movements.

PINGALI VENKAYYA

- The **Ministry of Culture** organized **Tiranga Utsav** to celebrate the contributions of Pingali Venkayya to the nation on the occasion of his **146th Birth Anniversary.**
- Pingali Venkayya was a freedom fighter and the designer of India's National Flag. He worked as a teacher, author, agriculturist and linguist.
- He had enrolled in the British Army and was deployed to South Africa during the Second Boer War (1899-1902). It was during the war when the soldiers had to salute the Union Jack, the national flag of Britain, that Venkayya realised the need for having a flag for Indians.
- In 1916, he even published a book 'Bharatha Deshaniki Oka Jatiya Patakam' (National flag of India). The draft presented to Gandhi by Venkayya had two colour bands - red and green to symbolise the two major communities in India - Hindus and Muslims.
- But Gandhi suggested adding a white colour band to represent peace and harmony between communities along with a spinning wheel to represent progress of the country.

VEER DURGADAS RATHORE

- The Defence Minister of India unveiled the Statue of Veer Durgadas Rathore on his **385th birth anniversary in Jodhpur, Rajasthan.**
- He is credited with preserving the rule of the Rathore dynasty over Marwar, following the death of Maharaja Jaswant Singh in the 17th century. In doing so he had to defy Aurangzeb, a Mughal emperor.
- He commanded the Rathore forces during the Rajput War (1679–1707) and played a major role in the Rajput Rebellion (1708–1710) which became one of the main reason of decline of Mughal Empire.
- He won a number of victories against the Mughals and forced many Mughal officers to pay tribute to him in the **form of chauth.**

WOMEN HEROES OF INDIA

On this Independence day, the Prime Minister paid tribute to women freedom fighters. Following are the women that the Prime Minister named in his speech:

Rani Laxmibai

- The queen of the princely state of Jhansi, Rani Laxmibai is known for her role in the First War of India's Independence in 1857.
- Born in 1835, she was named Manikarnika Tambe. She married the king of Jhansi. The couple adopted a son before the king's death, which the British East India Company refused to accept as the legal heir and decided to annex Jhansi.
- Refusing to cede her territory, the queen decided to rule on behalf of the heir, and later joined the uprising against the British in **1857.**
- Cornered by the British, she escaped from Jhansi fort. She was wounded in combat near Gwalior's Phool Bagh, where she later died.

Jhalkari Bai

- A soldier in Rani Laxmibai's women's army, Durga Dal, she rose to become one of the queen's most trusted advisers.
- Till date, the story of her valor is recalled by the people of Bundelkhand, and she is often presented as a representative of Bundeli identity.
- Many Dalit communities of the region look up to her as an incarnation of God and also celebrate **Jhalkaribai Jayanti** every year in her honour.

Durga Bhabhi

- Born in Allahabad in 1907, Durgawati Devi, popularly known as Durga Bhabhi, was a revolutionary who joined the armed struggle against colonial rule.
- A member of the **Naujawan Bharat Sabha**, she helped **Bhagat Singh** escape in disguise from Lahore after the 1928 killing of British police officer **John P Saunders**.
- Later, as revenge for the hanging of Bhagat Singh, Rajguru, and Sukhdev, she made an **unsuccessful attempt** to kill the former Punjab Governor, Lord Hailey.
- Married to Hindustan Socialist Republican Association (HSRA) member Bhagwati Charan Vohra, Durgawati, along with other revolutionaries, also ran **a bomb factory in Delhi.**

Rani Gaidinliu

- Born in 1915 in present-day Manipur, Rani Gaidinliu was a Naga spiritual and political leader who fought the British.
- She joined the **Heraka religious movement** which later became a movement to drive out the British. She rebelled against the Empire, and refused to pay taxes, asking people to do the same.
- Gaidinliu was finally arrested in 1932 when she was just 16, and later sentenced for life. She was released in 1947 and **Prime Minister Jawaharlal Nehru,** described Gaidinliu as the **"daughter of the hills"**, and gave her the title of **'Rani'** for her courage.

Rani Chennamma

- The queen of Kittur, Rani Chennamma, was among the first rulers to lead an armed rebellion against British rule. Kittur was a princely state in present-day Karnataka.
- She had lost her husband, Raja Mallasarja, in 1816. She fought back against the attempt to control her dominion in 1824 after the death of her young son. She is seen among the few rulers of the time who understood the colonial designs of the British.
- Rani Chennamma defeated the British in her first revolt, but was captured and imprisoned during the second assault by the East India Company.

Velu Nachiyar

- Many years before 1857 Revolt, Velu Nachiyar waged a war against the British and emerged victorious.
- Born in **Ramanathapuram** in 1780, she was married to the king of **Sivagangai**. After her husband was killed in battle with the East India Company, she entered the conflict, and won with support of neighbouring kings.
- She went on to produce the **first human bomb** as well as establish the **first army of trained women soldiers** in the late 1700s.
- Her army commander **Kuyili** is believed to have set herself ablaze and walked into a British ammunition dump. She was succeeded by her daughter in 1790, and died a few years later in 1796.

KEDARNATH TEMPLE

Kedarnath Temple

- Priests of the Kedarnath shrine are protesting against the process of **gold-plating of the walls** of the sanctum sanctorum. Currently the sanctum sanctorum is covered with 230 kilogram of silver.
- Originally, built in 8th century A.D. by **Adi Shankaracharya**, Kedarnath temple is a Hindu temple dedicated to **Lord Shiva**.
- The temple is located in the **Garhwal Himalayan range** near the **Mandakini river.**

SHUMANG LEELA

- The 50th All Manipur Shumang Leela Festival 2021-2022 was held in Imphal.
- Shumang Leela is a traditional form of theatre in **Manipur**. Literally, Shumang means courtyard and Leela means play. Thus, Shumang Leela means a **play of the courtyard** and is generally performed in open spaces.
- The form has been prevalent since the time of monarchical rule in Manipur but the proper form of Shumang Leela had its inception in 1895 A.D.
- It is believed to have descended from **Lai-haraoba** (ritual ceremony of pleasing the God).
- The present-day performances focus on the issues of moral values, unity and integrity.

MOHENJODARO

- The devastating floods in Pakistan have caused significant damage to Mohenjodaro.
- Built around 2500 BCE, Mohenjodaro is an archaeological site in the province of Sindh, Pakistan.
- The city was rediscovered by **Rakhal Das Banerji of Archaeological Survey of India (ASI)** in 1922 and was recognised as a **UNESCO World Heritage site in 1980**.

- The words 'Mohenjo Daro' literally translate to 'the mound of the dead'. It is because the city of Harappa and other important Indus Valley sites were found on a series of mounds.
- It had meticulous **urban planning, architecture, road plan with rectilinear buildings and channeled sanitization.**
- The site is famous for its elaborate town planning with street grids brick pavements, developed water supply, drainage, covered sewerage systems, and homes with toilets.
- It also had a huge well that served as a public pool to bathe - the Great Bath; and the Great Granary.

HYDERABAD STATE LIBERATION DAY

- The Centre has decided to mark Hyderabad State Liberation Day on 17th September. In fact, the 75th anniversary of the event (that took place in 1948), will be marked as a year-long event till September 17, 2023.

Story of Liberation

- At the time of India's independence, British India was a mix of independent kingdoms and provinces that were given the options of joining India, Pakistan, or remaining independent.
- **Mir Osman Ali Khan**, the ruler of Hyderabad, chose independence and hoped to maintain his own army.
- In November 1947, Hyderabad signed a standstill agreement with the Indian government, declaring a status quo. This meant that until November 1948, the Nizam could let things be as they were and not finalise a decision as negotiations with the Indian union continued.
- However, in the first half of 1948, tensions grew as the **razakar leaders** and the government in Hyderabad began to speak of war with India and began border raids with Madras and Bombay Presidencies.
- As a response, India stationed troops around Hyderabad and began to ready itself for military intervention. India officially launched **'Operation Polo'** on September 9 and deployed its troops in Hyderabad four days later.

Razakars

- Formed in 1938 by the Majlis-e-Ittehadul Muslimeen (MIM), the Razakars were the paramilitary force which supported the rule of Osman Ali Khan.
- It expanded considerably during the leadership of Qasim Razvi around the time of Indian independence and resisted the integration of Hyderabad State into India.
- Eventually, the Indian army routed the Razakars and the group was disbanded after India annexed the state.

MAHAKAL LOK CORRIDOR

- The Prime Minister inaugurated the first phase of the Shri Mahakal Lok corridor in Ujjain, Madhya Pradesh.
- After Vishwanath temple in Varanasi and the Kedarnath shrine in Uttarakhand, Mahakal temple is the third 'jyotirlinga' site to see a major upliftment exercise.

Details Of The Corridor

- **Mahakal Maharaj Mandir Parisar Vistar Yojna** is a plan for the expansion, beautification, and decongestion of the Mahakaleshwar temple and its adjoining area in Ujjain district.
- Under the plan, the Mahakaleshwar temple premise of around **2.82 hectares** is being increased to **47 hectares,** which will be developed in two phases by the Ujjain district administration. This will also include the 17 hectares of **Rudrasagar lake.**
- At the beginning point of the corridor, two gateways, namely **Nandi Dwar and Pinaki Dwar** are erected.
- A 900-metre pedestrian corridor has been constructed, consisting of 108 pillars, made of beautifully carved sandstones.
- The **mural wall** along the path is based on stories from **Shiva Purana,** such as Shiv Vivah, Tripurasur Vadh, Birth of Ganesh, Shiv Tandav Swaroop among others.
- The second phase of the project is being developed with funding from **Agence Francaise de Development (AFD)** under the **City Investments to Innovate Integrate and Sustainable (CITIIS) programme.**

Significance of Mahakaleshwar Temple

- Mahakaleshwar, which means the **'Lord of time'**, refers to Lord Shiva. As per Hindu mythology, the temple was constructed by Lord Brahma and is presently located alongside the holy river Kshipra.
- Mahakaleshwar Jyotirlinga in Ujjain is one of the **12 jyotirlingas** considered the most sacred abodes of Shiva.
- Besides Mahakal, these include Somnath and Nageshwar in Gujarat, Mallikarjuna in Andhra Pradesh, Omkareshwar in Madhya Pradesh, Kedarnath in Uttarakhand, Bhimashankar, Triyambakeshwar and Grishneshwar in Maharashtra, Viswanath at Varanasi, Baidyanath in Jharkhand, and Rameshwar in Tamil Nadu.
- **Mahakaleshwar** is the **only jyotirlinga facing the south**, while all the other jyotirlingas face east.
- The Mahakal temple is mentioned in several ancient Indian poetic texts. In the early part of the **Meghadutam (Purva Megha)** composed in the 4th century, **Kalidasa** gives a description of the Mahakal temple.
- It is described as one with a stone foundation, with the ceiling on wooden pillars. There were no shikharas or spires on the temples prior to the Gupta period.

Construction Of The Temple

- In the 13th century, the temple complex was destroyed by Turk ruler **Shams-ud-din Iltutmish** during his raid on Ujjain.
- The present five-storeyed structure was built by the **Maratha general Ranoji Shinde in 1734,** in the Bhumija, Chalukya and Maratha styles of architecture. A century later, its marble walkways were restored by the Scindias.

Historical Significance of Ujjain

- The city of Ujjain was also one of the primary centres of learning for Hindu scriptures, called **Avantika** in the 6th and 7th centuries BC.
- Later, astronomers and mathematicians such as **Brahmagupta and Bhaskaracharya** made Ujjain their home.
- Also, as per the **Surya Siddhanta**, one of the earliest available **texts on Indian astronomy** dating back to the 4th century, Ujjain is geographically situated at a spot where the zero meridian of longitude and the Tropic of Cancer intersect.
- In the 18th century, an observatory was built here by **Maharaja Jai Singh II**, known as the **Vedh Shala or Jantar Mantar**, comprising 13 architectural instruments to measure astronomical phenomena.

BOOKER PRIZE

- Sri Lankan writer **Shehan Karunatilaka** won the Booker Prize for his novel **The Seven Moons of Maali Almeida.**
- The Booker Prize is the **world's leading literary award** for a single work of fiction.
- It was formerly known as the **Booker Prize for Fiction (1969–2001)** and the **Man Booker Prize (2002–2019)**.
- **Founded in the UK in 1969**, it initially rewarded Commonwealth writers but is now **open to anyone regardless of origin.**
- It is awarded each year for the best novel written in English and published in the United Kingdom or Ireland.
- A sister prize, the **International Booker Prize,** is awarded for a **book translated into English** and published in the United Kingdom or Ireland.

ASI FINDINGS IN BANDHAVGARH

The Archaeological Survey of India (ASI) reported Buddhist caves in Madhya Pradesh's Bandhavgarh Tiger Reserve.

The Findings:

- The 26 caves dating back to the 2nd and 5th centuries are associated with the **Mahayana sect of Buddhism**. These date back to the same time as the Ajanta caves in Aurangabad, a UNESCO World Heritage Site.
- The caves and some of their remains had 'Chaitya' (rounded) doors and stone beds typical of Mahayana Buddhism sites.
- This discovery brings the total number of caves found in Bandhavgarh to 76, as 50 are already in the records.

Temple Remains

- Besides the caves, the team also found the remains of 26 temples, two mathas, two stupas, 46 idols and sculptures, 26 fragments and 19 water bodies.
- The remains of 26 temples date to the **Kalachuri period** between **9th-11th centuries**.
- The Kalachuri dynasty, which spread over parts of Gujarat, Maharashtra and Madhya Pradesh, is also associated with the earliest Ellora and Elephanta cave monuments.

Inscriptions

- Apart from this, the ASI team found **24 inscriptions in Brahmi text**, all dating back to the 2nd-5th centuries.
- The inscriptions mention sites such as Mathura and Kaushambi, and Pavata, Vejabharada and Sapatanaairikaa. The kings they mention include Bhimsena, Pothasiri and Bhattadeva.

Bandhavgarh

- Bandhavgarh, located in Umaria district of Madhya Pradesh was declared a national park in 1968 and became a tiger reserve in 1993.
- The word Bandhavgarh is a combination of two words: Bandhav+ Garh where Bandhav means brother and Garh means Fort. Thus, it means **brother's fort**.
- Ancient books like **Narad Panch Ratra** and the **Shiv Purana** show that the place is associated with Ramayana.
  - This region also unveils the history to find the major dynasties that ruled the Bandhavgarh regions including **Sengars, the Kalchuris and the Baghels**.

KASHI-TAMIL SANGAMAM

- The Union Government has announced a month-long programme called **'Kashi-Tamil Sangamam'** to strengthen and revive the cultural and civilisational bond **between Tamil Nadu and Varanasi** - both deep centres of knowledge.
- The programme, would be a part of the **Ek Bharat Sreshtha Bharat initiative**.
- As part of the programme, a total of 2,500 people (divided into 12 groups) would be travelling to Varanasi by train during the month-long period. The journey points in Tamil Nadu would be Chennai, Rameswaram and Coimbatore.
- The tours would include seminars, lectures, group meetings and visits to the Kashi Vishwanath temple and centres of important Tamil cultural heritage in Varanasi.

Bharatiya Bhasha Samiti (BBS)

- A High Powered Committee for Promotion of Indian Languages called Bharatiya Bhasha Samiti (BBS) headed by Chamu Krishna Shastry, has come up with a proposal to rediscover, reaffirm and celebrate the links between the Tamil culture and Kashi that have existed for centuries.
  - The Committee has been constituted by the Education Ministry.

NATIONAL MARITIME HERITAGE COMPLEX

- The Prime Minister reviewed the progress of the **National Maritime Heritage Complex (NMHC)** at Lothal, Gujarat.
- Developed at a cost of Rs 3,500 crore, the project is being developed to display India's rich and diverse maritime heritage and to help Lothal to emerge as a **world class international tourist destination.**

Features

- It will have several innovative features such as **Lothal mini-recreation,** which will recreate Harappan architecture and lifestyle through immersive technology.
- It will have **four theme parks** – Memorial theme park, Maritime and Navy theme park, Climate theme park, and Adventure and Amusement theme park.
- It will also house the world's tallest lighthouse museum, 14 galleries highlighting India's maritime heritage starting from the Harappan time till today.
- A **coastal states pavilion** displaying the diverse maritime heritage of Indian states and UTs will also be a part of the project.

Lothal

- Lothal was one of the southernmost sites of the Indus Valley civilization, located in the Bhāl region of what is now the state of Gujarat.
- It is known for the **discovery of the oldest man-made dockyard**, connecting the city to an ancient course of the Sabarmati river.
- Believed to have been built in **2,200 BC**, Lothal was a thriving trade centre in ancient times, with its trade of beads, gems and ornaments reaching West Asia and Africa.
- Lothal was nominated in 2014 as a UNESCO World Heritage Site, and its application is pending on the tentative list of UNESCO.
- Its heritage value is comparable to other ancient port-towns around the world – including Xel Ha (Peru), Ostia (Port of Rome) and Carthage (Port of Tunis) in Italy, Hepu in China, Canopus in Egypt, Gabel (Byblos of the Phoenicians), Jaffa in Israel, Ur in Mesopotamia, Hoi An in Vietnam.

SHARDA PEETH

- The Muslim community of Sharda village has taken the initiative to conserve and renovate Sharda Peeth.
- Sharda Peeth is an ancient Hindu temple and cultural site in **Pakistan-occupied Kashmir's Neelum Valley** and has been completely deserted since Partition in 1947.
- It is believed to be the place where **Adi Shankaracharya** was elevated to **Sarvajna Peetha** (seat of omniscience), after comprehensive debates with Buddhist and Jain monks.
- The Peeth finds mention in Nilamata Purana, a 7th century text.
- **Kalhana's Rajatarangini** (deemed to be the first history of Kashmir) from the 12th century, also states that the Peeth was a Hindu pilgrimage site renowned in the subcontinent by 8th century.
- It is one of **18 Maha Shakti Peethas** - highly revered temples throughout South Asia that commemorate the location of fallen body parts of the Hindu deity Sati.
- Between the 6th and 12th centuries CE, Sharda Peeth was one of the foremost temple universities of the Indian subcontinent and was once at par with Nalanda and Takshila.
- According to experts, it was **"a crossroads of civilisations"** that attracted scholars of various faiths, pilgrims and monks, who left their mark in the form of rock inscriptions in Neelam Valley or the valley of Kishanganga.

JAI SINGH II

- Few MPs have asked the central government to oppose the misleading claim about **Sawai Jai Singh of Jaipur**, being referred as the servant of the Mughal Emperor, at a museum in Samarkand, Uzbekistan.
- Jai Singh II, popularly known as Sawai Jai Singh was a **Kachwaha Rajput** ruler of the **kingdom of Amber**.
- He became ruler of Amber at the age of 11 after the death of his father, Raja Bishan Singh in 1699.
- He was **given the title of Sawai by the Mughal Emperor Aurangzeb** before the siege of Khelna in Deccan. Sawai means **one and a quarter time superior to his contemporaries**.
- He had also received the titles of Maharajah Sawai, Raj Rajeshvar, Shri Rajadhiraj and Saramad-i-Rajaha-i-Hind.
- Initially, Jai Singh served as a vassal of the Mughal Empire. In the later part of his life, Jai Singh broke free from the Mughal hegemony.
- He also moved his kingdom's capital from Amber to the newly-established city of Jaipur in 1727.
- He has made great contributions to the field of architecture, mathematics, and astronomy.
- He built Astronomy Observatories at **Delhi, Jaipur, Varanasi, Ujjain and Mathura** known as the Jantar Mantar.
- He also got the Euclid's 'Elements of Geometry' translated into Sanskrit.

BALIYATRA

In his address to the Indian diaspora in Bali on the sidelines of the G20 summit, the Indian Prime Minister mentioned the annual Baliyatra on the **banks of the Mahanadi** in Cuttack.

Historical Significance of Baliyatra

- **Baliyatra,** literally means **voyage to Bali** and is one of the country's largest **open-air fairs.**
- The festival is organised by the Cuttack district administration and Cuttack Municipal Corporation in association with several other government agencies.
- It is organised every year to commemorate the **2,000-year-old maritime and cultural links between ancient Kalinga (today's Odisha) and Bali and other South and Southeast Asian regions** like Java, Sumatra, Borneo, Burma (Myanmar) and Ceylon (Sri Lanka).
- The origins of the festival, which **begins on Kartik Purnima** (full moon night in the month of Kartik) can be traced back more than 1,000 years.
- The Bay of Bengal region had several ports, and **sadhavas (traders)** traditionally began their voyage across the sea on this auspicious day, when the winds were favourable for the boats, known as boita to sail.
- **Popular items of trade** between Kalinga and Southeast Asia included pepper, cinnamon, cardamom, silk, camphor, gold, and jewellery.
- Even today, thousands of people across Odisha sail decorative miniature boats made of banana stems, paper, or thermocol to celebrate **boita bandana**, or the worshipping of the boats.

Commercial dimension

- Besides the cultural and historical aspects, Baliyatra has an important commercial dimension.
- It is a time when people purchase everything from automobiles and electronic devices to local artisanal products at prices that are comparatively low.
- The district administration allots more than 1,500 stalls to traders through an auction, and the fair is estimated to see business worth more than Rs 100 crore over its nine days.

Kalinga's maritime prowess

- The Kalinga Empire (present-day Odisha) is known for its glorious maritime history.
- Due to the geographical location of Kalinga, this area saw the growth of ports as early as the 4th and the 5th century BC.
- Some of the famous ports, **Tamralipti, Manikpatna, Chelitalo, Palur, Pithunda** allowed India to connect with other countries via the sea.
- The Kalingas had **trade links with Srilanka, Java, Borneo, Sumatra, Bali and Burma**. Bali formed a part of the four islands that were collectively called the **Suvarnadvipa,** today known as Indonesia.
- The dominance of the Kalingas over the sea routes can be understood from the fact that **Kalidasa** in his **Raghuvamsa** referred to the **King of Kalinga as The Lord of the Sea.**
- The trade in commodities also led to the interchange of ideas and beliefs. Odia merchants formed settlements in Bali and influenced its culture and ethics. This led to the growth of Hinduism in the region.
- The **Masakapan ke Tukad** festival celebrated in Bali is similar to the Bali Yatra festival in Odisha. Both festivals are celebrated in the memory of their maritime ancestors.

WANGALA FESTIVAL

- The renowned Wangala festival, was recently celebrated in Meghalaya. Celebrated by the **Garo Community**, it is also known as the **100 drums festival**.
- Wangala depicts the onset of winter and is a **harvest festival** held in honour of **Saljong, the Sun-God of fertility.**
- The festival is a way to **preserve and promote the cultural identity of Garos in Meghalaya.** It is also a way to exhibit the culture and tradition of the region.
- The occasion includes two important events – "**Rugala" and "Kakkat"**. Here, residents dressed in colorful attires with feathered headgears dance to the rhythm played through long oval-shaped drums.
- A distinctive feature of this dance deals with a **queue of two parallel lines – one of the men and the other of women** clad in their festive attires. While the men beat the drums, the line moves forward in rhythm.
- The orchestra of men includes drums, gong, and flutes, along with a primitive flute made of buffalo horn.

TIRUPATI'S MEGALITHIC BURIAL SITES

- Most of the **megalithic burial sites in Tirupati** have been found in a state of neglect. Tirupati district is dotted with anthropomorphic burial sites, said to be the largest as a collection in Andhra Pradesh.
  - Anthropomorphic sites are those marked by a representation of human form above the megalithic burials.
  - A megalith is a large stone that has been used to construct a prehistoric structure or monument, either alone or together with other stones.
- The most prominent one is the 'pillared dolmen' of the megalithic era, found at Mallayyagaripalle, on a hillock between Chandragiri and Dornakambala, 20 km from Tirupati.
- The structure locally referred to as **Pandava Gullu or Pandavula Banda** in memory of the Pandavas, is estimated to be 2,500 years old.
- There is another endangered megalith monument in Palem village near Kallur, which resembles a **bull's horn.**
- Called locally as **Devara Yeddhu,** the site has suffered repeated damage due to secret excavation by treasure hunters.
- Compared to other districts, the erstwhile combined Chittoor district [Tirupati district was carved out of it in April 2022] has an array of such structures, found almost in every mandal.
- This could be an indication to the presence of humans living in groups during the megalithic period (300–500 BC) in this region.

JANAKI AMMAL

- The 125th birth anniversary of **Edavalath Kakkat Janaki Ammal** was celebrated.
- Born in Thalassery in Kannur district of Kerala in 1897, Janaki Ammal, was pioneering botanist and the **first Indian woman to be awarded a PhD in the botanical sciences.**
- She is known widely for her contributions to science – in the field of **genetics, cytology, evolution**, and more.
- She worked on making several intergeneric and interspecific hybrids involving sugarcane and related grass species **that yielded sweeter sugar**.
- After her return to India in 1950s, she was invited by the then Prime Minister Jawaharlal Nehru to **reorganise the Botanical Survey of India in 1951,** which explores the plant resources of the country and identifies plant species with economic virtue.
- She was also associated with the **Save the Silent Valley movement** – a campaign to stop a hydroelectric project from flooding the Silent Valley forest in Palakkad district of Kerala.

LACHIT BORPHUKAN

- A 3-day celebration of the 400th birth anniversary of Lachit Borphukan was held in New Delhi.
- Through the celebration, the Assam government is pushing for his national recognition as a hero along the lines of Shivaji, and as an important counter to the Mughals.
- Born in 1622, Lachit Borphukon is best known for leading the Ahom troops which **fought and defeated advancing Mughal troops at the Battle of Saraighat** on the outskirts of Guwahati in 1671.
- The Battle of Saraighat was a naval battle fought between the Mughal Empire (led by the Kachwaha raja, Ram Singh I) and the Ahom Kingdom (led by Lachit Borphukan).
- Although weaker, the Ahom army defeated the Mughal army by guerrilla tactics, psychological warfare, military intelligence and by exploiting the weakness of the Mughal navy.
- Borphukan is also considered as the inspiration behind strengthening India's naval force and revitalising inland water transport and creating infrastructure associated with it.
- Since 1999, the Lachit Borphukan gold medal is awarded to the best cadet from the National Defence Academy.

Ahom kingdom

- The Ahom kings ruled large parts of what is now known as Assam for nearly 600 years, from the early 13th century to the early 19th century.
- It was a prosperous, multi-ethnic kingdom which spread across the upper and lower reaches of the Brahmaputra valley, surviving on rice cultivation in its fertile lands.
- The Ahoms engaged in a series of conflicts with the Mughals from 1615-1682, starting from the reign of Jahangir till the reign of Aurangzeb.

STATUE OF PROSPERITY

- A bronze statue of **Nadaprabhu Kempegowda,** was unveiled at the premises of the Kempegowda International Airport (KIA) in Bengaluru.
- Referred to as the Statue of Prosperity, it weighs 220 tonne and has a sword weighing 4 tonne.
- Nadaprabhu Kempegowda, a 16th century chieftain of the Vijayanagara empire, is credited as the founder of Bengaluru.
- He was from the **dominant agricultural Vokkaliga community** in south Karnataka.
- It is said that he conceived the idea of a new city while hunting with his minister, and later marked its territory by erecting towers in four corners of the proposed city.
- Kempegowda's initial plan for the city was to have temples, a fort, water tanks, and a cantonment. After receiving permission from emperor Achyutharaya, he **built the Bangalore Fort and town in AD 1537.**
- Kempegowda is also known to have **developed around 1,000 lakes in the city** to cater to drinking and agricultural needs.
- He is also credited for abolishing the practice of cutting the fingers of the left hand of an unmarried woman during a custom known as **Bandi Devaru.**
- Kempegowda knew multiple languages, besides Kannada, and even authored a Yakshagana play in Telugu named **Gangagaurivilasa.**

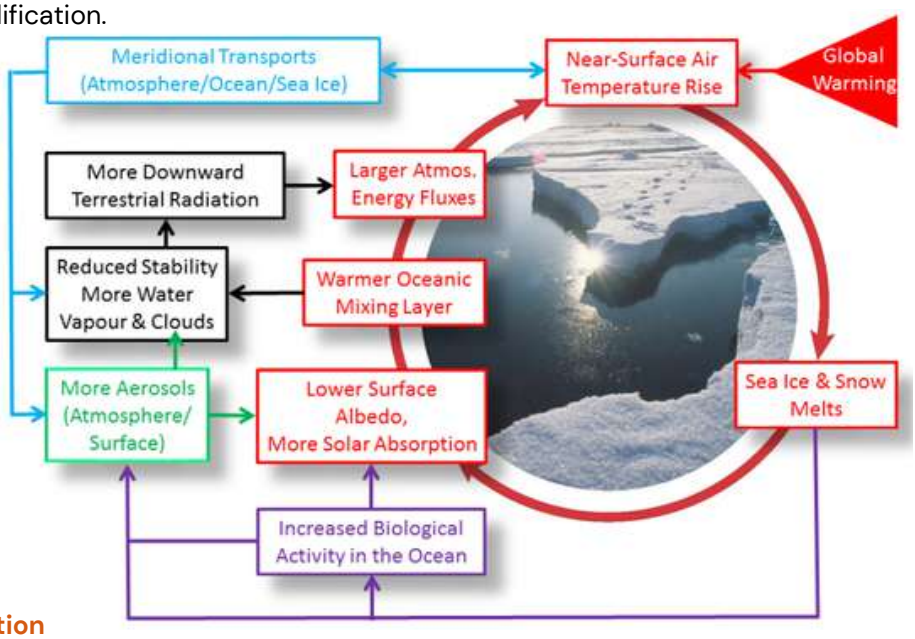
ENVIRONMENT

ARCTIC AMPLIFICATION

The Arctic is warming 2-3 times as fast as the global rate due to the unique features in the Arctic climate system. This phenomenon known as Arctic amplification.

Key Findings of the recent Study

- The Arctic is heating 4 times faster than the rest of the planet. While earlier studies have proved that the Arctic is warming two or three times faster.
- The warming is more concentrated in the Eurasian part of the Arctic, where the Barents Sea north of Russia and Norway is warming at an alarming rate. Here it is increasing 7 times faster than the global average.



Factors contribute to Arctic Amplification

- **Sea ice loss** is the dominant driver: Sea ice and snow have **high albedo** implying that they are capable of reflecting most of the solar radiation as opposed to water and land. As the sea ice melts, the Arctic Ocean will be more capable of absorbing solar radiation, thereby driving the amplification.
- The lapse rate or the rate at which the temperature drops with elevation, decreases with warming.
- Studies show that the **ice-albedo feedback** and the **lapse rate feedback** are responsible for 40% and 15% of polar amplification respectively.
- Some additional factors include increases in radiation from **greenhouse gases, atmospheric water vapor, and cloud cover as well as changes in ocean heat content and atmospheric circulation patterns.**

Step by India to Minimise the Impact

- **Himadri** - A research centre 'Himadri' was inaugurated in July 2008 at Arctic, where meteorological, biological, glaciological and past climate studies are undertaken.
- **IndARC** - In 2014, India deployed IndARC, India's 1st moored-underwater observatory, to monitor the impact of the changes in the Arctic Ocean on the tropical processes such as the monsoons.
- **Arctic Policy** - The Ministry of Earth Sciences has launched India's Arctic Policy, aimed at promoting better analysis, forecasting and coordinated policy making on the impacts of melting ice in the Arctic.

FOREVER CHEMICALS

Scientists have found that rainwater from many places across the globe is contaminated with Per- and Polyfluoroalkyl Substances (PFAs).

About PFAs

- PFAs are a diverse group of human-made chemicals. They are called forever chemicals because of their tendency to stick around in the atmosphere, rainwater and soil for long periods of time.
- PFAs are also listed in the Stockholm Convention which is a global treaty to protect human health & environment from persistent organic pollutants (POPs).
- It used to make non-stick cookware, water-repellent clothing, stain-resistant fabrics, cosmetics, fire fighting forms and many other products that resist grease, water and oil.

Harm Cause by PFAs

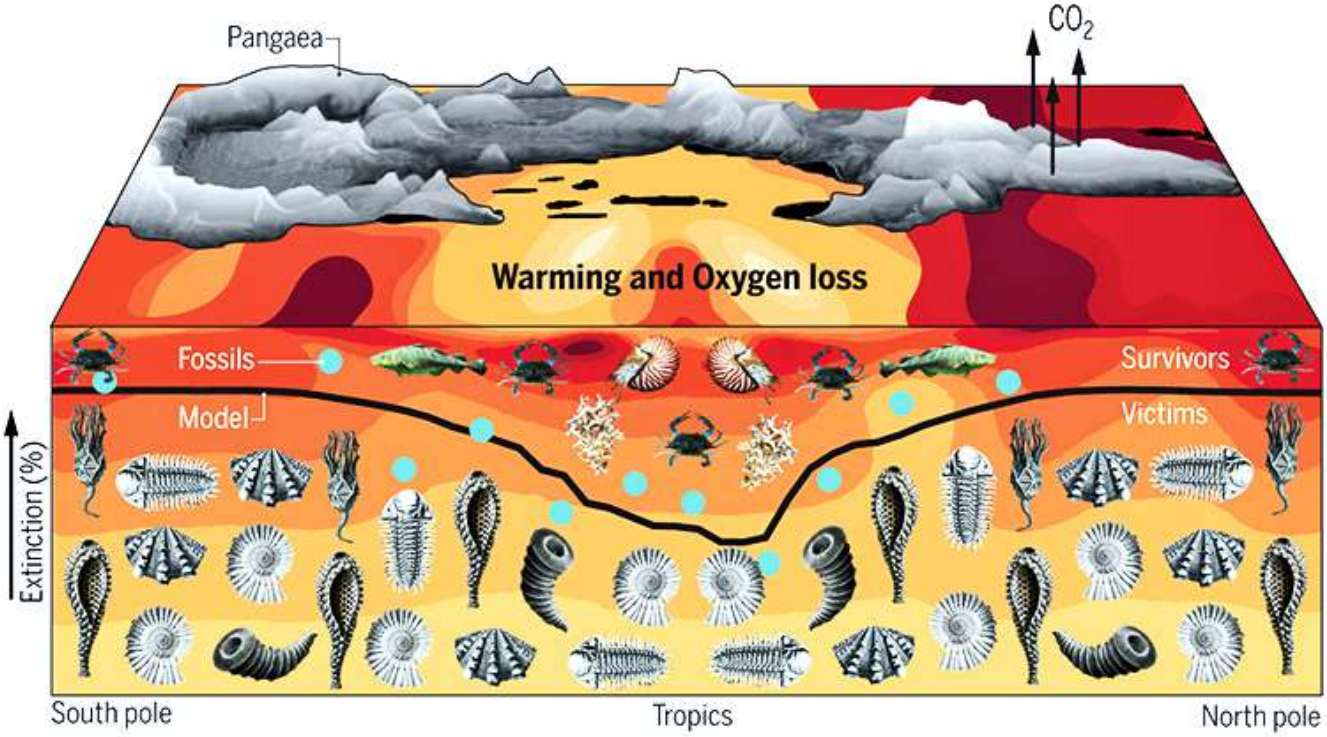
- A variety of health risks include decreased fertility, developmental effects in children, interference with body hormones, increased cholesterol levels and increased risk of some cancers.
- Recent research has also revealed that **long-term low-level exposure to certain PFAs** can make it difficult for humans to build antibodies after being vaccinated against various diseases.

OCEANS GREAT DYING 2.0

Scientists warn of imminent mass annihilation of marine species similar to the Permian extinction (~250 million years ago) that wiped out most lives in oceans.

What Led To Extinction Before

- Towards the end of era, a series of volcanic eruptions occurred in central Siberia, injecting massive amounts of greenhouse gases (GHG) into the atmosphere. Then, as now, the uncontrolled GHG emissions triggered climatic changes.
- Low oxygen and warm conditions drove the extinction of marine organisms 250 million years ago.



Permian Extinction

- **Also known as Great Dying, was caused by global warming that left ocean animals unable to breathe.**
- **Roughly 96% of marine species and 70% of land species went extinct.**
- **Permian Era is a period when land masses collided to form the supercontinent Pangaea.**
- **The supercontinent was arid. Oly a few parts received rainfall round the year.**

CLIMATE REPARATIONS

- Facing the worst flooding disaster in its history, Pakistan has begun demanding reparations, or compensation, from the rich countries that are mainly responsible for causing climate change.
- The current floods in Pakistan have already claimed over 1,300 lives, and caused economic damage worth billions of dollars.

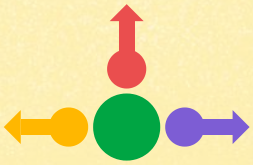
About Climate Reparations

- It refers to a call for money to be paid by the Global North to the Global South as a means of addressing the historical contributions that the Global North has made toward climate change.
- It is also about the need for acknowledgment and accountability for the loss of land and culture and how that has affected the Global South.

The UN Framework Convention on Climate Change (UNFCCC), 1994 explicitly acknowledged this differentiated responsibility of nations.

At the 15th COP of the UNFCCC in 2009, developed countries committed to a collective goal of mobilizing USD 100 billion per year by 2020 for climate action in developing countries.

- At COP21 in Paris, with the developed countries having failed to keep their commitment, it was decided to extend the US$100 billion per year goal through to 2025.



The Warsaw International Mechanism (WIM) for Loss & Damages, established at the UNFCCC in 2013 (19th COP), was the 1st formal acknowledgment of the need to compensate developing countries affected by climate disasters.

- The discussions under WIM so far have focused mainly on enhancing knowledge and strengthening dialogue. No funding mechanism has come about

FIG: STEPS TO ACCEPT RESPONSIBILITY TOWARDS CLIMATE REPARATIONS

HEAT WAVE

- It is a period of abnormally high temperatures, more than the normal maximum temperature that occurs during the summer season.
- According to Indian Meteorological Department (IMD) heat wave need not be considered till maximum temperature of a station reaches at least 40°C for Plains and at least 30°C for Hilly regions.

Reasons Why India Is Experiencing More Heat Waves?

- Magnified effect of paved and concrete surfaces and lack of tree cover in urban areas.
- Urban heat island effects can cause ambient temperatures to feel 3 to 4 degrees higher than they are.
- Global temperatures increased by an average of 0.8 degrees over the past 100 years. Night temperatures are also rising.
- Higher daily peak temperatures along with longer, more intense heat waves globally due to climate change.
- High intensity of UV rays in medium-high heat wave areas.

Steps Taken To Deal With Heat Wave

- Chhattisgarh, Odisha, Kerala, Rajasthan, Andhra Pradesh, Maharashtra and Karnataka had declared heat waves as a local disaster.
- Water kiosks, staggered outdoor work hours, cool roofs for buildings and homes.
- Passive Cooling technology is a widely-used strategy to create naturally ventilated buildings.
- Plantation and effort to increase the area under green cover are the primary requirement to cut heat load within urban areas.
- Darker colours absorb more heat, so increasing the reflectivity of buildings can reduce heat.

LANDSLIDE

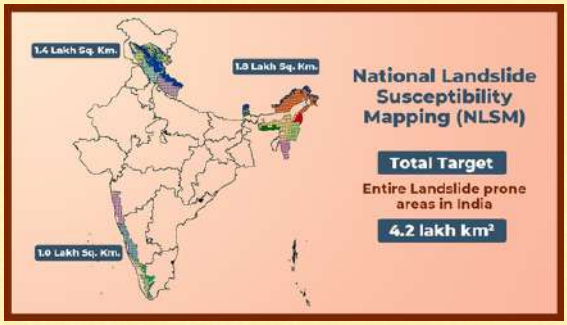
- Various part of India including Manipur, Assam and Mumbai faced the incidence of landslide.

About Landslide

- It is the movement of a mass of rock, debris, or earth down a slope under the direct influence of gravity. The term encompasses 5 modes of slope movement: falls, topples, slides, spreads & flows.

Cause of Landslide

- **NATURAL CAUSES** – **Earthquakes, Excessive Rainfall**
- **ANTHROPOGENIC CAUSES**
  - **Infrastructure Development** – Creation of roads, railways, dams, etc. in the mountainous region.
  - **Mining** – Removing the surface of the earth for mineral exploration loosens the grip of material.
  - **Deforestation** loosens the soil grip and makes the region more vulnerable to landslides.
  - **Unsustainable Tourism** – The rising tourist puts greater pressure on land as more infrastructure and amenities are needed to accommodate them. This leads to more construction and greater landslides.



Approximately 15% of the country's territory is prone to landslides. The Himalayas of Northwest and Northeast India, as well as the Western Ghats.

STEPS TAKEN IN INDIA TO DEAL WITH LANDSLIDES

- **National Disaster Management Authority (NDMA) Guidelines on Landslide Hazard Management (2009)** – It outlines the steps that should be taken to avoid or reduce the risk of landslides. Identifying regions that are prone to landslides
- **National Landslide Risk Management Strategy (2019)** – It covers all aspects of landslide disaster risk reduction and management, such as hazard mapping, monitoring, and early warning systems.
- **National Institute of Disaster Management (NIDM)** – It is a prominent institute that provides disaster management and disaster risk reduction capacity building support to various national and state level authorities.

HIMALAYAN GLACIERS RESISTING GLOBAL WARMING

- Researchers have taken a significant leap toward solving the mystery of why few pockets of glaciers in the Karakoram Range are resisting glacial melt due to global warming.
- The glaciers of central Karakoram have surprisingly remained unchanged or slightly increased in the last few decades. This phenomenon is being called 'Karakoram Anomaly'

Why Karakoram Range is Resisting Glacial Melt?

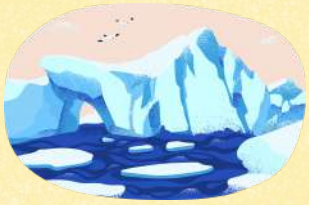
- Western disturbance (WD) has been instrumental in triggering and maintaining the Karakoram Anomaly since the turn of the century.
- It is the primary feeder of snowfall for the region during winters.
- The contribution of WDs in terms of snowfall volume over the core glacier regions of the Karakoram has increased by about 27% in recent decades.
- The precipitation intensity of WDs affecting the Karakoram has increased by around 10% in the last two decades, which only strengthens their role in maintaining the regional anomaly.

Multidimensional Approach Needed To Tackle Glacial Melting

- Net zero Target by 2070 – India's INDC commitment.
- Artificial glacier of Laddakh by Sonam Wangchuk for perennial source of water from glaciers.

ZOMBIE ICE

The Scientists predicted that the melting Greenland's Zombie Ice would raise global sea levels by at least 10.6 inches.



About Zombie Ice

- It is also known as dead or doomed ice.
- It is ice that is not receiving fresh snow even while continuing to be part of the parent ice sheet.
- There is an equilibrium state where the snow falling from higher altitudes of the ice cap flows down to recharge the glaciers' edges, thereby thickening them.
- Zombie ice melts away from the ice cap and blends into the ocean.
- In the last few decades, more melting and less replenishment have been seen.
- Without replenishment, the doomed ice is melting from climate change and will inevitably raise seas.

LINK BETWEEN FAST-MELTING ARCTIC ICE AND OCEAN ACIDIFICATION

- A team of researchers has flagged **changing chemistry of western region of the Arctic Ocean after discovering acidity levels increasing 3-4 times faster than ocean waters elsewhere.**
- The team identified a strong correlation between the accelerated rate of melting ice and the rate of ocean acidification.

About Ocean Acidification

- It refers to a reduction in the pH of the ocean over an extended period of time.
  - The pH scale runs from 0 to 14, with 7 being a neutral pH. Anything higher than 7 is basic (or alkaline) and anything lower than 7 is acidic.
- Its main cause is the absorption of carbon dioxide (CO_2) from the atmosphere.
- 23-30% of the CO_2 that is in the atmosphere dissolves into oceans, rivers and lakes.
- CO_2 reacts with water molecules (H_2O) and forms the weak acid H_2CO_3 (carbonic acid). Most of this acid dissociates into hydrogen ions (H^+) and bicarbonate ions (HCO_3^-). The increase in H^+ ions reduces pH and the oceans acidify. This process is called ocean acidification.

Relation Between Sea-ice Melting and Rapid pH Decrease

- Scientists point to sea-ice melt as the key mechanism to explain this rapid pH decrease, because it changes surface water in **3 primary ways:**
- The water under the sea ice, which had a deficit of carbon dioxide, now is exposed to the atmospheric carbon dioxide and can take it up freely.
- The seawater mixed with meltwater is light and can't mix easily into deeper waters, which means **carbon dioxide is concentrated at the surface.**
- The meltwater **dilutes the carbonate ion concentration in the seawater, weakening its ability to neutralise the carbon dioxide into bicarbonate.**

ATMOSPHERIC RIVERS OVER ASIA VS ARCTIC OSCILLATION

Atmospheric rivers	Arctic oscillation
• These are relatively long, narrow regions in the atmosphere, like rivers in the sky that transport most of the water vapour outside of the tropics. • These columns of vapour move with the weather, carrying an amount of water vapour roughly equal to the average flow of water at the mouth of the Mississippi River. • When atmospheric rivers make landfall, they often release this water vapour in the form of rain or snow.	• It is a back-and-forth transfer of atmospheric pressure between the Arctic and the mid-latitudes of the North Pacific and North Atlantic. • When it is strongly positive, a strong mid-latitude jet stream steers storms northward, reducing cold air outbreaks in the mid-latitudes. • When it is strongly negative, a weaker, meandering jet dips farther south, allowing Arctic air to spill into the mid-latitudes.

KORONIVIA JOINT WORK ON AGRICULTURE (KJWA)

- It is a landmark decision under the **United Nations Framework Convention on Climate Change (UNFCCC)** that recognizes the unique potential of agriculture in tackling climate change.
- It was established at the 23rd Conference of the Parties (COP) in Fiji in 2017.
- It addresses 6 interrelated topics on soils, nutrient use, water, livestock, methods for assessing adaptation, and socio-economic & food security dimensions of climate change across the agricultural sectors.
- Under this, countries agreed to work together to make sure that agricultural development ensures both increased food security in the face of climate change and a reduction in emissions.

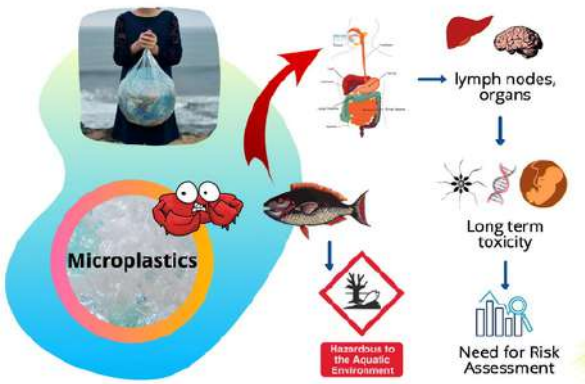
MOU TO TACKLE PLASTIC POLLUTION

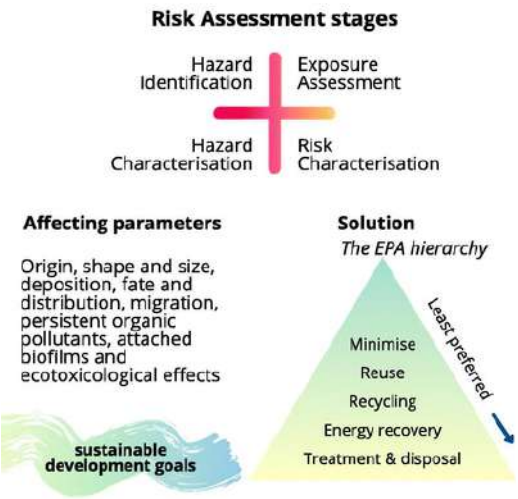
The National Cadet Corps (NCC) and United Nations Environment Programme (UNEP) signed a MoU **effective for 3 years** to tackle the issue of plastic pollution for achieving the universal goal of clean water bodies through **'Puneet Sagar Abhiyan'** and '**Tide Turners Plastic Challenge programme**'.

Puneet Sagar Abhiyan	Tide Turner Challenge Programme
It is a nationwide flagship campaign to clean sea shores of plastic & other waste material, launched by the NCC in December 2021.	It is being developed as part of United Nations Environment Programme's (UNEP) Clean Seas Campaign.
Initially it was for one month, but it was subsequently extended as a Pan-India round-the-year campaign to cover rivers and other water bodies as well.	It is supported and funded by the UK, Norway and the Global Environment Facility(GEF)
Since the launch of this Abhiyan, over 100 tones of plastic waste have been collected from nearly 1,900 locations.	It aims to encourage young people to play a part in resolving pressing environmental issues.

Why Plastic is a Concerning Issue?

- Global plastics production doubled from 2000 to 2019 to reach **460 million tones**.
- India generates about 3.5 million tons of plastic waste annually and the per capita plastic waste generation has almost doubled over the last five years.
- About **11 million tons** of plastic waste flows **into the oceans annually**. This could triple by 2040.
  - It has infiltrated the ocean and is now found in the smallest plankton up to the largest whale.
- Exposure to plastic harms human health, and potentially affecting fertility, hormonal, metabolic and neurological activity.





Step Taken So Far By India To Tackling Plastic Waste

- India is a signatory to MARPOL (International Convention on Prevention of Marine Pollution).
- India's pledge to phase out single use plastics by 2022. The Environment Ministry has already **banned all single use plastics from July, 2022.**
- Increased minimum thickness of carry bags from existing 75 micron to 120 micron by December 2022.
- Under the project named **REPLAN (Reducing Plastic in Nature),** KVIC (Khadi and Village Industries Commission) has started manufacturing plastic-mixed handmade paper. In it plastic waste is de-structured, degraded, diluted and used with paper pulp thus reduces plastic waste from nature.
- The **India Plastic Challenge – Hackathon 2021** is a unique competition calling upon start-ups and students to develop innovative solutions to mitigate plastic pollution.

Commission Of Air Quality Management (CAQM)

It is a statutory body formed under the Commission for Air Quality Management in National Capital Region and Adjoining Areas, Act 2021.

Functions

- It has the power to take measures, issue directions and entertain complaints for the purpose of protecting and improving the quality of air in the National Capital Region.
- It will also coordinate action taken by states on air pollution (stubble burning) and will lay down parameters for air quality and emission or discharge of environmental pollutants.
- It is headed by a full-time chairperson who has been a Secretary to the Government of India, or a Chief Secretary to a State government. The chairperson will hold the post for **three years** or until s/he attains the **age of 70 years.**
- It will have members from several Ministries as well as experts from CPCB, ISRO & Civil Society.

CENTRAL POLLUTION CONTROL BOARD'S AIR QUALITY STANDARDS

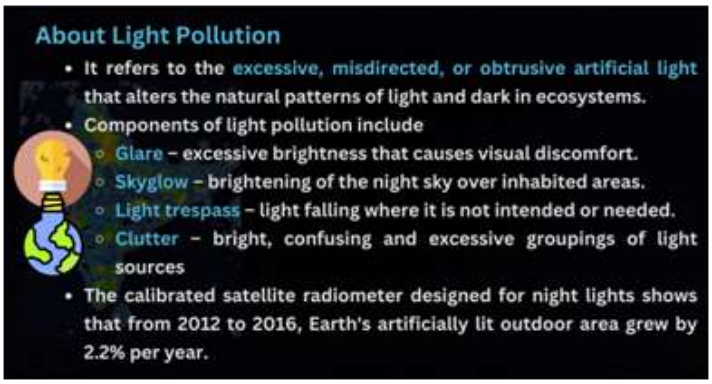
AIR QUALITY INDEX (AQI)	CATEGORY
0-50	Good
51-100	Satisfactory
101-200	Moderate
201-300	Poor
301-400	Very Poor
401-500	Severe

LIGHT POLLUTION AND ITS IMPACT ON MIGRATORY BIRDS

World Migratory Bird Day was recently celebrated, in which light pollution and its impact on migratory birds has been highlighted.

Overall Impact of Light Pollution

- It washes out starlight in the night sky and interferes with astronomical research.
- Adverse health effects which include increased headache, anxiety and stress, decrease in sexual function.
- It poses a serious threat in particular to nocturnal wildlife, it confuses animal navigation, alters competitive interactions, changes predator-prey relations and causes physiological harm.
- Studies suggest that light pollution around lakes prevents zooplankton from eating surface algae, which causes algal blooms that can kill off the lakes' plants and lower water quality.



- Most birds migrate at night because they navigate with the help of the stars. With the city lights in the night sky, birds are no longer able to navigate by the stars.
  - Seabirds such as petrels and shearwaters are attracted by artificial lights on land and become prey for rats and cats.

About World Migratory Bird Day

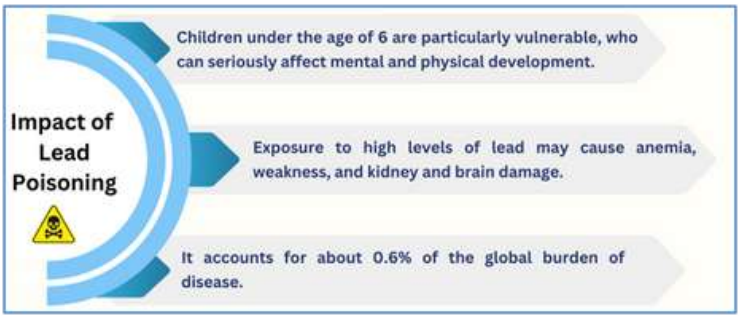
- It is celebrated twice a year, on the **second Saturday in May and October.**
- It is organized by a collaborative partnership among **the two UN wildlife treaties** - *Conservation of Migratory Species of Wild Animals (CMS)* and *African-Eurasian Migratory Waterbird Agreement (AEWA)*, and the non-profit organization, Environment for the Americas (EFTA).
- This year it was celebrated on 14 May and 8 October 2022 and the theme was "Dim the Lights for Birds at Night" and "Light Pollution" respectively.

LEAD POISONING

A report by Niti Aayog and the Council of Scientific & Industrial Research (CSIR) has found that India bears the world's highest health and economic burden due to lead (Pb) poisoning.

Key Findings of the Report

- Bihar, Uttar Pradesh, Madhya Pradesh, Jharkhand, Chhattisgarh and Andhra Pradesh had the highest average blood lead levels (BLL) among Indian states. These states account for 40% of India's population.
- India has over 275 million children with BLLs more than considered safe (5 micrograms per deciliter).
- This is the highest level of Pb poisoning cases in children in any country.
- Deaths due to lead poisoning continue to rise in India, even though its use in gasoline was phased out in the country by 2000.
- Lead pollution resulted in an estimated 5% loss of Indian GDP due to lower economic productivity.



Step Taken to Prevent Lead Poisoning

- WHO along with United Nations Environment Programme (UNEP) has formed the "Global Alliance to Eliminate Lead Paint" to promote a phase-out of the manufacture and sale of paints containing lead.
- Ministry of Environment, Forest and Climate Change (MoEFCC), has prohibited manufacture, trade, import as well as export of paints containing lead or lead compounds in excess of 90 parts per million (ppm).

FLY ASH

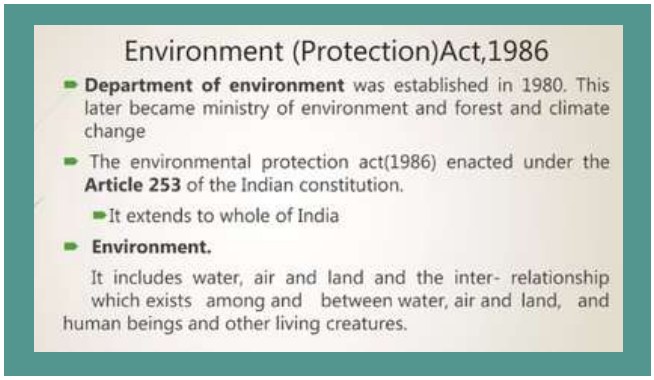
- According to a report by the Comptroller and Auditor General of India (CAG), three thermal power plants dumped fly-ash in low-lying areas without permission from the Gujarat Pollution Control Board (GPCB).
- The three thermal powers are operated by Torrent Power, Adani Power and Tata Power.

Concerns Regarding Fly Ash

- **Many heavy metals are found in it,** including nickel, cadmium, arsenic, chromium, lead.
- **Its particles are toxic air pollutants,** can trigger heart disease, cancer, respiratory diseases and stroke.

Fly Ash Notification 2021

- Fly Ash Notification 2021 was issued under the **Environment (Protection) Act 1986.**
- Prohibiting dumping and disposal of fly ash discharged from coal or lignite based thermal power plants on land or into water bodies
- Centre has made it mandatory for such plants to ensure 100% utilization of ash in an eco-friendly manner, and introduced for the first time a **penalty regime** for non-compliance based on 'polluter pays' principle.



Initiatives Taken to Tackle With Fly Ash

- An official notification came in **1999** and it outlined some methods for the constructive use of fly ash to manufacture cement, concrete blocks and bricks etc.
- A **web portal** for monitoring the data of fly ash of Thermal Power Plants and a mobile based application titled **"ASHTRACK"** has been launched.

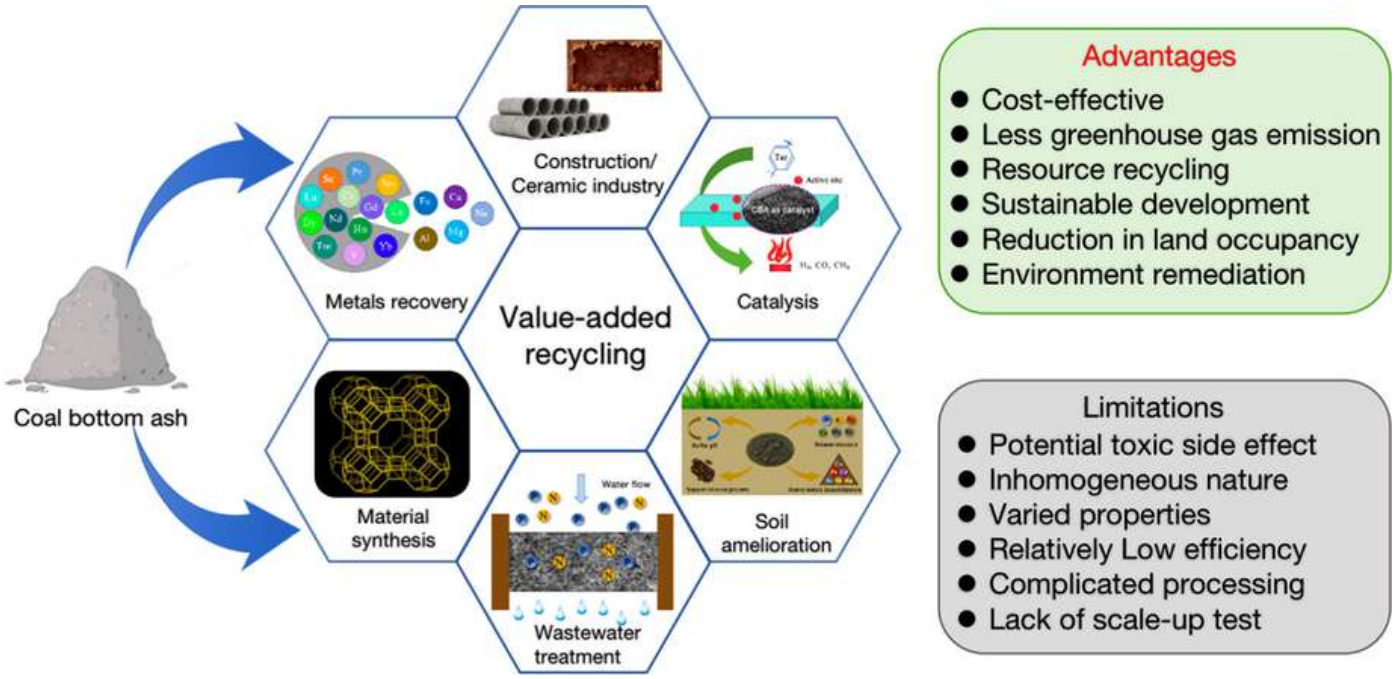
Pradhan Mantri Awas Yojana (Urban)

It has focused on new construction technologies such as using fly ash bricks that are innovative, environmentally friendly.

Fly Ash Management and Utilization Mission

- The **National Green Tribunal (NGT) directed the constitution of this Mission in January 2022**.
- Its primary goal will be to coordinate and monitor the handling & disposal of fly ash and associated issues.
- It will also look after how 1,670 million tons of legacy (accumulated) fly ash could be utilized in least hazardous manner. The **secretary of Ministry of Environment, Forest and Climate Change (MoEF&CC)** will be the nodal agency for coordination and compliance.

FIG: TURNING COAL BOTTOM ASH INTO WEALTH



TOTAL DISSOLVED SOLIDS (TDS) VS TOTAL COLIFORMS

- It is terminology often used in water filtration, especially in regards to reverse osmosis.
- If your water is known to be free from harmful contaminants, a TDS level of 300 – 500 ppm is the ideal amount of TDS to have in drinking water.

Total Coliforms

- It is a large group of different types of bacteria, commonly found in the environment, such as in soil, and in the intestines of animals, including humans.
- The main sources of total coliforms in water is contamination from human and animal waste.

MISSION LIFE

- The Prime Minister of India launched a new mission named 'Mission LiFE' (Lifestyle For Environment), to combat climate change.
  - The concept of LiFE was introduced by the PM of India during COP26 in Glasgow in 2021.

About Mission LiFE

- It is a global plan of action led by India that aims to save the planet from the disastrous consequences of climate change.
- This mission envisions replacing the prevalent 'use-and-dispose' economy with a circular economy.
- Its objective is to promote an environmentally conscious lifestyle that focuses on mindful and deliberate utilization instead of mindless and wasteful consumption.

Why Do We Need Mission LiFE?

Limited attention has been paid to essential actions at the level of individuals, communities and institutions. Changing individual and community behavior alone can make a significant change in the environmental and climate crisis.

3-pronged Strategy of Mission LiFE

Motivate individuals to practice simple yet effective, eco-friendly actions in their daily life (demand).

Enabling industries and markets to respond rapidly to changing demand (supply).

Influencing government and industrial policy to support both sustainable consumption and production (policy).

Features of Mission LiFE

- It intends to inspire individuals to take simple actions in their daily lives that can contribute significantly to climate change when adopted around the world.
- The mission plans to build and nurture a global network of individuals, named 'Pro-Planet People' (P3), who will have a shared commitment to adopt and promote eco-friendly lifestyles

India's Achievement so far to Save environment

- Reduces the annual per capita carbon footprint, which is only about 0.56 tons, compared to the world average of 4 tons per year.
- As of January 2022, 36.78 crore LEDs were distributed across India under UJALA scheme. It helped in reducing electricity bills and protecting the environment.
- 4th largest capacity for renewable energy in the world and ranked **4th in wind energy and 5th in solar energy.**
- Renewable energy capacity has increased by about **290% in the last 7-8 years.**
- Achieved the target of achieving **40% of the electric capacity from non-fossil-fuel sources 9 years ahead of the deadline**, which was by 2030 and achieved a target of **10% ethanol blending in petrol.**
- Now through the National Hydrogen Mission, India has moved towards an environment-friendly energy source.

COP26-Glasgow Summit, 2021

- It was the 26th session of the Conference of Parties to the UN Framework Convention on Climate Change. It was held in Glasgow, United Kingdom.
- The summit targeted global warming not to exceed +1.5°C and got about 140 countries to announce target dates for bringing emissions down to net zero.

CLIMATE CHANGE AND FOOD SYSTEMS

International Food Policy Research Institute (IFPRI) has released Global Food Policy Report: Climate Change & Food Systems.

Major Highlights of The Report

Temperature and Heat Waves

- The average temperature across India is projected to **rise by between 2.4°C and 4.4°C by 2100.**
- **Summer heat waves are projected to triple by 2100 in India.**

Food Production

- **India's food production could drop 16%** and the number of those at **risk for hunger could increase 23% by 2030 due to climate change.**
- The number of **Indians at risk from hunger in 2030 is expected to be 73.9 million**.
- Baseline projections indicate that global food production will grow by about 60% over 2010 levels by 2050 in the context of climate change.
- **Production of fruit and vegetables is projected to grow** more than double in most regions by 2050.
- **Meat production is projected to double in South Asia and West and Central Africa** by 2030.

Calorie Consumption

- **Climate change will not impact the average calorie consumption of Indians.**
- It remains the same at 2,600 kcal per capita per day by 2030 even in a climate change scenario.

Change in Diet

- **Diets are also shifting toward higher-value foods**, including more fruits and vegetables, processed foods, and animal-source foods, outside of high-income countries.

Per Capita Consumption Level

- Despite this growth, per capita consumption levels in developing countries will remain less than half of those in developed countries.
- By 2050, average dietary energy consumption is projected to increase by about 10% globally to more than 3,000 kcal per capita per day.

Regional Differences

- Regional differences in access to food mean that nearly 500 million people are projected to remain at risk of going hungry.
- Globally about 70 million more people will be at risk from hunger because of climate change, including more than 28 million in East and Southern Africa.

IFPRI

- It was established in 1975, which provides research-based policy solutions to sustainably reduce poverty and end hunger and malnutrition in developing countries.

WWF'S DIET CHART TO HELP CURB CLIMATE CHANGE

The World-Wide Fund for Nature (WWF) outlined a sustainable diet plan that is healthy for humans and the environment alike.

Why We Need WWF's Diet Chart ?

- Our global food system is one of the primary drivers of biodiversity loss, with agriculture alone being the identified threat to 22,500 of the 41,000 species at risk of extinction.
- Emissions burden from the world's food production is also massive. A quarter of global greenhouse gas (GHG) emissions are associated with food.

UNCCD CONFERENCE OF PARTIES (COP15)

The Union Minister for Environment, Forest and Climate Change addressed the 15th session of the COP15 of the United Nation Convention to Combat Desertification (UNCCD) in Cote d'Ivoire (Western Africa). The Drought in Numbers, 2022 report was released at the CoP15.

About COP15 of UNCCD

01 It is a key moment in the fight against desertification, land degradation and drought.

02 Drought, land restoration, and related enablers such as land rights, gender equality and youth empowerment are among the top items on the Conference agenda.

03 It aims to move from commitments to action, placing land degradation neutrality (LDN) front and centre.

04 It will build on the findings of the 2nd edition of the Global Land Outlook and offer a concrete response to the interlinked challenges of climate change and biodiversity loss.

- The Global Land Outlook (GLO), the UNCCD flagship publication, underscores land system challenges, showcases transformative policies and practices, and points to cost-effective pathways to scale up sustainable land and water management.

Significance of COP15

- **It will bring together leaders from governments, the private sector, civil society, and other key stakeholders from around the world.**
- **It is expected to galvanize sustainable solutions for land restoration and drought resilience, with a strong focus on future-proofing land use.**

India Specific Findings

01 **Increase in area:** India's drought-prone area has increased by 57% since 1997. Drought affected nearly two-thirds of the country from 2020 to 2022.

02 **Increase in intensity:** Over the last decade, one-third of India's districts have experienced more than four droughts, and drought affects 50 million people each year.

03 **Comparison with Africa:** Drought vulnerability in India is comparable to that of Sub-Saharan Africa.

04 **ISRO evaluation:** According to the Desertification and Land Degradation Atlas of India, released in 2021, nearly 30% of the country's land was degraded during 2018-19.

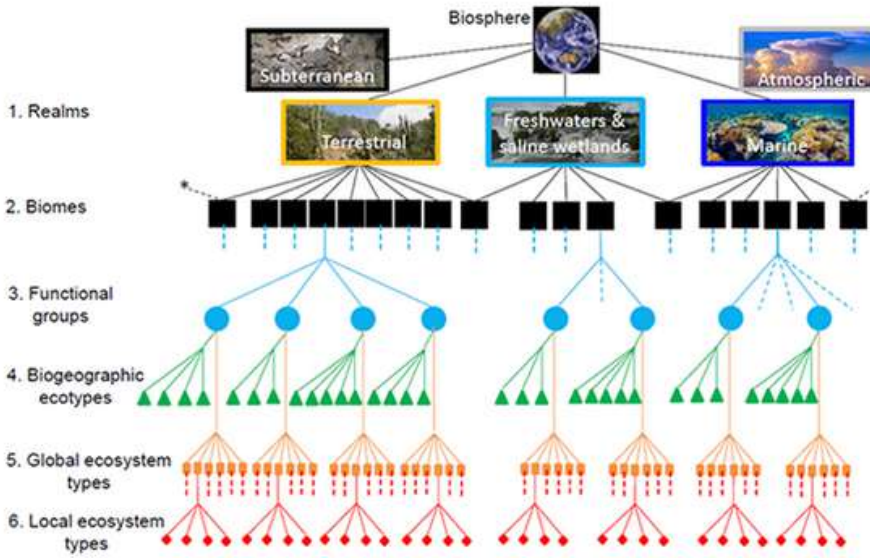
05 **Flash Droughts:** According to the paper published recently in Nature Communications, India is a hotspot for flash droughts and this could have major implications on the country's crop production.

IUCN GLOBAL ECOSYSTEM TYPOLOGY

The IUCN recently adopted its Global Ecosystem Typology to support global, regional and national efforts to assess and manage risks to ecosystems.

About IUCN Global Ecosystem Typology

- It is the 1st-ever comprehensive classification framework for classifying and mapping all Earth's ecosystems, which integrates their functional and compositional features.
- It is founded on a conceptual ecosystem model that draws on community assembly theory.
- Its purpose is not to duplicate existing biogeographic classifications, but to complement them in a framework that supports a broader utility for conservation management and other applications.
- It will help identify the ecosystems that are most critical for biodiversity conservation, research, management and human wellbeing into the future.



About IUCN Global Ecosystem Typology

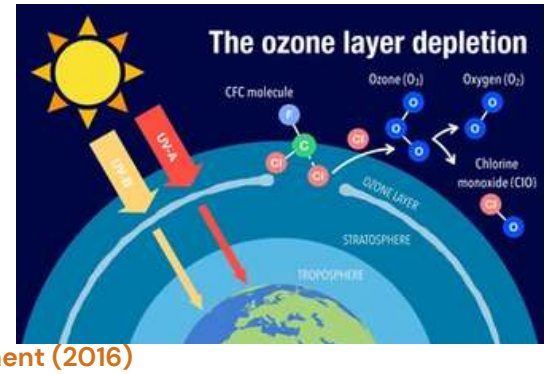
- A 6 hierarchical structure that represents functional features of ecosystems in 3 upper levels and compositional features in 3 lower levels.
- Comprehensive coverage of earth's biosphere, (encompassing terrestrial, subterranean, freshwater, marine and atmospheric environments).
- Top-down construction of upper levels to ensure global consistency and bottom-up construction of lower levels to promote local accuracy and ownership.

WORLD OZONE DAY

Every year, **16th September** is observed as the **International Day for Preservation of Ozone layer (World Ozone Day)**. It is celebrated to commemorate the signing of the **Montreal Protocol.**

About Ozone Layer

- It is a form of **oxygen with the chemical formula O3.**
- Most ozone **occurs naturally in the Earth's Stratosphere,** between 10 and 40km above Earth's surface.
- It forms a protective layer that shields earth from the sun's harmful ultraviolet rays.
- It is gradually being **destroyed by Ozone-Depleting Substances, including CFCs, HCFCs, halons, methyl bromide, carbon tetrachloride, and methyl chloroform.**



About Montreal Protocol

- It was adopted in September 1987 and entered into force on 1 January 1989.
- Its objective is to cut down the production and consumption of ozone-depleting substances.
- Montreal Protocol led to the replacement of CFCs with Hydrofluorocarbons (HFCs)
- Global consumption of ozone-depleting substances has been reduced by some 98-99% since countries began taking action under the Montreal Protocol.
- India joined the Montreal Protocol in 1992.

Kigali Agreement (2016)

- The terms of the Kigali Amendment entered into force in 2019.
- India ratified the Kigali Amendment to the Montreal Protocol on phasing down climate-damaging refrigerant HFCs in August 2021. The goal is to achieve over 80% reduction in HFC consumption by 2047.
- Because HFCs were not ozone-depleting, they were not controlled substances under the Montreal Protocol. They were part of the greenhouse gases whose emissions are sought to be curtailed through Kyoto Protocol of 1997 and the 2015 Paris Agreement.

INTERNATIONAL TREATY ON PLANT GENETIC RESOURCES FOR FOOD AND AGRICULTURE (ITPGRFA)

- ITPGRFA is also known as the International Seed Treaty or Plant Treaty.
- It is a comprehensive international agreement in harmony with the Convention on Biological Diversity(CBD)
- It aims at guaranteeing food security through the conservation, exchange and sustainable use of the world's Plant Genetic resources for food and agriculture (PGRFA).

BORO RICE

- It is commonly known as winter rice.
- It is photo-insensitive, transplanted rice cultivated in waterlogged, low or medium lands with supplemental irrigation during November to May.
- Boro rice system takes advantage of residual moisture after harvesting of Kharif rice.

R SELECTED SPECIES AND K SELECTED SPECIES

- **R-selection** - R is for reproduction. Such a species invests a small amount of resource in each offspring. It is more common in small animals with shorter lifespans, such as fish or insects.
- **K-selection** - K is for carrying capacity. In this, children enter the competitive world. It is more common in larger animals, such as whales or elephants, with longer lifespans.

LIVING LANDS CHARTER

- It is a non-binding mandate that member states will protect global land resources and prevent climate change, loss of biodiversity and land degradation while working towards sustainable management.
- All 54 Commonwealth members have agreed to adopt it.

ECO system and Spaceborne Thermal Radiometer Experiment on Space Station (ECOSTRESS)

It is an ongoing scientific experiment in which a radiometer is mounted on the International Space Station (ISS). It measures the temperature of plants growing in specific locations on Earth over the course of a solar year.

CENTRE FOR WILDLIFE REHABILITATION AND CONSERVATION (CWRC)

The Centre for Wildlife Rehabilitation and Conservation (CWRC) at Panbari near Kaziranga National Park and Tiger Reserve has completed 20 years.

About CWRC

01 It was a joint initiative of the Assam Forest Department, the Wildlife Trust of India (WTI) and the International Fund for Animal Welfare (IFAW)

02 It provides continuous emergency care, treatment and rehabilitation to indigenous wild animals displaced due to various reasons.

03 It's the only facility in India that rescues, hand-raises, and rehabilitates animals such as the one-horned rhinoceros and Asian elephant.

SINGALILA NATIONAL PARK

Padmaja Naidu Himalayan Zoological Park recently launched a programme to introduce 20 Red Pandas in around five years to the Singalila National Park.

About Singalila National Park

- It is the highest protected area, located on the Singalila Ridge, in the Darjeeling district of West Bengal.
- The park was initially a wildlife sanctuary. In 1992 it was converted into a national park.
- In 1994, it was declared a major wild habitat for the red panda.

About Red Panda

- It is endemic to the forests of India, Bhutan, Nepal, northern Myanmar and southern China.
- In India, there are two subspecies of panda- Himalayan red panda and Chinese red panda.
- It is the state animal of Sikkim. They are considered as an indicator species for ecological change.
- It is classified in the endangered category of the IUCN Red List and protected under Schedule I of the Wildlife Protection Act 1972

MOEFCC PROPOSES AMENDMENTS IN ENVIRONMENT PROTECTION ACT, 1986

- The Ministry of Environment, Forests and Climate Change (MoEFCC) proposes amendments in Environment Protection Act (EPA), 1986, to decriminalize provisions.

Amendments Proposed In The Act

- The ministry has **proposed to replace imprisonment with monetary penalty** for the less severe contraventions under the EPA, which will also be decriminalized.
- Serious violations of EPA which lead to grievous **injury or loss of life shall be covered under the provision of IPC.**
- The amendments also **propose the creation of an "Environmental Protection Fund"** in which the amount of penalty will be remitted.

It is an umbrella legislation designed to provide a framework for the coordination of central and state authorities established under the Water Act, 1974 and the Air Act, 1981.

It was enacted under Article 253 of the Indian Constitution to implement the decisions made at the Stockholm Conference 1972.

- Article 253 empowers the Parliament to make any law for the whole or any part of the territory of India for implementing any treaty, agreement or convention with any other country or countries or any decision made at any international conference, association or other body.
- In the Conference it was agreed to take suitable steps for the protection and improvement of the human environment.

This Act's major goal is to provide for the conservation and improvement of the environment and all matters related to it.

It lays down a system of speedy and adequate response to situations threatening the environment.

Main Provisions of the Act

1. **Powers Of The Central Government –** To establish authorities charged with the mandate of preventing environmental pollution in all its forms and to tackle specific environmental problems that are peculiar to different parts of the country.
2. **Appointment of officers and their powers and functions –** The Central Government may appoint officers with such designations and may entrust to them such of the powers and functions as it may deem fit.
3. **Restriction on pollutant discharge** – No individual or organization shall discharge/emit or permit to discharge/emit any environmental pollutant in excess of the prescribed standards.
4. **Cognizance of offences** – No court shall take cognizance of any offence except on a complaint made by the Central Government or any authority or officer authorized in this behalf by that Government.
5. **Powers of entry and inspection** – Any person empowered by the Central Government shall have the right to enter any place for inspectionor compliance with any order, notification and direction given under the Act.
6. **Establishment of environmental laboratories** – The Central Government is entitled to establish or recognize any laboratory/institute as environmental laboratories to carry out the functions entrusted to such a laboratory.

Penalties for offences – Non-compliance or Contravention to any of the provisions of the Act is considered as an offence. Any offences under the EPA are punishable with the imprisonment of up to 5 years or a fine up to 1 lakh rupees or both.

FOREST (CONSERVATION) RULES, 2022

Ministry of Environment Forests and Climate Change (MoEFCC) notified the Forest (Conservation) Rules, 2022, under the Forest Conservation Act, 1980. It had, thus, replaced the Forest (Conservation) Rules, 2003.

The Forest (Conservation) Act (FCA), 1980

Need for FCA: Though the Indian Forests Act is in effect since 1927, it was designed not to preserve forests or combat deforestation, but to allow the Colonial British authority to control timber extraction.

About FCA

- The FCA is the principal legislation that regulates deforestation in the country. It prohibits the felling of forests for any "non-forestry" use **without prior clearance by the central government.**
- Thus, it **creates an institutional mechanism**, prescribing procedures for the orderly approval and handing over of forest land to user agencies for diversion for non-forestry purposes.
- These result in deforestation, ranging from "clear felling" to "selective felling" as required by the user agency.
- The clearance process includes seeking consent from local forest rights-holders and from wildlife authorities. The Centre is empowered to reject such requests or allow it with legally binding conditions.

Forest (Conservation) Rules, 2003	Forest (Conservation) Rules, 2022
It had provisions of "clear felling" to "selective felling"	These affirm that "clear felling" is indeed the removal of all-natural vegetation from land of size 1 hectare (ha) and above, by felling, burning or uprooting. It excludes "selection felling" which was there in the 2003 Rules.
Environment Ministry's regional office or the state would process all proposals to use forest land, depending on the extent of forest area to be diverted. The Ministry would then consider the advice of a committee set up for this purpose and decide on the proposal.	Earlier, workflow was deemed cumbersome and the Ministry has now replaced it with a machinery consisting of a project screening committee, an integrated regional office, a few designated officers and an advisory committee at the Ministry. And they are all under the control of the forest bureaucracy.
No such provision	Tree plantation, dubbed "surrogate forests" in the new Rules, now comes under the section of "compensatory afforestation."
Ministry used to receive forest diversion proposals from agencies together with a submission under the Forest Rights Act (FRA), 2006. The FRA overrides the FCA and Rules can't override or abrogate a law	Compliance with the Forest Rights Act (FRA), 2006, is not at all required for the final approval for forest diversion, given by the Ministry.

The Scheduled Tribes and Other Traditional Forest Dwellers (Recognition Of Forest Rights) Act, 2006 or the Forest Rights Act (FRA), 2006

The Act encompasses -

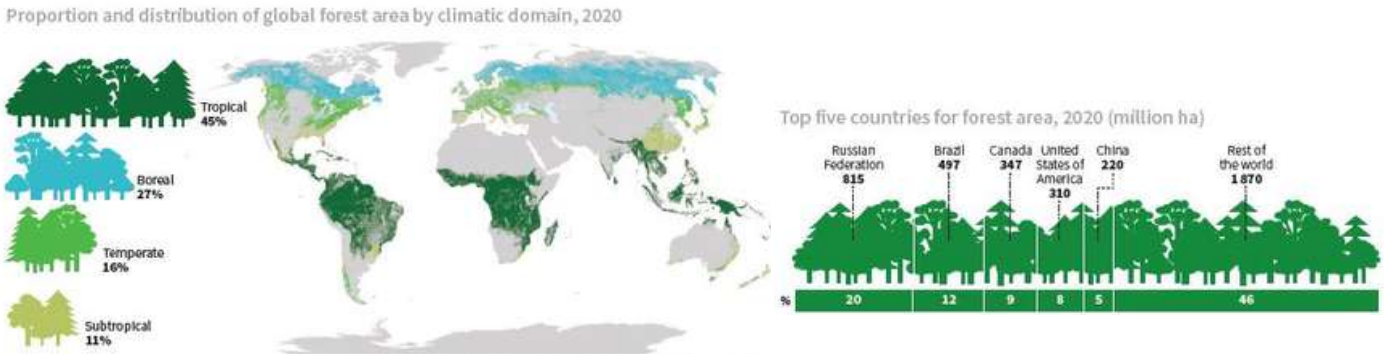
- **Individual rights:** Rights of Self-cultivation & Habitation
- **Community Rights** as Grazing, Fishing and access to Water bodies in forests;
- **Habitat Rights for Particularly Vulnerable Tribal Groups (PVTGs)**,
- Recognition of traditional customary rights and right to protect, regenerate or conserve or manage any community forest resource for sustainable use, etc.
- **Right to allocation of forest land for developmental purposes** to fulfil basic infrastructural needs of the community.
- In conjunction with the **Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Settlement Act, 2013,** FRA protects the tribal population from eviction without rehabilitation and settlement.
- The Act further enjoins upon the **Gram Sabha and rights holders** the responsibility of conservation and protection of biodiversity as well as to stop any destructive practices affecting these resources or cultural and natural heritage of the tribals.

STATE OF THE WORLD'S FORESTS 2022

The 2022 edition of State of the World's Forests (SOFO) released on day one of the World Forestry Congress.

About The Report:

- It is the flagship publication of the Food and Agriculture Organization (FAO) of the United Nations, published every two years.
- It presents an analysis of the interaction between forests and people, with a focus on a specific pertinent topic. It explains the importance of forests to the global economy and biodiversity.



Key Findings Of This Report

Forest Loss

- Forests cover 4.06 billion ha of the earth's geographical area. More than 700 million hectares (mha) of forest (18% of total forest area) is in legally established protected areas.
- The world has lost 420 mha, approximately 10% of its total forest area in last 30 years.
- Although the rate of deforestation was declining, 10 mha of forests were lost every year between 2015 and 2020.
- Some 47 mha of primary forests were lost between 2000 and 2020.
- An estimated 289 mha of forests would be deforested between 2016 and 2050 in the tropics alone resulting in the emission of 169 Gt CO2 if additional action is not taken.

Increase In Infectious Diseases

- 15% of 250 emerging infectious diseases have been linked to forests and 30% of new diseases, reported since 1960.
- Particularly the tropic's deforestation has been associated with an increase in infectious diseases such as dengue fever and malaria.

Increase in Global Consumption

- Annual global consumption of natural resources is likely to increase to 190 billion tonnes (BT) in 2060 from 92 billion tonnes in 2017.
- Annual biomass extraction was expected to reach 44 BT by 2060, from 24 BT in 2017. Demand for forest-based biomass is expected to rise further, mainly due to construction and packaging
- Around a billion people in sub-Saharan Africa will keep relying on polluting fuels like charcoal and fuelwood till 2025.

GDP Dependence on Forests

- It is estimated that more than half of world GDP (USD 84.4 trillion in 2020) depends moderately or highly on ecosystem services, including those provided by forests.
- The wealth represented by certain forest ecosystem services is estimated at $7.5 trillion, which is 21% of the total wealth in land assets and about 9% of world GDP
- Ecosystem services: Providing nutritious food and clean water, regulating disease and climate, supporting the pollination of crops and soil formation, and providing recreational, cultural and spiritual benefits

World Forestry Congress (WFC)

- It is the **largest and most important gathering in the world's forestry sector.**
- It is held approximately **every six years** since 1926 under the aegis of the FAO, organized by the government of the host country.
- It is not an intergovernmental meeting; it has neither formal constituencies nor country delegations. It is a forum for the sharing of knowledge and experience regarding the conservation, management, and use of the world's forests.
- The objective of the WFC is to contribute to shaping international action in silvicultural aspects and to encourage global competence.

BOREAL FOREST

- It is also called taiga, which is the world's largest land biome.
- From a biological perspective, it is defined as forests growing in high-latitude environments where freezing temperatures occur for 6 to 8 months.
- Here trees are capable of reaching a minimum height of 5 m and a canopy cover of 10%.
- The boreal ecozone principally spans 8 countries
  - Canada, China, Finland, Japan, Norway, Russia, Sweden and United States.
- It is typically composed of coniferous tree species such as pine, spruce and fir with some broadleaf species such as poplar and birch.

Significance of Boreal Forest

- The circumboreal belt of forest represents about 30% of the global forest area, containing more surface freshwater than any other biome.
- It is second only to the Amazon in terms of its vital role in ensuring the future of the planet.
- It holds twice as much carbon as all tropical forests combined.
- In addition, more than 33% of lumber and 25% of paper on the export market originate from boreal regions.

Climate Change Impacts on Boreal Forest

- During its relatively brief history since deglaciation, the boreal forest has experienced many fluctuations of its climatic environment.
- The increase in temperature enhanced the soil respiration and accelerated carbon emission from the vast stored pool of the boreal forest.
- Changes in temperature and precipitation will also have an impact on disturbance mechanisms such as insects, drought, and fire.
- The boreal forests of eastern North America and Europe have been severely impacted by acid rain.
    - Acid rain acidifies the soil which makes it toxic to plant roots, leaving the trees more susceptible to damage from insects and disease.

TAMIL NADU'S 1ST BIODIVERSITY HERITAGE SITE

- The Tamil Nadu Government issued a notification declaring the Arittapatti village in Madurai district, as a Biodiversity Heritage Site (BHS).
    - It is Tamil Nadu's 1st and India's 35th Biodiversity Heritage Site.
    - Nallur Tamarind Grove in Bengaluru, Karnataka was the 1st Biodiversity Heritage Site of India declared in 2007.

About Biodiversity Heritage Site

- It is a rich biodiversity area and an important component of the local ecosystem which is being protected and managed by society.
- The State Government may notify areas of BHS in consultation with local bodies under Section 37(1) of the 'Biological Diversity Act, 2002'.
- It aims to prevent the loss of biodiversity and preserve the cultural and architectural heritage.
- The creation of a BHS cannot impose any restrictions on the prevailing practices and uses of local communities, except those voluntarily decided by them.

CHAMPIONS OF THE EARTH AWARD

- Indian wildlife biologist Dr Purnima Devi Barman has been honoured with the Champions of the Earth award in the Entrepreneurial Vision category

About the Champions of the Earth award

- It is the United Nations' highest environmental honour.
    - United Nations Environment Programme (UNEP) coordinates and hosts the Champions of the Earth award.
- The award celebrates individuals and groups whose actions have a transformative impact on the environment.
- The award celebrated visionaries in three categories - Inspiration and action, Entrepreneurial vision, Science and innovation

MIYAWAKI METHOD

By the help of Miyawaki method in less than one year, an unused one-acre plot of land in Kuharianwali village, Punjab developed into the forest.

About Miyawaki Method

- It is a technique pioneered by Japanese botanist Akira Miyawaki that helps build dense, native forests in a short time. It involves planting dozens of only native species as close as possible in the same area which not only saves space, but the planted saplings also support each other in growth and block sunlight reaching the ground, thereby preventing the growth of weed. It becomes maintenance-free after the first three years. The approach is supposed to ensure that plant growth is 10 times faster and the resulting plantation is 30 times denser than usual.

Miyawaki Forest Areas In India

- In 2010, the first-ever Miyawaki forest was created in Toyota's industrial land in Bidadi, Bengaluru.
- The country's largest Miyawaki forest is in Hyderabad planted across 10 acres.
- The 4.75 acres of Miyawaki forest was created on Indian Railway Institute of Disaster Management land in Hejjalla, Bengaluru.

HASDEO ARANYA FOREST

The Chhattisgarh Legislative Assembly passed a private member resolution urging the Centre to cancel allocation of all coal mining blocks in the Hasdeo Aranya forest area.

How can mining of coal affect Hasdeo Arayanya?

- Deforestation is required for mining, which can destroy the rich biodiversity.
- Mining will release toxic materials into the soil and water.
- Bad mining can lead to coal fires that can burn for decades, producing "fly ash" and smoke filled with greenhouse gases and toxic chemicals.
- Coal dust can cause respiratory problems in humans who lived near the area.

About Hasdeo Aranya Forest

- It is spread across 1,878 sq km in North-Central Chhattisgarh.
- It lies in the catchment area of the Hasdeo river.
  - The Hasdeo river is a tributary of the Mahanadi River, which originates in Chhattisgarh and flows through Odisha into the Bay of Bengal.
  - Hasdo River merge into the Mahanadi River in Chandarpur in Chattisgarh, 28 kms before Mahanadi river reaches the Hirakud Dam.
  - The principal sub tributary of the Hasdo River is Gej River.
- It is called the lungs of Chhattisgarh. It lies on top of the Hasdeo coalfield, which represents one of the largest coal reserves in India, having estimated reserves of 5.18 billion tonnes of coal.
- The forests are ecologically sensitive due to the rich biodiversity and presence of a large migratory corridor for elephants.(Lemru Elephant Reserve)

PANTANAL IS AT RISK OF COLLAPSE

According to a team of scientists the Pantanal in South America, is at the risk of collapse due to a series of local and minor decisions.

About Pantanal

- It is the **world's largest wetland and the world's largest flooded grasslands.**
- It is located mostly within **Brazil** and extends to some portions of Bolivia and Paraguay.
- It is fed through the **Paraguay River** and tributaries.
- It was designated a **Ramsar Site** of International Importance in May, 1993.
- Keystone Species: The apple snail is a keystone species in Pantanal's ecosystem.

Why Pantanal is Collapsing?

- Approximately **99% of the land in Pantanal is privately owned** for the purpose of agriculture and ranching.
- **Uncontrolled tourism, overuse of natural resources and the pollution from gold mining** operations and agro-industry is another reason for collapsing.
- **Pollution from sewage systems and pesticides** leach into the soil or run-off to flood plains of the Pantanal.
- **Infrastructure development** is also a particular concern and it affects the hydrology of the region, and therefore impact the ecosystem.
- **Forest Fires** is also a major concern. In late 2020, a quarter of the wetland was destroyed by an unprecedented fire.
- It is also **threatened by climate change**, current predictive climate models indicate a progressive increase in the frequency of extreme events like extreme rainfalls and extended drought.

VIOLATION OF COASTAL ECOSYSTEM NORMS

The Comptroller and Auditor General (CAG) of India tabled a report in Parliament on whether steps taken by the Union Environment Ministry to conserve India's coastal ecosystems have been successful. This latest report contains the observations from an audit of Conservation of Coastal Ecosystems from 2015¬20.

Why did the CAG undertake this Audit?

- The CAG has a constitutional mandate (under Article 151) to investigate and report on publicly funded programs.
- The **CAG found that there were large-scale CRZ violations in the coastal stretches**. Incidents of illegal construction activities and waste from local bodies, industries, and aquaculture farms were reported by the media and this prompted a detailed investigation.

Major Findings of the Audit

- The Environment Ministry hadn't notified the National Coastal Zone Management Authority (NCZMA) as a permanent body and it was being reconstituted every few years.
  - In the absence of defined membership, it was functioning as an ad-hoc body.
- The **Expert Appraisal Committees (EAC) not being present during project deliberations.**
  - EAC is a committee of scientific experts and senior bureaucrats who evaluate the feasibility of an infrastructure project and its environmental consequences.
  - There were instances of the members of EAC being fewer than half of the total strength during the deliberations.
- The **State Coastal Zone Management Authority (SCZMA) has not been reconstituted in Karnataka** and the reorganization has been delayed in the states of Goa, Odisha, and West Bengal.
- The District Level Committees (DLCs) of Tamil Nadu lacked participation from local traditional communities. In Andhra Pradesh, DLCs were not even established.
- The **projects were approved despite inadequacies in the Environment Impact Assessment (EIA) reports**.

Centre's Obligations on Conserving the Coastline

- The Coastal Regulation Zone (CRZ) notification was issued in 1991 under the **Environmental Protection Act, 1986**, by the Ministry of Environment Forest and Climate Change (MoEFCC) to regulate activities in coastal areas of India.

Different Zone in CRZ

CRZ- I	These are ecologically sensitive areas which are essential in maintaining the ecosystem of the coasts. These include national parks/marine parks, reserve forests, mangroves and corals/coral reefs etc. ○ These areas are situated between the high and low tide lines.
CRZ- II	The areas that have already developed up till the shoreline of the coast Construction of unauthorised structures is prohibited in this zone
CRZ- III	Rural and urban localities that are relatively undisturbed and do not belong to the first two categories are included in this zone. ○ Only specific activities related to agriculture or certain public facilities are permitted under this coastal regulation zone.
CRZ- IV	The zone constitutes water areas from the low tide line up to territorial limits, including areas of the tidal-influenced water bodies. ○ These areas include the coastal stretches in Lakshadweep, the Andaman and Nicobar Islands and some other small islands, except those termed as CRZ-I, II, or III. ○ Activities such as fishing and other allied services are permitted in this zone.

Implementing Agencies of CRZ

- The National Coastal Zone Management Authority (NCZMA) at the Centre
- The State/Union Territory Coastal Zone Management Authorities in every coastal State and Union Territory,
- The District Level Committees (DLCs) in every district that has a coastal stretch.

Shailesh Nayak Committee Report on CRZ

- It was established in June 2014. The committee recommended that the Central Government's regulatory authority in coastal areas be curtailed. Except for projects that involve environmental permits, all other activities should be governed by state and municipal planning authorities.
- Based on the recommendations of the Committee, suggestions were made by the Coastal States and Union Territories and CRZ 2018 Notification was issued.

FOUR NEW CORALS RECORDED FROM INDIAN WATERS

For the first time, Zoological Survey of India (ZSI) recorded four species of azooxanthellate corals from waters of Andaman and Nicobar (A&N) Islands.

Key Findings

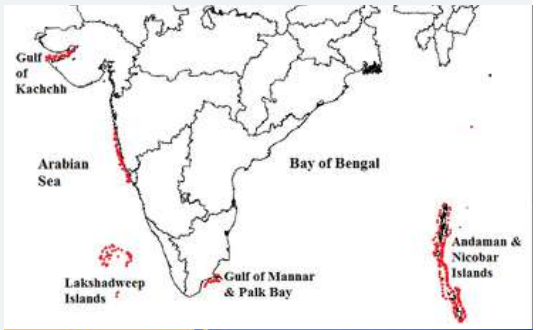
- All four groups of corals are from same family Flabellidae.
- Four species, namely Truncatoflabellum crassum, T. incrustatum, T. aculeatum, and T. irregulare, were previously found from Japan to Philippines and Australian waters while only T. crassum was reported within the range of Indo-West Pacific distribution including the Gulf of Aden and the Persian Gulf.

- They are **Azooxanthellate corals, which are a group of corals that do not contain zooxanthellae** and **derive nourishment not from the sun** but from capturing different forms of plankton.
- They are **deep-sea representatives**, with the majority of species reporting from between 200 m to 1000 m.
- They **also occur in shallow coastal waters.**
- They are hard corals and are not only solitary but have a highly compressed skeletal structure.

Significance Of Coral Reefs	Threats To The Coral Reefs
• It provides an **important ecosystem** for life underwater. • It acts as a barrier that **absorbs the forces of waves, currents, storms, hurricanes**, etc. coming from the open sea, thereby reducing coastal erosion. • It is an **important reservoir of carbon** and help sequester ocean carbon. • It the **backbone of tropical regions' economies,** through reef-related tourism and marine exports. • As per an estimate, the **total annual net benefit per year of the world's coral reefs is $29.8 billion.** • Extracts from animals and plants living on reefs have been **used to develop treatments for many diseases like asthma, arthritis, cancer and heart disease.**	• As global warming is increasing, our **oceans become more acidic** and the threat to coral reefs is increasing. • **Rise in sea level causes corals to die deep underwater**. They receive less sunlight and grow more slowly. • **Stronger, more frequent storms, hurricanes, cyclones can break off coral branches** and overturn coral colonies. • As the oceans absorb CO2, they become more acidic. The increase in **acidity in the water has a negative effect on the coral.** • The **overabundance of nutrients in the marine environment upsets** the balance of reef ecosystems. • **Marine debris can damage or kill coral reefs** and the many animals that live in them.

Coral Reefs In India

- There are about 570 species of hard corals found in India. Almost 90% of corals are found in the waters surrounding Andaman and Nicobar Islands.
- India has 4 major coral reef areas: Gulf of Mannar, Andaman and Nicobar Islands, Lakshadweep islands and the Gulf of Kutch.



The Coral Triangle

A coral-rich marine region in Southeast Asia that encompasses the waters between Indonesia, Malaysia, the Philippines and Papua New Guinea - is the most biologically diverse marine ecosystem on Earth.

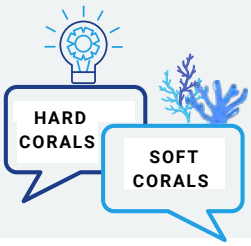
The Great Barrier Reef's recovery

- As per a recent report, the highest levels of coral cover, within the past 36 years, have been recorded in the northern and central parts of Australia's Great Barrier Reef (GBR).
- However, the researchers also warned that this could be quickly reversed due to rising global temperatures.

- Coral cover is measured by determining the increase in the cover of hard corals.
  - The hard coral cover in northern GBR had reached 36% while that in the central region had reached 33%. Meanwhile, coral cover levels declined in the southern region from 38% in 2021 to 34% in 2022.

CORALS ARE OF TWO TYPES

1. These extract calcium carbonate from seawater to build hard, white coral exoskeletons. Hard corals are in a way the engineers of reef ecosystems.



2. These attach themselves to older skeletons built by their ancestors. Soft corals also add their own skeletons to the hard structure over the years. These growing multiplying structures gradually form coral reefs.

About the Great Barrier Reef

- It is the **world's largest coral reef system**, which extends for over 2,300 kms.
- It is located in the **Coral Sea,** off the coast of Queensland in Australia. It was designated as a **World Heritage Site** in 1981.
- In the year 2021 **UNESCO has decided to downgrade the status** of the Great Barrier Reef
- It been placed on the "in danger" list primarily due to impacts of climate change.

Coral bleaching

- When water is too warm, **corals expel the algae (zooxanthellae) living in their tissues causing the coral to turn completely white**. This is called coral bleaching.
- Bleached corals continue to live, but they are more vulnerable to disease and starvation because Zooxanthellae provide up to 90% of the coral's energy.

UN HIGH SEAS TREATY

- In New York, Negotiations involving 168 countries, including the European Union, to agree on a UN treaty for protecting oceans failed. A delegation from India deliberated on an agreement to conserve marine biodiversity in the high seas.
- It was expected to be the final in a series set in motion since 2018 to draft an international legally binding instrument under the **United Nations Convention on the Law of the Sea (UNCLOS).**

About the New Treaty

- Also referred to as the 'Paris Agreement for the Ocean', this **biodiversity Beyond National Jurisdiction (BBNJ) treaty** is also known as the "Treaty of the High Seas".
- It is an **international agreement on the conservation & sustainable use of marine biological diversity** of areas outside national jurisdiction. It is being developed within the framework of UNCLOS.
- The key aspect of the **agreement is deciding on the rights of companies** that undertake exploration for biological resources in the high seas.
- It will also address marine genetic resources, including questions on benefit-sharing, measures such as area-based management tools, environmental impact assessments, capacity-building, financial support to countries and the transfer of marine technology.

Why the need for a separate ocean biodiversity agreement?

- There is no treaty for conserving the health of high seas. Hence, a UN resolution in 2017 had decided to address this issue while setting 2022 as the deadline.
- UN agreements identify high seas as "areas beyond national jurisdiction", International law (UNCLOS) does not meaningfully address biodiversity monitoring & conservation in the high seas.Biodiversity governance gap has been of concern for the past two decades.
- Without a binding mechanism under international law, countries are not obligated to co-operate on developing and implementing conservation measures in the high seas.
- There is no single global mechanism to establish Marine Protected Areas (MPAs) outside States' territorial seas or uniform requirements for undertaking environmental impact assessments.
- In June 2022, UN Secretary-General had declared an ocean emergency at the UN Ocean Conference in Lisbon, Portugal, citing threats to the world's oceans. 90% cent of global warming is occurring in the ocean, according to the NASA website.

About High Seas

- It is the part of the ocean that is not included in the Exclusive Economic Zones (EEZ). That is, it is outside the maximum 200 nautical miles from the baseline. It is the areas of the ocean for which no one nation has sole responsibility for management.

How are the High Seas Regulated Currently?

- Some treaties, along with UNCLOS, regulate the conduct of actors on the high seas.
- UNCLOS also created the International Seabed Authority and other conflict-resolution mechanisms. But a treaty dedicated to protecting ocean health does not exist as of now

About UNCLOS

- It is an international agreement that was **adopted in 1982 to establish jurisdictional limits over the ocean areas.**
- It defines a **distance of 12 nautical miles (approx. 22 km) from the baseline as Territorial Sea limit and a distance of 200 nautical miles as EEZ limit.**
  - EEZs are domestic spaces in which a sovereign state has special rights regarding the exploration and use of marine resources, including energy production from water and wind.
  - **India became a signatory to the UNCLOS in 1982**.

RATCHETING MECHANISM UNDER THE PARIS AGREEMENT

- It is an informal term used to describe the requirement that countries will revise and communicate their emission targets, known as nationally determined contributions (NDCs)
- The term comes from the idea that amendments to plans and promises to tackle climate change will increase in a progressive manner at every review.
  - This means that countries will be expected to promise more action every five years in an effort to reduce global warming and the effects of climate change.

LEADERS IN CLIMATE CHANGE MANAGEMENT PROGRAM (LCCM)

- The **National Institute of Urban Affairs (NIUA) and World Resources Institute (WRI) India,** jointly announced 'Leaders in Climate Change Management Program.
- It aims at **building capacity among urban professionals to lead climate action** across sectors and geographies in India.
- To facilitate this face-to-face learning program, the **Administrative Training Institute (ATI), Mysuru**, also signed a tripartite MoU with NIUA and WRI India, becoming the first delivery partner of the LCCM program.
- The program, designed and implemented in partnership with the **United Nation Environment Programme (UNEP) and Indian School of Business (ISB)**, aims to strengthen India's workforce to achieve Panch Amrit goal.
- At COP26 last year, Prime Minister Narendra Modi proposed a five-fold strategy **Panch Amrit** to global leaders, extending India's co-operation to meet the **1.5 degrees Celsius targets.**

Panch Amrit COP26

- 1st - India will reach its non-fossil energy capacity to 500 GW by 2030.
- 2nd - India will meet 50% of its energy requirements from renewable energy by 2030.
- 3rd- India will reduce the total projected carbon emissions by 1 billion tonnes from now onwards till 2030.
- 4th - By 2030, India will reduce the carbon intensity of its economy by less than 45%.
- 5th- By the year 2070, India will achieve the target of Net Zero.

STOCKHOLM +50 CONFERENCE

- Stockholm +50 Conference is being held in Stockholm (Sweden) to commemorate 50 years of the Stockholm Conference, the first United Nations conference on Environment in 1972.

Objectives of Stockholm+50 Conference :

- To reflect on the urgent need for actions towards a healthy planet and prosperity of all.
- To achieve a sustainable and inclusive recovery from the COVID-19 pandemic.
- To accelerate the implementation of the environmental dimension of Sustainable Development in the context of the Decade of Action.

About Stockholm Conference, 1972

- The United Nations Conference on the Human Environment in Stockholm was held in June, 1972.
- The idea of the Stockholm Conference was first proposed by Sweden. That's why it's also termed the "Swedish Initiative"
- This was the **first global convergence on the planetary environment**. The theme was 'Only One Earth'.
- It **aims to creating a common governance framework for the planetary environment and natural resources.**
- 70 out of 122 participant countries which were developing and poor countries adopted the Stockholm Declaration.
- The **United Nations Environment Programme (UNEP)** has been established by the **United Nations General Assembly in pursuance of the Stockholm Conference.**

DECLINING MANGROVE COVER

- NASA has highlighted the loss of mangrove cover on Katchal island, a part of India's Nicobar archipelago.
- According to the study the mangroves had the highest ratio of loss to gain among the three types of tidal wetlands it studied. The other two were tidal flats and marshes.

About Mangroves

- These are a group of shrubs or trees that grow in coastal saline or brackish water.
- It occurs worldwide, mainly between latitudes 30° N and 30° S.
- They can survive under extreme hostile environments such as high salt and low oxygen conditions

Mangrove cover in India

- According to the India State of Forest Report, 2021, the mangrove cover in India is 4,992 sq. km, which is 0.15% of the country's total geographical area
- West Bengal accounts for the highest 42.45% of India's mangrove cover, followed by Gujarat at 23.66% and Andaman and Nicobar Islands at 12.39%. Sundarbans in West Bengal is the largest mangrove forest region in the world. The 2nd largest mangrove forest in India is Bhitarkanika in Odisha created by the two river deltas of River Brahmani and Baitarani.

Conservation Steps to Protect Mangroves

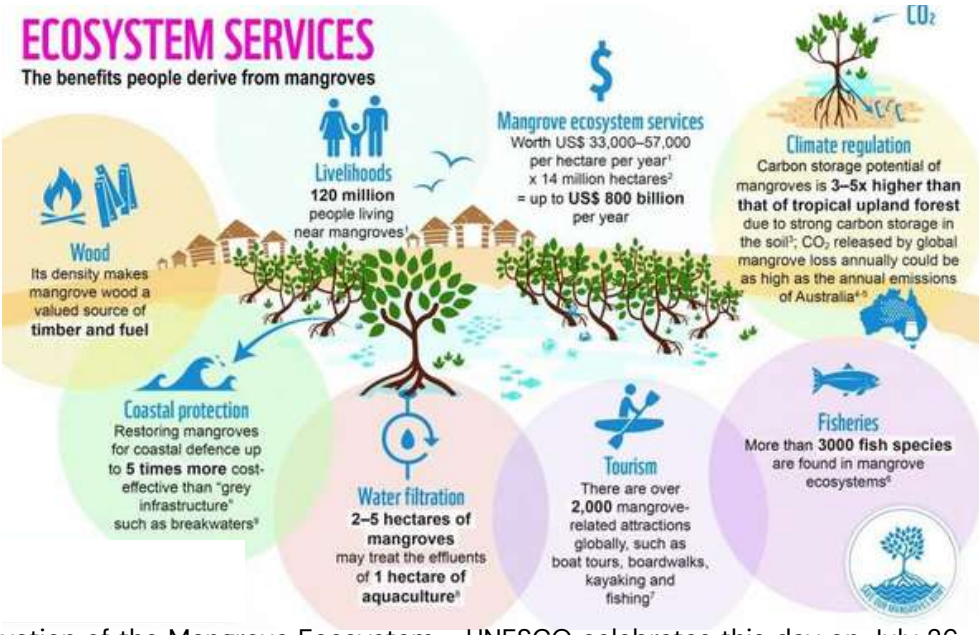
- **National Mangrove Committee** - It was established in 1976 to advise the government on the conservation and development of mangroves.
- **International Day for the Conservation of the Mangrove Ecosystem** - UNESCO celebrates July 26 with the aim of raising awareness about mangrove ecosystems.
- **Mangroves for the Future Initiative** - IUCN and UNDP have developed this initiative to promote investment in the conservation of coastal ecosystems.

MANGROVE ALLIANCE FOR CLIMATE

- At the 27th Session of Conference of Parties (COP27), the Mangrove Alliance for Climate (MAC) was launched.

About Mangrove Alliance for Climate (MAC)

- It is an intergovernmental alliance that seeks to expand and hasten the progress towards the conservation and restoration of mangrove ecosystems.
- It is **Led by the United Arab Emirates (UAE) and Indonesia,** MAC includes India, Sri Lanka, Australia, Japan, and Spain.
- This alliance works **on a voluntary basis** which means that there are no real checks and balances to hold members accountable.
  - Instead, the parties will decide their own commitments and deadlines regarding planting and restoring mangroves.
  - The members will also share expertise and support each other in researching, managing and protecting coastal areas.



What has India pledged in MAC?

- As part of its NDCs, India has committed to creating an additional carbon sink of 2.5 to 3 billion tons of CO2 equivalent through additional forest and tree cover by 2030.
- India has demonstrated expertise in mangrove restoration activities for nearly five decades and restored different types of mangrove ecosystems both on its east and west coasts.

Conservation Steps to Protect Mangroves

- International Day for the Conservation of the Mangrove Ecosystem - UNESCO celebrates this day on July 26 with the aim of raising awareness about mangrove ecosystems.
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PANAMARAM HERONRY

- Due to the intervention of the Kerala State Biodiversity Board (KSBB) and the Panamaram grama panchayat to plant bamboo and vetiver grass saplings, Panamaram heronry is set to get a fresh lease of life.
  - Earlier destruction of bamboo groves and the extensive sand mining was posing a serious threat to the heronry.

About Panamaram Heronry

- It is the largest breeding ground of different species of herons in the Malabar region.
- It is an elevated sandbank covered with vegetation, predominantly bamboo grove.
- The heronry formed on a sandbank on the Panamaram River.
  - Panamaram River is a tributary of the Kabani River.
- It is a haven for globally threatened waterfowls, including the black headed-ibis, purple heron, large egret, median egret, little egret, pond heron, night heron, and little cormorant.

Kabini River (also called Kapila river)

- It is the major tributaries of the Kaveri River.
- It originates in the Wayanad District of Kerala, by the confluence of the Panamaram River and the Mananthavady River.
- Other tributaries are Babali, Noolpuzha and Nugu Rivers.
- The Kabani dam was built on the river Kabini in 1974.
- The backwaters of the Kabani reservoir are very rich in wildlife.

BEDTI-VARADA INTERLINKING

- Bedti-Varada River Interlinking Project is located in Karnataka. The project was envisaged in 1992 to supply drinking water.
- The plan aims to link the Bedti, a river flowing west into the Arabian Sea, with the Varada, a tributary of the Tungabhadra River, which flows into the Krishna.

SUKAPAIKA RIVER

- National Green Tribunal (NGT) directs to revive Sukapaika river, in next six months.
- NGT alleged that the river became dead because of the closure of its mouth in the 1950s.

About Sukapaika River

- It is one of the several distributaries of the Mahanadi River in Odisha.
- It branches away from the Mahanadi at Ayatpur Village in Cuttack district and flows some 40 km before re-joining the Mahanadi River.
- In 1952, the Odisha government blocked the starting point of the river with an embankment to prevent flooding in the delta of Sukapaika.
- Since the river has lost its water holding capacity, it remains dry for almost the whole year.

Mahanadi River

- It rises from Raipur district of Chhattisgarh.
- It flows through the states of Chhattisgarh and Odisha and finally merged with the Bay of Bengal.
- It is the third largest of peninsular India after Godavari and Krishna and the largest river of Odisha.
- Its main tributaries are the Seonath, the Jonk, the Hasdeo, the Mand, the Ib, the Ong and the Tel.
- The catchment area of the river extends to Chhattisgarh, Madhya Pradesh, Odisha, Jharkhand and Maharashtra.
- Hirakud Dam, which is the longest dam of India, is built on the Mahanadi River.

- The riverbed has suffered erosion and it is full of hyacinth. Most trees along the river have also disappeared.

INDIA ADDS 11 NEW WETLANDS, TOTAL RAMSAR SITES NOW AT 75

- In the 75th year of independence, India added 11 more wetlands to the list of Ramsar sites to make a total of 75 Ramsar sites in the country.
- The 11 new sites include 4 sites from Tamil Nadu, 3 from Odisha, 2 from Jammu & Kashmir and 1 each from Madhya Pradesh and Maharashtra.
- Total 75 Ramsar sites covers an area of 13,26,677 ha in the country.(1hectare (ha) = 0.01 square kms)

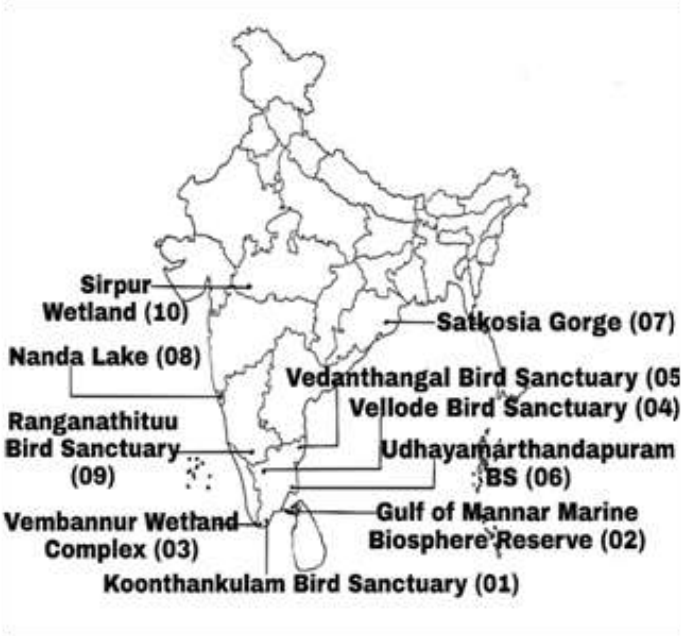
About 11 New Ramsar Sites

Odisha	**Tampara Lake:** It is one of the largest freshwater lakes in Odisha. **Hirakud Reservoir**: It is the longest earthen dam in the world which started operating in 1957. **Ansupa Lake**: It is the largest freshwater lake of Odisha situated in Cuttack district. This wetland is an oxbow lake formed by River Mahanadi.

Tamil Nadu	**Chitrangudi Bird Sanctuary:** It has been declared as a Bird Sanctuary. It is surrounded by agricultural fields, where different crops are grown throughout the year. **Suchindram Theroor Wetland Complex:** It is part of the Suchindram-Theroor Manakudi Conservation Reserve in Tamil Nadu. It lies at the southern tip of the Central Asian flyway of migratory birds. It is declared an Important Bird Area (IBA) **Vaduvur Bird Sanctuary:** It is a large human-made irrigation tank. **Kanjirankulam Bird Sanctuary:** It is a Protected area in Tamil Nadu. It is adjacent to Chitrangudi Bird Sanctuary. It is notable as a nesting site for several migratory heron species that roost in the prominent growth of babul trees
Jammu & Kashmir	**Shallbugh Wetland Conservation Reserve:** It plays a major role in the natural control, amelioration or prevention of flooding. **Hygam Wetland Conservation Reserve:** It falls within the river Jhelum basin. It is also recognized as an Important Bird Area (IBA).
Maharashtra	**Thane Creek:** The area is an important part of the wetland complex of the Central Asian Flyway of the birds and has been categorized as an IBA. It is fringed by mangroves on both banks & comprises around 20% of the total Indian mangrove species.
Madhya Pradesh	**Yashwant Sagar:** It is one of the most important birding sites in Malwa region of MP. Presently it is mainly used for water supply to the city. It is one of the two IBA in the Indore region

6 wetlands from TN are:

- **Koonthankulam Bird Sanctuary (BS)** – It is a man-made wetland, and the largest reserve for migratory waterbirds and breeding residents in south India. It is the part of the Central Asian Flyway.
- **Gulf of Mannar Marine Biosphere Reserve** - It is located in south-eastern coastline of Tamil Nadu. It is the 1st Marine Biosphere Reserve in South and South-East Asia.
- **Vembannur Wetland Complex -** It is a man-made inland tank. It forms the southernmost tip of peninsular India. This wetland is part of the Birdlife International Data Zone.
- **Vellode Bird Sanctuary -** It is locally known as Periyakulam Yeri.
- **Vedanthangal BS**– It is one of the oldest freshwater bird-protected area.
- **Udhayamarthandapuram BS**- It is monsoon fed wetland.



Remaining 4 from other states

Odisha	Satkosia gorge	It expands along Mahanadi River in Odisha. The Deccan Peninsula and the Eastern Ghats meet at Satkosia. It was established in 1976 as a wildlife sanctuary
Goa	Nanda Lake	It is the freshwater marshes, located adjacent to one of rivulets of the Zuari river in Goa. It helps the locals to store water in the off-monsoon season.
Karnataka	Ranganathituu BS	Also known as Pakshi Kashi of Karnataka. It is the largest bird sanctuary in the state.
MP	Sirpur wetland	It is located in Indore. It was created by the Holkars in the early 20th century.

Union Government in July'22 **designated 5 new wetlands of international importance,** taking the total number of Ramsar sites in the country to 54.

5 wetlands are :

1. **Karikili Bird Sanctuary** - It is a protected area located in Tamil Nadu. This region is surrounded by open areas, paddy fields and scrub forest.
2. **Pallikaranai Marsh Reserve Forest** - It is a freshwater marsh in Chennai, Tamil Nadu. It is situated adjacent to the Bay of Bengal. **It is the last remaining natural wetlands of South India.**
3. **Pichavaram Mangrove** – It is located in Tamil Nadu. It is located between two prominent estuaries, the Vellar estuary in the north and Coleroon estuary in the south.
4. **Sakhya Sagar** - It is a human-made reservoir, located near Madhav National Park in Madhya Pradesh.
5. **Pala Wetland** - It is the largest natural wetland in Mizoram. It is falls under the Phura forest range.

About Ramsar Convention

- The **convention signed in 1971 in Ramsar, Iran.** It is the only global treaty that **focuses specifically on wetlands**. 170 countries are signatories to the convention.
- A contracting party agrees to nominate at least one wetland in its territory to the List of Wetlands of International Importance based on enumerated criteria. **India signed this convention in February 1982.**

Montreux Record

- It is a *register of wetland sites* in the List of Wetlands of International Importance where *ecological character is changing due to technological development, pollution or other human intervention.*
- Currently, 48 sites from all over the world are listed in the Montreux Record.
- 2 wetlands of India are in Montreux record - **Keoladeo National Park (Rajasthan)** and **Loktak Lake (Manipur)**.
- Chilika lake (Odisha) was placed in the record but was later removed from it.

Important Facts Related to wetlands

- World's 1st Ramsar site was the Cobourg Peninsula in Australia.
- With 175 Ramsar sites, the **United Kingdom has the largest number of Ramsar sites** in the world.
- **Bolivia has the largest area** of listed wetlands with 148,000 sq km.
- Globally, wetlands cover 6.4% of the geographical area of the world.
- India has 19 types of wetlands, which spread over 1,52,600 sq km which is 4.63% of the total geographical area of the country.
- In **India inland-natural wetlands account for 43.4% and coastal-natural wetlands 24.3%.**
- In state-wise distribution **Gujarat is in the top with 22.7% of total wetlands areas of the country.** It is followed by Andhra Pradesh, Uttar Pradesh and West Bengal.
- Tamil Nadu has maximum no. of Ramsar sites (14), followed by UP which has 10 nos. of Ramsar sites
- **Sundarbans in West Bengal is the largest and Renuka Wetland in Himachal Pradesh is the smallest Ramsar Site of India.**
- Chilika Lake (Odisha) and Keoladeo National Park (Rajasthan) were recognized as the 1st Ramsar Sites of India.

UTTAR PRADESH'S 4TH TIGER RESERVE

- The Uttar Pradesh (UP) cabinet approved the notification of the state's 4th tiger reserve in the **Ranipur Wildlife Sanctuary (RWS) in Chitrakoot district.**
  - Chitrakoot is a holy place having a deep relation to Lord Ram and also finding mention in the Ramayana.
- RWS has no tigers of its own. But pugmarks of the animals are frequently seen there as tigers from nearby Panna frequent it.
  - The two protected areas are just 150 km from each other.
- It will be the 1st in the Bundelkhand region of the state of UP.

Other Tiger Reserves in Uttar Pradesh

Tiger Reserves in India

- India currently has 53 tiger reserves, Guru Ghasidas National Park of Chhattisgarh is the 53rd Tiger Reserve.
- They are governed by **Project Tiger**, which comes under the jurisdiction of the **National Tiger Conservation Authority (NTCA).**
- Project Tiger was launched in 1973 to protect Bengal tiger population in its natural habitat.

INDIA'S 32ND ELEPHANT RESERVE

- Tamil Nadu Government has notified its 5th Elephant Reserve in the state at Agasthyamalai. (Agasthiyamalai is also a Bioshphere Reserve). The announcement was made on World Elephant Day 2022 (12th of August).

About the Agasthyamalai Elephant Reserve

- It is situated at the southernmost end of the Western Ghats. The new reserve will be spread over an area of 1,197 sq. km.
- It will cover Kanyakumari and Tirunelveli areas. The elephant reserve status will put more of an emphasis on protecting and conserving elephants as indicator animals.

4 Existing Elephant Reserves in Tamil Nadu are:

About Indian Elephant

- It is found in the central and southern Western Ghats, North East India, eastern India and northern India and in some parts of southern peninsular India.
- It is listed as Schedule I of the Indian Wildlife (Protection) Act, 1972; IUCN Red List: Endangered
- Karnataka had the highest number of elephants (6,049), followed by Assam (5,719) and Kerala (3,054).
- India has around 25000 – 29000 elephants in the wild. However, the tuskers (male) in India are as threatened as the Tigers as there are only around 1200 tusker elephants left in India.

Various Government initiatives

- **Project Elephant** is a Central Government sponsored scheme launched in February 1992. Through it, the government helps in the protection and management of elephants to the states having wild elephants in a free-ranging population.
- **MIKE (Monitoring of Illegal Killing of Elephants) program** was started in South Asia in 2003 after the conference of parties a resolution of CITES. The aim was to provide the information required by the elephant range countries for proper management & long-term protection of their elephant populations.
- **Campaign Haathi Mere Saathi:** The Ministry of Environment and forests in partnership with Wildlife Trust of India has launched this campaign in 2011. The aim was to increase public awareness and develop friendships between elephants and the local population
- The government of India in the year 2010 declared Elephant as the national heritage animal on the recommendations of the standing committee of the national board for wildlife.

WORLD RHINO DAY

- Theme 2022 - **"Five Rhino Species Forever".** It is celebrated on 22nd September.
- The aim of the day is to celebrate five rhinoceros' species and to create awareness about the threats faced by them.
- It was first announced by World Wildlife Fund (WWF) - South Africa in 2010.

White Rhino (IUCN Status: Near Threatened)	• Africa's largest species of rhino, also known as the 'square-lipped' rhino. • Distribution: South Africa, Namibia, Botswana, Zimbabwe, Zambia, Kenya, Uganda
Black Rhino (IUCN Status: Critically endangered)	Distribution: South Africa, Namibia, Zimbabwe, Tanzania, Kenya
Greater one Horned Rhino (IUCN Status: Vulnerable and Wild Life Protection Act, 1972: Schedule 1)	• Asia's largest species of rhino, also known as the Indian rhino. • Distribution: India, Nepal (Assam is home to the largest population of greater-one horned rhinos, with more than 90% in Kaziranga National Park.)
Sumatran Rhino (IUCN Status: Critically Endangered)	Distribution: Indonesian islands of Sumatra and Borneo.
Javan Rhino (IUCN Status: Critically Endangered)	Live only in Ujung Kulon National Park in Java, Indonesia.

STRONGER CLIMATE TARGETS FOR 2030

- The Union Cabinet approved India's revised climate pledge - Nationally Determined Contribution (NDC) - to the Paris Agreement.
  - The pledge will outline India's clean energy transition roadmap from now until 2030 and will be shared with the United Nations Framework Convention on Climate Change (UNFCCC).

India's Intended Nationally Determined Contribution

- Countries from all over the world had pledged to arrive at Paris Agreement at UNFCCC Conference of the Parties (COP21) in 2015.

- The accord aims to keep global warming far below 2°C, preferably 1.5°C, when compared to pre-industry levels.
- Countries have agreed to publicly outline their **Intended Nationally Determined Contributions (INDCs)** for post-2020 climate action to meet Paris Agreement targets.
  - INDC is a non-binding national plan highlighting climate change mitigation, including climate-related targets for greenhouse gas emission reductions.
- In 2015, India submitted its INDC to the UNFCCC. According to the Paris Agreement, countries must 'update' their pledges every 5 years to make larger commitments to reduce GHG emissions.

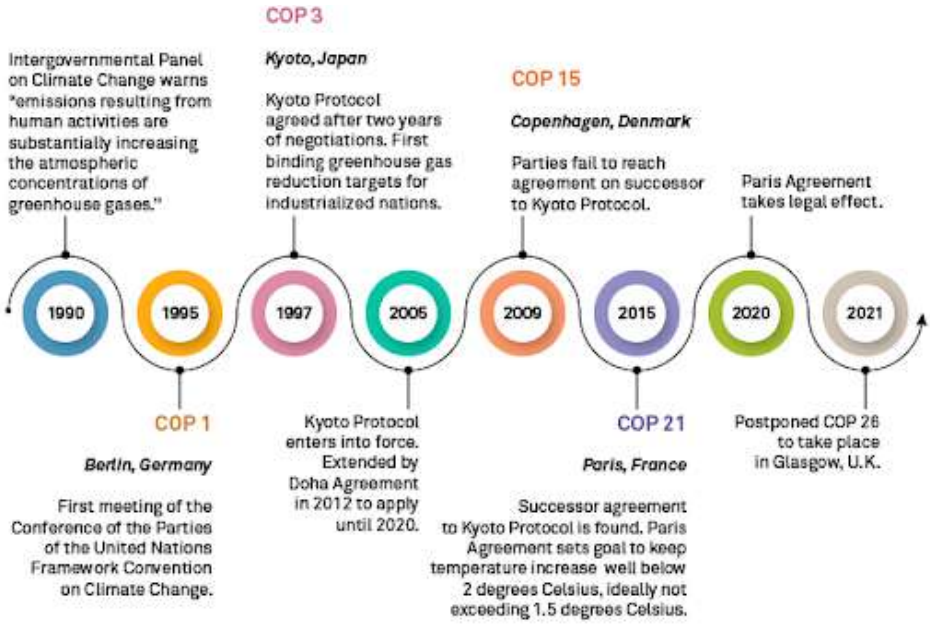
India's First Pledge	Revised/Enhanced INDC
It had 8 goals, but only 3 had quantified targets. India's first pledge had 3 primary targets. • To **reduce emissions intensity of the economy (emission per unit of GDP) by 33-35% below 2005 levels.** • To have **40% of installed electric power from non-fossil-based** energy resources by 2030. • To create an **additional carbon sink of 2.5-3 gigatonnes of carbon dioxide equivalent (GtCO2e) by 2030** through additional forest and tree cover.	India at the COP26 to UNFCCC held in Glasgow, UK in 2021, expressed to intensify its climate action by presenting 5-set of new targets (Panchamrit) of India's climate action. These were - • India will increase its non-fossil fuel energy capacity to 500 gigawatts (GW) by 2030. • The total projected carbon emissions will be reduced by 1 billion tonnes from now through 2030. • **It will meet 50% of its energy requirements from renewable sources by 2030.** • **Reduce emissions intensity by 45% by 2030 from the 2005 level.** • **India will achieve its target of net zero by 2070.**

Key Highlights

- The Union Cabinet recently approved **last three of the five targets.**
- The NDC also highlights India's goal of "sustainable lifestyles" and "climate justice" to protect the poor and vulnerable from the detrimental effects of climate change.
- It also emphasizes on the need for a mass movement for '**LIFE' (Lifestyle for Environment)** as a cornerstone to combating climate change.
- India's updated NDC, soon to be communicated to the UNFCCC, will be **implemented by 2030** through programmes and schemes of relevant ministries and departments and with due support from states and UTs.
- However, India has said clearly that it would meet its aim of 50% cumulative electric power from non-fossil-fuel-based energy resources through technology transfer and low-cost international finance, notably from Green Climate Fund (GCF) established within the framework of UNFCCC.

Glasgow Summit, 2021

- It has urged countries to consider strengthening their 2030 targets by COP27 to be held in Egypt in 2022.
- The summit targeted global warming not to exceed +1.5°C and got about 140 countries to announce target dates for bringing emissions down to net zero.
- India has also joined the consensus and announced its net-zero target of 2070.



CONFERENCE OF THE PARTIES (COP27)

· The 27th session of the Conference of the Parties (COP27) to the United Nations Framework Convention on Climate Change (UNFCCC) was held in Sharm El Sheikh, Egypt.

- COP27 seeks renewed solidarity between countries, to deliver on the landmark Paris Agreement adopted in 2015, for people and the planet. It is built on COP26 outcomes to deliver action on tackling climate emergency issues like reducing greenhouse gas (GHG) emissions, building resilience, financing climate action etc.
- It included the issue of loss and damage in its formal main agenda for the 1st time ever.

Key Themes

- Adapting to Climate Change
- Loss and Damage
- Finance
- Renewable energy
- Net Zero
- Biodiversity

"Loss and Damage" Issue

- Impacts of climate change results in unquantifiable loss and damages which include loss of lives and livelihoods, degradation of territory, cultural heritage, ecosystem etc.
- Calculating the "Loss and damage" is difficult as it consists of economic or non-economic loss. Economic loss can be calculated like infrastructure cost but non-economic is difficult to assess like loss of biodiversity.
- To compensate for these losses the UN proposed a "loss and damage" fund for the vulnerable countries. It mandates the rich countries to pay the vulnerable ones for the losses and new adaptation efforts and is based on the "polluter pays" principle.
- It was pushed by blocs like the Alliance of Small Island States (AOSIS) and Least Developed Countries (LDCs) backed by G77.
- US and EU (one of the largest carbon emitters) have resisted this fund fearing spiralling liabilities.

Initiatives

- In 2009, developed countries agreed to provide US$ 100 billion every year from 2020 to help developing nations fight climate change.
- Warsaw International Mechanism for Loss and Damages was set up in 2013 to compensate developing countries.
- Small funding commitments have been made by countries like Denmark and Scotland.

India's Participation in COP27

- At the COP27 India submitted its long-term strategy to achieve low GHG emissions.
- National Museum of Natural History (NMNH), under the Ministry of Environment Forest and Climate Change and UNDP, jointly launched "In Our LiFEtime" campaign at COP 27.

Long-Term Low Emission Development Strategy (LT-LEDS)

- Under the 2015 Paris Agreement, all countries had to submit their LT-LEDS document to the UNFCC by 2020.
- It is a way to showcase how they will implement respective climate action goals.
- So far, only 57 countries (including India) have submitted their document.
  - India is the last of the world's 5 biggest economies to submit this strategy document.

In Our LiFEtime campaign

- It aims **to encourage youth from around the world** between the ages of 18 to 23 years to become message bearers of sustainable lifestyles.
- The campaign gives a global call for ideas from youth who are passionate about living environmentally conscious lives.
- The youth will be encouraged to submit their climate actions that contribute to lifestyles for the environment within their capacity.

India's position at the COP27 climate summit

- India is prioritizing a gradual transition to cleaner fuels but does not want a single sector, fuel source, or gas to be singled out for climate action.
  - India's call to "phase down all fossil fuels" has reportedly received support from the European Union.
- On decarbonization, India clarified that its low-carbon development strategy will not come at the cost ***of food and energy insecurity or slowdown of economic growth and employment.***
- India expects developed countries to take the lead as "the bulk of both finance and technology transfer is available with them."
- It committed to achieving net zero emissions by 2070.
- Pushed for a new global climate finance target called **New Collective Quantified Goal on Climate Finance (NCQG)** for addressing and adapting to climate-change.
  - It is expected to be finalised by 2024.
  - It will replace the current climate finance goal of $100 billion annually from developed countries which was set in Copenhagen conference, 2009 (COP-15).

How the hosts of COP are decided?

- Regular sessions of the Conference of the Parties (COP) are held every two years according to the Rules of Procedure of the COP.
- At each regular session, the COP decides on the dates and venue of its next regular session.
- According to the Rules of Procedure, extraordinary sessions of the COP may be held at the request of any Party, provided that it is supported by at least **one third** of the Parties.

INFRASTRUCTURE RESILIENCE ACCELERATOR FUND (IRAF)

- The Coalition for Disaster Resilient Infrastructure (CDRI) announced Infrastructure Resilience Accelerator Fund (IRAF), a CDRI Multi-Partner Trust Fund, at the India Pavilion, COP27.

About IRAF

- It is a multi-donor trust fund, established with the support of the United Nations Development Programme (UNDP) and the United Nations Office for Disaster Risk Reduction (UNDRR).
- It will be managed by the United Nation Multi-Partner Trust Fund Office (UN MPTFO), New York and supported by India, UK, Australia and European Union.
- It supports global action on "disaster resilience" of infrastructure systems, especially in developing countries and Small Island Developing States (SIDS).
- Over 50 million USD of financial commitments have already been announced for this trust fund for an initial duration of 5 years.

Coalition for Disaster Resilient Infrastructure (CDRI)

- It is an international coalition of countries, United Nations agencies, multilateral development banks, and the private sector.
- It was launched by India at the 2019 UN Climate Action Summit.
- Headquarters: New Delhi, India.
- It aims to promote disaster-resilient infrastructure.
- It will not create any new infrastructure, rather, it will serve as a knowledge centre for member countries to share and learn best practices with respect to disaster-proofing of infra.

METHANE ALERT AND RESPONSE SYSTEM (MARS)

The United Nation has announced a new satellite-based monitoring system called Methane Alert and Response System (MARS) to detect emissions of methane.

- It was launched at the 27th United Nations Climate Change Conference (COP 27)

About MARS

- It is a **data-to-action platform** set up as part of the UNEP's **International Methane Emissions Observatory (IMEO) strategy** to get policy-relevant data into the right hands for emissions mitigation.
- It will use data from global mapping satellites **to identify very large methane plumes and methane hot spots (large point emission sources).**
  - UNEP will then notify governments and companies about emissions, either directly or through partners, so that the responsible entity can take appropriate action.
- If requested, MARS partners will provide **technical or advisory services such as help in assessing mitigation opportunities.**
- Data on coal, waste, livestock and rice will be added gradually to MARS

Significance of MARS

- It will scale up global efforts *to detect and act on major emissions sources* in a transparent manner and accelerate the implementation of the **Global Methane Pledge.**
- It will be the 1st publicly available global system capable of transparently connecting methane detection to notification processes.
- It will integrate data from the rapidly expanding system of methane-detecting satellites to include lower-emitting area sources and more frequent detection.

Global Methane Pledge

- The Global Methane Pledge was launched at the UN COP26 climate **conference in Glasgow.**
- It is an agreement to reduce global methane emissions.
- This pledge was announced with the aim of reducing methane emissions by **30% by the year 2030, as compared to 2020 levels.**

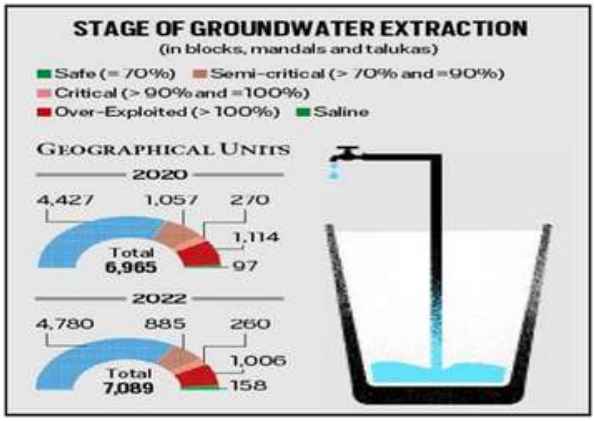
About Methane

- It is the simplest hydrocarbon, consisting of one carbon atom and four hydrogen atoms.
- It is a powerful greenhouse gas, contributing at least a quarter of today's climate warming.
- Approximately 40% of methane emitted is from natural sources, about **60% comes from human-influenced sources**, including livestock farming, rice agriculture, biomass burning and so forth.
- As per Intergovernmental Panel on Climate Change report, it accounts for around half of the 1°C net increase in global average temperature as compared to pre-industrial era.

REPORT ON GROUNDWATER EXTRACTION

- The Ministry of Jal Shakti released the National Compilation on Dynamic Ground Water Resources of India, 2022.
- The assessment was jointly carried out by the Central Ground Water Board (CGWB), States and Union Territories.
  - Previous assessments were carried out in 1980, 1995, 2004, 2009, 2011, 2013, 2017 & 2020.

Key Highlights of this Report



- Total annual ground water recharge is 437.60 Billion Cubic Meters (BCM) and annual ground water extraction is 239.16 BCM.
- **Extraction:** The total annual extractable GW resources have also increased by 0.56 bcm.
  - Annual groundwater (GW) extraction for irrigation, domestic and industrial uses have decreased by about 6 BCM in from 2020 to ~239 BCM in 2022.
  - About 87% of **total annual groundwater extraction** i.e. 208.49 bcm is for irrigation use. Only 30.69 bcm (13%) is for domestic and industrial use.
- The annual GW extraction has seen a decline since 2017 when it came down 249 bcm from a record high of 253 bcm in 2013.
- **Recharge:** The report shows the annual GW recharge was assessed at around 438 bcm in 2022 witnessing an increase by 1.29 bcm as compared to the last assessment (2020).
  - But this was lower than the 447 bcm annual GW recharge assessed in 2013.
- The report also states that the monitoring of the groundwater resources was affected by the Covid-19 outbreak in the country.

Groundwater Governance in India

Parameter	Unit (Billion Cubic Meter/Year)
Annual water availability	1,869
Usable water	1,123
Surface water	690
Ground water	433

- The underground (hydrogeological) setting in India can be divided into -
  - **Hard-rock aquifers of peninsular India:** These represent around 65% of India's overall aquifer surface area, mostly found in central peninsular India.
  - **Alluvial aquifers of the Indo-Gangetic plains:** Found in the Gangetic and Indus plains in Northern India, these have significant storage spaces.
  - **GW availability in India:** Out of the 1,123 BCM/year usable water, the share of GW is 433 BCM/year.
- Legal framework in India does not explicitly define GW ownership and rights, as these are still determined by the archaic Indian Easement Act, 1882.
- These rights tied to land ownership rights exclude a large part of the society and give landowners the liberty to withdraw limitless water.
- The constitution of India confers the jurisdiction of water on the state government, but it does not explicitly state anything about the groundwater.
- The government of India regulates groundwater exploitation in water-stressed states through notification of for highly overexploited blocks.
  - It restricts development of new groundwater structures, except those for drinking water.

CITES COP19

- The 19th Conference of Parties (COP19) to the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) was held in Panama City.

Key Highlights of CITES COP19

- 52 proposals have been put forward that would affect the regulations on international trade for: sharks, reptiles, hippos, songbirds, rhinos, 200 tree species, orchids, elephants, turtles and more.
- It urged parties and non-parties alike to adopt and implement comprehensive national legislation and review existing ones.
- It also urged to submit annual reports to the Secretariat with vital information that will help in understanding the legal and illegal pangolin trade, its market, seizures and breeding operations.

- It suggested applying anti-money laundering measures, forensic analytical techniques, intelligence-led enforcement and creating robust systems in border regions to bring about effective regional enforcement.
- The Conference has accepted a proposal to include sea cucumber in Appendix II of the Convention.
- India's Shisham is included in Appendix II of the convention, thereby requiring it to follow CITES regulations for the trade of the species. A relief was provided by easing the CITES rules for export of India's Shisham based products. This is expected to boost Indian handicraft exports.

North Indian Rosewood

- It is often known as sheesham, a deciduous rosewood tree native to the Indian subcontinent and southern Iran.
- It grows predominantly along river banks over 200 metres elevation, but it can naturally reach 1,400 metres. It is listed as Least Concern in the IUCN Red List.

ILLEGAL WILDLIFE TRADE AND CLIMATE CHANGE: JOINING THE DOTS

- A paper "Illegal Wildlife Trade and Climate Change: Joining the dots" released by the United Nations Office on Drugs and Crime (UNODC).
  - It was released at a side event during the 27th Conference of Parties (COP27) to the United Nations Framework Convention on Climate Change (UNFCCC).

Key Highlights of this Report

- It highlighted five types of relationships between illegal wildlife trade and climate change.
  - It showed that it had implications for ecosystem function and resilience, including the persistence of carbon stocks.
- The paper also highlighted three instances of animals that offer highly specialized ecosystem services related to climate change but are hunted for illegal wildlife trade.
  - The three animals –elephants, white rhinos, and pangolins – were termed as "Ecosystem Engineers" since they shape the fundamental abiotic processes
  - For example, the African Forest Elephants have declined by 86% in the last 30 years due to habitat loss and poaching for their ivory.
- Southeast Asia's tigers, pangolins, Asian elephants, and several rosewood tree species are heavily trafficked.
- Illegal wildlife trade was also a reflection of weak environmental governance, and an exacerbating factor to it.

Suggestions given in Paper

- Illegal wildlife trade has wide-ranging impacts on ecosystem functions and processes affecting climate, so it should not be viewed only through the lens of conservation.
- The reforms should not only mean reducing illegal wildlife trade but also improving overall environmental and social outcomes.

United Nations Office on Drugs and Crime (UNODC)

- It was established in 1997 to make the world a place free from the menace of drug abuse and the crimes that follow.
- It also works to improve crime prevention and assist in criminal justice reform in many countries.
- It releases the World Drug Report every year, which gives valuable information on trends in drug abuse, production and use of illicit drugs around the world.

TOKHU EMONG BIRD COUNT (TEBC)

- It is Nagaland's 1st bird documentation event to celebrate the birds of the state.
- The basic activity during this event is to go outdoors, spend at least 15 minutes watching birds, and upload your birdlist(s) to eBird.
- This will prove to be a great opportunity to get kids connected to birds and nature.
- The event has been dubbed after Tokhu Emong, a post-harvest festival of the Lotha Nagas.

UN CLIMATE TECHNOLOGY CENTRE AND NETWORK

- It is the implementation arm of the Technology Mechanism of the UNFCCC.
- It is hosted by the United Nation Environment Programme (UNEP).
- The Centre promotes the accelerated transfer of environmentally sound technologies for low carbon and climate resilient development at the request of developing countries.

CHEETAHS HAVE BEEN REINTRODUCED TO INDIAN WILDLIFE AFTER 70 YEARS

- Eight Namibian cheetahs, five females and three males, were released into Madhya Pradesh's Kuno National Park (KNP) by the Prime Minister of India.
- The Asiatic Cheetah was officially declared extinct in India in 1952.

About Reintroduction

- Releasing a species in a habitat that enables it to survive is referred to as reintroduction.

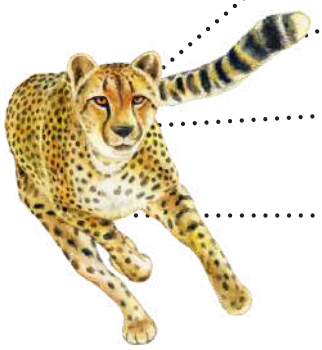
Why Has Kuno National Park Been Chosen For Relocation?	Why Did India Select Namibian Cheetah?
• It is located in the Chambal region; spread over an area of over 750 sq km and has a conducive environment for the cheetahs. • It is assessed to be capable of supporting 21 Cheetahs . • The protected area, comprising a considerable population of prey like four-horned antelopes, chinkara, nilgai, wild boar, spotted deer and sambar.	• In the early 1970s, India had approached Iran for Asiatic cheetahs, but had been refused. • Namibian cheetahs have been selected based on an assessment of their health, disposition and ability to contribute genetics that will result in a strong founder population. • Namibia has the largest population of Cheetahs in the world, earning it the title "Cheetah Capital of the World."

Cheetah Mitras

- It has been established as part of the reintroduction campaign.
- They are a group of about 400 young people, who have been educated to increase cheetah awareness among residents of nearby villages.
- They will protect the cheetah and also ensure that human-animal conflict is avoided.

Kuno National Park (MP)

- It was established in 1981 as a wildlife sanctuary but in 2018, it was given the status of a national park.
- Kuno River, one of the major tributaries of Chambal River flows through the entire length bisecting the National Park division.



It is one of the oldest of the big cat species and also the world's fastest land mammal.

1.It is **native to Africa and central Iran.**The **Asiatic cheetah, which is now found only in Iran,** is classified as a **critically endangered** species in the IUCN Red List.

The **African cheetahs** are classified as a **vulnerable species** in the IUCN red list.

African cheetahs are bigger in size as compared to Asiatic cheetahs.

ZOOLOGICAL DIPLOMACY

The Indian government is considering a proposal from Sri Lanka to export 6 gaurs, or Indian bison. If the project is cleared, it would be the first such agreement between India and Sri Lanka, and part of a global trend of wildlife or zoological diplomacy.

About Zoological Diplomacy

- It is different from loaning or gifting the animals, rather, it involves translocation and reintroduction of species between countries.
- It particularly takes place between neighboring countries with similar ecosystems.

Examples of Zoological Diplomacy

- Translocation of cheetahs from Namibia to India
- The American bison herds were supplemented with animals from Canada after almost all herds in the US were lost.
- South Africa has been exporting cheetahs to other African countries since the end of the apartheid era.
- Recently, Cambodia has requested translocation of tigers from India.

EIA RULES AMENDED

The Ministry of Environment, Forests and Climate Change has notified amendments to the Environment Impact Assessment (EIA) Rules.

Amendments in EIA Rule

- **Strategic and Defence Projects –** Exempted strategic and defence-related highway projects, including those located 100 km from the Line of Control, from the need for an environmental review before construction.
- **Power Plants –** Thermal power plants up to 15 MW based on biomass or non-hazardous municipal solid waste using auxiliary fuel such as coal, lignite or petroleum products up to 15%, have also been given an exemption as long as the fuel mix is eco-friendly.
- **Ports and Harbour** dealing in Fish with less pollution potential compared to others, and caters to small fishermen, are exempted from environmental clearance.

- **Toll plazas** – Toll Plaza that need more width for installation of toll collection booths to cater to a large number of vehicles are exempted
- **Airport -** Expansion activities in existing airports related to terminal building expansion without increase in the airport's existing area, rather than expansion of runways also exempted.

About EIA

- It can be defined as the study to predict the effect of a proposed activity/project on the environment. EIA in India is statutorily backed by the Environment Protection Act, 1986.

Different Stages EIA Process

1. **Screening -** Which projects need a full or partial assessment (EIA) is decided in this stage.
2. **Scoping -** This stage identifies the key issues and impacts that should be further investigated. This stage also defines the boundary and time limit of the study.
3. **Impact analysis -** This stage of EIA identifies and predicts the likely environmental and social impact of the proposed project and evaluates the significance.
4. **Mitigation -** This step in EIA recommends the actions to reduce and avoid the potential adverse environmental consequences of development activities.
5. **Reporting -** This stage presents the result of EIA in the form of a report to the decision-making body and other interested parties.
6. **Public hearing -** On completion of the EIA report, public and environmental groups living close to the project site may be informed and consulted at this stage.
7. **Appraisal** means the detailed scrutiny by the Expert Appraisal Committee or State Level Expert Appraisal Committee of the application & other documents for grant of environmental clearance

- Based on the recommendations of the Expert Appraisal Committee, environmental clearance is accorded or rejected to the project by MoEF&CC.
- Monitoring and implementation of environmental management plan - The various phases of implementation of the project are monitored in this stage.

EIA Category A/B:

- To decentralize the process of project clearance, the **EIA Notification, 2006 has categorized the projects into two categories namely;**
- Category 'A' and Category 'B' based on their impact potential.
  - Category 'A' projects will be appraised at the Central level while Category 'B' project at the State level.
  - **Category A** projects requires mandatory environmental clearance and thus they do not have to undergo the screening process.
  - **Category B** projects undergo a screening process and are further classified into B1 (Mandatorily requiring EIA) and B2 (Not requiring EIA).

BLUE FLAG CERTIFICATION

The Blue Flag certification has been accorded to two new beaches - **Minicoy Thundi Beach and Kadmat Beach (both in Lakshadweep).** This takes the number of beaches certified under the Blue Flag certification to 12.

About Blue Flag certification

- It is a certification that can be obtained by a beach, marina, or sustainable boating tourism operator, and serves as an **eco-label.**
- It is awarded by the **Denmark-based non-profit Foundation for Environmental Education (FEE).**
- The **33 Blue Flag Criterias** are divided into 4 major heads namely -
  - Environmental education and information
  - Bathing water quality
  - Environmental management
  - Conservation and safety services on the beaches
- So far, the label has been awarded to 5,042 beaches, marinas, and tourism boats in 48 nations.

- **Spain** is the country with the most Blue Flag beaches, followed by Greece and France.
- Taking the lead from the Blue Flag certification, India has launched its own eco-label **BEAMS (Beach Environment & Aesthetics Management Services)** as part of the Integrated Coastal Zone Management (ICZM) project.
- The Society of Integrated Coastal Management (SICOM) and the Union Ministry of Environment, Forests and Climate Change initiated BEAMS in 2020.

INDIA'S LARGEST RUBBER DAM

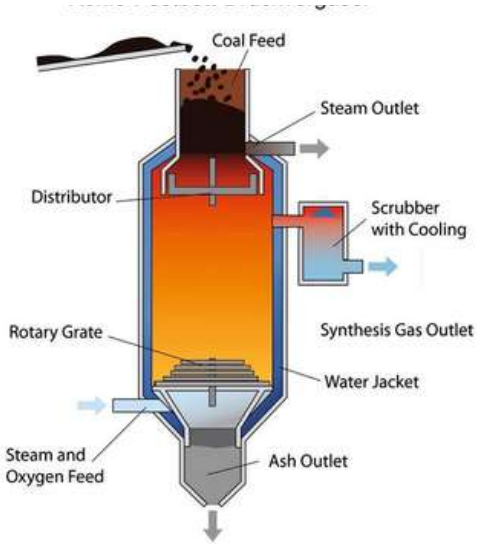
- India's largest rubber dam named 'Gayaji Dam' built on Falgu River in Gaya, Bihar (pilgrimage site of Hindus and Buddhism).
- The dam uses rubber instead of concrete. It is also environmentally friendly. At the same time, it is being claimed that it will not deteriorate for one hundred years.

COAL GASIFICATION BY 2030

- The Government of India has prepared a National Mission document to achieve 100 MT (Million Tonnes) Coal Gasification by 2030.

About Coal Gasification

- It is a process in which coal is **partially oxidized with air, oxygen, steam or carbon dioxide to form a fuel gas.**
- In-situ gasification of coal (Underground Coal Gasification (UCG)) is the technique of converting coal into gas while it is still in the seam and then extracting it through wells.
- In this process, **syngas is produced**, which is a mixture consisting primarily of carbon monoxide (CO), hydrogen (H2), Carbon Dioxide (CO2), methane (CH4), and water vapour.
- This gas is then used instead of piped natural gas, methane and others for deriving energy.
- **China has the biggest number of coal gasification projects in the world.**



Advantages	Disadvantages
• It provides a more environment friendly method of producing energy. Gasification plants produce significantly lower quantities of air pollutants. • It can be used to produce methanol and chemicals like ammonia and urea, which are the foundation of many fertilizers. • It can also be used to produce transportation fuels from oil sands, coal and biomass. • Steel companies use coking coal in their manufacturing process which is imported and is expensive. To cut costs, plants can use syngas.	• According to Centre for Science and Environment (CSE) assessment, coal gasification actually produces more carbon dioxide than a conventional coal-powered thermal power plant. • One unit of electricity generated by burning gasified coal generates 2.5 times more CO2 than what would result when burning the coal directly. • It is one of the more water-intensive forms of energy production. • Coal gasification plants are costlier than conventional power plants.

GRADED RESPONSE ACTION PLAN (GRAP)

The Commission for Air Quality Management (CAQM) said that measures under 'Stage-1' of the Graded Response Action Plan (GRAP) will be enforced in the NCR with immediate effect. The order came after Delhi's Air Quality Index (AQI) deteriorated to be in the 'poor' category.

About GRAP

- It is a set of emergency measures that kick in to prevent further deterioration of air quality once it reaches a certain threshold.

- It is **implemented by the CAQM.**
  - **Stage 1** of GRAP is activated when the AQI is in the 'poor' category (201 to 300).
  - The **2nd, 3rd and 4th stages will be activated when AQI reaches the 'very poor' category (301 to 400), 'severe' category (401 to 450)** and 'severe +' category (above 450) respectively.
- The orders and directions of the CAQM will prevail in **case of any conflict** between directions issued by the State governments and the CAQM.
- Measures under the **different categories of the plan** are to be enforced by the pollution control boards of the NCR states and the concerned departments and agencies, including the traffic police, the Transport Department and road-owning and construction agencies.

- It was approved by the Supreme Court in 2016.
- It was 1st notified in January 2017 by the Ministry of Environment, Forest and Climate Change (MoEFCC)

Older version of GRAP	This year GRAP
• In the version of the GRAP that was notified in 2017, measures kicked in after pollution concentrations reached a certain level. • GRAP was enforced based only on the concentration of PM2.5 and PM10. • The construction ban was implemented only in the 'severe +' category. • No such provisions	• Measures are pre-emptive and will kick in based on forecasts in an attempt to prevent the AQI from deteriorating further. • GRAP is being enforced based on the AQI, which takes other pollutants also into account, such as ozone, sulphur dioxide and oxides of nitrogen. • A ban on construction activities (except for those involving railways, projects of national security, hospitals, metro services, and linear public projects like highways, roads) will be imposed under the 'severe' category. • For the first time, it specifies that State governments in the NCR may impose restrictions on BS-III petrol and BS-IV diesel four wheelers under Stage-3, or when the AQI is likely to reach the 'severe' category. • In the 'severe +' category, GRAP imposes a ban on plying of four-wheelers in Delhi and NCR districts bordering Delhi, except for BS-VI vehicles and those plying for emergency or essential services.

Harmful Gases from Sewer Waste

Highly toxic components of sewer gas include hydrogen sulfide and ammonia. The hydrogen sulfide is what gives it its signature rotten egg smell. (Also contains methane, carbon dioxide, sulfur dioxide, and nitrous oxides.)

E-WASTE

International e-Waste Day is held on October 14 every year as an opportunity to reflect on the impacts of e-waste.

E-Waste and India

- India is the 5th largest E-waste producing country in the world.
- There are 10 States that contribute to 70% of the total e-waste generated in the country.
  - Among the e-waste generating States, Maharashtra ranks first followed by Tamil Nadu, Andhra Pradesh.

- According to a 2020 report by the Central Pollution Control Board, India generated 10,14,961 tonnes of e-waste in FY 2019-2020 – up 32% from FY 2018-2019.
- Of this, **only 3.6% and 10% were actually collected in the country in 2018 and 2019,** respectively.
- The **informal sector controls more than 90% of e-waste collection** and handling processes. The main sources of e-waste are the government, public and private (industrial) sectors, which account for almost **70% of total waste generation.**

Step Taken to Tackle e-waste:

- India's **1st e-waste clinic** for segregating, processing and disposal of waste from household and commercial units has been set-up in **Bhopal, Madhya Pradesh.**
- In **2016, the E-waste (Management) Rules,** was enacted which replaced the e-waste (Management and Handling) Rules, 2011 and was eventually amended in 2018.
- Ministry of Electronics and Information Technology, MeitY, has initiated an E-waste Awareness programme under Digital India initiatives, along with industry associations from 2015.
- Recently Union environment ministry unveiled the **draft of the Electronic Waste Management Rules.**

E-waste Management Rules, 2016

- The Central Government, in the exercise of the powers provided under the **Environment (Protection) Act, 1986**, had notified e-waste management rules in 2016.
- For the first time, the 2016 **rules brought the producers under Extended Producer Responsibility (EPR), along with targets.**
- Manufacturers, dealers, e-retailers, and refurbishes have been made responsible for the collection of E-waste and for its exchange.
- The EWM Rules 2016, have **prescribed strict criteria for achieving effective collection, transportation, storage, channelization, and disposal of the e-waste in an environmentally sound manner.**

Amendment To EWM Rules, 2016

- The new **E-Waste (Management) Amendment Rules, 2018** has the provision of introduction of **Producer Responsibility Organisation (PRO)** registration.
- PRO is defined as a **professional organization** which can take the responsibility for collection, dismantling, recycling and channelization of e-waste to ensure environmentally sound management of such e-waste.
- PROs are now required **to register with CPCB (Central Pollution Control Board)** under the new Rules.
- Earlier, PROs were not able to procure waste from private and government institutions.
- Draft Rules To Replace EWM Rules, 2016:
- **Proposed Changes include –**
  - **Addition of new items**: The scope of the e-waste management rules is expanded to include more electronic products, from 21 covered in the current framework to 95 in total.

Doing Away With PROs:

  - Under the current framework, brands must take back a fraction of their products at the end-of-life stage and send it to **authorised dismantlers and recyclers.**
  - The new draft rules propose doing away with PROs, dismantlers, and collection centres and vests all responsibility of recycling with **authorised recyclers.**
  - It also proposed to revise the definition of EPR to shift the burden away from brands.
  - Draft rules aim to incentivise registered electronic waste recyclers by introducing **EPR certificates** (which was not part of 2016 Rules).
  - Recyclers on processing a certain quantity of waste would be given a certificate verifying this number by the **CPCB.**
  - Electronics goods companies can buy these certificates **online from CPCB** to meet their annual targets.
  - An organisation may sell surplus quantities to another company to help it meet its obligations.
- **Recycling Target:** The recycling target has been set at 80% for FY2024 onward.

ONE WATER APPROACH

- It is the newest **water management approach,** also referred to as integrated water resources management (IWRM). This approach recognizes that **all water has value** and should **never** be treated as a waste product.
- It is also a concept that is about bringing together all diverse stakeholders to advance **common ground solutions** to address water and urban ecology challenges.
- The approach provides the potential to enhance the urban, social and environmental landscape.

How Is One Water Approach Superior To The Conventional Water Management Approach?

One Water Approach	Conventional Method
• All the water systems are connected intentionally and managed meticulously for water, energy and resources. • Water is recycled and reused several times.	• Drinking water, wastewater and storm water are managed separately. • Water goes to a one-way route from supply to use, treatment and disposal.

• Stormwater is utilised as a valuable resource to fight against water scarcity.
The water system includes green infrastructures and a mix of grey and green infrastructure that form a hybrid system
  ◦ **Grey infrastructure:** structures such as dams, seawalls, roads, pipes or water treatment plants.
  ◦ **Green infrastructure:** Natural systems including forests, floodplains, wetlands and soils that provide additional benefits for human well-being, such as flood protection and climate regulation.
• Active collaborations with industry, agencies, policymakers, business leaders and various stakeholders is a regular practice
	• Ignores storm water as a valuable source.
	• The water system includes grey infrastructure
	• Collaboration is need-based

PHYTOREMEDIATION

Scientists have planned to use hyper-accumulator plants to remove toxic metals from soil using the phytoremediation process.

About Phytoremediation

- It is a plant-based approach, which involves the use of plants **to extract and remove elemental pollutants or lower their bioavailability in soil.**
- Plants have the abilities to absorb **ionic compounds** in the soil even at low concentrations through their root system.

Advantages of Phytoremediation

- **Economically Feasible** - It is far less expensive than any other remediation processes like solidification, vitrification, washing, leaching, particle size separation, dredging, or excavation.
- **Phyto mining** - Companies specialize in phytomining, they cultivate the plant to harvest its store of metals or nutrients.
- **Least Invasive Procedure** - This method is the least disruptive tactic. It is unique because many other methods of remediation destroy the soil structure and inhibit future plant and microbe growth.

Disadvantages of Phytoremediation

- **Slow Rate of Remediation** - It takes time and plant mass to remove the contaminants. It requires several years or even decades to halve the levels of most contamination; this is especially seen when dealing with heavy metals.
- **Limited Remediation Depth** - Remediation is only achieved as far as the roots of the plant can reach.
- **Threatens the Food Chain -** Toxic heavy metals are absorbed by food crops, eventually make their way into our food chain, directly affecting the food security and human life.
- **Impact on environment -** If the plants are not properly regulated, they have the potential to negatively impact the surrounding environment.

About Hyperaccumulator plants

- These are unusual plants that **accumulate specific metals or metalloids in their living tissues** to levels that can be **hundreds or thousands of times higher than normal for most plants.**
- However, they **cannot remove organic pollutants** from the ground **due to metabolic breakdown.**
- They can remove metals such as **silver, cadmium, cobalt, chromium, copper, mercury, nickel, lead, zinc, arsenic**, etc. Some **radionuclides** and **non-metallic components such as boron.**

CARBON MARKET

The Bill to amend the Energy Conservation Act, 2001 seeks to establish a domestic carbon market and facilitate trade in carbon credits. To achieve its climate targets, India plans to open a carbon trading market for major emitters in the energy, steel and cement industries.

About carbon markets

- It is a market, where buying and selling of carbon emissions take place, with the objective of reducing global emissions. It can be a compliance and voluntary type.
- Global level: Kyoto Protocol and Paris Agreement, both provide provisions for development of the carbon market.
- In India, a similar scheme called PAT, (perform, achieve and trade) allows units to earn efficiency certificates if they outperform the prescribed efficiency standards. The laggards can buy these certificates to continue operating.

How Carbon Market Works?

- Each country has a cap on the amount of carbon they are allowed to release.
- Companies that pollute less can sell their unused pollution rights to companies that pollute more.

Legal aspect of Carbon Trading in India

- The Multi Commodity exchange started future trading **in January 2008 after the Government of India recognized carbon credit as commodities.**
- The National Commodity and Derivative Exchange (NCDX) by a notification and with due approval from Forward Market Commission (FMC) launched Carbon Credit future contact.
- Its aim was to provide transparency to markets and help the producers to earn remuneration out of the environment projects.
- **Carbon credit in India is traded on NCDEX only as a future contract.**

Energy Conservation (Amendment) Bill, 2022

- The Lok Sabha has passed the Energy Conservation (Amendment) Bill, 2022. The bill is aimed at putting in place provisions to make the use of clean energy mandatory and paving the way for the setting of **carbon markets** in the country.
- The Bill seeks to amend the **Energy Conservation Act, 2001, l**ast amended in 2010. The Act promotes energy efficiency and conservation. It provides for the regulation of energy consumption by equipment, appliances, buildings, and industries.

Key Proposals Under The Bill

- **Obligation to use non-fossil sources of energy including** Green hydrogen, green ammonia, biomass, and Ethanol.
  - The 2001 Act empowers the central government to specify energy consumption standards.
  - The Bill adds that the government may require the *designated consumers to meet a minimum share of energy consumption from non-fossil sources*
  - **Designated consumers include:** *industries such as mining, steel, cement, textile, chemicals, and petrochemicals,* transport sector including Railways, and commercial buildings, as specified in the schedule.
  - Failure to meet the obligation for use of energy from non-fossil sources will be punishable with a penalty of up to Rs 10 lakh.

Carbon Trading

- The Bill empowers the central government to specify a carbon credit trading scheme. The central government or any authorized agency may issue carbon credit certificates to entities registered under and compliant with the scheme.The entities will be entitled to purchase or sell the certificate.
- **Energy Conservation Code For Buildings**
  - The 2001 Act empowers the central government to specify energy conservation code for buildings. The code prescribes energy consumption standards in terms of area.
  - The Bill amends this to provide for an 'energy conservation and sustainable building code'.
  - This new code will provide norms for *energy efficiency and conservation, use of renewable energy, and other requirements for green buildings.*
- **Applicability to Residential Buildings**
  - Under the 2001 Act, the energy conservation code applies to commercial residential buildings erected after the notification of the code, and having a minimum connected load of 100 kilo watts (kW) or contract load of 120 kilo volt ampere (kVA).
  - The Bill also empowers the state governments to lower the load thresholds.
- **Standards for vehicles and vessels:**
  - Under the 2001 Act, the energy consumption standards are specified for equipment and appliances which consume, generate, transmit, or supply energy.
  - The Bill expands the scope to include vehicles and vessels (includes ships and boats).
- **Regulatory powers of SERCs:**
  - The 2001 Act empowers the State Electricity Regulatory Commissions (SERCs) to adjudge penalties under the Act.
  - The Bill adds that *SERCs can also make regulations for discharging their functions.*
- **Composition of the BEE governing council:**
  - Under the 2001 Act, the governing council of the Bureau of Energy Efficiency (BEE) has members between 20 and 26 in number. The Bill instead provides that the number of members will be between 31 and 37. It also provides for up to 7 members representing industries and consumers.

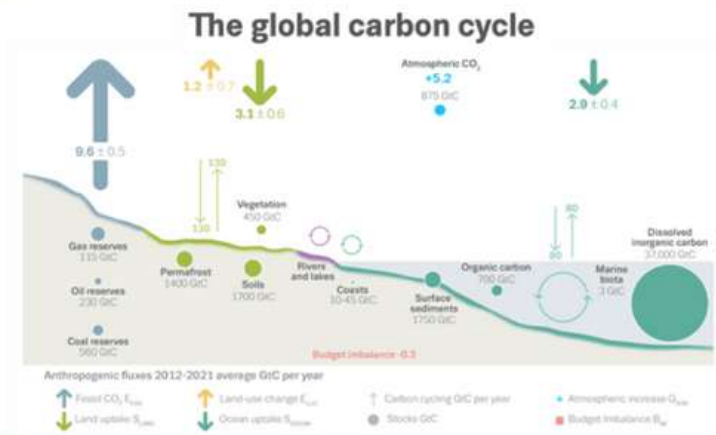
GLOBAL CARBON BUDGET 2022 REPORT

- The 17th version of the global carbon budget 2022 report was released

Key Highlight of this Report

- The world is projected to spew(eject) 40.6 billion tons of CO2 into the atmosphere in 2022, with no sign of the decrease that is urgently needed to limit warming to 1.5 °C.
- If current emissions levels persist, there is a 50% chance that warming of 1.5 °C will be exceeded in nine years.
  - 1.5 °C is the preferred warming limit set by the 2015 Paris Agreement, a limit that countries hope will be sufficient to avoid the worst impacts of climate change.
- Earth's global surface temperature has increased by around 1.1°C as compared to the average in the pre-industrial (1850-1900) levels.
  - This warming is considered the reason behind record droughts, wildfires & floods worldwide.

GLOBAL CARBON BUDGET (GCB) REPORT



- It is released by the Global Carbon Project (GCP).
  - GCP is a group of scientists that integrates knowledge of greenhouse gases for human activities and the Earth system.

- A global carbon budget determines the input of CO2 to the atmosphere by emissions from human activities, balanced by output (storage) in the carbon reservoirs on land or in the ocean.
- The report refers to the mean, variations, and trends of CO2 in the environment, referenced to the beginning of the Industrial Era.
- It describes the components of the global carbon cycle over the historical period with a stronger focus on the recent period.
- It provides cumulative emissions from fossil fuels and land-use change since the year 1750 (the pre-industrial period)
  - Year 1850 is the reference year for historical simulations in IPCC AR6(Sixth Assessment Report)).

- In 2021, more than half of the world' carbon emissions were from three places that is China (31%), the US (14%) and the European Union (8%).
  - India accounted for 7% of the global CO2 emissions.
  - Emissions in 2022 are to increase by 6%, driven mostly by a 5% increase in coal emissions and oil emissions 10% increase
  - Emissions from natural gas in India are projected to decline 4% but contribute little to the total change as gas is a small part of the energy mix in the country.

CARBON SEQUESTRATION

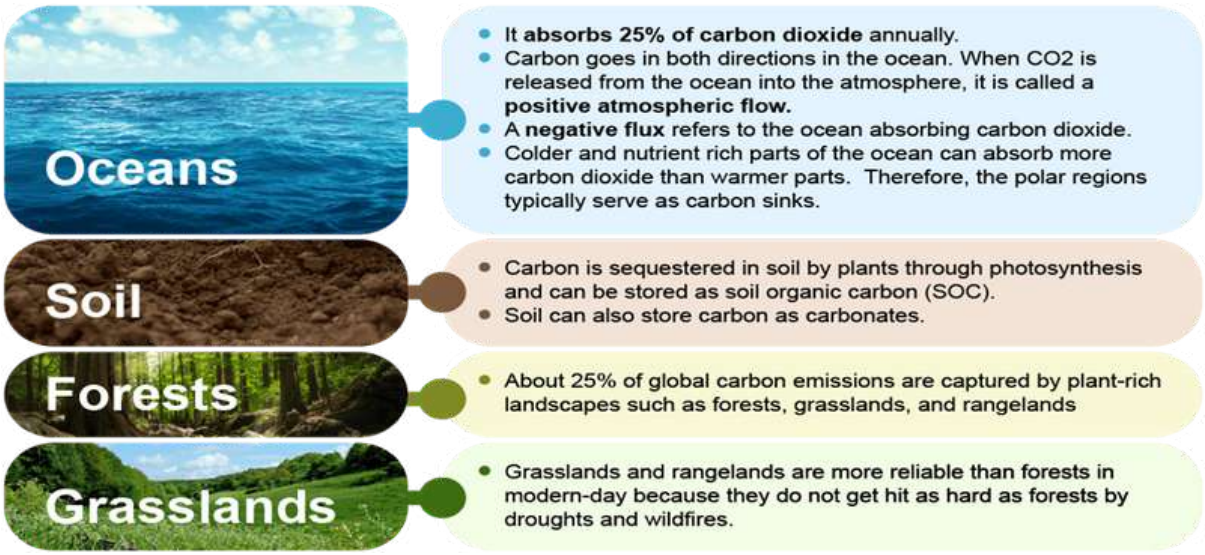
- **Oil India Limited (OIL)** signed an MoU with **Assam Forest Department** for a project on Carbon Sequestration and Restoration of Degraded Forest Land in Upper **Dihing Reserved Forest.**
- The initiative has been undertaken under **OIL's CSR project Vasundhara.**
- Under the project, reforestation, and afforestation in 100 hectare of degraded forest area is planned to be undertaken through plantation of 2,50,000 saplings by March 2025.

About Carbon Sequestration

- It is the process of **capturing, securing, and storing of carbon dioxide** from the atmosphere. The idea is to stabilize carbon in solid and dissolved forms so that it does not cause the atmosphere to warm. The process shows tremendous promise for **reducing the human carbon footprint.**

Types of Carbon Sequestration

- **Biological Carbon Sequestration –** It is the storage of carbon dioxide in vegetation such as grasslands or forests, as well as in soils and oceans.
- **Geological Carbon Sequestration** - It is the process of storing carbon dioxide in underground geologic formations, or rocks, also in mature oil and natural gas reservoirs, uneconomic coalbeds, deep aquifers saturated with brackish water or brine (saline), salt caverns



CARBON BOMBS

A group of environmentalists, lawyers, and activists have come together to identify and defuse carbon bombs.

About Carbon Bombs

- It is an oil or gas project that will result in at least a billion tonnes of CO2 emissions over its lifetime.
- In total, around 195 such projects have been identified world over, including in the US, Russia, West Asia, Australia and India. Over a third of the carbon bombs are currently being prepared and have not yet started extraction.
- Deactivation of carbon bombs is necessary to meet the Paris Agreement's temperature targets.

Plan for Defusing Carbon Bombs

- The network working towards defusing carbon bomb is called **Leave It In the Ground Initiative (LINGO).**
- Its mission is to leave fossil fuels in the ground and learn to live without them. It has listed carbon bomb projects from all over the world.
- It aims to organise ground support for protesting such projects, challenge them through litigation, and conduct analysis and studies for the same.

DVORAK TECHNIQUE

The American meteorologist Vernon Dvorak, who is credited for developing of the Dvorak technique in the early 1970s, passed away at the age of 100.

About Dvorak Technique

- It is a **Cloud Pattern Recognition Technique (CPRT)** based on a concept model of the **development and decay** of the tropical cyclone.
  - It is a statistical method using enhanced **Infrared/ visible satellite** imagery to quantitatively estimate the intensity of a tropical system.
  - During day time, images in the **visible spectrum** are used, while at night, the ocean is viewed using **infrared images.**
- Cloud patterns in satellite imagery normally show an indication of **cyclogenesis** before the storm reaches tropical storm intensity.
- Using these features, the pattern formed by the clouds of a tropical cyclone (TC), expected systematic development, and a series of rules, *an intensity analysis and forecast can be made.*
  - This information is then standardized into an intensity code.
- It quantifies TCs intensity on a 1-8 scale (at 0.5 intervals) called T-numbers and final output is Current Intensity (CI) number.

BIOMASS CO-FIRING

- The Union Ministry of Power mandated 5-10% co-firing at every thermal power plant in the country.
- Unavailability of biomass pellets of agricultural residues is slowing down the implementation of the co-fire biomass with coal in thermal power plants.

About Biomass Co-firing

- Co-firing is the combustion of two (or more) different types of materials at the same time.

- Biomass co-firing stands for adding biomass as a partial substitute fuel in high efficiency coal boilers.
- Coal and biomass are co-combusted in boilers that have been designed to burn coal.

Significance Of Biomass Co-Firing	Challenges With Biomass Co-Firing
• It is a good **method to minimize greenhouse gases,** because this process reduces net CO2, CH4, SOX and often NOX emissions, compared to coal combustion. • **Substituting 5-7% of coal with biomass** in coal-based power plants can save 38 million tonnes of CO2 emissions. • The existing **coal power plants can be retrofitted quickly and cost-effectively.** • It is an effective way to curb emissions from open burning of crop residue.	• Around 95,000-96,000 tonnes of biomass pellets are required per day for co-firing, but India's pellet manufacturing capacity is 7,000 tonnes per day. • There is a **potential increase in corrosion and some ash deposition issues.** • If co-firing plants are not carefully designed, it may involve some risks, **like increased plant outages, possible interference with operation of burner, furnace, boiler etc.** • **Other challenge is to store biomass pellets for long durations** at the plant sites since they absorb moisture from air quickly, rendering them useless for co-firing.

Government Intervention To Promote Biomass Co-Firing

- The **'National Mission on use of Biomass in coal-based thermal power plants',** also called **SAMARTH** (Sustainable Agrarian Mission on use of Agro-residue in Thermal Power Plants) has shared a list of 70-80 pellet manufacturers with the power plants.
- The government has stressed on **increasing the capacity of pellet manufacturers** and in this regard, several trainings for pellet manufacturers have been conducted by the National Power Training Institute all over the country.
- In order to further strengthen and regulate the supply chain, the manufacturers were also asked to be registered under SAMARTH.

GREEN JOBS

- It refers to a **class of jobs that directly have a positive impact on the planet, and contribute to the overall environmental welfare.**
- Jobs involving **renewable energy, conservation of resources, ensuring energy efficient means** are categorised under the same.

India and Green Jobs

- The **Skill Council for Green Jobs** was launched by the Union Government in October, 2015.
- Aligned to **National Skill Development Missions**, it was set up to be a not-for-profit, independent, industry-led initiative.
- It is promoted by the **Ministry of New and Renewable Energy (MNRE) and the Confederation of Indian Industry (CII).**
- The council **aims to help manufacturers and other service providers in India's 'green business' sector**

SINGLE-USE PLASTIC

- The **Union government has banned the use of single-use plastic from July 1 2022.**
- The *manufacture, import, stocking, distribution, sale and use of single-use plastic, including polystyrene and expanded polystyrene, commodities shall be prohibited.*

About Single-Use Plastic

- It **refers to plastic items that are used once and discarded.**
- It has among the highest shares of plastic manufactured and used from packaging of items, to bottles, polythene bags, face masks, coffee cups, cling film, trash bags, food packaging etc.

Why Single-Use Plastic Is A Major Concern

- A report by the Australian philanthropic organisations said it account for a **third of all plastic produced globally, with 98% manufactured from fossil fuels.**
- It also accounts for the majority of plastic discarded **(130 million metric tonnes globally in 2019), all of which is burned, buried in landfills or discarded directly into the environment.**
- On the current trajectory of production, it has been projected that **single-use plastic could account for 5-10% of greenhouse gas emissions by 2050.**
- The report found that India features **in top 100 countries of single-use plastic waste generation – at rank 94.**
- When it remains in the environment for long periods of time and does not decay, **it turns into microplastics and enter in our food sources and then the human body**, which is extremely harmful.

NEW PATHWAY TO REGULATE NITRATE ABSORPTION IN PLANTS

- Researchers led by those from the National Centre of Biological Sciences, Tata Institute of Fundamental Research, Bengaluru (NCBS-TIFR), have found a new pathway that regulates nitrate absorption in plants.

About New Method

- The micro-RNA, miR444, activates the target gene MADS27, which increases nitrate absorption, root development and stress tolerance, and thus provides a way to control these plant properties.
- The researchers studied this mechanism in both rice and tobacco plants.

Role of Nitrates in Plants

- Nitrogen is one of the most important macronutrients needed for development of a plant. It is a part of chlorophyll, amino acids and nucleic acids, among others.
- It is mostly sourced from the soil where it is mainly absorbed in the form of nitrates and ammonium by the roots. It also plays a role in controlling genome-wide gene expression that in turn regulates root system architecture, flowering time, leaf development, etc.

Nitrate Overuse

- The overuse of nitrates in fertilizers can lead to the dumping of nitrates into the soil leading to accumulation of nitrates in water and soil. This accumulation adds to soil and water pollution and increases the contribution to greenhouse gases.

GREEN FINS HUB

- United Nations Environmental Programme (UNEP), along with the UK-based charity Reef-World Foundation, launched the Green Fins Hub.
- It is the 1st-ever **global marine tourism industry platform.**
- The platform will help diving and snorkelling operators worldwide to make simple, cost-efficient changes to their daily practices by utilising tried and tested solutions.

Green Technology Hurt Marine Biodiversity

- A new **study has flagged about the negative impacts of green technology adoption** that could have a major impact on marine biodiversity over the next 5-10 years.
- A **technique called 'horizon scanning'** was used by a team of experts to arrive at their conclusions.

About Horizon Scanning

- It is a **technique for detecting early signs of potentially important developments** through a systematic examination of potential threats and opportunities.
- It is an **effective way of assembling experts from diverse subject areas** to examine common issues and formulate more comprehensive solutions.
- It has been previously **used to identify issues that are now known** to have a universal environmental impact.
- A scan from 2009 gave an early warning about the danger that microplastics (tiny plastic debris smaller than 5 mm) pose to marine environments.

FLEX FUEL VEHICLE (FFV)

- India's 1st flex fuel car, a Toyota sedan, has been developed with an aim to reduce the country's dependence on imported fossil fuels for transportation.

About FFV

- It is **also called a dual-fuel vehicle.** It has an internal combustion engine (ICE), but unlike a regular petrol or diesel vehicle, this can run on **more than one type of fuel, or even a mixture of fuels.**
- It is capable of running on a combination of 100% petrol or 100% bio-ethanol **and their blends.**
- The most common versions use a blend of petrol and ethanol or methanol
  - According to IHS Markit, there were over 21 million flex fuel vehicles (as of 2018) in the United States, but Brazil is the biggest market and a leader in this segment.
  - Since ethanol blending is expected to reach 20% by 2025-26, **the groundwork will be laid for the introduction of FFV-SHEV (Flex Fuel Strong Hybrid Electric Vehicle) vehicles in India.**

SAMUDRAYAAN MISSION

- It is **India's 1st manned ocean mission** that aims to send 3 persons in an indigenous **submarine vehicle called MATSYA 6000 to a depth of 6000 metres** for deep underwater studies. **Submarines go only about 200 metres.**
- India joined the elite club of nations such as US, Russia, France, Japan, and China to have niche technology and vehicles to carry out subsea activities

- It will help in the exploration of resources like **gas hydrates, polymetallic manganese nodules, hydro-thermal sulphides and cobalt crust,** which are found at depths of the ocean.
- It is a **project of Ministry of Earth Sciences (MoES) under Deep Ocean Mission**. The projected timeline is five years for the period 2020-2021 to 2025-2026.
- **National Institute of Ocean Technology (NIOT), an autonomous institute under MoES, is entrusted with the responsibility to develop various technologies** related to the mission.

SHOONYA CAMPAIGN

NITI Aayog commemorated the one-year anniversary of Shoonya Campaign.

About Shoonya Campaign

- It is a corporate-led consumer awareness campaign to reduce air pollution by promoting the use of electric vehicles (EVs) for ride-hailing and deliveries. It was launched by the Niti Aayog and Rocky Mountain Institute (RMI) in September 2021.

Need for Shoonya Campaign

- In India, these sectors are expected to grow at a CAGR (Compound annual growth rate) of 8% through 2030. If this demand is met by internal combustion vehicles (ICE), it would significantly increase local air pollution.
- Compared to ICE vehicles, EVs do not emit Particulate matter (PM) or NOx emissions, they release 60% less CO2 and have 75% lower operating costs.
- It supports India's 5-point agenda (Panchamrit), announced at COP 26, to reduce carbon emissions.

GAIA HYPOTHESIS

- It was formulated by the chemist James Lovelock in the early 1970s. It **proposes that living organisms interact with their inorganic surroundings on Earth to form a synergistic and self-regulating**, complex system that maintains the conditions for life on the planet.
- It was hypothesized that by using the Gaia principle one **can detect life in the atmosphere of other planets.**
- Main objective of Gaia principle is to protect mother earth. Some of important aspects where Gaia principle is being used:
  - Organic farming and zero Budget natural farming.
  - Sustainable development by Brundtland Commission.

HARNESSING GREEN HYDROGEN: OPPORTUNITIES FOR DEEP DECARBONIZATION IN INDIA

NITI Aayog released a report titled Harnessing Green Hydrogen: Opportunities for Deep Decarbonization in India.

Major Highlights of The Report

- The government should focus on enabling a **cost reduction pathway** for green hydrogen production in India.
- Hydrogen **demand in India could grow more than fourfold by 2050,** representing almost 10% of global demand.
- **Decarbonisation:** Green hydrogen is crucial for sectors such as fertilizers, refining, methanol, maritime shipping etc.
- In the longer term, *steel and heavy-duty trucking are likely to drive the majority of demand growth*, accounting for almost 52% of total demand by 2050.
- **Three hydrogen corridors should be developed** across the country based on state grand challenges.
- The governments **can provide grants to projects, support entrepreneurs** through incubators and investor networks, and put in place regulations that manage first-mover risks.
- Promote export of green hydrogen and green hydrogen-embedded products through a **global hydrogen alliance.**
- Make green hydrogen *competitive vis-à-vis grey hydrogen*
- Encourage *market development* using the industrial cluster, and viability gap funding.
- Initiate *Green Hydrogen standards* and a **labelling programme**

About Green Hydrogen

- It is hydrogen that is **produced by splitting water into hydrogen and oxygen using an electrolyser** powered by renewable energy sources such as wind and solar.
- **Certified green hydrogen requires an emission reduction of >60-70%** below the benchmark emissions intensity threshold.

Blue hydrogen	It is **produced mainly from natural gas,** using a process called steam reforming, which brings together **natural gas and heated water** in the form of steam. The output is hydrogen, but also **carbon dioxide as a by-product** (most of which is captured and stored). It is sometimes described as low-carbon hydrogen.
Grey hydrogen	It is **created from natural gas, or methane**, using steam methane reformation but without capturing the greenhouse gas.
Black and brown hydrogen	It **made from fossil fuels like coal**, through the process of gasification. No capture of GHG. It is the cheapest form
Pink/ Red/ Purple hydrogen	It is **generated through electrolysis powered by nuclear energy.**
Yellow hydrogen	It **made through electrolysis using solar power**.
White hydrogen	It is **naturally-occurring geological hydrogen found in underground deposits and created through fracking.** There are no strategies to exploit this hydrogen at present.
Turquoise hydrogen	This is a new entry in the hydrogen colour charts and production has yet to be proven at scale. It is made using a process called **methane pyrolysisto** produce hydrogen and **solid carbon.**

GREEN HYDROGEN POLICY/ GREEN AMMONIA POLICY

- It **aimed at boosting the domestic production of green hydrogen to 5 million Tonnes by 2030** and making India an export hub for the clean fuel.
- It offers 25 years of free power transmission for any new renewable energy plants set up to supply power for green hydrogen production before July 2025.
  - This means that a green hydrogen producer will be able to set up a solar power plant in Rajasthan to supply renewable energy to a green hydrogen plant in Assam and would not be required to pay any inter-state transmission charges.
  - Besides, producers will be allowed to set up bunkers near ports for storage of green ammonia for export by shipping.
- The policy also states that energy plants set up to produce green hydrogen/ammonia would be given connectivity to the **ISTS (Inter-State Transmission System)** on a priority basis.
- Manufacturers of Green hydrogen and ammonia are allowed to purchase renewable power from the power exchange or set up Renewable Energy (RE) capacity themselves or through any other developer, anywhere.
  - It provides facility for producers to bank any surplus renewable energy generated with discoms (power distribution companies) for upto 30 days and use it as required.

GLOBAL GATEWAY INITIATIVE

- It is a project created by the European Union to develop new infrastructures in developing countries.
- **Within it,** India and EU inaugurated the **First EU-India Green Hydrogen Forum.**
- The Forum served as a platform to exchange best practices, policy frameworks and production and application technologies for renewable hydrogen.
- EU is keen to explore the possibility of building a pipeline of hydrogen projects in India, by leveraging the investments under the Global Gateway initiative.

GEOTHERMAL POWER

- It refers to the heat stored beneath the earth's surface that is carried to the surface by water and/or steam. It can be directly used or converted into electricity.
  - India's 1st geothermal power project will be established at Puga village of eastern Ladakh.
  - Other places with potential geothermal energy are Manikaran in Himachal Pradesh, Jalgaon in Maharashtra, Tapovan in Uttarakhand, Bakreshwar in West Bengal and Tuwa in Gujarat.

ZERO BUDGET FARMING

There are three components of Zero budget farming:

- **Beejamrit** - It is used for seeds, seedlings or any planting material. It is effective in protecting young roots from fungus.
- **Jeewamrit** - It is a natural liquid fertilizer. It is made by mixing water, dung and urine from cows with some mud from the same area as the manure will be applied in later. Food is added to speed the growth of microbes.
- **Achhadan (Mulching)** - This process involves creating a micro climate using different mulches with tree, crop biomass to conserve soil moisture.

SHALLOW-WATER MINING

- A new study has highlighted that shallow-water mining could trigger local extinctions of marine species.

About Shallow Water Mining

- **Countries Already Adopting Shallow Water Mining**
  - Namibia has been mining diamonds off its coast in depths of up to 130 m.
  - Indonesia has been extracting placer deposits, and sediments containing gold, silver, tin, and platinum.
  - Mexico, New Zealand, and Sweden have proposed shallow water.
- **It is mining that takes place in the sea at a depth of fewer than 200 meters,** occurring on the continental shelf with easier access to the coast.)
- It is **opposed to deep-sea operations** that target less accessible resources and require specialized technology.
  - The part of the ocean that lies below a depth of 200 m is defined as deep sea, and the process of extracting minerals from this area is known as deep-sea mining.
- Compared with **terrestrial mining and deep-sea mining operations, it may save operational costs,** as mining takes place closer to shore and uses existing technology.

GLOBAL STATUS OF MULTI-HAZARD EARLY WARNING SYSTEMS

- According to a new report, half the countries in the world have no early warning systems to help prepare against natural disasters.
- The report titled the **Global Status of Multi-Hazard Early Warning Systems (MHEWS).**

About the Report

- It was released by the United Nations Disaster Risk Reduction (UNDRR) and the World Meteorological Organization (WMO) on the occasion of International Day of Disaster Risk Reduction (13th October).
- The analysis was made with data from the Sendai Framework Monitor (SFM).
  - It is an online tool where member countries report their progress on the targets outlined in **The Sendai Framework (2015-2030).**

Sendai Framework

- It was adopted at the 3rd United Nations World Conference on Disaster Risk Reduction, held in 2015 in Sendai, Japan.
- The framework is a global blueprint for *disaster risk reduction and prevention* and outlines **7 global targets to be achieved between 2015 and 2030.**
- It is the successor instrument to the **Hyogo Framework for Action (HFA) 2005-2015**: Building the Resilience of Nations and Communities to Disasters.
- Of the 7 targets in the framework, **Target G** aims to "substantially increase the availability of and access to multi-hazard early warning systems and disaster risk information and assessments to the people by 2030".

United Nation Disaster Risk Reduction (UNDRR)

- It is the focal point of the United Nations systems for disaster risk reduction, established in 1999.
- Headquartered in Geneva, Switzerland.
- It is an organizational unit of the UN Secretariat and is led by the UN **Special Representative of the Secretary General for Disaster Risk Reduction (SRSG).**
- The **UN Global Assessment Report on Disaster Risk Reduction (GAR)** is the flagship report of the UNDRR of world-wide efforts to reduce disaster risk.

World Meteorological Organization

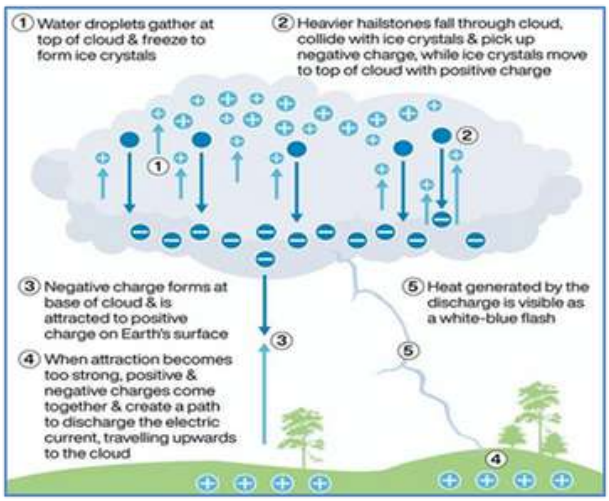
- It is an organization of the United Nations.
- It was created in 1950 to replace the International Meteorological Organization.
- It coordinates member nations in the fields of meteorology, operational hydrology, and Earth sciences for the security of their population.

LIGHTING – A DISASTER THAT'S NEED ATTENTION

- It is a **rapid and massive discharge of electricity** into atmosphere, some of which is directed towards the Earth.
- There is occurrence of a natural 'electrical discharge of very short duration and high voltage between a cloud and the ground or within a cloud', accompanied by a bright flash and sound, and sometimes thunderstorms.

- Inter cloud or intra cloud (IC) lightning are visible and harmless. Cloud to Ground (CG) lightning is harmful as the 'high electric voltage and electric current' leads to electrocution.

How Lightning Is Formed?



- As **water vapour moves upwards** in the cloud, it condenses due to the falling temperature. As they drop to a temperature below 0°C, the water **droplets turn into tiny ice crystals.**
- They continue to grow until **they become so heavy** that they begin to fall to the earth.
- This leads to a system in which, at the same time, **smaller ice crystals** are moving up and larger crystals coming down.
- **Electrons are released and triggered after a collision;** a process similar to the production of electric sparks.
- As the moving free electrons cause more collisions and more electrons, a chain reaction occurs.
- This process results in a situation in which the **upper layer of the cloud becomes positively charged, while the middle layer becomes negatively charged.**
- The electric potential **difference between the two layers is very large**, on the order of one billion to 10 billion volts.
- In a very short time, a **huge current, on the order of 100,000 to one million amperes, begins to flow between the layers.**
- **Earth is a good conductor of electricity**; it is electrically neutral. However, **compared to the middle layer of the cloud, it becomes positively charged.**
- As a result, about **15%-20% of the current is directed towards the earth as well.**

Lightning-Prone Area in India

- Madhya Pradesh has recorded the highest number of ground lighting, followed by Chhattisgarh, Maharashtra, Odisha and West Bengal.
- Other states with high strike rates include Bihar, UP, Karnataka, Jharkhand and Tamil Nadu.

Beacon of Maracaibo or the Everlasting Storm

- The most lightning activity on Earth is seen on the shore of Lake Maracaibo in Venezuela.
- At the place where the Catatumbo river falls into Lake Maracaibo, an average 260 storm days occur every year, and October sees 28 lightning flashes every minute

Government Initiatives To Tackle Lighting

- National Disaster Management Authority (NDMA) has issued **Common Alert Protocol (CAP) system** to warn people about impending thunderstorm and lightning.
- **Lightning Alert System** provides location-specific forecast of thunder, lightning, strong winds, high winds, hailstorm occurrences up to 48 hours.
- **ISRO is providing satellite information about convective clouds** from INSAT-3DR, which is uploaded every 15 minutes.
- **Damini app** was developed by the Indian Institute of Tropical Meteorology and Earth System Science Organization. It warns user of lightning near them by a GPS notification below 20 km and 40 km.
- The **Lightning Resilient India campaign** aims to reduce the number of lightning deaths to 1,200 per year by 2022.
  - It is a joint initiative of Climate Resilient Observing-Systems Promotion Council (CROPC), NDMA, IMD, Union Ministry of Earth Science, World Vision India, UNICEF among others.

National Seismological Network

- It is developed by the Ministry of Earth Sciences. The network is capable of recording any earthquake event in India.
- National Centre for Seismology (NCS) maintains the National Seismological Network of more than 150 stations each having state of art equipment.

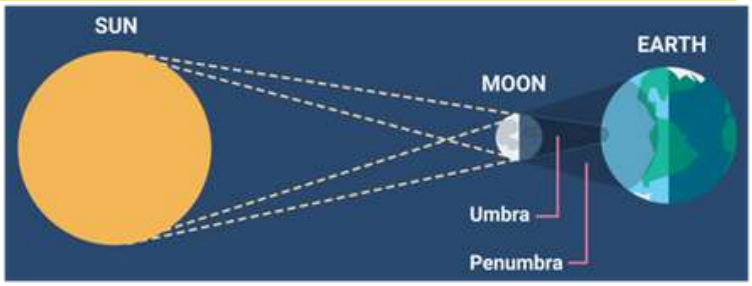
Indian Virtual Herbarium

- It is the biggest virtual database of flora in the country. It is developed by scientists of the Botanical Survey of India (BSI).
- Each record in the digital herbarium includes an image of the preserved plant specimen, scientific name, collection locality, and collection date, collector name, and barcode number.

BEAVER BLOOD MOON

- A **total lunar eclipse** is sometimes called a **Blood Moon,** because of the reddish tinge the Full Moon takes on when fully eclipsed.
  - A total lunar eclipse occurs when the **Moon and the Sun are on exact opposite sides of Earth.**
- The reason why the Moon takes on a reddish colour during totality is a phenomenon called **Rayleigh scattering.** It is because of the way light travels through the Earth's atmosphere. Sunlight is made of several colours and they all have different wavelengths.
- Blues and purples have shorter wavelengths and scatter in our atmosphere, giving the sky its blue colour, but reds and oranges have the highest wavelengths and pass through our atmosphere before it is bent or refracted around Earth, hitting the surface of the Moon and making it red.
- It is the same mechanism responsible for causing colourful sunrises and sunsets. While it has no special astronomical significance, the view in the sky is striking as the usually whitish moon becomes red or ruddy brown.
- Each of the year's full moon gets a nickname. Any **full moon within the month of November** is called a Beaver Moon. Thus, this particular lunar event has earned the nickname **"Beaver Blood Moon Eclipse."**

PARTIAL SOLAR ECLIPSE



- This occurs when the earth, moon and sun are not aligned completely.
  - Due to this, a small part of the sun is uncovered by the moon's shadow.
- It arrives when the penumbra (the lighter part of the Moon's shadow) passes through the overhead.
- The places farther from the poles but under the penumbra zone cannot observe the eclipse completely. In this, only a small part of the sun remains covered.
  - It means that you need to get closer to the path to witness the partial effect of the solar eclipse.

3 Distinct Stages Of A Partial Solar Eclipse

- **Partial solar eclipse begins** – The Moon starts moving over the Sun's disk.
- **Maximum eclipse** – The eclipse reaches its maximum magnitude. The Moon now covers more of the Sun's disk than at any other moment during the eclipse.
- **Partial solar eclipse ends** – The Moon stops covering the Sun.

Other Different Types Of Solar Eclipse

Annular Solar Eclipse

- It happens when the Moon passes between Sun & Earth, but when it is at or near its farthest point from Earth.
- Because the Moon is farther away from Earth, it appears smaller than the Sun and does not completely cover the Sun.
- The Moon appears as a dark disk on top of a larger, bright disk, creating what looks like a ring around the Moon.

Total Solar Eclipse

- It happens when the Moon passes between the Sun and Earth, completely blocking the face of the Sun.
- It is only visible from a small region on the earth. In this particular phenomenon, the diameter of the earth is around 400 times larger than the moon. But the distance can vary from one eclipse to another.

How Does A Solar Eclipse Occur?

- It is a celestial phenomenon in which the moon passes across the sun. It causes the moon to block the light towards the earth, and its shadow falls on the earth. This shadow is called the "Umbra." The movement of the moon, earth affects the duration of the solar eclipse.
- It takes one month for the moon to complete the revolution of the earth. But the eclipse doesn't happen every month because the moon and earth's orbital plane is different from the earth toward the sun. Hence, the solar eclipse occurs when the moon arrives in front of the sun.

JUNGLE CORK TREE

- It is native to India & is referred to as chilbil, papri, kanju and several other names in local languages.
- The tree has therapeutic properties. The tree is drought-resistant and is easy to grow.
- The seeds are consumed by tribal communities in Uttar Pradesh, Bihar and in Himalayan Terai region. Its wood is widely used for making furniture and for construction purposes.

PO RIVER

It is the longest river in Italy, rising in the Monte Viso group of the Cottian Alps on Italy's western frontier. It emptying into the Adriatic Sea. It has 141 tributaries, some major tributaries are Pellice, Varaita, Maira, Chisola, Sangone, Dora Riparia, Stura di Lanzo and Malone.

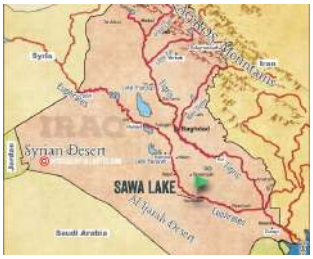
RHINE RIVER

Water levels on the Rhine River are very low because of unusually hot and dry weather.

About River Rhine

- It is one of the longest and most important river in Europe. It is the second-longest river in Central and Western Europe after the Danube.
- It runs for over 1,232 km from its source in the Swiss Alps (in Switzerland), issuing from the Rheinwaldhorn Glacier. It flows through 6 countries – Switzerland, Principality of Liechtenstein, Austria, Germany, France and Netherlands-- before flowing into the North Sea at Rotterdam.

IRAQ'S LAKE SAWA RUNS DRY



- It is an endorheic lake in the Muthanna area, Iraq near to the Euphrates River. This lake has no inlet or outlet, but it draws water from the Euphrates through a system of joint cracks and fissures which transport water to aquifers beneath it. The Lake was declared a Ramsar site in 2014.

VANILLA ISLANDS

- It is formed by the islands of Seychelles, Madagascar, Reunion (France), Mauritius, Comoros, and Mayotte (France) in the Indian Ocean.
- The goal of the cooperation, which was created on August, 2010, to pool resources and sell the region as a whole, rather than marketing each island separately as was previously done.
- Tourism specialists realized that the only way to promote these islands as tourist destinations was to share resources and expertise.

PILBARA CRATON

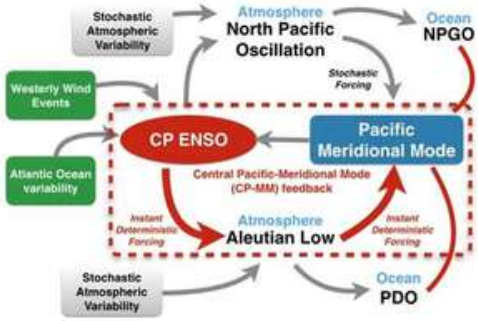
- It is an old and stable part of the continental lithosphere located in the Pilbara region of Western Australia
- It is famous for containing some of the Earth's oldest well-preserved rocks and fossil stromatolites.
- The researchers looked for evidence in zircon crystals embedded in rocks from the Pilbara Craton
- Zircons are formed by the crystallization of magma or are found in metamorphic rocks. They act as tiny time capsules, recording the period of geologic activity. Newer zircon adds to the original crystal as time progresses.

NAGORNO-KARABAKH REGION

- It is a landlocked region in the South Caucasus, within the mountainous range of Karabakh.
- It is a disputed territory, internationally recognized as part of Azerbaijan, however, ethnic Armenians reject the legal system of Azerbaijan.

PACIFIC MERIDIONAL MODE (PMM)

- It is a climate mode in the North Pacific.
- In its positive state, it is characterized by the coupling of weaker trade winds in the northeast Pacific Ocean with decreased evaporation. This increases sea surface temperatures (SST).
  - The scenario is reversed during its negative state.
  - It can modulate hurricane activity in the East Pacific and typhoon activity in the West Pacific oceans and alter precipitation on the continents surrounding the Pacific Ocean.



DERECHO

Some states in US were hit by a storm system called Derecho.

About Derecho

- It is a widespread, long-lived, straight-line windstorm. It can be just as powerful and destructive like hurricane or tornado.
- It is a warm-weather phenomenon and generally occurs during summer time. The sky turns green during the derecho storm.

Types

- **Progressive:** It is associated with a short line of thunderstorms that may travel for hundreds of miles along a relatively narrow path. It is a summer phenomenon.
- **Serial:** It has an extensive squall line, wide and long, sweeping across a large area. It usually occurs during spring or fall.
- **Hybrid:** It has the features of both progressive and serial derechos.

Why Did The Sky Turn Green?

- Storms contain huge amounts of water and light interacts with them. The big raindrops and hail scatter away all but the blue wavelengths due to which primarily blue light penetrates below the storm cloud. This blue then combines with the red and yellow of the afternoon or the evening sun to produce green.

Comparison between derecho and tornado

- A tornado is a cyclonic storm, the winds of a tornado travel rapidly in a circular or spiral pattern, while the storm as a whole move relatively slowly across the map.
- A derecho is a straight-line wind. It is not moving in a circular of spiral pattern, but travels directly, in a more or less straight line at a very high rate of speed. The wind speeds of a derecho are similar to a tornado. Both do heavy damage.

GLOBAL TERRESTRIAL STILLING

- This is a decrease in wind speed observed near Earth's surface over the past three decades, originally referred to as "stilling".
- This slowdown of near-surface terrestrial winds has mainly affected mid-latitude regions of both hemispheres.
- The exact cause of the global terrestrial stilling is uncertain and has been mainly attributed to two major drivers: changes in large scale atmospheric circulation and an increase of surface roughness due to e.g. forest growth, land use changes, and urbanization.

AZORES HIGH

A very large Azores High has resulted in unusually dry conditions in the western Mediterranean, including the Iberian Peninsula.

About Azores High

- It is a subtropical high pressure system that extends over the eastern subtropical North Atlantic and western Europe during the winter.
- It is associated with anticyclonic winds in the subtropical North Atlantic.
- It is formed by subtropical descent from dry air and coincides with the lower branch of the Hadley Circulation.
  - Hadley Cells are the low-latitude overturning circulations that have air rising at the equator and air sinking at roughly 30° latitude. They are responsible for the trade winds in the Tropics and control low-latitude weather patterns.
- The researchers showed that the Azores High expansion is driven by external climate forces and that the only external forcing that produces this signal in the industrial era is atmospheric greenhouse gas concentrations.

IMPACT OF AZORES HIGH

- **An annual drying of 5-10 millimetres per decade has been recorded in the Iberian Peninsula** throughout the second half of the 20th century.
- A further **10-20% drop in winter precipitation is expected by the end** of the 21st century.
- Olive-growing regions in southern Spain will suffer a 30% decline in production by 2100
- Cultivation area in grape-growing regions across the Iberian Peninsula will shrink 25-99% by 2050.

CLOUD BURST

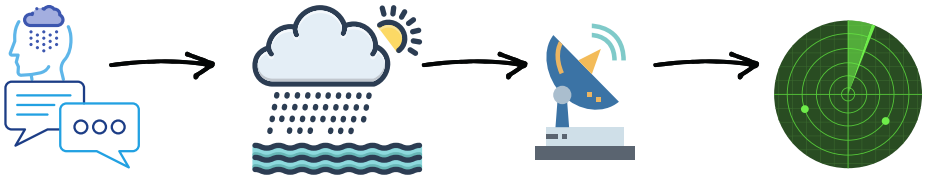
Huge tragedy unfolded near the holy Amarnath cave after a cloudburst reportedly triggered flash floods and chaos.

About Cloud Burst

- It is **short-duration, intense rainfall events** over a **small area**.
- The **rainfall rate which is equal to or greater than 100 mm/hour is a cloudburst.**

Occurrence of Cloudburst

- It occurs when **moisture-carrying air** moves up a hilly terrain, forming a vertical column of clouds known as 'cumulonimbus' clouds.
- Such clouds usually cause rain, thunder and lightning. This **upward motion of the clouds is known as an orographic lift.**
- These **unstable clouds cause an intense rainstorm over a small area** after becoming heavy enough and locked in the ridges and valleys between the hills.
- The **energy necessary for the cloudburst comes from the upward motion of air**. It mostly occurs at elevations between 1,000-2,500 metres above sea level.
- The moisture is usually provided by a low-pressure system (usually associated with cyclonic storms in the ocean) over the Gangetic plains associated with low level winds flowing in from the east. Sometimes **winds flowing in from the north-west also aid the occurrence of cloudbursts.**
- The many factors that have to come together to make a cloudburst event happen make them highly unlikely.



Effect of Cloudbursts

- Cloudbursts are also **responsible for Flash floods creation.**
- **Landslides, Mudflows and Land caving** are also the indirect effect of outburst.

Predication of Cloud Brust

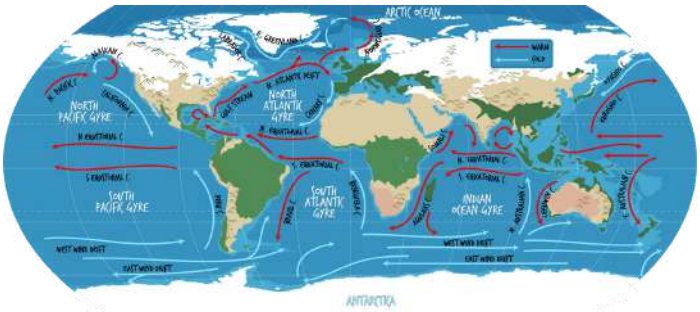
- There is **no satisfactory technique to predict a cloudburst** because of their small scale.
- A very fine network of radars is required in order to detect the likelihood of a cloudburst however this technique is prohibitively expensive.
- Only the areas likely to receive heavy rainfall can be identified on short-range scale.

Flash Floods

- It is **highly localized events of short duration with a very high peak. It usually has less than 6 hours between the occurrence of the rainfall** and peak flood.
- *Rainfall intensity, rainfall location and distribution, land use and topography, vegetation type and growth/density, soil type, and soil water content* all determine how quickly flash flooding can occur, and where it occurs.

NEW MAP OF EARTH'S TECTONIC PLATES

- Researchers from the University of Adelaide, Australia, have carried out a new study that includes an updated map of the earth's tectonic plates.
- The material will help in forming a better understanding of natural hazards like earthquakes and volcanoes. These plates move relative to each other and interact along their boundaries, where they meet, diverge, or overtake each other.



About New Map

- New model for tectonic plates better explains the spatial distribution of 90% of earthquakes and 80% of volcanoes from the past two million years whereas existing models only capture 65% of earthquakes.
- The new map added several new microplates to the existing tectonic plate model like the Macquarie microplate which sits south of Tasmania and the Capricorn microplate that separates the Indian and Australian plates.

The new model now includes all the deformation zones north of India as the plate bulldozes its way into Eurasia.

Significance of New Map

- It can be used to evaluate risks from natural hazards like earthquakes and volcanoes.
- It can be used for further exploration of minerals.
- It can be used for a better understanding of the evolution of the earth.

Major Tectonic Plates	Some Minor Tectonic Plates (Found between)
Pacific Plate North American Plate Eurasian Plate African Plate Antarctic Plate Indo-Australian Plate South American Plate	1.Somali Plate 2.Nazca Plate (South America and Pacific plate) 3.Philippine Sea Plate(Asiatic and Pacific plate) 4.Arabian Plate(Saudi Arabian landmass) 5.Caribbean Plate 6.Cocos Plate (Central America and Pacific plate) 7.Caroline Plate (Philippine and Indian plate) 8.Scotia Plate (edge of the South Atlantic and Southern oceans 9.Burma Plate 10.New Hebrides Plate (Pacific Ocean near the island nation of Vanuatu) Juan De Fuca Plate (South-East of North American Plate)

KAAS PATHAR

- It is a plateau made from volcanic rock situated in Maharashtra.
- It falls in the biosphere of the Western Ghats, and it became a part of a UNESCO World Natural Heritage Site in 2012.
- It is known for various types of seasonal wildflowers bloom and numerous species of endemic butterflies annually in the months of August and September.

WHY MILLET IS CALLED SUPER GRAIN?

- Millet (cereal crops, mainly on marginal lands) is called the super grain because it is high in dietary fibre. Specifically, it contains 7-12 % protein, 2-5 % fat, 65-75% carbohydrates and 15-20% dietary fibre.
- It is an excellent grain to alleviate malnutrition and micronutrient deficiency.
- It does not require high-quality soil to grow and hence can easily cater to the needs of the growing population..

ARECA NUT

- Popularly known as betel nut or Supari, Major cultivating states are Karnataka (40%), Kerala (25%), Assam (20%), Tamil Nadu, Meghalaya and West Bengal.
- The dyes are derived from areca nut, which is a good source of antioxidants including flavonoids and polyphenols.

IPBES ASSESSMENT REPORTS

- A report on the status of biodiversity has been released by the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES).

Major Highlights of the Report

- **Biodiversity Used for Consumption:** The plant kingdom is the biggest representative of species used for consumption. Count is around 31,100 species of wild plants.
  - It also comprises of wild fish species and aquatic invertebrates as well as wild amphibians, reptiles, birds and mammals.
  - This is directly impacting biodiversity.
- **Local Variations:** About 34% of marine wild fish stocks are overfished and 66% are fished within biologically sustainable levels.
- **Used for Income and other Source:** One in five people rely on wild plants, algae and fungi for their food and income.

- **2.4 billion rely on wood for cooking. About 90% of the 120 million people working in capture fisheries are supported by small-scale fishing.**
- **Illegal trade** in wild species, which represents the 3rd largest class of all illegal trade and have estimated annual values of up to $199 billion, worsen the situation.
  - imber and fish make up the largest volumes and value of illegal trade in wild species.
- **Sustainable Use By Indigenous People:** Indigenous people and local communities used local knowledge, practices and spirituality for the sustainable use of wild species.
  - They respected nature and only took what they needed.
- **Report Focuses Attention Towards Fact That Biodiversity Is Not Valued As Much As It Should Be**
  - **Countries are focusing more on short-term profits and economic growth,** excluding the consideration of nature in policy decisions.
  - These **efforts have failed mainly because the people who benefit from biodiversity are not the ones who live with it symbiotically.**

About IBPES

- **It is an intergovernmental organization, established by member States in 2012.**
- **In 2010 a resolution of the 65th session of the United Nations General Assembly urged the United Nations Environment Program (UNEP) to convene a plenary meeting to establish IPBES.**
- **It was established to improve the interface between science and policy on issues of biodiversity and ecosystem services. It is intended to serve a similar role to the Intergovernmental Panel on Climate Change (IPCC).**

ENVIRONMENT PERFORMANCE INDEX (EPI) 2022

- The Environment Ministry of India rebutted the Environmental Performance Index 2022 that ranked India at the bottom of 180 countries.

About EPI

- It is an international ranking system that measures environmental health and sustainability of countries.
- It is a biennial index, published by the Yale Center for Environment Law and Policy and the Center for International Earth Science Information Network, Columbia University.
- The index ranks 180 countries on 40 performance indicators across 11 categories, which are further grouped in three categories:

EPI 2022 RANKING

Top 3 Countries from Top	Top 3 Countries from Below
1st : Denmark 2nd : UK 3rd : Finland	178 : Pakistan 179 : Bangladesh 180 : India

STATE OF INDIA'S ENVIRONMENT REPORT 2022

The Centre for Science and Environment (CSE) has released the State of India's Environment Report 2022.

About The Report

- It is an annual publication of the CSE and Down To Earth.
- It has a comprehensive set of infographics and statistical analysis of how India's states are faring in meeting the Sustainable Development Goals (SDGs).
- It also covers biodiversity, forest and wildlife, energy, industry, habitat, pollution, waste, agriculture and rural development.

Key Findings Of This Report

- **Economy** - The target for the economy is to raise the GDP to **nearly $4 trillion by 2022-23. But by 2020, the economy has grown only to $2.48 trillion.**
- **Employment** - The target is to increase the **female labour force participation rate to at least 30% by 2022-23**, it stood at 17.3% in January-March 2020.
- **Housing** - The targets are to construct 29.5 million housing units under Pradhan Mantri Awas Yojana (PMAY)-Rural and 12 million units under PMAY-Urban, **only about 46.8% and 38% respectively** of the targets under 'Housing for All' have been achieved.

- **Provision of Drinking Water -** The target is to provide safe piped drinking water to all by 2022-23, only 45% of the target has been achieved.
- **Agriculture -** The average monthly income of an agricultural household has increased to Rs 10,218 from Rs 6,426, this increase is largely due to increase in wages and income from farming animals.
- **Digitisation of Land Records -** Target is to digitise all land records by 2022. While many states have made good progress but **Jammu and Kashmir, Ladakh and Sikkim languish less than 10% digitisation of land records.**
- **Air Pollution -** The target is to **bring down PM2.5 levels** in Indian cities to less than 50 microgram per cubic metre (µg/m3). In 2020, when vehicular movement was restricted due to the pandemic, 23 of the 121 cities monitored for PM2.5 exceeded 50 µg/m3.
- **Solid Waste Management -** The **target is to achieve 100%** source segregation in all households solid waste but the **overall progress is 78%**.
- **Manual Scavenging –** The target is the complete eradication, but **India still has 66,692 manual scavengers.**
- **Increasing Forest Cover -** The target is to **increase it to 33.3%** of the geographical area, as envisaged in the National Forest Policy, 1988. **By 2019, 21.67% of India was under forest cover.**
- **Energy -** The target is to achieve 175 GW of renewable energy generation capacity by 2022 but **only 56% of this target has been achieved.**

Center for Science and Environment

- It is a public interest research and advocacy organization based in New Delhi.
- It researches into, lobbies for, and communicates the urgency of development that is both sustainable and equitable.
  - Its efforts are specifically designed to create awareness about problems and propose sustainable solutions.

CLIMATE TRANSPARENCY REPORT 2022

The 8th edition of the Climate Transparency report was released.

Global	India
• G20 members are responsible for around three-quarters of global emissions. However, they are still not taking the necessary level of accountability of action. • At 1.5°C, most G20 members can expect water scarcity and prolonged periods of drought, and less favorable agricultural conditions. • Earth's global surface temperature has increased by around 1.1 degrees Celsius compared with the average in 1850-1900.	• India suffered an income loss of USD 159 billion (5.4% of GDP), in the service, manufacturing, agriculture, and construction sectors due to extreme heat in 2021. • Heat exposure led to the loss of 167 billion potential labour hours, a 39% increase from 1990-1999. • Labour productivity is projected to decline by 5% from the 1986-2006 reference period if global temperatures increase by 1.5 degrees Celsius. • Between 2016-2021, extreme events such as cyclones, floods, and landslides caused damage to crop in over 36 million hectares, a USD 3.75 billion loss for farmers. • The annual damage from river flooding is likely to increase by around 49% at 1.5 degree Celsius of warming. • The damage from cyclones will increase by 5.7%. • Snowfall is expected to decrease under the 1.5 degrees Celsius scenario by 13%.

Climate Transparency Report

- It is the most comprehensive annual study of G20 countries' climate measures and their transition to a net zero emissions economy.
  - Its assessment includes 100 indicators for climate adaptation, risks, protection and finance.
- In 2022, the report especially highlights the link between the climate emergency and energy crisis.

CLIMATE PERFORMANCE INDEX 2023

- In the latest report of Climate Change Performance Index (CCPI) 2023 India moves two spots when compared with the previous edition of the index.
  - In 2022 India stood at 10th position.

About Climate Performance Index

- It is released by Germanwatch, an independent development organisation.
- It has been released every year at the UN Climate Change Conference since 2005.
- It is an instrument to enable transparency in national and international climate politics.
- It currently tracks the countries' progress towards the goals set by the **Paris Agreement.**
- The index assesses climate protection performance of 5963 countries and the European Union using 14 indicators in **four categories:**
  - GHG Emissions
  - Renewable Energy
  - Energy Use
  - Climate Policy

Key Finding of the Report

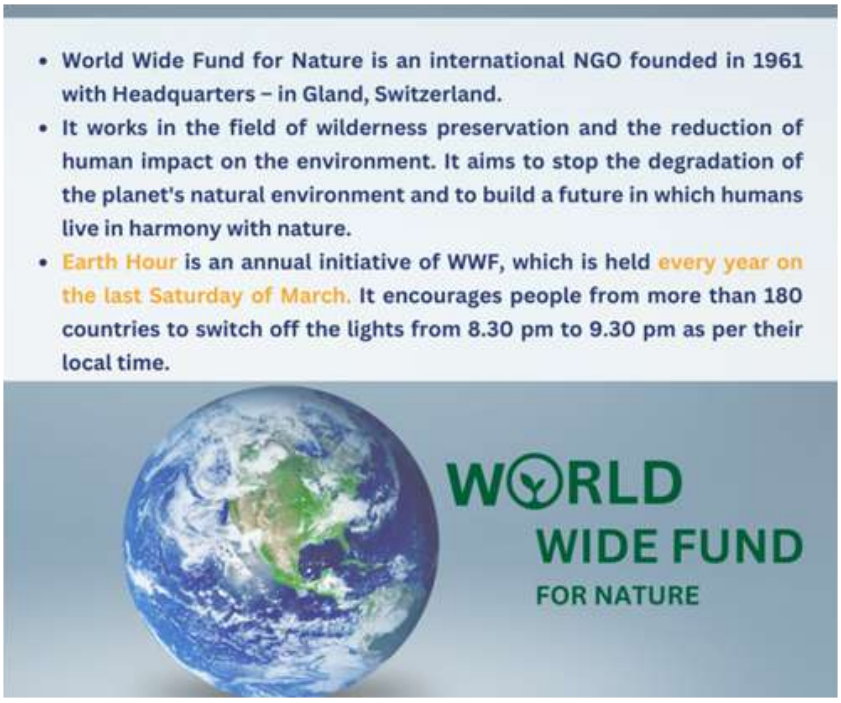
- India, with the score of 67.35 points, was ranked at 8th position.
- India earned a high rating in the GHG Emissions and Energy Use categories, while it got a medium rating in Climate Policy and Renewable Energy sections.
- **None of the countries made it to the 1st three ranks.**
- Denmark was ranked at fourth position. It is followed by Sweden.
  - UK has been ranked 11, Germany (16), while China (51) and United States (52)
  - China has dropped 13 places in the ratings this year, mainly because of the country's continued reliance on coal and lack of clarity on long-term climate policies.
  - United States has risen three ranks in the ratings because of the recent climate measures announced by the Joe Biden administration.
- The weakest performers were Iran (63rd), Saudi Arabia (62nd), and Kazakhstan (61st).

LIVING PLANET REPORT 2022

According to the latest Living Planet Report 2022, there has been a 69% decline in the wildlife populations of mammals, birds, amphibians, reptiles and fish, across the globe in the last 50 years.

About Living Planet Report

- It is released every two years by the World-Wide Fund for Nature (WWF) since 1998,
- The 2022 report is the 14th edition of this report.
- It tracks changes in the relative abundance of wild species populations across the globe.



Major Highlights of the Report

- The highest decline in wildlife populations that is 94% was in the Latin America and the Caribbean region.
- Africa recorded a 66% fall in its wildlife populations from 1970-2018 and the Asia Pacific 55%.
- Freshwater species populations globally reduced by 83%, confirming that the planet is experiencing a "biodiversity and climate crisis". Habitat loss and barriers to migration routes were responsible for about half of the threats to monitored migratory fish species.
- The vertebrate wildlife populations are plummeting at a particularly staggering rate in tropical regions of the world.
- **Mangroves** continue to be lost to aquaculture, agriculture and coastal development at a rate of 0.13% per year.

COUNTRY CLIMATE AND DEVELOPMENT REPORTS (CCDRS)

- It is released by the **World Bank Group.**
- These are **new core diagnostic reports** that integrate **climate change and development.**
- It helps countries prioritize the most impactful actions that can reduce greenhouse gas (GHG) emissions and boost adaptation, while delivering on broader development goals.
- It aims to inform governments, citizens, the private sector and development partners.
- The reports suggest concrete, priority actions to support the low-carbon, resilient transition.
- It feeds into other core Bank Group diagnostics, country engagements and operations, and helps attract funding and direct financing for high-impact climate action.

SPECIES IN NEWS

Baleen Whale	• It is also called toothless whale. • Some baleen whales are coastal, they stay near shore. • They forage along the productive continental shelf area. • Most baleen whales are highly migratory, moving toward high-latitude feeding areas in the summer and toward low-latitude calving areas in the winter. • There are currently 16 species of baleen whales.
Himalayan Grey Langur	• It is also called the Chamban Langur or Chamba Sacred Langur. • It is a colobine, meaning leaf-eating monkey. • Population is mostly concentrated in the subtropical, tropical moist, temperate, alpine, coniferous and broadleaf forests. • It changes locality during different seasons, depending upon the availability of food and environmental conditions. • It is listed as Endangered in the IUCN Red List and Schedule II in Wildlife (Protection), Act 1972.
Indian Skimmer	• It is a waterbird species. • It was formerly widely distributed across the Indian Subcontinent but it is presently confined only to India, Pakistan, Bangladesh, Nepal and Myanmar. • In India, the species can be sighted near the Chambal River in Central India, in few parts of Odisha and in Andhra Pradesh. • It is listed as Endangered in the IUCN Red List.
Eublepharis Pictus	• It is also known as the Painted Leopard Gecko. • It is strictly nocturnal, actively foraging along trails in the forest after dusk. • This new species appears to be common in forests of Andhra Pradesh & Odisha. • Based on IUCN conservation prioritization criteria, the researchers suggested it to list as Near Threatened.
Thiomargarita magnifica	• It is a bacterium that is big enough to be seen through the naked eye. It is said to be the size of a fly. • This huge string-like bacterium is native to Caribbean mangroves.
Fishing Cat	• Recently the world's first population estimation of the fishing cat has been conducted outside the protected area network. • The fishing cat is nocturnal (active at night) and apart from fish also preys on frogs, crustaceans, snakes, birds, and scavenges on carcasses of larger animals. The species breed all year round. • In India, fishing cats are mainly found in the mangrove forests of the Sundarbans, Chilika lagoon, on the foothills of the Himalayas along the Ganga and Brahmaputra river valleys and in the Western Ghats.

Saras Crane	• It is a large non-migratory crane found in parts of the Indian subcontinent, Southeast Asia, and Australia. • It is the tallest flying bird in world standing 152-156 cm tall with a wingspan of 240cm. • It is easily distinguished from other cranes in the region by its overall grey colour and the contrasting red head and upper neck. • It is listed as Vulnerable on IUCN Red List and in Schedule IV of the Wildlife (Protection) Act 1972.
Platygomphus benritarum	• It is a new species of dragonfly discovered in Assam. • It has turquoise blue eyes and dark brown face covered with hair on the sides. • It has been named in honour of two women, Monisha Ben Behal and Rita Banerji.
Blue Duke	• The Chief Minister of Sikkim declared Blue Duke as "State Butterfly of Sikkim" • It is a native butterfly species of Sikkim. • It is also called Bassarona durga. It was first discovered in Sikkim in 1858. • It is listed in Schedule 2 of Wildlife Protection Act, 1972.
Cheetah	• It is the world's fastest land mammal. It is native to Africa and central Iran. • The Asiatic cheetah, which is now found only Iran, is classified as critically endangered in IUCN Red List; while the African cheetah is classified as vulnerable in the IUCN red list. • In India, cheetah was declared extinct in 1952.
Haploptychius Sahyadriensis	• A new species of snail has been found in northern Western Ghats of Maharashtra. • The species is endemic to Vishalgad Conservation Reserve in Kolhapur. • It has been named after the type locality of the species in the northern part of the Western Ghats, which is Sahyadri in Sanskrit. • India has nearly 1,450 snails and slugs with the highest diversity in north-eastern India followed by the Western Ghats.
Great Indian Hornbill	• It is a member of hornbill family. It is found in the **Indian subcontinent and Southeast Asia.** • In India, its distribution is fragmented in the Western Ghats and in the foothills of the Himalayas. • It is listed as **Vulnerable** on the IUCN Red List and in Schedule I of the Indian Wildlife (Protection) Act, 1972. • It is the state bird of **Kerala and Arunachal Pradesh.** • Hornbill festival is celebrated every year in Nagaland.
Pink Bollworm	• It is an insect known for being a pest in cotton farming. • The adult is a small, thin, gray moth with fringed wings. • Adults lay eggs on cotton bolls. Once hatched, the larvae eat the seeds and damage the fibers of the cotton, reducing the yield and quality. • It is native to Asia, but has become an invasive species in most of the world's cotton-growing regions.
Glischropus Meghalayanus	• Scientists have discovered **new species of bamboo-dwelling bat in Meghalaya.** • It is small in size and has a dark brown colour with sulphur yellow belly. • With this discovery, the total number of **bat species from India stands at 131 species** with **Meghalaya registering the highest bat diversity with 67 species.** • Bamboo-dwelling bats are a particular kind of bats living in the internodes of bamboos.
Burmagomphus chaukulensis	• This rare **dragonfly** was spotted in Kerala. • **The species that is known to be endemic to the Western Ghats was discovered in Maharashtra earlier this year.** • The new species can be separated from its congeners by the markings on the lateral thorax and peculiar shape of anal appendages.
Tuna	• It is a **saltwater fish** which is found in warm seas. • It is **commercially fished extensively as a food fish**, and is popular as a blue-water game fish. • This fish species has a **high level of Vitamin B12, Omega 3, minerals, and proteins**. • To raise awareness about the **fish World Tuna Day is observed annually on 2nd of May.**
Grey Slender Loris	• It is a **species of primate, which is a nocturnal** and a slow-moving animal. • It is **native to India and Sri Lanka** and inhabits subtropical and tropical dry forests and subtropical or tropical moist lowland forests. • It is threatened by habitat loss. • It is listed as Near Threatened in the IUCN Red List and Schedule I in the Wildlife Protection Act of India 1972.

Maip Macrothorax	• The remains of the largest dinosaur named Maip macrothorax ever recorded have been found in Patagonia. • It was around 9-10 meters long. • It had an agile skeleton, a long tail, a long neck and an elongated skull with over 60 small teeth.
Emperor Penguin	• It is the tallest and heaviest of all living penguin species and is endemic to Antarctica. • They are the world's deepest-diving birds. They are capable of diving to depths of approximately 550 metres (1,800 feet). • There population is decreasing due to the climatic changes associated with global warming. • It is listed as Near Threatened in the IUCN Red List.
Madtsoiidae	• Scientists have reported spotting of the fossil of a Madtsoiidae snake from the Ladakh Himalaya for the first time. • It is an extinct group of medium-sized to gigantic snakes, firstly appeared during the late Cretaceous. • It is mostly distributed in the Gondwanan landmasses. • The whole group disappeared in the mid-Paleogene across most Gondwanan continents except for Australia where it survived with its last known taxon Wonambi till late Pleistocene.
Trimeresurus mayaae	• A new species of snake has been discovered at Umroi Military Station in the Meghalaya. • Locally it is known as U Thlen. • It looked very similar to Pope's Pit Viper but the colour of the eyes was different. • This new species was relatively common in Meghalaya, Mizoram and even in Guwahati.
Money Spider	• It has been reported for the 1st time in the India from the Muthanga range of the Wayanad Wildlife Sanctuary. • It is commonly found in European meadows. • It belongs to the family of dwarf spiders under the genus Prosoponoides. • Both sexes are dark brown and have irregular silver patches and black spots on the elliptical abdomen.
Ant-mimicking Spiders	• The ant-mimicking spider has been named Toxeus alboclavus. • The male and the female spiders of this species grow up to 4 mm and 6 mm long respectively. • The forward-projecting fangs have a characteristic shape of an antler.
Wild Boar	• It is the largest of the wild pigs. • It is native to forests ranging from western and northern Europe and North Africa to India and China. • It is listed as Least Concern in the IUCN Red list and under Schedule III in the Indian Wildlife Protection Act 1972.
Sela Macaque	• A new species of old-world monkey recorded from Arunachal Pradesh has been named after Sela Pass, as Sela Macaque. • They are genetically closer to the Arunachal macaque and both species have many similar physical characteristics such as heavy built and long dorsal body hair. • This species is a major cause of crop damage in West Kameng district.
Burmagomphus chaukulensis	• A new species of old-world monkey recorded from Arunachal Pradesh has been named after Sela Pass, as Sela Macaque. • They are genetically closer to the Arunachal macaque and both species have many similar physical characteristics such as heavy built and long dorsal body hair. • This species is a major cause of crop damage in West Kameng district.
Red Weaver Ants	• In Odisha, **red weaver ants** are consumed in the form of a Chutney known as **'Kai Chutney'** and scientists have sought a GI tag for the dish. • It helps in getting rid of flu, common cold, whooping cough, to increase appetite, enhance vision and eyesight naturally. • The tribal healers also prepare medicinal oil, which is used as baby oil and externally used to cure rheumatism, gout, ringworm and other skin diseases. • These ants live in colonies consisting of multiple nests on trees. These ants are indigenous to Mayurbhanj, Odisha.
Varroa Mite	• It is an external parasitic mite that attacks and feeds on the honey bees. • The disease caused by the mites is called varroosis. It can reproduce only in a honey bee colony. • It attaches to the body of the bee and weakens the bee by sucking fat bodies.

Chenkurinji	• It is a species of a tree, endemic to the Agasthyamala Biosphere Reserve. • It was once abundant in the hills on the southern parts of the Aryankavu Pass in Kerala's Kollam district. • It is very susceptible to climate change and the present condition of the species is quite bad with low regeneration performance. • It has medicinal properties and is used to lower blood pressure and treat arthritis.
Eoscansor cobrensis	• A team of researchers published paper on its fossil discovery • It is a **reptile, belonging to Pennsylvanian subperiod of Carboniferous period**, around 305 million years ago. • It used to live in area around present-day New Mexico. • The species belong to Varanopidae, which is an extinct family of reptiles. They were **similar to monitor lizards.** • The ancient reptile was 24.5 cm in length and 58.3 g in weight.
Blue Duke	• It has been seen in Sikkim recently. • It is the **common name for two species of rove beetle in the genus Paederus**. • It is **native to East Africa**. The beetles **contain a corrosive substance known as pederin, which can cause chemical burns** if it comes into contact with skin. Because of these burns, it is sometimes referred to as a dragon bug.
Utricularia Furcellata	• It is a **rare carnivorous plant found for first time in western Himalayan region**. • These plants are **mostly found in fresh water and wet soil.** • Its targets range from protozoa to insects, mosquito larvae and even the young tadpoles. • The species face **threat due to heavy biotic pressure because of being at a tourist spot**.
Monarch Butterfly	• It has been recently **classified endangered in the International Union for Conservation of Nature (IUCN) Red List.** • Most of these butterflies are found in winter in the California coast and forests in central Mexico. • A smaller population of the species is **also found in countries like Australia, Hawaii and India.** They breed in only one particular plant The Milkweeds
Snow Leopard	• It is a large member of the cat family **native to the mountain ranges of Central and South Asia.** It acts as an indicator of the health of the mountain ecosystem in which they live. • It is the **State animal of Himachal Pradesh. Hemis National Park in Ladakh,** is famous as the Capital of Snow Leopard in India. • It is listed as **Vulnerable in the IUCN Red List and Schedule I on Indian Wildlife (Protection) Act 1972.**
Cornechiniscus mystacinus	• In the recent study, it was found that, **one tardigrade (diverse group of microscopic invertebrates) represented a previously undiscovered species, called Cornechiniscus Mystacinus.** • The species **are commonly found in mountains of Tashkomur in Jalalabat region of northern Kyrgyzstan**. It is found in yellow to dark orange colour. • Tardigrades can survive for up to 30 years, without food or water & even in extreme conditions
Light-mantled Albatross	• It is a **species of bird,** native to the Antarctic seas. Recently it was recorded in Tamil Nadu. • It is also, known as the grey-mantled albatross or the light-mantled sooty albatross. It **spends most of their lives in flight.** • It is **listed as Near Threatened IUCN Red list.**
Vilayati Kikar	• It is an **invasive tree species introduced under the British Empire as part of development of Delhi.** • It is native to Mexico, South America and the Caribbean. The tree does not let any other tree or shrubs survive around it. • These trees can dry up underground aquifers through its deep-root system, going as far as 20 metres or more in search of water.
Peninsular Rock Agama	• It is a type of garden lizard that has a strong presence in southern India. • They **do not generate their own body heat, so they need to seek warmth from external sources like a warm rock** or a sunny spot on the wall. • It is listed as **Least Concern in the IUCN red list.** • It belongs to the **Precocial Species-** in which the young are relatively mature and mobile from the moment of birth or hatching.
Portulaca Oleracea	• It also known as **little hogweed, or parsley/purslane**. • It has the evolutionary adaptations that help it to be both **highly productive and drought tolerant**, an unlikely combination for a plant. • It is **widely distributed around the globe and is popular as a potherb in many areas of Europe, Asia, and the Mediterranean region**. • It has been used as a **folk medicine** in many countries, acting as a febrifuge, antiseptic, and vermifuge.
Sloth Bears	• It is found in India, Sri Lanka, Bhutan and Nepal. • It is **listed as Vulnerable in the IUCN Red List and Schedule I under the Indian wildlife protection act, 1972.** • The **Daroji Sloth Bear Sanctuary is Asia's first dedicated sanctuary for Sloth Bears, established in 1994 in Karnataka**.

Great Indian Bustard	• It is one of the heaviest flying birds in the world. • It is usually found in dry grasslands and scrublands on the Indian subcontinent. • Its largest populations are found in the Indian state of Rajasthan. It is the state bird of Rajasthan. • It is listed as Critically Endangered on the IUCN Red List and Schedule I of the Indian Wildlife (Protection) Act, 1972.
Megalodon	• It is an extinct species of mackerel shark which used to exist millions of years ago. • It roamed the oceans an estimated 23 million to 2.6 million years ago. • It was the largest shark to ever swim through Earth's oceans. • It would have weighed around 70 tonnes and have length around 50 feet from nose to tail.
Blue Duke	• Also known as the thylacine (a dog headed pouched dog), it was a carnivorous marsupial group thought to be extinct. ○ Marsupials are mammals whose members are born incompletely developed and are usually carried and sucked in a pouch on the mother's abdomen. • It was native to the Australian mainland and the islands of Tasmania and New Guinea. • The last known thylacine died in captivity 80 years ago, in 1936 at the Hobart Zoo in Tasmania. • It disappeared mainly due to over-hunting by humans, diseases and competition from the dingo, a wild dog native to Australia.
Mudhol hound	• It is a native dog breed that comes from the border region of Karnataka and Maharashtra. • These dogs are known for their loyalty, endurance, stamina and agility. • Indian Air Force has recently decided to induct these dogs to drive away birds and animals from the runway to reduce the accidents during flight.
Bluefin Tuna	• It is a predatory species of tuna found widely in the northern Pacific Ocean. • It is commercially valuable specie and several thousand tonnes are caught each year, making it overfished. • It is listed as Endangered in the IUCN Red List. • To raise awareness about the tuna fish World Tuna Day is observed annually on 2nd of May.
Dugong	• It is also known as Sea Cow, which is a herbivorous marine mammal. • They are found in more than 30 countries and are seen in Gulf of Mannar, Gulf of Kutch, Palk Gulf and Andaman and Nicobar Islands in India. • It is listed as Vulnerable in the IUCN Red List and Schedule I in the Wild life protection act 1972. • The Government of Tamil Nadu has decided to set up India's 1st conservation reserve for Dugong in the Gulf of Mannar, the Palk Bay. • Dugongs graze on seagrass and the loss of seagrass beds due to ocean floor trawling is one of the most important factors behind decreasing dugong populations
Whale Shark	• It is a slow-moving, filter-feeding carpet shark & the largest known extant fish species. • It is found in open waters of tropical oceans & is rarely found in water below 21 °C. • Despite its size, it does not pose any danger to humans. It is a docile fish and sometimes allow swimmers to catch a ride. • It is listed as **Endangered in IUCN Red List**.
Sea Cucumber	• It is a marine invertebrate that live on the seafloor found generally in tropical regions. They are crucial to maintain the balance of ocean habitats. • Major threats to this species are illegal Trading and smuggling for food and traditional medicine. • It has no limbs or eyes, or blood. • Lakshadweep has created the world's first conservation area for sea cucumbers. • It is listed under Schedule I in the Wildlife Protection Act, 1972.
Moringa	• It is a fast-growing, drought-resistant, deciduous trees that are native to India and Bangladesh. • It is often called the drumstick tree, the miracle tree, the ben oil tree, or the horseradish tree. • It has been used for centuries due to its medicinal properties and health benefits. It also has antifungal, antiviral, antidepressant, and anti-inflammatory properties. • It is also used for water purification. • It has various healthy compounds such as vitamins, important elements such as Iron, Magnesium etc. and is extremely low on fats and contains no cholesterol.
Red-Eared Slider Turtle	• It is a very popular aquatic turtle, native to South-Eastern USA and Mexico. • It is classified as controlled pest animal under the Victorian Catchment and Land Protection Act 1994. • It emerges from the water for basking on rocks and logs. When basking, red-eared sliders commonly pile on top of each other. • They can tolerate a wide range of habitats and are sometimes found in estuaries and coastal wetlands with brackish water. • It is listed as Least Concern in the IUCN Red List.
Placoderm	• It is a class of armoured prehistoric fish, known from fossils. • They lived from the Silurian to the end of the Devonian period • They were among the first jawed fish; their jaws likely evolved from the first of their gill arches.

Caracal	• It is a medium-sized and locally threatened cat species. • It has been widely reported to be on the brink of extinction in India. • It is also known by its persian name Siyahgosh or 'black ears'. • In India it is found mostly in Rajasthan, Gujarat and Madhya Pradesh. • Besides India, it is found in several dozen countries across Africa, the Middle East, Central and South Asia. • It is listed as Least Concern in IUCN Red List and under Schedule I in Wildlife Protection Act, 1972
Spotted Deer	• It is also known as chital or axis deer. • It is sexually dimorphic, males are larger than females, and antlers are present only on males. • The upper parts are golden to rufous, completely covered in white spots. • It is listed as least concern in the IUCN Red List and under Schedule III of the Indian Wildlife Protection Act (1972).
Tomistoma	• It is a freshwater large, slender-snouted crocodilian species native to south-east Asia. • It is distributed across part of Borneo, peninsular Malaysia and Sumatra. • It is frequently associated with peat swamp forest. • It shares its habitat with two other types of crocodilians; The saltwater crocodile and the Siamese crocodile. • It is listed as Endangered in IUCN Red List.
Ghatiana Dwivarna	• A new Crab Species has been discovered from Karnataka. • It is the 75th crab species to be found in India. • The name of this new species of crab is derived from a Sanskrit word 'dwivarna' which means two-colored. • It is a venomous and non-edible species of crab.
Common Bottlenose Dolphin	• It found in tropical oceans and other warm waters around the globe. • Each dolphin has a special whistle that it creates soon after it is born. This whistle is used for identification, just like a human's name. • They track their prey through the expert use of echolocation. • It is listed as Least Concern in IUCN Red List.
Koala	• The Australian government declared the koala as Endangered. • They are an arboreal herbivorous marsupial native to Australia. • Marsupials - a mammal with a pouch for the development of offspring. • They are listed as Vulnerable in the IUCN Red List Status.
Olive ridley turtle	• It is the smallest and most abundant of all sea turtles found in the world. • These turtles are known for their unique mass nesting called Arribada, where thousands of females come together on the same beach to lay eggs. • It found in warm waters of the Pacific, Atlantic and Indian oceans and is listed as vulnerable in IUCN red list, schedule I in wild life protection act, 1972.
Siberian rubythroat	• A rare winter migrant, Siberian rubythroat it has been recorded in the Nilgiris. • It is a ground-loving songbird of Asia. It nests near the ground. • It primarily breeds in Siberia, while wintering in southern and south-eastern Asia. • The male has a red throat edged with a narrow black border and a broad white border. • It is listed as least concern in the IUCN Red List.
Thalassotitan atrox	• An ancient giant sea lizard was discovered by researchers in an area outside Casablanca, Morocco. • It is an extinct genus of mosasaur (a group of extinct marine lizards) that lived in Morocco during the late Maastrichtian of the Cretaceous period, around 66 million years ago. • If dinosaurs dominated the land, the ancient giant sea lizards were the apex predators of the oceans when they were still alive. • It reaches a length of up to 50, which preyed on other marine reptiles such as plesiosaurs, sea turtles and other mosasaurs.
Allmania multiflora	• A new species of the genus Allmania has been identified. • It is an annual herb, erect, with branches arising from the base. • It grows to a height of about 60 cm and is only the second species of this genus discovered to date. • It is listed as Critically Endangered in the IUCN red list.

POLITY

RIGHT TO HEALTH

There was an intense discussion on a Private Member's Right to Health Bill in Rajya Sabha.

About Right To Health

- It is an inclusive right, extending not only to timely and appropriate health care, but also to the underlying determinants of health.
- It includes the access to safe and potable water and adequate sanitation, healthy occupational and environmental conditions, and access to health-related education and information, including on sexual and reproductive health.

Related Provisions In India

Fundamental Rights	Article 21 of the Constitution of India guarantees a fundamental right to life & personal liberty
DPSP	Articles 38, 39, 42, 43, & 47 put the obligation on the state to ensure the effective realization of the right to health.
Article 25 of UNDHR	India is a signatory of the Article 25 of Universal Declaration of Human Right (1948) by UN, that grants the right to a standard of living adequate for the health.

About Private Member's Bill:

- Any Member of Parliament (MP) who is not a minister is referred to as a private member.
- The government bills\public bills are introduced and discussed on any day, on the other hand, the private member's bills can be introduced and discussed only on Fridays. (It requires 1 month prior notice.)
- The Parliamentary committee on the private member's bill goes through the bill and decides on the emergency of its introduction.
- The purpose of the private member's bill is to draw the government's attention to address the issues and gaps in the existing law framework, which demands legislative intervention. (Usually reflects the stand of opposition party on public policies.)

UNIFORM CIVIL CODE

The Centre has sought dismissal of petitions filed in the Supreme Court seeking implementation of Uniform Civil Code in the country.

Key Points

Responding to the PILs filed demanding religion-neutral laws to regulate matters of divorce, adoption, guardianship, succession, and inheritance, etc. the government said that-

- Citizens belonging different religions follow different property and matrimonial laws which is affront to the nation's unity.
- It had requested the 21st Law Commission to make appropriate recommendations following an in-depth study of the provisions of various personal laws governing different communities which preferred a wider consultation on the matter. But its term ended in 2018 and the chairman and members of the new commission are yet to be appointed.

What is a Uniform Civil Code (UCC)

- It aims to provide a common law for all the religious communities governing issues like marriage, adoption, inheritance, divorce, etc. and is directed towards abolishing diverse personal laws of various religious communities.
- There are several laws in India like Indian Contract Act, Civil Procedure Code, Sale of Goods Act, Transfer of Property Act, Partnership Act, Evidence Act that follow the idea of UCC and are applicable across the territory.

Uniform Civil Code (Goa):

- Goa, a former Portuguese colony, was incorporated into the Union of India in 1961. In 1987, Goa was made a separate state.
- The Uniform Civil Code (UCC) was introduced in Goa in the year 1870 by the erstwhile Portuguese rulers.
- It was retained even after the territory was merged with India in the year 1961.

Conflict b/w Personal Laws and UCC:

	Personal Laws	UCC
1	Apply to a certain section of society based on their religion, caste, faith, and belief made after due consideration of customs and religious texts.	Aims to provide a common law for all the religious communities.
2	Uphold the diverse community idea-based rights of the individuals.	Imposes a single law governing all aspects of social life.
3	Sourced and authorized from religious ancient texts of Hindus and Muslims.	Sourced from Hindu code bill, Shariat law, and others.

Related Constitutional Provisions

- **Article 44 of the Constitution gives state the responsibility to secure a Uniform Civil Code (UCC) throughout the territory of India.**
- **Article 44 is one of the Directive Principles of State Policy (DPSP).**
- **DPSP's as defined in Article 37, are not justiciable but the principles laid down therein are fundamental in governance.**

Related Judgements

- **Shah Bano Case, 1985:** The Supreme Court held that the Muslim Woman has a right to get maintenance from her husband under Section 125 of the CrPC after she was given triple talaq by her husband. The court recommended bringing a common civil code to remove laws with conflicting ideologies.
- **Sarla Mudgal Case, 1995:** This case questioned whether a Hindu husband could solemnize second marriage by embracing Islam. The court said that a Hindu marriage can only be dissolved under the Hindu Marriage Act, 1955 and conversion to Islam and marrying again would not dissolve the Hindu marriage. The SC asked for implementation of Uniform Civil Code.
- **John Vallamottam Case, 2003:** This case challenged the constitutional validity of Section 118[7] of the Indian Succession Act which imposed unreasonable restrictions on Christians while donating their property for religious or charitable purpose by will. The SC struck down this section and asked the parliament to bring in UCC.
- **Shayara Bano Case, 2017:** This case involved the archaic practice of triple talaq. The Court concluded that the Constitution requires the State to provide for a UCC to remedy and ease maladies.

FLAG CODE OF INDIA

To celebrate the 75th Independence Day, the government had launched HAR GHAR TIRANGA campaign from August 13 to 15 targeting 20 crore households to hoist the flag. To meet the unprecedented demand for the Tricolour the Centre has changed the flag code of India 2002.

Constitutional provisions, laws and rules governing National Flag

- **Article 51A of the Indian Constitution has imposed a non-binding duty upon its citizens to respect and adhere to the constitution and the National Flag of the country**
- **Art 19(1)(a) of the constitution that deals with freedom of speech and expression involves the right to fly National flag (Union of India Vs Naveen Jindal 2004)**
- **Emblems and Names (Prevention of Improper use) Act 1950: prevent improper use of certain emblems (which includes National flag) and names for professional and commercial purposes**
- **Prevention of Insults to National Honour Act 1971- regulates the manner in which National flag can be used and more importantly the manner in which it can't be used.**

Flag code of India

- It is a set of laws, practices, conventions and instructions that governs the use, display and hoisting of the Indian National Flag in the country.
- The Flag code of India came into effect on January 26,2002 and went through some amendments in December 2021 and July 2022. Divided into three parts, the Flag code of India 2022 contains:
  - The general description of the National Flag.
  - Ways of displaying the national flag by the public, private and educational institutions.
  - Hoisting of the flag by central and state governments and their associated agencies.
- On Description of the National Flag code lays out standard dimensions of the flag. Flag code mentions that the flag must be rectangular in shape with a height-width ratio of 3:2. On Hoisting and Disposing of Tricolour the code:
  - Directs to prevent the flag from touching the ground or the floor
  - Prohibits hoisting a damaged or disheveled flag
  - Directs that the flag should not be used as a portion of costume, uniform, or accessory
  - Directs that disposal of flag needs to be done in private and dignity

Amendments brought in by Centre to the Flag code of India 2022

- **December 2021 amendment allowed**
  - The manufacture and use of machine-made and Polyster national flags which were not allowed earlier under the code. Earlier only hand-woven and handspun khadi was allowed for making national flag.
- **July 2022 amendment allowed:**
  - The National flag to be flown both during the day as well as at night. Earlier the flag allowed to be hoisted only between sunrise and sunset.

VOTING RIGHTS OF PRISONERS

- The Supreme Court decided to examine a petition challenging an election law provision that imposes blanket ban on under trials and prisoners from casting their votes.

Key Points

- According to the 2021 report of National Crime Reports Bureau (NCRB), a total of 5,54,034 prisoners were confined in various jails across the country as on December 31, 2021. The reported number was-

Convicts- 1,22,852 (22.2%) → **Undertrials - 4,27,165 (77.1%)** → **Detainees- 3,470 (0.6%)**

- The petitioners argued that this provision denied the prisoners the right to vote and had no connection with **decriminalizing politics** which is concerned with the **right to contest candidates with criminal antecedents**.

Right to Vote

- This right to vote is a **Constitutional Right** conferred under **Article 326** of the constitution and the rules pertaining to this are mentioned under **Section 62 of the Representation of Peoples Act (RPA), 1950 which states that:**
  - **Every person whose name is entered in the electoral roll of any constituency shall be entitled to vote** in that constituency.
  - A person is **ineligible to vote if he is subject to any of the disqualifications** referred to in section 16 of the RPA, 1950.
  - **One cannot vote in more than one constituency/ vote in a constituency more than once** at a general election and if he does so, all his votes will be considered void.
  - A person is ineligible to vote if he is confined in a prison, whether under a sentence of imprisonment or transportation or otherwise or is in the lawful custody of the police.
- The above restriction **does not apply** to a person under **preventive detention.**

United Nations and the Universal Right to Vote

- **Article 21 of Universal Declaration of Human Rights (UDHR)** provides everyone the right to take part in the government of their country, directly or through freely chosen representatives.
- **International Covenant on Civil and Political Rights (ICCPR)'s Article 25** states that every citizen should have the right and the opportunity, without any of the distinctions like race, colour, sex, language, religion, political or other opinion, national or social origin, property, birth or other status and without unreasonable restrictions:

  i. To take part in the conduct of public affairs, directly or through freely chosen representatives;

  ii. To vote and to be elected at genuine periodic elections by universal and equal suffrage and held by secret ballot, guaranteeing the free expression of the will of the electors.

REMOTE VOTING FACILITY FOR NRIs

- The Supreme Court disposed-off petitions seeking remote voting rights for NRIs, migrant labourers and others. This disposal came after an assurance by the Attorney General of India that the government is working on ways to facilitate remote voting for NRIs.
  - **Representation of People (Amendment) Act, 2010**: It conferred voting rights to citizens of India who are absent from their place or ordinary residence in India owing to their employment, education, or otherwise outside India (whether temporarily or not). It entitled them to have their names registered in the electoral roll in the Assembly/Parliamentary constituency in which their place of residence in India as mentioned in their passport is located.
  - Prior to 2010, NRI's name was deleted from electoral rolls if he or she stayed outside the country for more than 6 months at a stretch.

Current Status of NRI Voting Rights

- **Post Representation of the People (Amendment) Act, 2010:**
  - NRIs who had stayed abroad beyond six months have been able to vote, but only in person at the polling station where they have been enrolled as an overseas elector.
  - They have to produce their passport in original at the polling station for establishing identity.
- **2016 Amendment to The Conduct of Election Rules, 1961:**

- Allowed service voters to use the Electronically Transmitted Postal Ballot System (ETPBS).
- The ECI proposed to extend this facility to overseas voters as well.
- To extend the postal voting facility to overseas voters, the government only needs to amend the Conduct of Election Rules 1961. It doesn't require Parliament's nod.

Postal Voting

- It is a facility given to restricted set of voters. Through this facility, a voter can cast the vote remotely by recording her/his preference on the ballot paper and sending to the election officer before counting. Following voter can avail the facility.
  - Service voters (armed forces, armed police force of a state & government, servants posted abroad)
  - Voters on election duty
  - Voter above 80 years of age or person with disabilities (PwD)
  - Voter who are under preventive detention.
  - Media persons (Journalist)

PERARIVALAN CASE: PARDONING POWER OF THE PRESIDENT

- The Centre's argument that the President of India and not the Tamil Nadu Governor had "exclusive power" to consider Rajiv Gandhi assassination convict (Perarivalan) pardon plea garnered criticism from the Supreme Court (SC) of India.
- According to the SC, taking the government's position at face value would render Article 161 (the constitutional power of Governors of States to grant pardon) of the Indian Constitution a "dead letter."

Highlights of The SC Order

- The President and Governor exercised two distinct powers of mercy under **Articles 72 and 161**, respectively.
- The President shall not have exclusive power to pardon as it will be violation of Article 161 of the constitution which gives power of pardoning to the Governor as well.
- The central government has no locus standi to represent the Governor of state because he is the constitutional head of the state and he should be represented by the concerned state government.

The rationale of Pardoning System in India

- The criminal justice system in India is reformatory and not retributive.
- Politicization of cases and media trial - There have been instances where the judgement of a criminal case is given on political consideration and popular sentiment rather than based on criminal jurisprudence.
- The SC has rightly pointed out that 'a barbaric crime needs not to be visited with the barbaric penalty.'

- The Centre had missed the obvious question posed by the court - Whether the Governor has the jurisdiction to refer the mercy petition to the President in the first place? In case the Governor has a different opinion, he has to send it back to the Tamil Nadu Council of Ministers.
- Also, the question whether the Governor was right in referring the State Cabinet's wish to the President, instead of exercising his duty under Article 161, has to be decided by the court and not by the President

About Mercy Petition

- A mercy (or clemency) petition is a plea that a condemned can file to the President of India under Article 72 or the Governor of a state under Article 161 asking him/her to change his/her death sentence to life imprisonment.
- As per the Constitutional framework in India, mercy petition to the President is the last constitutional resort a convict can take when he is sentenced by the court of law.
- Previously, the Governor cannot pardon the death sentence, which only the Indian President can do. But recently on 3rd August 2021, the Supreme Court held that the Governor of a State can pardon prisoners, including death row ones, even before they have served a minimum of 14 years of a prison sentence.
  - The recent judgement regarding the Governor's power to pardon overrides a provision in the Code of Criminal Procedure (Section 433A) which mandates that a prisoner's sentence can be remitted only after 14 years of jail.

Process of Making a Mercy Petition

- There is no statutory written procedure for dealing with mercy petitions, but in practice, **after extinguishing all the reliefs in the court of law, either the convict in person or his relative on his behalf may submit a written petition to the President.**
- The petitions are received by the President's secretariat on behalf of the President, which is then **forwarded to the Ministry of Home Affairs for their comments and recommendations.**
- The Home Ministry in consultation with the concerned State Government discusses the merits of the petition.
- After the consultation, **recommendations are made by the Union Home Minister and then, the petition is sent back to the President for his decision.**

Is There A Time Limit Within Which The President/ Governor Has To Respond?

- She/he can either accept or reject the mercy plea as per the advice by the council of ministers.
- However, the Constitution doesn't provide for a specified time limit to accept/reject the mercy petition.

Is The Power of President/Governor Discretionary?

- Even though the President and Governor are the executive heads, but they cannot exercise their discretion with regard to their powers under Articles 72 and 161.
- Both the executive heads are required to act on the advice of the appropriate government–Central and State Government. The advice of the appropriate Government binds the Head of the state.

Judicial Review

- In a landmark case of Epuru Sudhakar & Anr. v. Government of Andhra Pradesh (2006), the Supreme Court held that the clemency power of the President and the Governor under Article 72 and Article 161 is subject to judicial review.
- The Supreme Court laid down certain grounds on which clemency power can be claimed by the petitioner for judicial review:
  - If the order is passed without any application of mind.
  - If the order passed is malafide.
  - If the order passed on completely irrelevant considerations.
  - If the order suffers from arbitrariness.

GOVERNOR'S POWER TO CALL FOR A FLOOR TEST

The Governor's decision to call for the floor test has been in the spotlight once again in the case of current political crisis of Maharashtra.

- This political crisis erupted when some of the legislators (MLAs) of Shiv Sena - the largest political party in the Maha Vikas Aghadi coalition ruling the state, have aligned themselves with the party's rebel leader.

Floor Test

- A floor test is taken at the floor of the legislative house to know whether the executive enjoys the confidence of the legislature.
- It is **constitutional mechanism (Article 164)** under which Chief Minister appointed by the Governor can be asked to prove the majority on the floor of the legislative Assembly.
- When a single party secures the majority of the seats in the house, the Governor appoints the leader of the party as Chief Minister.
  - In case more than one person is claiming to form the government and the majority is not clear, the Governor may call for a special session to see who has the majority.
  - In case of a tie, the Speaker casts his vote.
- If the majority is questioned, the leader of the party which claims majority has to move a vote of confidence and prove majority among those present and voting. The Chief Minister has to resign if he or she fails to prove majority.

Composite Floor test

- It is conducted only when **more than one person stakes claim to form the government.**
- The Governor calls for special session to see who has the majority.
- The majority is then counted based on those present and voting.

CONSTITUTIONAL PROVISION RELATED TO GOVERNOR IN CALLING FOR A FLOOR TEST

- **Article 174** of the constitution authorizes the Governor to summon, dissolve and prorogue the state legislative assembly.
  - The SC in the Nabam Rebia case and Bamang Felix vs Deputy Speaker case (the Arunachal Pradesh Assembly case) 2016 had expressly stated that a Governor can summon, prorogue and dissolve the House, only on the aid and advice of the Council of Ministers.
- **Article 175 (2)(b):** Governor can summon the House and call for a floor test to prove whether the government has the numbers.
  - The SC in Arunachal Pradesh Assembly case 2016 also clarified that if the Governor had reasons to believe that the Chief Minister and her or his Council of Ministers have lost the confidence of the House, a floor test could be ordered.
- The speaker can call for a floor test if the house is in session. But when Assembly is not in session, the Governor's residuary powers under **Article 163** allow him for a floor test.
  - In Shiviraj Singh Chouhan Vs Speaker, Madhya Pradesh Legislative Assembly case 2020, the Supreme Court upheld the power of speaker to call for a floor test if there is prima facie view that the government has lost its majority.

Background

- Deputy Speaker of the Maharashtra Assembly has served disqualification notices to 16 of the rebel camp MLAs, under the 10th Schedule of the Indian Constitution.
- This political battle reached the SC in response to the Deputy Speaker's disqualification notice.

Petitioner's Key Arguments Before SC

- **Deputy Speaker Has Acted In A Biased Manner:**
  - Ordinarily, a member who has been elected as Speaker or Deputy Speaker resigns from the membership of his/her political party, but that has not happened in this case.
  - The post of the Assembly speaker fell vacant after Nana Patole of the Congress resigned from the post and became president of the Maharashtra Congress.
  - Since the Deputy Speaker's party (NCP) is supporting the "minority faction" of the Shiv Sena, his actions are biased.

Disqualification Notice In Violation Of SC Ruling:

- The notice to move a resolution for removal of Deputy Speaker, under Article 179 (c) of the Indian Constitution (removal of Speaker and Deputy Speaker of the Assembly), was submitted on June 21.
- In the Nabam Rebia case (2016), the apex court had also ruled that it would be "constitutionally impermissible" for a Speaker to adjudicate upon disqualification petitions under the 10th Schedule, while a motion of resolution for his/her own removal from the office is pending.
  - Significance: This ruling gave a window to defecting legislators to stall or circumvent the 10th Schedule by seeking the removal of the Speaker when disqualification proceedings are anticipated, thus effectively tying the hands of the Speaker.
- The petitioner has claimed that the petition for disqualification of 16 MLAs was submitted to the Deputy Speaker after the notice for moving a resolution for his own removal was given.

Have Legislators Used This Legal Route?

- Yes, since 2016, this legal route has a been a familiar playbook for legislators cutting across states and political affiliations.
- Uttarakhand: In 2016, rebel MLAs of the Congress sought removal of Uttarakhand Assembly Speaker Govind Singh Kunjwal after shifting ranks to the BJP to stall anti-defection proceedings.
- Tamil Nadu: In 2018, AIADMK legislator S Karunas sent a notice to the Tamil Nadu Legislative Assembly Secretary, seeking removal of Speaker P Dhanapal at a time when the AIADMK leadership was mulling action against Karunas and three other MLAs for having pledged their support to T T V Dhinakaran.
- Manipur: In June 2020, the Congress in Manipur served a notice for the removal of Speaker Y Khemchand as nine of its MLAs defected to the BJP.

Procedure For Removal Of Speaker

- Constitution Provisions: Under Article 179 of the Constitution, a Speaker or Deputy Speaker can be removed by a resolution of the Assembly passed by a majority of "all the then members of the Assembly". The process begins with notice of at least 14 days.
- Interpretation: In the 2016 Nabam Rebia ruling, the SC interpreted Article 179, specifically the term "*all the then members of the Assembly*", to mean the *composition of the house at the date/time of giving the notice for the removal of the Speaker*.
- No Change In Composition of Assembly: This interpretation would mean that the composition of the Assembly cannot be changed from the date of issuing of a notice of the removal of the Speaker, and therefore the Speaker cannot make any decisions under the Tenth Schedule to change the composition of the House until the question of his removal is settled.

SUSPENSION OF MPS

The two Houses of Parliament have suspended 27 MPs (23 from the Rajya Sabha and 4 from the Lok Sabha MPs).

Rules Under Which The Presiding Officer/Chairman Acts:

For Lok Sabha:

Rule Number 373 of Rules of Procedure & Conduct of Business

- It empowers presiding officers to direct an MP to withdraw from the House for any disorderly conduct.
- Any Member so ordered to withdraw shall remain absent during the remainder of the day's sitting

Rules 374 and 374A – To deal with more recalcitrant (uncooperative) Members.

- Rule 374 empowers the Presiding officers to name the legislators if the MP continues disrupting the House even after repeated warnings.
- After that, the House can move a motion to suspend the MP for a period not exceeding the remainder of the session
- Rule 374A was incorporated in the Rule Book in December 2001. The intention was to circumvent the necessity of adopting a motion for suspension.
- Under this rule, the Speaker can name an MP, who shall then automatically stand suspended for 5 days or the remaining part of the session, whichever is less.
- Provided that the House may, at any time, on a motion being made, resolve that such suspension be terminated.

For Rajya Sabha:

Rule 255 of Rule Book of Rajya Sabha

- It empowers the Chairman of Rajya Sabha to direct any Member to withdraw immediately from the House for any disorderly conduct.

Rule 256

- It empowers the Chairman to name the members who persistently disregards the authority of the Chair or abuses the rules of the Council.
- After that, the House may adopt a motion suspending the Member for a period not exceeding the remainder of the session.
- It should be noted that, unlike Lok Sabha (under rule 374A), Rajya Sabha can not suspend its members without passing a motion for the same.

Can Courts Intervene In A Matter Of Suspension Of MPs

- Article 122 of the Indian Constitution says parliamentary proceedings cannot be questioned before a court. In some cases, however, courts have intervened in the procedural functioning of legislatures.
  - For example, the Maharashtra Legislative Assembly passed a resolution in its 2021 Monsoon Session suspending 12 BJP MLAs for a year. The matter came before the Supreme Court, which held that the resolution was ineffective in law beyond the remainder of the Monsoon Session.

Terms Of Suspension

- The maximum period of suspension is for the remainder of the session.
- Suspended members cannot enter the chamber or attend the meetings of the committees.
- He will not be eligible to give notice for discussion or submission.
- He loses the right to get a reply to his questions.

GOVERNOR'S POWERS TO SACK A MINISTER

Kerala governor threatened to sack the ministers if they continued to lower the dignity of Governor's office.

Can The Governor Sack A Minister?

- According to Article 164(1), the Governor can appoint the Council of Ministers (CoM) on the advice of the Chief Minister (CM). This means there is no choice of his own in appointing CoM. He must act according to the advice of the CM.
- It also states that the ministers hold the office during the pleasure of the Governor. This doesn't give him the right to sack the ministers or the CM. His pleasure exists until the government enjoys the majority in the house. Once, the government loses the majority but refuses to quit, the Governor can withdraw his pleasure and dismisses it.
- Thus, according to the constitutional provisions, without the advice of the CM, the Governor can neither appoint nor dismiss the ministers.

CONSTITUTIONAL PROVISIONS RELATED TO GOVERNOR

- **Article 153:** says about the appointment of Governor by the President.
- **Article 157 and 158:** specifies eligibility requirements for the post of governor.
- **Article 161:** says about the Governor's power to grant pardons, reprieves, etc
- **Article 163:** There are Council of Ministers with the CM at the head to aid and advice the Governor.
- **Article 164:** Governor appoints the Chief Minister and other Ministers of their respective states.

Related Judgements

- Shamsher Singh And Anr vs State of Punjab, 1974: The Supreme Court stated that the President and the Governors are custodians of all executive and other powers under various articles and shall exercise their formal constitutional powers only upon and on advice of the Council of Ministers except for some exceptional situations.
  - Exceptional situations can arise if the PM or the CM cease to command majority in the house and the government loses the majority but refuses to quit.
- Nabam Rabia vs Deputy Speaker And Ors, 2016: The SC cited the observations of B.R.Ambedkar and stated that the Governor has no function under the constitution which he can discharge by himself but has certain duties to perform.

DISQUALIFICATION OF CONVICTED MLAS

- Two Uttar Pradesh legislators were convicted recently but only one of them was disqualified from the legislature and his seat was declared vacant by the Legislative Assembly Secretariat whereas no action was taken in case of the other convicted legislator.

Process of Disqualification

Section 8 of Representation of People Act (RPA), 1951 deals with the disqualification of MP/MLAs on conviction for certain offences.

Offences Related to:	Disqualification will occur if the convicted person is sentenced to:
• Promoting enmity between different groups (on ground of religion, race, place of birth, residence, language, etc.) and doing acts prejudicial to maintenance of harmony • Bribery and personation during elections and other electoral offences • Rape or Cruelty towards a woman by husband or relatives of a husband. • Protection of Civil Rights, 1955- punishment for preaching and practice of "untouchability" • Customs Act, 1962 • Unlawful (Prevention) Activities Act, 1967 • The Foreign Exchange (Regulation) Act, 1973 • Narcotic Drugs and Psychotropic Substances Act, 1985 • Terrorist and Disruptive Activities (Prevention) Act, 1987 • Religious Institutions (Prevention of Misuse) Act, 1988 • **Prevention of Corruption Act, 1988**	• **Only fine:** For a period of 6 years from the date of such conviction. • **Imprisonment:** From the date of such conviction and shall continue to be disqualified for a further period of 6 years after his release.
• Prevention of hoarding or profiteering; • Any law relating to the adulteration of food or drugs; • Any provisions of the Dowry Prohibition Act	**Imprisonment for not less than six months:** Then he shall be disqualified from the date of such conviction and shall continue to be disqualified for a further period of six years since his release for offences
• Other than the ones mentioned above	A person convicted of any offence and sentenced to imprisonment for **not less than two years** will be disqualified from the date of such conviction and will continue to be disqualified for a further period of six years.

Can the members avoid disqualification?

- **Section 8(4) of RPA,1951:** If a person is a member of Parliament or the Legislature of a State on the date of conviction then his disqualification will not take effect if until three months have elapsed from that date or if within that period an appeal or application for revision is brought in respect of the conviction or the sentence and until that appeal or application is disposed of by the court.
- This provision was struck down by the Supreme Court in the Lily Thomas v/s Union of India case.

Why was Section 8(4) of the RPA, 1951 struck down?

- In the case Lily Thomas v/s Union of India, 2013 (later in Lok Prahari vs UoI,2018 also) the SC found it unconstitutional that the convicted persons could be disqualified from contesting elections but could continue to be MP, MLA, or MLC once elected.
- It held that the provisions of Article 101(3) (a) and 190(3) (a) of the Constitution prohibited Parliament to defer the date from which the disqualification can come into effect in case of a sitting member of Parliament or a State Legislature. But Parliament had exceeded its powers conferred by the Constitution in enacting Section 8(4) of the Act.

- **Article 101(3)(a) and Article 190(3)(a):** State that the seat gets vacated if a member of either House of Parliament or a member of a House of the Legislature of a State becomes subject to any of the disqualification according to **Article 102 and Article 191.**

LOCAL GOVERNMENTS IN A STATE OF DISREPAIR

India completed 75 years of Independence, a good time for examination and introspection of Local governments in India.

CONSTITUTIONAL PROVISIONS DEALING WITH LOCAL GOVERNMENTS

- Art 40 of Directive Principles of state policy (DPSP): The State shall take steps to organize village Panchayati and endow them with such powers and authority as may be necessary to enable them to function as units of self-government.

73rd Constitutional Amendment Act (CAA)	74th Constitutional Amendment Act (CAA)
• Accorded constitutional status to Panchayati Raj Institutions (PRIs) • Inserted Part 9 with provisions from Articles 243–243O • Added 11th schedule containing 29 functional items	• Accorded Constitutional status to municipalities • Inserted Part-9 A with provisions from Articles 243-P to 243-ZG • Added 12th schedule containing 18 functional items

Initiatives that were undertaken to strengthen local bodies

- Enactment of 73rd and 74th CAAs in 1993; Creation of separate 'Ministry of Panchayati Raj' in 2004 by central government
- Constitution of Expert committee headed by Mani Shankar Aiyar to examine the functioning of Panchayats and make recommendations
- 10th Finance Commission (FC) made a provision for supporting local bodies through grants
- Successive union finance commissions substantially increased funding to local bodies:
  - The 14th FC recommended 2.87 lakh crores to local governments
  - The 15th FC recommended 4.36 lakh crores to local governments for 2021-26
- Rashtriya Gram SWARAJ Abhiyan (RGSA)- umbrella scheme to develop and strengthen the capacities of Panchayati Raj Institutions (PRIs)
- e-governance initiatives: e-Gram SWARAJ, AuditOnline
- National Panchayat Awards- to incentivize best performing Panchayats every year
- Swachh Survekshan ranking to assess urban local bodies for their levels of cleanliness and sanitation.

OFFICE OF PROFIT

Election Commission (EC) of India has sent a notice to CM of Jharkhand over an office of profit charge against him for allotment of a mining lease on his name. He may face disqualification under section 9A of Representation of People Act (RPA) 1951 for entering into government contracts.

- A constitution bench of SC in 1964 in the case of CVK Rao vs Dentu Bhaskara Rao has held that a mining lease does not amount to a contract of supply of goods.
- In 2001, a three-judge bench of the apex court in the case of Kartar Singh Bhadana vs Hari Singh Nalwa & others also made it clear that a mining lease does not amount to execution of a work undertaken by the government.
- Even if the CM is disqualified by any authority, he can challenge it in the high court and in that case and as per a Supreme Court order, the adjudication has to be completed within 4 months.

Office of profit

- When an elected representative such as MPs, MLAs and MLCs is holding any government office and deriving benefit from it, then that office is termed as 'office of profit'.
- It is capable of yielding **profit or pecuniary gain** such as pay, salary, emoluments, remuneration or non-compensatory allowance attached to the office.
- **Article 102(1)(a) and 191(1)(a)** provide for disqualification of legislature from being a member of the legislative house if he holds any office of profit under the government of India or of any state.
- The articles clarify that "a person **shall not** be deemed to hold an office of profit under the government of India or the government of any state **by reason only that he is a minister**".
- However, an office held by a legislature will not attract disqualification if other than an office declared by the law not to disqualify its holder. E.g., The Parliament (prevention of disqualification) Act, 1959.
- **Section 9A of RPA 1951** provides for disqualification of a legislature if he enters a contract with the appropriate government during business.
- **The President or the Governor,** on the recommendation of EC, can disqualify a law maker on the ground of office of profit.

Judicial Pronouncements On 'Office Of Profit'

1. The SC in Pradyut Bardoloi vs Swapan Roy Goyal Case, 2001, outlined the following tests for determining whether an office attracts the constitutional disqualification:
   - Whether the Government makes the appointment;
   - Whether the Government has the right to remove or dismiss the holder;

- Whether the Government pays/determines the remuneration;
- What are the functions of the holder? Does he perform them for the Government;
- Does the Government exercise any control over the performance of those functions?

- In Jaya Bachan vs UOI case, SC developed the doctrine of 'potential effect of an office' to ascertain the nature of office of profit. It says that for deciding whether one is holding an office of profit or not, what is relevant is whether the office can yield a profit or pecuniary gain and not. It is not relevant whether the profit or pecuniary gain was obtained or not.

ASYMMETRICAL FEDERALISM IN INDIA

WHAT IS ASYMMETRICAL FEDERALISM?

Asymmetrical federalism refers to a federal framework wherein the subunits within the federation possess unequal powers and rights. It involves providing greater autonomy to some states when compared with others.

Need for Asymmetrical federalism

- To undermine the secessionist tendencies in the country
- To promote national integration and ensure that India remains a mosaic
- To accommodate the interests and aspirations of various groups in the society particularly vulnerable and minority groups (Example: Tribals)
- To address specific local, historical and geographical contexts

Asymmetrical arrangements in Indian Federalism

- The Indian model of asymmetrical federalism is based on the principle of weighted and differentiated equality that is "equal treatment of all states while being mindful that some states are more equal and unequal than others".
- The asymmetrical arrangements in Indian federalism are reflected in the following provisions of the Indian constitution:
  - Recently abrogated Article 370 that granted special status to Jammu and Kashmir
  - Special provisions and powers under Article 371 and Articles 371(A-J) to certain states

Asymmetry at the level of Union Territories

- Delhi and Pondicherry have legislatures while the other territories under the Centre don't have legislatures or ministerial council to advise the administrator.
  - Notable difference also exists between Pondicherry and Delhi in terms of their powers. For example, Delhi doesn't have powers over Police, Land and Public order which Pondicherry have. Also, special status of Delhi as the NCT & appointment of the Chief Minister of Delhi by the President of India on the recommendation of the Lieutenant Governor (LG).
- Fifth and sixth schedule of the Constitution.

Fiscal Asymmetry

Asymmetry can be noticed in horizontal devolution of funds on the recommendations of Finance commission (Art 280) as well as in non-statutory transfers from centre to states (central sector and centrally sponsored schemes)

Distinction between Political asymmetry and Constitutional asymmetry

In India both Political and Constitutional asymmetry (Self-rule within shared rule) exists

Political asymmetry

- It pertains to differences between federal units in terms of their territorial and demographic sizes
- Lok Sabha & Rajya Sabha can be taken as an example of political asymmetry where states don't have an equal standing and are represented according to their population.

Constitutional asymmetry

- It refers to asymmetry between the states in terms of their legislative and executive powers. For example, the abrogated Art 370 which grants special status to Jammu and Kashmir.
- Special provisions and powers extended to certain states in the omnibus Article 371.The parliamentary statute cannot be implemented in the northeast States mentioned above without the consent of the legislatures of these States.

Federalism in India and the World

- India is not the only country with asymmetrical arrangements in its federal setup.
  - Belgium, Germany, Canada and Spain are among other such examples.
- Indian model of asymmetrical federalism, is based on the principle of weighted and differentiated equality.
- This principle calls for equal treatment of all States while being mindful that some States are more equal and unequal than others.

PM-DEVINE

The union cabinet chaired by the Prime Minister has approved the Prime Minister's Development Initiative for North East Region (PM-DevINE) scheme for the remaining 4 years of the 15th Finance Commission from 2022-23 to 2025-26.

Background

- The scheme was announced by the Minister of Finance and Corporate Affairs in the 2022-23 Union Budget and is being implemented through the Ministry of Development of North Eastern Region (MDoNER).

Need of PM-DevINE: It was introduced to address issues like-

- Below average Basic Minimum Services (BMS) parameters of North-Eastern States with respect to the country.
  - Basic Minimum Services (BMS) include primary health care, universalization of primary education, safe drinking water, public housing assistance to all shelter-less poor families, nutrition, connectivity of all villages & habitations by roads, and streamlining of the Public Distribution System (PDS) with a focus on the poor.
- Critical gaps as per the NER District Sustainable Development Goals (SDG) Index 2021-22 by the NITI Aayog, UNDP and MDoNER.

Key Points

- It will be a Central Sector Scheme with 100% Central funding for the four-year period from 2022-23 to 2025-26..
- To limit construction risks of time and cost overrun, projects would be implemented on Engineering-Procurement-Construction (EPC) basis.
- It will support large-sized infrastructure and social development projects and an end-to-end development solution instead of isolated projects.
- These will ensure elimination of duplicate projects under PM-DevINE with any of the other schemes of MDoNER or those of any other Ministry/Department.

Objectives

- Fund infrastructure convergent in the spirit of PM Gati Shakti.
- Support social development projects based on needs of North-East Region.
- Enable livelihood activities for youth and women.
- Fill the development gaps in various sectors.
- Employment generation.

NAMSAI DECLARATION

- Assam and Arunachal Pradesh governments signed the Namsai Declaration to end inter-state border conflict by this year. Both states decided to restrict the number of disputed villages to 86 instead of 123.
- Now the declaration determines that out of the total 123 disputed villages, about 34 are actually within the constitutional limits of Arunachal Pradesh. 3 villages are within Assam.

Background of Dispute

- The states of Assam and Arunachal share an 804.1 km long border.
- The grievance of Arunachal Pradesh, which was made a union territory in 1972, is that many forest areas in the plains that traditionally belonged to hill tribal chiefs and communities were unilaterally transferred to Assam.
- After Arunachal Pradesh got statehood in 1987, a tripartite committee was appointed which recommended that some areas be transferred from Assam to Arunachal.
- Assam opposed this and the matter is in the Supreme Court.

FOREIGNERS TRIBUNAL

There is cloud over 200 Foreigners Tribunals of Assam as the state government has decided not to extend the term of members appointed to these tribunals.

Why Was NRC Updated For Assam?

- A writ petition had been filed before the Supreme Court (SC) of India demanding the deletion of illegal migrants' names from voter lists in Assam.

- In 2014, the SC ordered the updating of the NRC, in accordance with Citizenship Act, 1955 and Citizenship Rules, 2003 in all parts of Assam.

- The NRC in Assam targeted illegal immigrants. An individual had to demonstrate that they or their ancestors were in Assam on or before March 24, 1971.
- The process officially started in 2015 and the updated final NRC was released on August 31, 2019, with over 1.9 million out of 3.3 crore applicants failing to make it to the NRC list.
- Following concerns about the removal of numerous Hindus from the list, the Home Ministry said that the NRC would be conducted again in Assam.

What is a Foreigners Tribunal (FT)?

It is a quasi-judicial body established as per the Foreigners Tribunal Order, 1964 and the Foreigners Act, 1946 which determines whether a person staying illegally is a foreigner or not.

History

- The Foreigners Tribunal was established through the Foreigners (Tribunals) Order, 1964 to help the State Administration make a decision about an individual doubted to be a foreigner.
- The Indira Gandhi led UPA Government legislated The Illegal Migrants Act (IMDT) in 1983 to distinguish illegal immigrants (from Bangladesh) and to deport them from Assam. It was only for the State of Assam whereas, in other States, the distinguishment of foreigners was done under The Foreigners Act, 1946.

Features

- It is relevant to the entire nation.
- The last Amendment to the 1964 Act was done in May 2019 which stated that as the NRC work was carried out only in Assam, Foreigners Tribunals will be established only in Assam and not in other states.
- The 2019 amendment stated that a FT can decide on appeals made by persons not satisfied with the outcome of claims and objections filed against the NRC published in Assam. So, the people left out of the final NRC list of Assam or marked as 'D' meaning 'doubtful' can apply to the FT's.
- The amended Foreigners (Tribunal) Order, 2019 empowers individuals to approach the Tribunals. Earlier only the State administration could move the Tribunal against a suspect, but with the final NRC about to be published and to give adequate opportunity to those not included, this has been done.
- The time limit to appeal was increased to 120 days from 60 days after the 2019 amendment.
- It has the powers of a civil court while trying a suit under the Code of Civil Procedure, 1908.

Who can set-up Foreigner's Tribunal?

The Ministry of Home Affairs (MHA) has amended the Foreigners (Tribunals) Order, 1964, and empowered the District Magistrates in all States and UTs to set up Foreigners Tribunals to decide whether a person staying illegally in India is a foreigner or not.

Composition

Advocates not below 35 years of age with at least 7 years of practice (or) Retired Judicial Officers (or) Retired IAS (not below the rank of Secretary/Addl. Secretary) having experience in quasi-judicial works.

Who can set-up Foreigner's Tribunal?

- The Tribunal is supposed to serve a notice to the person in question along with a copy of reasons on grounds of which he has been alleged to be a foreigner and give him a reasonable opportunity to represent himself and defend his case with strong evidence.
- After considering the presented evidence and hearing the persons, the tribunal shall submit its decision to the authority specified.
- The tribunal has 60 days to dispose-off a case.

Appeal and Burden of Proof

- According to Section 9 of the Foreigners Tribunal Act, if a person is excluded from the NRC list or placed under the doubtful category, the burden of proof lies on the accused and he will have the right to appeal to the FT.

Principle of "Res Judicata"

- It means that once a matter has been decided, it cannot be reopened by the same party. Based on this principle, the Guwahati High Court ruled that once a person has been declared an "Indian Citizen" by the Foreigners Tribunal, he/she cannot be tried for the second time in the tribunal and declared a foreigner.

Extra Mile

National Population Register (NPR) is the register with detailed records of persons residing in any rural or urban area of India. In contrast, National Register of Citizens (NRC) is the register of details about Indian citizens residing in India and outside India. Moreover, demographic and biometric data are collected in the case of NPR.

SC RULING ON GST COUNCIL

The Supreme Court ruled in the UOI vs M/S Mohit Minerals Case, 2022, that GST council's recommendations are not binding on Union and States and it has persuasive value only.

Background of The Case

- Mohit Minerals had approached to the Gujrat HC challenging the levying of Integrated Goods and Services Tax (IGST) on the ground that custom duty is already levied on the component ofocean freight. Thus, it is a case of double taxation.
  - IGST: It is generally charged on the inter-state transactions of services and goods and is applied on exports and imports. Both State and Centre governments share this revenue.
  - The value of imported goods includes the Cost, Insurance and Freight components and Customs Duty and GST are levied on that value.
- The Union government argued that it is not unconstitutional to have two taxes if they cover the two different aspects of the transaction viz. the supply of services and import of goods.
- The Gujrat HC ordered of quashing the levy of IGST on importers for Ocean freight by ruling in favour of Mohit Minerals.
- The revenue department of the Union government challenged the ruling of Gujrat HC. The SC dismissed the Union government special leave petition.

The Central Board of Indirect Taxes and Customs proposed levying GST at 5% on the value of imported products, with 10% of the value of imported goods regarded to be ocean freight.

- This meant a 0.5% GST on the value of imported products as services, in addition to Customs duty and GST, which is roughly 28% and charged as goods.

The Apex Court Ruling

- The Union and State legislatures have equal, simultaneous and unique powers to make laws on GST.

ART 246A

- Treats Union and States as equal units, conferring a simultaneous power (on Union and States) for enacting laws on GST
- However, the Parliament of India is given the exclusive power to make laws with respect to inter-state supplies (IGST).

ART 279A

- (Constituting the GST Council) envisions that neither the Centre nor the states are actually dependent on the other

The recommendations of GST Council are product of a collaborative dialogue involving Union and the States.

- They are recommendatory in nature and only have a persuasive value.
- To regard them as binding would disrupt fiscal federalism.
  - The decision also ended the government's long-running battle with companies to implement its IGST on ocean freight (cost of moving goods internationally to India) on a reverse charge basis.
- The importers had complained that the IGST was being levied on them twice on the very same transaction by segregating portions of it.

- Giving relief to the importers, the court held that since the Indian importer is liable to pay IGST on composite supply, a separate levy on Indian importers for the supply of services by the shipping line would be in violation of the Central GST Act.

- **Art 246A** gives simultaneous power to the parliament and state legislatures to make laws on 'GST' respectively imposed by each of them.
- **Article 269A** – Levy and Collection of GST for Inter-State Supply
  - While Article 246A gives the Parliament the exclusive power to make laws with respect to inter-state supplies, the manner of distribution of revenue from such supplies between the Centre and the State is covered in Article 269A.
  - It allows the GST Council to frame rules in this regard.
  - Import of goods or services will also be called inter-state supplies. This gives the Central Government the power to levy IGST on import transactions.

GST Council

- It is a constitutional body under Art 279A of the constitution. It was established through 101st Constitutional Amendment Act 2016.
- The GST Council is an apex committee to modify, reconcile or to make recommendations to the Union and the States on GST, like the goods and services that may be subjected or exempted from GST, model GST laws, etc.

- It is headed by the Finance Minister of the Union government. The finance/revenue ministers of the states/UTs are its members.
- The decisions are taken on the basis of majority votes not less than 3/4th of weighted votes of members present and voting. The Union government has 1/3rd weightage of total votes. The remaining 2/3rd of the votes belongs to the state governments.

The SC judgement sets the stage for a fundamental revision of GST implementation and functioning of GST council from the perspective of cooperative federalism.

PAROLE AND FURLOUGH

- It's bad news for 4,425 undertrials and convicts, who were released on parole or furlough in the wake of an unprecedented surge in Covid-19 cases in May, 2020. They will have to return to the barracks within 15 days since the state government has withdrawn all the restrictions pertaining to Covid-19 on April 1, 2022.
- Parole and Furlough are types of conditional and temporary release of prisoners. They are the privilege given to the prisoners to return to the society and socialize with families and friends. They require periodic reporting to the authorities for a set period of time.

Parole

- Parole is the release of a prisoner temporarily for a 'special purpose' before the expiry of a sentence, on the promise of good behavior. It can't be claimed as matter of right.
- It is granted for the short-term imprisonment.
- Generally, it lasts for a month and it can be claimed for a number of times.
- The sentence is suspended for the period of regular parole. However, in case of, custody parole the time spent in parole is considered as time spent in prison.

Furlough

- Furlough is the release of prisoners temporarily with or without 'special purpose'. The right to be released on furlough is a substantial and legal right of the prisoners.
- It is given in cases of long-term imprisonment.
- Generally, it lasts for 14 days and it can be claimed for a limited number of times.
- It is releasing a prisoner with remission of his sentence that means the sentence of convict goes along with the furlough period.

MHA Guidelines Relating To Parole and Furlough

- There is a need to strike balance between ensuring rights of inmates and protecting the society from further harm.
- Cost-benefit analysis should be done before granting parole/furlough.
- Parole/furlough should be decided by a committee of officers and behavioral exerts/psychologists.

SC ORDER IN GYANVAPI MOSQUE DISPUTE

The SC ordered transferring the suit on the Gyanvapi Mosque dispute from the civil judge (senior division), Varanasi to the district judge, Varanasi.

Gyanvapi Mosque Dispute

- It is widely believed that Gyanvapi Mosque in Varanasi was built during the reign of Aurangzeb on the ruins of ancient Temple.
- The accounts of Mughal period historians such as Saquib Khan and British archaeologist James Princip endorsed this view.
- The matter is in the Civil Court of Varanasi since 1991.

What Is 'The Places Of Worship Act'?

- The act prohibits the conversion of any place of worship and provide for maintenance of religious character of any place of worship as it existed on the 15th August 1947.
- Section 3 of the act bars the conversion, in full or part, of a place of worship of any 'religious denomination' into a place of worship of a different religious denomination — or even a different segment of the same religious denomination.
- Section 4(1) declares that the religious character of a place of worship shall continue to be the same as it existed on August 15th, 1947.
- Section 4(2) says that any suit or legal proceeding relating to conversion of religious character of any place of worship existing on August 15th, 1947, pending before any court shall be removed and no fresh suit/proceeding shall be instituted.
- Section 4(3) provides exception to the general rule in following cases:
  - If the place of worship is an archaeological site/historical monument or covered by the Ancient Monuments and Archaeological Sites and Remains Act, 1958 or any other such laws.

- Any suit/proceeding relating to the conversion of place of worship settled/disposed of by any court or related authority before the commencement of the act.
- Any dispute settled by parties among themselves before the commencement of the act.
- Any conversion of such places by acquiescence, effected before the commencement of act.
- Any conversion before the commencement of the act which is not liable to be challenged in any court of law due to limitation under any law.

- Section 5 says that the Act doesn't apply to Ramjanambhoomi-Babri Masjid Case.

As per the Act,an "ancient monument" is "any structure, erection or monument, or any tumulus or place of interment, or any cave, rock-sculpture, inscription or monolith, which is of historical, archaeological or artistic interest and which has been in existence for not less than one hundred years."

Why The Act Was Enacted In 1991?

- The Act was brought when the Ram Temple Movement was on its peak. There were several incidences of violence due to rath yatra and mobilization of kar-sevaks.
- Moving the Bill, then Home Minister argued that the Act will effectively prevent any new controversies from arising relating to conversion of places of worship.
- The opposition BJP opposed the bill then stating that it will lead to preserving tension for future generation.

Right to Freedom of Religion Art 25 to Art 28

FORCED CONVERSIONS

The Supreme Court while hearing a petition held that religious conversions by means of force, allurement or fraud ultimately affect the security of the nation, freedom of religion and conscience of citizens and needs to be curbed. It directed the Centre to file an affidavit detailing its actions to curb such conversions.

Reasons

- **Voluntary Conversions-** Conversions by free choice or because of change of beliefs.
- **Forceful Conversions-** Conversions by intimidating, threatening, deceiving through gifts and monetary benefits, black magic, superstition etc.
- **Marital Conversions-** Conversions due to marriage.
- **Conversion for convenience.**

Anti-Conversion Laws

- **Attempts at National Level:** Many attempts were made but all the bills failed to pass through Parliament.
- **Indian Conversion (Regulation and Registration) Bill, 1954-** To enforce licensing of missionaries and the registration of conversion with government officials.
- **Backward Communities (Religious Protection) Bill, 1960-** To check conversion of Hindus to non-Indian religions like Zoroastrian.
- **Freedom of Religion Bill, 1979-** To curb inter-religious conversions.

- The Union law ministry in 2015 stated that a law against forced and fraudulent conversions could not be created at a national level since it is a state subject.

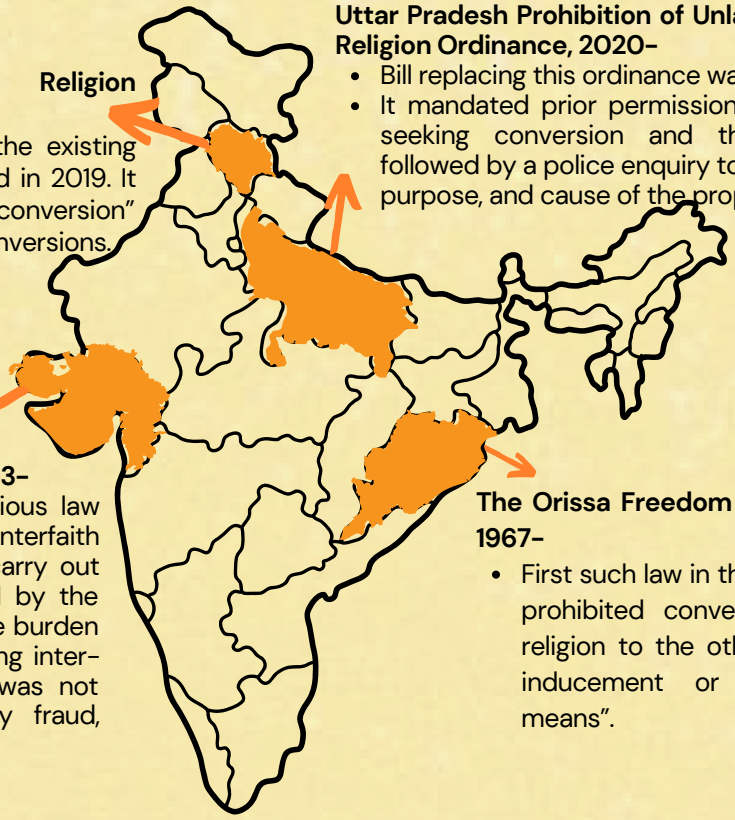
At State Level:

Himachal Pradesh Freedom of Religion (Amendment) Bill, 2022 –

- It is a more stringent version of the existing anti-religious conversion law passed in 2019. It inserts a specific mention of "mass conversion" in the 2019 law forbidding forced conversions.

Uttar Pradesh Prohibition of Unlawful Conversion of Religion Ordinance, 2020-

- Bill replacing this ordinance was passed in 2021.
- It mandated prior permission from DM for those seeking conversion and those performing it followed by a police enquiry to know the "intention, purpose, and cause of the proposed conversion."



Gujarat Freedom of Religion Act, 2003-

- In 2021, amendment to the previous law was introduced with a clause on interfaith marriages used as a means to carry out forced conversion. It was stayed by the Gujarat High Court stating that the burden of proof fell on the parties entering inter-faith marriage to prove that it was not solemnized on "account of any fraud, allurement, or coercion".

The Orissa Freedom of Religion Act, 1967-

- First such law in the country which prohibited conversion from one religion to the other by "force or inducement or by fraudulent means".

Chhattisgarh, Arunachal Pradesh, Jharkhand, Madhya Pradesh, Karnataka are some other states who have passed similar acts criminalizing forced conversions.

Common Provisions under Various State Laws

- Offences related to forced conversion are **cognizable** and **non-bailable.**
- They attract **penal action** (imprisonment and fines).
- Punishment is higher in case of **women, minor or a person belonging to SC/ST.**
- Declares marriages done for the sole purpose of conversion null and void.

SC ORDER ON SEX TRADE

SC has ordered that no criminal action should be taken against consenting adult sex workers as they are entitled to fundamental rights of dignity and equal protection of law.

- According to National Aids Control Organization, a division of the Ministry of Health & Family Welfare, there are approximately 9 lakh sex workers in India.

Background

- In 2011, SC appointed a panel on rehabilitation of sex workers headed by Pardeep Ghosh while hearing a case of Budhadev Karmaskar vs State of West Bengal. The panel has given 10 recommendations broadly. The panel submitted its report in the year 2016.
- In 2013, Justice Verma committee acknowledged the difference between trafficked women exploited for sexual harassment and consenting adult women sexual workers.
- In 2020, NHRC recognised sex workers as informal worker.
  - SC exercise power under Article 142 of the constitution (it enables SC to pass orders necessary to do complete justice) to give direction to ensure that Centre/States must implement and act in strict compliance of certain recommendations made by the SC appointed panel. The direction of the SC will hold the ground till legislation is made by the Centre.

Previous Judgements

- In Kajal Mukesh Singh vs State of Maharashtra (2021), the Bombay High Court said "Prostitution is not an offence, a woman has a right to choose her vocation".
- In Manoj Shaw vs State of West Bengal (2003), the Calcutta High Court observed that sex workers should be treated as victims of crime rather than the accused.
- In Budhadev Karmaskar vs State of West Bengal (2011), the High Court observed that sex workers are also entitled to live a dignified life as guaranteed under Article 21 of the Constitution.

The Article 21 — dubbed the Right to Life — says: No person shall be deprived of his life or personal liberty except according to procedure established by law.

SC JUDGEMENT ON DEATH PENALTY

SC has given an important judgement on administration of death penalty in Manoj & Others v. State of MP Case (2022). The judgement is significant as it highlights the need of substantive fairness through procedural reforms in determining punishment.

Background

- Criminality is not just a terrible decision made by individuals in the exercise of their free will but it is a result of complex web of biological, psychological and social factors.
- Death penalty in India has been crime centric. However, in Bachan Singh Case (1980) the constitution bench laid down a framework for the sentencing judges to take into account of factors relating to both 'crime' and 'accused' and assign them appropriate weight.
- The judges are required to weigh "mitigating" and "aggravating" factors if a case is fit for death sentence and also determine if the option of life imprisonment is 'unquestionable foreclosed".

Concerns Regarding Death Penalty

- There exists confusion in judiciary on the requirements of framework of Bachan Singh case and its implementation. There are procedural gaps in large number of cases in awarding death penalty sentence.
- More weightage is given to 'aggravated factors' relating to crime rather than 'mitigating factors' relating to 'accused'. Lack of discussion on bringing socio-economic profile of death row prisoners as mitigating factors in the court room.

Highlights of SC judgement in Manoj & Others v. State of MP

- Certain procedural threshold must be met for sentencing to be fair.
- It rejects the idea once again that death sentences can be determined solely on the basis of crime.
- It must be established by the state and the sentencing judges that there is no probability of reformation of the accused before sentencing him death penalty.
- It recognised that the aspects of the accused's life, both pre-offence and post offence in prison are relevant.
- It asks courts to call for reports from the probation officer as well as prison and independent health experts before awarding a death penalty.
- The state must present the material that speaks to a wide range of factors including mitigating factors.
- It is the right of the accused to present mitigating factors and rebut the state in the court of law.

The recent judgment of the SC recognises 'reformation of the convicted person' as integral to the Indian criminal justice system, especially death penalty sentencing.

SC CALL FOR REFORM ON BAIL LAW

The Supreme Court underlined that there is a pressing need for reform in the law related to bail and called on the government to consider framing a special legislation on the lines of the law in UK.

- The UK law has provisions for ensuring legal aid for defendants. It alsorecognises a "general right" to be granted bail. The Act provides specific grounds for rejecting a bail.

Types of Bail in India

Regular Bail: It is generally granted to a person who has been arrested or is in police custody.

Interim Bail: This type of bail is granted for a short period of time and it is granted before the hearing for the grant of regular bail or anticipatory bail.

Anticipatory Bail: It is granted either by session court or High Court. An application for the grant of anticipatory bail can be filed by the person who discerns that he may be arrested by the police for a non- bailable offence

Constitution Protection Against Indiscriminate Arrest

- Article 20 – It deals with the protection of citizens in respect of conviction for offences.
- Article 21 - It states that no person shall be deprived of his life and personal liberty by the State except as per the procedure established by law.
- Article 22 – It deals with the protection against arrest and detention in certain cases.

Bail Law in India

- The CrPC does not define the word bail but only categories offences under the IPC as bailable and non-bailable. The CrPC empowers magistrates to grant bail for bailable offences as a matter of right.
- In case of non-bailable offences, a magistrate would determine if the accused is fit to be released on bail.

- The CrPC also lists provisions for the cancellation of bail.
- The concept of bail emerges to secure personal liberty protected under Article 21 of the constitution, of the person charged with some offense.

General Principle Regarding Bail Law

- Grant of bail in the cases of bailable offences is a right that should be guaranteed to the accused by the magistrate or police.
- Grant of bail in non-bailable offences is a judicial discretion given to the magistrate and no power is given to the police in these kinds of cases.
- The accused who has committed the offence which is punishable by death or imprisonment for life, the magistrate has no right to grant bail in those circumstances. But women, a person sick or infirm and children below the age of 16 are excused from the rule.

Latest SC Guidelines With Respect To Bail

- Specific legislation: Court pointed out that the Government of India may consider the introduction of a separate enactment, in the nature of a Bail Act (as in United Kingdom) so as to streamline the grant of bails.
- Bail application: The court held that there need not be any insistence on a bail application while considering the application under certain Sections of the Code.
  - These sections relate to various stages of a trial where a magistrate can decide on release of an accused.
  - The Supreme Court held that in these circumstances, magistrates must routinely consider granting bail, without insisting on a separate bail application.
- Adhering to Timeline: The Court clearly directed that bail applications ought to be disposed of within a period of two weeks except if the provisions mandate otherwise. (anticipatory bail to be disposed of within six weeks)
- Compliance with earlier order: The Court said that there needs to be a strict compliance of the mandate laid out in Siddharth vs State of U.P. 2021 judgment.
  - The Court further stated that in case the investigating officer believes that the accused will not abscond or disobey the summons, then until and unless he has been charged for a heinous crime, the officer is not compelled to arrest him during the investigation.
- Directions to High Courts: The High Courts have been directed by the apex court to identify undertrial prisoners who cannot comply with bail conditions and take appropriate action in light of Section 440 of the CrPC, facilitating their release.
  - About Section 440 CrPC: The amount of bond shall not be excessive, and high courts & sessions courts may reduce the amount prescribed by the magistrate or a police officer. A similar exercise has been mandated under Section 436A of CrPC, under which a person imprisoned during investigation or trial shall be released on bail on completion of half of the jail term prescribed for that offence.
- Direction to states: The SC also directed all state governments and UTs to facilitate standing orders to comply with the orders and avoid indiscriminate arrests.
  - The High Court in consultation with the State governments will have to undertake an exercise on the need for special courts and vacancies in the position of Presiding Officers of the special courts will have to be filled up expeditiously.

SUPREME COURT JUDGEMENT ON NUPUR SHARMA CASE

The Supreme Court declined a plea by former BJP spokesperson Nupur Sharma to club the hate speech cases filed against her across the country.

Background

- Nupur Sharma has made 'derogatory remarks' about the Prophet on a television debate, but later she issued an apology and withdrew her statements. Despite that several FIRs were registered against her in many states.

On What Grounds Are Such Cases Clubbed

- **Article 20(2)** of the Constitution guarantees the right against double jeopardy (A person cannot be prosecuted more than once for the same offence)
- Multiple FIRs on the same incident would virtually mean multiple trials. In T. T. Anthony v State of Kerala, 2001 verdict, the Supreme Court held that there cannot be a "second FIR" on the same issue.

Plea Bargaining Provision In India

- It is an agreement in a criminal case in which a prosecutor and an accused arrange to settle the case. The accused changes his plea from not guilty to guilty in return for an offer by the prosecution to a lesser offense or (in the case of multiple offenses) to one or more of the offenses charged in exchange for more lenient sentencing, or a dismissal of other charges.

- The 154th Report of the Law Commission was first to recommend the plea bargaining in Indian Criminal Justice System. Section 265A to 265L, Chapter XXIA of the CrPC deals with the concept of Plea Bargaining.
- It was introduced in 2006 as a part of a set of amendments to the CrPC. It was inserted into the Criminal Law (Amendment) Act, 2005. The process can be initiated only by the accused. It allows plea bargaining for cases –

1. Where the maximum punishment is imprisonment for 7 years
2. Where the offenses don't affect the socio-economic condition of the country
3. When the offenses are not committed against a woman or a child below 14 are excluded

GUJARAT GOVERNMENT DECISION TO REMIT SENTENCES OF BILKIS BANO CASE CONVICTS

There has been a widespread outrage in the country over the Gujarat government's decision to grant remission to 11 convicts who gang raped Bilkis Bano and had murdered her family members during the 2002 Gujarat riots.

- Gujarat government had applied the 'remission policy of 1992' to approve their applications for remission of the sentence and not the current policy of 2014 as per Supreme Court directives which maintained that remission policy at the time of conviction will apply.

What is Remission?

- Reducing the amount of sentence without changing its character. For example, changing 4 years of rigorous imprisonment to 2 years of rigorous imprisonment. It was born out of the central objective of prisons to operate as reformative and rehabilitative spaces.

Sources Of Powers Of Government To Grant Remission:

- **Constitutional powers:** Article 72 & Article 161
- **Statutory powers:** Sec 432, 433A of CrPC

Article 72 and Article 161

Article 72 reads as follows:

- President has the power to grant pardons, reprieves, respites or remissions of punishment or to suspend, remit or commute the sentence of any person convicted of any offence in all cases where:
  - punishment or sentence is by a court Martial;
  - punishment or sentence is for an offence against any law relating to a matter to which the executive power of the Union extends;
  - sentence is a sentence of death

Art 161 reads as follows:

- Governor of a state shall have the power to grant pardons, reprieves, respites or remissions of punishment or to suspend, remit or commute the sentence of any person convicted of any offence against any law relating to a matter to which the executive power of state extends
  - However, the President and governor are bound by the advice given by the council of ministers while exercising these powers.

Note: The constitutional powers that are enjoyed by the president and governor are different from remission power of state governments under CrPC.

- The powers of president under Art 72 and Art 161 are not governed by CrPC and are often used to bypass the minimum 14 years of actual imprisonment under CrPC
- Prison is a State subject under Schedule VII of the Constitution and hence state governments have powers under Section 432 CrPC to remit sentences by setting up a Sentence Review Board.

Sec 432 and 433A of CrPC

- Sec 432: Gives power to the appropriate government (central or state government) to suspend or remit sentence
- Sec 433A: Places restrictions on powers of remission. Life convicts have to undergo minimum of 14 years of actual imprisonment before they can be considered for remission.

Important Judicial verdicts on remission

Maru Ram V. Union of India 1980

Exercise of remission under CrPC must embrace reason, relevance and reformation as the determination of convicts reformation is an inherently individual and case-to-case exercise

Sangeet V. State of Haryana (2013)

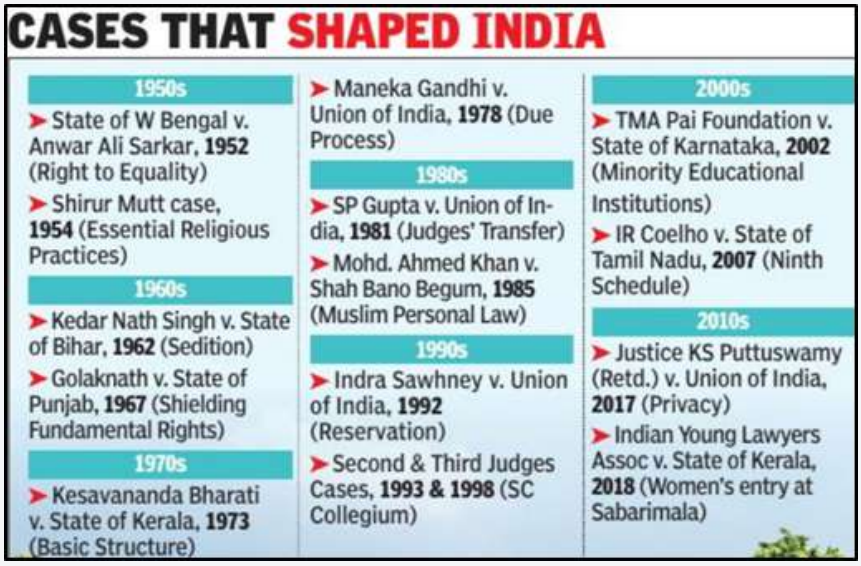
Exercise of remission under CrPC must embrace reason, relevance and reformation as the determination of convicts reformation is an inherently individual and case-to-case exercise

LISTING OF CONSTITUTION BENCH MATTERS FOR HEARING

1. Several cases involving the interpretation of the Constitution by 5 or 7 judges have been pending for years.
2. According to an RTI data received from the Supreme Court (SC) in July2022, there are more than 40 main constitution bench matters pending before five, seven and nine judge benches of the Supreme Court.
3. It is in this context recently Chief Justice of India (CJI) UU Lalit had listed 25 five-judge bench matters for hearing, which is a welcome step that can go a long way in re-establishing the role of the apex court as a constitutional court.

Situations Under Which Constitution Benches Are Formed Under Article 145(3)

- When the case involves a substantial question of law pertaining to the interpretation of the Constitution.
- The President of India has sought the Supreme Court's opinion on a question of fact or law under Article 143 of the Constitution.
- When a two-judge bench and later a three-judge bench delivered conflicting Judgments on the same issue.
- When a three-judge bench delivers a judgment that is different from the judgment delivered by a previous three-judge bench on an issue.



CJI's New Listing System

Steps Involved In Listing System In SC

Registering The Case

- First, a party files a petition either physically at the SC's filing counter or through the court's website.
- After this, the SC registry - the court's administrative side that receives and processes documents - examines the petition for any defects in following the court rules and practices.
- When defects are communicated to the parties, they usually have 28 days to correct them.
- Once defects are corrected, the matter is registered before the court and the party gets a petition number.
- After that, the case is sent to the registry for verification, where the registry examines it and looks at things like whether similar cases are pending.

Listing Section

- Following verification, the matter is forwarded to the listing section, which assigns a hearing date.
- Different types of cases are assigned to different benches. A petition is assigned to a bench based on this.
- On the date of the first hearing, the bench hearing the case may admit the petition or issue a notice to the opposing party to respond.
- According to lawyers, the entire process can take 7 - 10 days in routine cases, assuming parties cure defects within a day and the registry finds no issues in the petition.
- If a case is admitted and regular hearings begin, it is listed in chronological order unless the court sets a specific date for it.

The New Listing System

- After taking oath as the 49th CJI, Justice Lalit pledged to streamline case listing
- The introduction of the listing system by CJI Lalit meant two distinct shifts for the 30 judges.
- They gathered in 15 different benches on Mondays and Fridays to hear newly filed cases, which numbered more than 60 each day.
- On Tuesdays, Wednesdays, and Thursdays, the judges heard old cases involving important legal issues in the morning session (from 10 a.m. to 1 p.m.) in a combination of three-judge benches.
- In the afternoon, the two-judge benches were assigned 30-odd after-notice cases (reduced to 20 later) to be dealt with in 120 minutes, averaging 4 minutes of judicial attention per case.

TO HELP INDIA HOST U-17 WC, SC DISBANDS COA

The Supreme Court terminated the mandate of its Committee of Administrators (CoA) to manage the affairs of the All India Football Federation (AIFF). This was done to overcome suspension of the Indian football body by FIFA.

Why FIFA Suspended the AIFF?

- The appointment of CoA is considered 3rd-party interference, which is against FIFA statutes.
  - Initially, FIFA believed that the COA would not make any major changes to the AIFF constitution and hence it did not impose the ban immediately.
  - It was when the CoA released the first draft of the constitution of AIFF, FIFA got the notion that it is changing the constitution.
  - These changes to how the AIFF functioned, without any scope of an executive committee present to ratify or challenge these decisions, were considered as third-party interference by the FIFA
- **Other major alterations:** The CoA also made changes in laying down that the AIFF would be running the top league solely.
  - Previously, the long battle, in this regard, had ended in 2018, with the or Indian Super League(ISL) being made India's top league and the I-League being demoted as a second division league.
  - FIFA had made it clear that it wants an elected body, and not a court-appointed entity like the CoA, to manage AIFF affairs.

Key Highlights

- Disbanded CoA
  - The Supreme Court disbanded the Committee of Administrators (COA). It transferred the day-to-day management of the AIFF from the hands of the CoA.
- Mode of AIFF constitution: FIFA wanted the AIFF constitution to be revised on the terms of FIFA policies, and for the election to be held on current AIFF membership structures that are based on state associations only.
  - The draft constitution, submitted by CoA to SC, states the electoral college had representatives from 36 State associations and 36 eminent football players, 24 male and 12 female.
- Order passed to ensure the prestige of the nation
  - SC held that it is passing the current order to ensure that the prestige of the nation in holding the Under 17 Women's World Cup is not affected.

YUVA 2.0 SCHEME

YUVA 2.0 (Young, Upcoming and Versatile Authors) scheme was launched by the Ministry of Education.
Aim: The programme aims to promote reading, writing and book culture among the young generation of the country by training the young and budding authors (below 30 years of age).

Background:

66% of India's population is young which can be tapped for capacity and nation building. The National Education Policy (NEP), 2020 emphasized on empowering these young minds and creating a learning environment in order to make this young generation ready for leadership roles in the future.

YUVA	YUVA 2.0
Launched in May, 2021.	Launched in October, 2022
Theme: National Movement of India with focus on Unsung Heroes, little known facts about the Freedom Struggle, Role of various places in National Movement, Entries bringing out new perspectives related to political, cultural, economic, or science related aspects of national movement etc.	Theme: Democracy with focus on Institutions, Events, People, and Constitutional Values as part of the India@75 Project (Azadi Ka Amrit Mahotsav).
Book proposal with a word limit of 5000 words allowed.	Book proposal with a word limit of 10,000 words allowed.
Youth under 30 years of age eligible.	Youth under 30 years of age eligible except winners of YUVA scheme 2021-22.

Vision

- Mentoring the young generation of creative writers under the flagship scheme "Ek Bharat Shrestha Bharat" and help them develop their writing skills on a broad spectrum of subjects like fiction, non-fiction, drama, poetry, thriller etc. to promote Indian heritage and culture at the international level.
- **Implementation and Execution:** The **National Book Trust (NBT)**, India under the Ministry of Education will be the implementing agency for this scheme and will ensure its phase-wise execution.

Selection Procedure	Rewards
A committee constituted by NBT will select 75 candidates through an All-India Contest hosted by http://mygov.in	·Books of the selected candidates will be published by the NBT and translated into other languages, thus promoting the concept of "Ek Bharat Shrestha Bharat".
The contest period will be for two months i.e., from 2nd October to 30th November 2022.	·A consolidated scholarship of Rs. 50, 000 per month for a period of six months (50,000 x 6 = Rs. 3 Lakh) per author will be paid under the Mentorship Scheme.
A book proposal of 10,000 words is required to be submitted. Evaluation will be done between 1st December 2022 to 31st January 2023.	A royalty of 10% will be payable to the authors on successful publications of their books at the end of the six-month Mentorship Program.
Mentorship duration will be six months starting from 1st March 2023. On October 2, 2023, the first batch of books will be released under the supervision.	Youth under 30 years of age eligible except winners of YUVA scheme 2021-22.

About "Ek Bharath Shrestha Bharat" Scheme

- This scheme was launched on 31st October 2015, the 140th birth anniversary of Sardar Vallabh Bhai Patel.
- This scheme aims to enhance inter-state interaction and promote mutual understanding between the people from different states/ UT's through the concept of pairing for a time period.
- Under this scheme, the paired states will carry out activities based on each other's culture, traditions, festivities, cuisine, language, sports, music, dance etc. to promote sustained and structured cultural connect.

ABOUT
National Book Trust (NBT)

nbt.india

It is an apex body established by the Government of India (Department of Higher Education, Ministry of Human Resource Development) in the year 1975.

- Under the NEP 2020, the name of the Ministry of Human Resource and Development (MHRD) was changed to Ministry of Education (MoE)
- It promotes the habit of reading by organizing book fairs and exhibitions throughout the country.
- It takes part in international book fairs and showcases Indian books.
- It provides financial assistance to authors.

Objectives:

- To produce and encourage quality literature in English, Hindi and other Indian languages.
- To make books available to general public at affordable rates.
- To arrange book fairs for promoting books.

OBJECTIVES (GIVEN IN FIG. BELOW):

TWO FINGER TEST

The supreme court recently termed the "two-finger test" as a sexist medical practice that re-victimized and re-traumatized the rape survivors and held that anyone conducting the test "shall be guilty of misconduct".

Problems with the Test

- The origin of the two- finger test lies in the **misogynistic belief** that a torn hymen is an indication that the survivor is habituated to sex and therefore, cannot be raped or is more likely to make false claims about being raped.

- It violates the privacy and dignity of the assaulted woman. It re-victimizes and re-traumatizes the victim.

Government Guidelines

- In a document titled 'GUIDELINES & PROTOCOLS Medico-legal care for survivors/victims of sexual violence' released by Union Health Ministry in 2014, the government said that per-vaginum examination commonly referred to as 'two-finger test', must **not** be conducted for establishing rape/sexual violence and the size of the vaginal opening has no bearing on a case of sexual violence.
- It said that this examination can only be conducted in adult women when medically indicated.
- It stated that a rape victim's consent (or her guardian's, if she is minor/mentally disabled) is necessary for any medical examination. In case consent is not provided, the victim **cannot be denied** medical treatment.
- These guidelines are **not legally binding.**

What is the "two finger test"?

- A sexually assaulted woman undergoes a series of medical examination for ascertaining her health and medical needs, collection of evidence, etc. This test is a part of that medical examination.
- It involves the medical examiner inserting his/her two fingers into the vagina of a survivor to note the presence or absence of the hymen.
  - A hymen can be torn and its orifice(opening) may vary in size for many reasons unrelated to sexual intercourse.

Its Scientific Validity: WHO states that there is no place for this test while dealing with sexual assault victim and has no scientific validity and doesn't provide any confirmation about rape.

EMPLOYEES' PENSION (AMENDMENT) SCHEME 2014

The Supreme Court (SC) upheld the Employees' Pension (Amendment) Scheme, 2014 but read down certain provisions concerning the current subscribers of the scheme.

EPFO (Employee Provident Fund Organization)

- It is a **non-constitutional body** that promotes employees to save funds for retirement. The organization is governed by the Ministry of Labour and Employment, and was launched in 1951.
- The schemes offered by the organization cover Indian workers and international workers (from countries with whom the EPFO has signed bilateral agreements).
- **Schemes Offered Under EPFO**
  - Employees' Provident Funds Scheme 1952 (EPF)
  - Employees' Pension Scheme 1995 (EPS)

Background

- Several litigations were filed after the amendment to Employees' Pension Scheme (EPS) in 2014.
- These litigations have been filed by individuals eligible for pension under the Employees' Pension Scheme-1995 (EPS-1995) of the **Employees' Provident Fund Organization (EPFO)** and those who already draw PF pension.
- A three-judge bench of the Supreme Court ruled in the matter where the EPFO appealed against various orders issued by the Kerala, Rajasthan, and Delhi High Courts quashing Employees' Pension (Amendment) Scheme, 2014.

Employee Pension Scheme

- **About:**
  - It is a social security scheme which entitles the employees working in the organized sector to a pension after their retirement at the age of 58 years.
  - It was first introduced in 1995 by the central government under the Employees' Provident Funds and Miscellaneous Provisions Act, 1952. Thus, it is also known as Employee Pension Scheme, 1995 and applied to the employees of all factories and other establishments.
- **Eligibility of EPS:**
  - The scheme's benefits are **available to both existing and new the Employee Provident Fund (EPF) members.**
  - Must have attained the age of 50 years for an early pension (reduced rate of interest) & 58 years for a regular pension.
  - In case one defers the pension for 2 years (until the age of 60 years), he will be eligible to receive the pension at an additional rate of 4% per year.
  - But pension benefits **can be availed only if** the employee has been in service for **at least 10 years** (continuous service is not necessary).

EPF

- EPF is the main scheme under the Employees' Provident Funds and Miscellaneous Act, of 1952.
  - It is mandatory for organizations to register for the EPF scheme if they have more than 20 employees working for them. Organizations with less than 20 employees can also join the EPF scheme voluntarily.

EPF contribution	EPS contribution
• The **employee and employer each contribute 12%** of the employee's **basic salary and dearness allowance** towards EPF account. • Currently, the rate of interest on EPF deposits is 8.10% p.a.	• Both the employee and the employer contribute 12% of the employee's basic salary and Dearness Allowance (DA) • The employee's **entire part (12%)** goes to EPF: The 12% contribution made by the employer is split into: EPF Contribution: 3.67% and EPS Contribution: 8.33% • Apart from the above-mentioned contributions, Government of India contributes 1.16% as well

SC Judgement

- Supreme Court ruling gives EPFO members, who have availed of the EPS, another opportunity over the next four months to opt and contribute up to 8.33% of their **actual salaries** as against 8.33% of the pensionable salary capped at Rs 15,000/month towards pension.
- It declared the provisions contained under Employees' Pension Amendment (Scheme), 2014 which capped the maximum pensionable salary (basic pay plus dearness allowance) at **₹15,000 per month legal and valid (for new membership).**
- It **did not find any flaw** in altering the basis for computation of pensionable salary i.e., changing the average pensionable salary period from 12 months to 60 months.
- It **struck down** the mandatory requirement to contribute 1.16% of their monthly salary to the pension scheme beyond Rs. 15000 and held it ultra-vires with the provisions of the Employees' Provident Funds and Miscellaneous Provisions Act, 1952.
- It barred employees who retired prior to September 1, 2014, without exercising any option to claim any benefits.
- It directed that the amended scheme would apply to the **employees of exempted establishments,** who are allowed to maintain their contributions in Provident Fund trusts, rather than with the PF authorities.

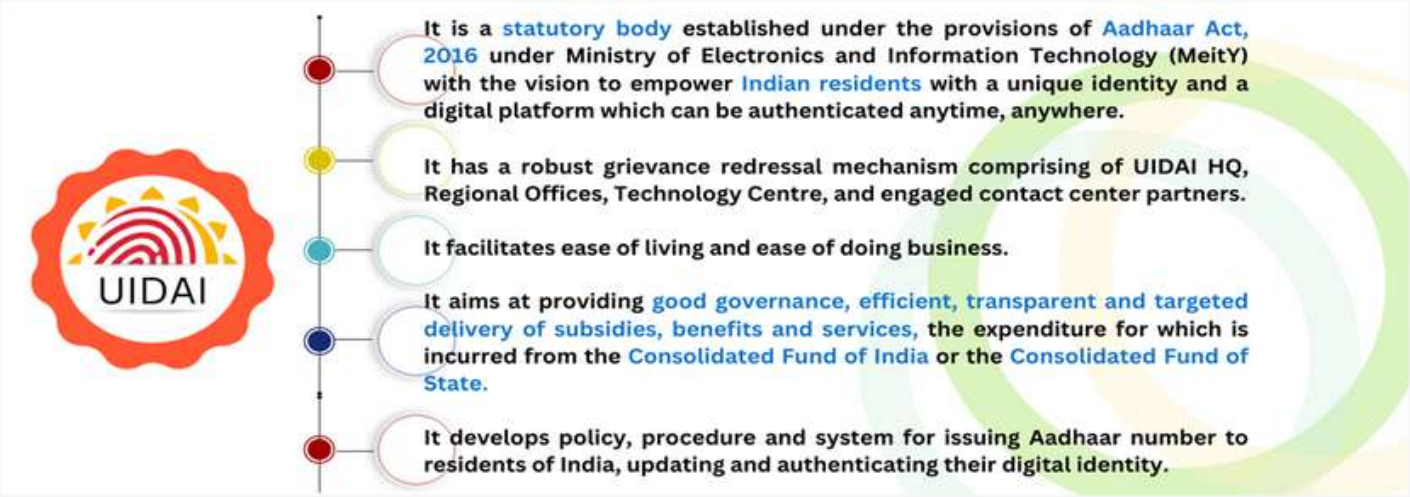
UIDAI TOPS GRIEVANCE REDRESSAL INDEX

Unique Identification Authority of India (UIDAI) topped the Grievance Redressal Index third time in a row for resolving public grievances efficiently.

Grievance Redressal Index

- It is published by the Department of Administrative Reforms and Public Grievances (DARPG) and is developed based on two dimensions
  - having 5 parameters:

S.No	Dimension	Parameter	Indicator	Weightage
1	Timely Disposal	% of Grievances Disposed within 45 Days	Positive	30%
	Grievance Redressal	% of Grievances pending for more than 45 Days	Negative	10%
2	Quality Disposal	% of Grievances Redressal (closed) and received Feedback as Excellent & Very Good	Positive	30%
	Grievance Redressal	% of Grievances Redressal (closed) and received Feedback as Average & Poor	Negative	20%
	Grievance Redressal	% of Appeals Filed (on closed grievances)	Negative	10%



RELEASE OF RAJIV GANDHI CASE CONVICTS

The Supreme Court, invoking its extraordinary power under **Article 142** of the Constitution ordered the premature release of all 6 remaining convicts serving life sentences in the Rajiv Gandhi assassination case.

Basis of Release

- The court noted that the Tamil Nadu State Cabinet had recommended the premature release of the convicts to the Governor in 2018. He was bound by the advice of the Cabinet under Article 161 as their convictions under the now-lapsed Terrorism and Disruptive Activities (Prevention) Act was set aside by the apex court. But the Governor passed the files to the Centre instead of deciding on the matter.
- The court also referred to the case of former co-convict A.G. Perarivalan, who was granted premature release by the apex court in May by exercising its extraordinary powers under Article 142 of the Constitution.

About Article 142

- It has two clauses that state:

Article 142(1)
Supreme Court in the exercise of its jurisdiction may pass any orders as it feels is necessary for doing complete justice in any case or matter pending before it, and any such order passed shall be enforceable throughout India.

Article 142(2):
Supreme Court with respect to whole territory of India has all the power to make any order for the purpose of securing the attendance of any person, the discovery or production of any documents, or the investigation or punishment of any contempt of itself.

Certain Cases where Article 142 was invoked

- **Babri Masjid Case:** The SC ordered formation of a trust by the Centre to construct Ram Mandir at the demolition site.
- **Bhopal Gas Tragedy:** to provide compensation to victims.
- **Liquor Sale Ban Case:** The SC banned liquor shops within 500 m radius from National and State Highways to prevent drunken driving.
- **IPL Match Fixing Controversy:** to order a probe into the matter.

EWS QUOTA

In a landmark ruling, the Supreme Court upheld the **103rd Amendment Act, 2019**

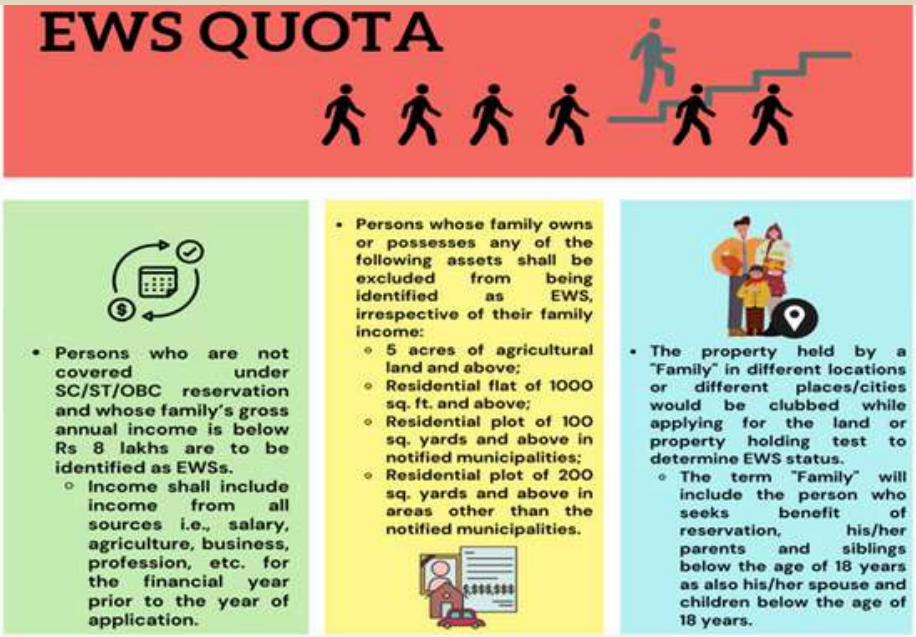
Background:

- Reservation for Economically Weaker Sections (EWS) of the society was granted based on the recommendations of a commission headed by Major General (retd) S R Sinho.
  - The Commission was constituted by the then Union government in 2005, and submitted its report in 2010.
- To implement this, a Cabinet Note was prepared by the Ministry of Social Justice and Empowerment in 2019.
- Based on this, the Cabinet, in 2019, decided to amend the Constitution (103rd Amendment) to provide reservation to EWS.

Applicability: The quota is available to people from economically weaker sections to seek admissions in higher educational institutions and in initial recruitment in central government jobs.

About EWS Reservations (103rd Constitutional Amendment Act, 2019)

- It inserted clauses in Articles 15 and 16 to introduce quotas for provide up to 10% reservation to the EWS among non-OBC and non-SC/ST sections of the population and empowered the state governments to give reservation on the basis of economic status.
- It **added Clause (6) to Article 15:** Allows up to 10% reservation in public and private educational institutions, whether aided or unaided, with the exception of minority-run institutions.
- It also **added Clause (6) to Article 16** of the Constitution to make employment reservations easier.
  - Article 16 of the Indian Constitution **guarantees equal opportunity to all citizens in matters related to employment in the public sector.**
- It was enacted to promote the welfare of the poor not covered by the 50% reservation policy for SCs, STs and OBCs.
- The Act states unequivocally that the EWS reservation will be **added** to the existing reservation.
- It enables both the **Centre and the States** to provide reservations to the EWS of society.



The amendment had many firsts like

- Economic criterion was considered solely for providing reservation.
  - The SC/ST/OBCs were excluded from the newly inserted clauses of Article 15 (6)and 16 (6).
  - The ceiling of 50% reservation was breached.
  - The individual rather than the group became the basis of backwardness.
- The amendment was challenged in the Supreme Court and was referred to a five-judge Constitution Bench in August 2020.

LIVE STREAMING OF SUPREME COURT PROCEEDINGS

In a landmark move, the Supreme Court (SC) of India had taken a decision to live stream all the proceedings of Constitution Benches on a regular basis for the general public. The move has been touted as a significant reform in the functioning of Judiciary. Earlier, in Swapnil Tripathi V. Supreme Court of India 2018, the SC has held that the Court proceedings of national and constitutional importance shall be live-streamed in larger public interest.

Global Scenario:

Across the world, live-streaming of judicial processes is an established practice. Examples include Canada, US, UK, Australia, Brazil, South Africa etc.

Six high courts across India have been live streaming their proceedings which include Gujarat, Odisha, Karnataka, Jharkhand, Patna, and Madhya Pradesh.

Importance Of Live Streaming By Supreme Court

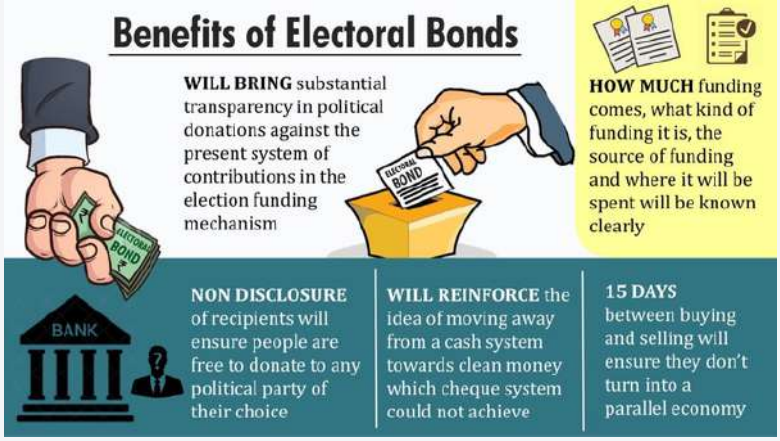
- Promotes **transparency and accountability** in the functioning of the Judiciary which are considered to be hallmark of democracy
- Significantly enhance the public's **right to know** about happenings in the court. It is to noted that *'Right to access Information'* is a part of Fundamental right under *Article 19(1).*

AUTHORISATION TO ISSUE OF ELECTORAL BONDS

The Union government approved authorized the State Bank of India (SBI) for issue the 21st tranche of electoral bonds.

About Electoral Bonds:

- Announced in 2017 Union Budget, the Electoral Bond Scheme (EBS) was notified by the Central government in 2018.
- These bonds are sold in denominations of Rs 1,000, Rs 10,000, Rs 1 lakh, Rs 10 lakh, and Rs 1 crore, without any maximum limit & can be bought from authorised branches of State Bank of India.
- A donor is required to pay the amount via cheque or digital mechanism (cash is not allowed).
- The political parties can choose to encash such bonds within 15 days of receiving them.



- The bonds that are not encashed by a party within 15 days are deposited by the SBI into the Prime Minister's Relief Fund. Hence these are interest-free bearer instruments
- The name of the donor is not mentioned on bond.
  - Donors who contribute less than Rs. 20,000 to political parties through purchase of electoral bonds need not provide their identity details such as PAN, etc
- The eligible party is allotted a verified account by the Election Commission of India (ECI) and the electoral bonds are transacted through this account only.
- It can be purchased by any company incorporated in India or any citizen of India, either singly or jointly with other individuals.

Other Major Features of Electoral Bonds

- The first 10 days of January, April, July and October has been specified for purchase of electoral bonds.
- An additional period of 30 days shall be specified by the government in the year of Lok Sabha elections.
- In February 2017, the then finance minister said that the donations would be tax deductible. Hence, a donor will get a deduction and the recipient, or the political party, will get tax exemption, provided returns are filed by the political party.
- Eligibility Criteria: Any party that is registered under section 29A of Representation of the Peoples Act, 1951 and has got at least 1% of the votes polled in the most recent General elections or Assembly elections can receive electoral bonds.

DISPUTE OVER PARTY'S SYMBOL

Following the split led by Eknath Shinde, Uddhav Thackeray's Shiv Sena has urged the Election Commission to hear its side before deciding any claims to the party's bow & arrow symbol.

About Election Symbol

- It is a standardised symbol allocated to a political party. It is used by the parties during their campaigning and is shown on Electronic Voting Machines (EVMs).
- They were introduced to facilitate voting by illiterate people. The dispute regarding electoral symbols is resolved by the EC of India.
- The Supreme Court decided that the EC is a tribunal and its decision regarding derecognition of a party or allocation of symbols in case of dispute could be challenged only by appealing to the Supreme Court under Special Leave Petition. But later, it was decided that it can be challenged in High Courts too.

Election Commission Dealings Before Symbols Order, 1968

- Before 1968, the EC issued notifications and executive orders under the Conduct of Election Rules, 1961.
- Rule 5 of Conduct of Election Rules, 1961 specifies that the Commission shall specify the symbols that may be chosen by candidates at elections (in parliamentary or assembly constituencies) and the restrictions to which their choice will be subjected..

Powers of Election Commission on Election Symbol

- The Election Symbols (Reservation and Allotment) Order, 1968 empowers the EC to recognise political parties and allot symbols.
- Allocation In Case of Split In Party:Para 15 of the Symbols Order, 1968, specifies that the Commission has the power to recognise as the party, from splinter groups or rival sections, after taking into account all available facts and circumstances of the case and after hearing all the representatives.
- Binding Decision: The decision of the Commission shall be binding on all such rival classes/groups.
- Applicability: It applies to disputes between recognized national and state parties.
  - For disputes within registered but unrecognized parties, the EC generally advises them to solve their disputes amicably or to approach the court.
- The EC is also the only authority to decide issues on a merger.

Advisory Powers

- Advises the President of India and Governors about disqualification of the members of Parliament and State Legislatures.
- Advises the High Courts and the Supreme Court in post-election disputes between candidates and political parties.

Quasi-Judicial Powers

- Settles disputes about recognition granted to candidates and political parties.
- Acts as a court for disputes about the allotment of election symbols to political parties and candidates.

Administrative Powers

- Defines the territorial boundaries of electoral constituencies for different elections.
- Registers and deregisters any political party or entity
- Enforces the 'Model Code of Conduct' for election campaigns

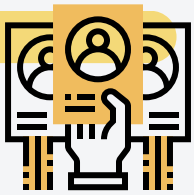
How To Resolve Dispute Over party Symbol

- The EC will hear all available facts and circumstances of the case, and decide whether both the factions have sufficient support to proceed with the proceedings. If sufficient support does not exist it will dismiss the petition.
- Strength of Elected Members: Whenever the EC cannot test the strength of rival groups based on support within the party organisation, it may fall back on testing majority only among elected MPs and MLAs.
- For immediate electoral purposes, the EC may freeze the party symbol and advise factions to contest elections with different names and temporary symbols.
- EC may ask the splinter group of the party to register itself as separate party, and could lay claim to national or state party status only on the basis of its performance in state or central elections after registration.

Same Symbol For Different Parties

- Same constituency: If the candidates of two parties having the same symbol are pitted against each other in the same constituency then, as per provisions of Para 12 of the Symbols Order, 1968, "free symbols" will be allotted to both the contestants.
- Intra-state usage: While national parties are free to use their 'reserved symbol' across India, the recognised state parties can use their symbols in their states. To use the symbol outside their state, they have to seek the EC's permission.
- Examples: In the 2015 Bihar Assembly election, Samajwadi Party, Panthers Party, Jharkhand Mukti Morcha and Shiv Sena decided to field their candidates. The EC allowed them to use their symbols except when the two parties having the same symbol chose to contest from the same constituency.

ONE CONSTITUENCY ONE CANDIDATE (OCOC)



Chief election commission has asked the Ministry of Law and Justice to limit the seats from which a candidate can contest to just one.

- It has also recommended to ban on exit poll and opinion poll. As per Section 33(7) of the Representation of People's Act (RPA) 1951, one candidate can contest from a maximum of two constituencies.

What is Opinion Poll?

An opinion poll is a pre-election survey to gather voters' views on a range of election-related issues.

What is Exit Poll?

An exit poll, on the other hand, is conducted immediately after people have voted, and assesses the support for political parties and their candidates.

No result of any opinion poll or exit poll conducted at any time would be published, in any manner, from 48 hours before the first poll to until the last phase of polling.

Concerns Due To Contesting From Multiple Constituencies

- Section 70 of RPA bars candidates to represent from two constituencies in Lok Sabha or state Assembly. Hence the idea of contesting from two constituencies seems illogical.
- It creates automatic vacancies in the constituencies leading to by-elections. By-elections are also huge waste of taxpayers' money and time.
- At times, Influential Politician contest from two constituencies to dilute the votes of other contestants thus leading to exploitation of section 33(7).

Constitutionality of Sec 33(7)

The constitutional validity of Section 33(7), RPA, 1951 has been upheld by the Allahabad High Court in Raja John Bunch v. Union of India 2014.

- The court observed that Article 101 of the Constitution does not contain any prohibition or restriction on a person

contesting an election or filing a nomination from more than one constituency.

- The court observed that there is nothing inconsistent between Section 33(7) and Article 101.

Recommendation of Election Commission

- It has recommended amending section 33(7) so as to allow one candidate to contest from only one seat.
- As per another recommendation of Election Commission, if a candidate will vacate a seat which he or she has won, the candidate securing second highest vote should be announced as winner.
- Another recommendation - A proper regulation for bearing the expense of by- election should be implemented if a candidate winning from two constituencies will vacate one seat.

MATADATA JUNCTION

Matadata Junction is a voter-awareness programme launched by **Election Commission of India**.

Features:

- It is a year-long programme that will be broadcasted every Friday between 7-9 pm on AIR channels such as Vividh Bharati, FM Gold, FM Rainbow and Primary Channels.
- The 52-week programme will be based on 52 themes (52 episodes of 15 minutes) covering all the aspects of voter ecosystem.
- These themes will be based on Quizzes, expert interviews, and songs produced by **SVEEP (Systematic Voter's Education and Electoral Participation).**
- This programme will also include a citizen's corner where the citizens will be able to make queries and give suggestions.

Objectives:

- To create awareness among the voters across the country
- To increase voter participation
- To encourage young and first-time voters to take informed decisions

About SVEEP (Systematic Voter's Education and Electoral Participation)

- SVEEP is Election Commission of India's flagship programme launched with the aim of spreading voter awareness and promoting voter literacy in India. The main goal is to encourage all eligible citizens to vote and make informed decisions during elections and build a participative democracy.

SECTION 144 OF CRPC AND HATE SPEECH

Section 144 of CRPC was imposed to restrict a religious gathering in Roorkee to prevent communal tension there. SC has instructed the government of Uttarakhand to ensure that there would be no untoward incidents or unacceptable statements (hate crimes) during the religious gathering.

About Section 144 of CRPC

- It is a colonial era law, which was first brought in CrPC 1882 and retained in CrPC 1973.
- It empowers the DM, SDM or any other executive magistrate empowered by the state government to issue a prohibitory order to prevent and address urgent and emergency cases of possible danger and nuisance.
- The provision empowers magistrate to restrict the unlawful assembly (gathering of four or more people), movement and carrying certain arms.
  - During curfew, people are instructed to stay indoors for a particular period. The government puts a complete restriction on traffic as well.
  - Markets, schools, colleges and offices remain closed under the curfew and only essential services are allowed to run on prior notice.
- The written order by the magistrate may be directed against an individual or group residing in a particular area or to public at large.
- The order passed under Sec 144 of CrPC remains in force for a period of 2 months. However, state government can extend it for a period up to 6 months.

Concerns

- Article 19(1)(a) of the constitution guarantees the freedom of speech and expression. Though, provisions in clauses (2) to (6) of Article 19 authorizes the State to restrict the exercise of the freedom guaranteed under the article; yet Sec 144 of CrPC, if used in arbitrary and undemocratic manner by the concerned magistrate, violates the very provision of the constitution.
- The first remedy against the order is a revision application that must be filed before the same officer. This is against the principle of natural justice.
- An aggrieved individual can approach the High Court by filing a writ petition if his fundamental rights are at stake. However, fears exist that before the High Court intervenes, the rights could already have been infringed.
- Prohibitory orders are imposed over a large area to suppress the political dissent. This is unwarranted in a democracy.

SC Judgements on Sec 144 of CrPC:

- Babulal Parate vs state of Maharashtra, 1961: The SC upheld Section 144 of CrPC and said that it is not correct to say that the remedy of a person aggrieved by an order under the section was illusory.
- Madhu Limaye vs SDM, 1970: A seven-judge Bench held that the power under Sec 144 is not an ordinary power flowing from administration but a power used in a judicial manner and which can stand further judicial scrutiny. The court ruled that section 144 covers 'reasonable restriction' to the fundamental rights laid down in Article 19(2) of the constitution.
- Ramlila Maidan vs Home Secretary of UOI case, 2012: The perception of threat to public order should be real and not imaginary or a mere possibility for using Sec 144.

SECTION 124A OF IPC

- The Supreme Court (SC) has directed that all the proceedings on charges of sedition under section 124A of the IPC be kept in abeyance (temporary inactivity) until the government has completed re-examining the law under the section.
- The court further stated that it expects the Centre and States to refrain from filing FIRs, conducting investigations or taking coercive actions under Section 124A while the colonial law is being reconsidered.
- Persons charged in new cases were free to approach courts, which would review their cases in light of the SC's judgement and the Union's clear position that the provision was abused and needed re-examination.

Historical Background of Sedition law

- 1870 – **J. F. Stephen** introduced Section 124A or the sedition law in the IPC as the original IPC Act of **1860** did not include the sedition law. However, it was the part of the **draft** prepared by **Macaulay**.
- 1891 – Queen vs Jogendra Chundar Bose Case was the **1st sedition case** in India. The editor of a Bengali magazine 'Bangobasi' was tried for sedition because he had criticized the 'age of consent Act 1891'. B.G. Tilak and Mahatma Gandhi were also charged and convicted under section 124A.
- 1947 – Sardar Patel proposed in constituent assembly that sedition law must serve an exception to the right to free speech.
- 1948 – K. M. Munshi did not agree with Sardar Patel's proposal. He advocated for not including the 'sedition' as a ground for reasonable restriction of fundamental rights. **The constitution did not include 'sedition' as reasonable restriction to freedom of speech under Art 19(2) of the constitution. However, section 124A remained in IPC.**
- 1950 – The SC ruled that the constitution does not include the word 'sedition' as an exception to the free speech. Thus, the decision of the State of Madras to ban the circulation of leftist journal violated the right to free speech under Art 19.
- 1974 – Sedition under section 124A of IPC made **cognizable offence** which means police can arrest without warrant.
- 1995 – SC observed, in **Balwant Singh vs State of Punjab Case**, that casually raising slogans without any violence resulting from them does not amount to sedition.

DRAFT RULES OF CRIMINAL PRACTICE 2020

The SC has directed the HCs and State Governments to file an action taken report on the compliance of the Draft rules of criminal practice 2020. The SC had issued draft rules in 2020 after getting a report from amicus curiae to deal with inadequacies in the procedure followed during criminal trials throughout the country.

Concerns

- The criminal justice is the combination of processes of law enforcement, adjudication of crime and criminal conduct, and correction of criminals.
- It includes agencies of state viz. courts, police, prosecution and correctional agencies.
- It is an instrument of social control. It not only ensures supremacy of law and order in the society by creating deterrence for crime and correcting the criminal behaviour.

Important Points Of The Draft Rules

Investigation	Every medico legal certificate must contain a printed format of the human body, photography/videography of every medico legal examination, spot panchnama (seizure memo) by investigating officer.
Documents	The accused must be provided statement of witnesses, list of records, list of documents, material objects and exhibits seized during investigation by investigating officer.
Charge	The presiding officer must prepare a formal charge along with the order of framing the charge.

Trial	The proceedings must be carried out efficiently. During the examination of witnesses, the case must be continued from day to day until all the witnesses in attendance have been examined. The Court must record the reasons of an adjournment if it thinks it is required.
Witnesses	Deposition of each witness must be recorded in separate paragraph along with question-answer format and assigning paragraph numbers
Exhibits	Exhibits must be marked and given a number. If a witness is introducing a document as evidence, then exhibit number must show the witness number.
Confessional Statements	Presiding officer should mark the admissible portion of confessional statement under the Indian evidence act.
Bail	The bail application should be disposed-off within a period of 3-7 days of first hearing. Otherwise presiding officer must give reasons in the order itself for the delay. Communication of bail order to the jail authorities on the very same day
Separation of prosecution & investigation	The state government may appoint an advocate, other than public prosecutors, to advise during investigation.

Justice Malimath Committee Report, 2003 on Criminal Justice System

The committee felt that the current system favors the accused rather than giving justice to the victim of the crime.

Recommendation

- Adoption of elements from inquisitorial system of France and Germany, where a magistrate/judge supervises the investigation. In India, adversarial system is prevailing where by magistrate/judge doesn't take part in investigation and gives ruling based on evidences produced before them.
- Easing the strict protection of right against self-incrimination mentioned in Article 20(3) of the constitution.
- Victim should be allowed to participate in cases and also be given adequate compensation.
- Extension of limit of police custody from 15 to 30 days. An additional time of 90 days be granted for the filling of charge sheet in case of serious crimes.
- The punishment that can be awarded in summary trials be increased to 3 years (Presently it is 2 years).
- Reclassifying offences as social welfare code, correctional code, economic offences etc.
- Separate sentencing guidelines for pregnant women and women with children below 7 years of age.

The draft rules are significant from the perspective of criminal justice reform. It requires all the pillars of the system to work in coordination and upholding the due process of law to ensure both procedural as well as substantive nature of criminal justice.

BAN ON PFI

- The **Ministry of Home Affairs (MHA)** imposed a ban on PFI and its associate organizations for five years under The Unlawful Activities (Prevention) Act (UAPA), 1967 and termed it as an unlawful association with immediate effect.

How Is An "Unlawful Association" Defined?

- According to **Section 2(1)(p) of the UAPA,** an "unlawful association" is an association which is involved in activities promoting enmity between different groups and making imputations, assertions that are prejudicial to national integration.

Imposition of Ban

- When the Government imposes a ban on any association, the Ministry of Home Affairs (MHA) issues a ban notification and publishes it in the gazette.
- But this ban is temporary and to make the ban permanent, it needs to be ratified by a tribunal known as the **Unlawful Activities Prevention Tribunal.**
  - However, in exceptional circumstances, the notification can take effect immediately if the reasons for it are documented in writing. It can be approved or rejected by the tribunal.

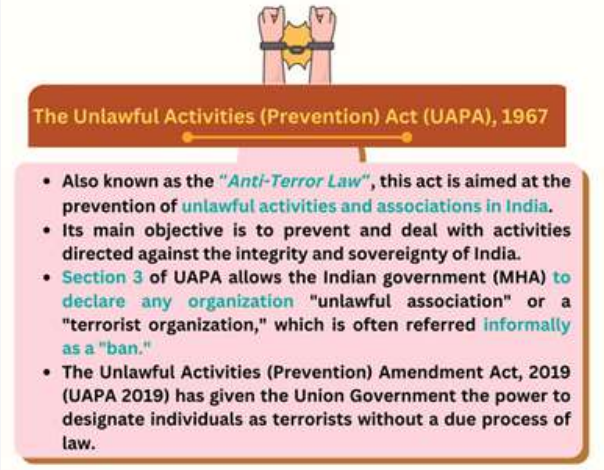
Constitution Of The Tribunal

- The Unlawful Activities Prevention Tribunal is a body constituted by the central government to confirm a ban on a political organization after analyzing the allegations and evidence.
- The tribunal has only one member. Provided that no person shall be so appointed unless he is a Judge of a High Court.

- If there is a vacancy (other than a temporary absence) in the Tribunal, the Centre appoints another judge, and the proceedings resume from the point at which the vacancy is filled.
- The Centre is to provide the tribunal with the personnel it requires to carry out its functions.
- The Consolidated Fund of India bears all expenses incurred for a tribunal.

Tribunal's Powers

- The tribunal has the power to regulate its own procedure, including the location of its sittings.
- As a result, it can hold hearings in various states for allegations originating in those states.
- The tribunal has the same powers to conduct investigations as a civil court under the Code of Civil Procedure, 1908.
- All proceedings before the Tribunal are considered judicial proceedings.



Procedure To Declare An Association As "Unlawful"

- For this, the Ministry needs to notify the tribunal within 30 days of the gazette notification (**under Section 4 of UAPA**). The tribunal decides whether the ban should stay or not.
- **Section 6 of UAPA:** The **Central Government** may cancel the ban notification either on its own motion or on application by the aggrieved person. Confirmation by the tribunal is not required for this cancellation.

What Happens When An Association Is Declared Unlawful?

- It has serious consequences and includes criminalization of organization membership and forfeiture of its properties.
- Section 7 of UAPA: Prohibition on use of funds.
- Section 8 of UAPA: All the places used by the unlawful association can be notified and seized.
- A person who is the member of such (unlawful) association or takes part in its meetings or contributes to, or receives or solicits any contribution for the purpose of such association or in any way assists its operations is punishable with imprisonment for a term which may be extended to two years, and shall also be liable to fine.

The aggrieved person can make an application to the Court of the District Judge within 15 days of the date of the service of such order.

NATIONAL AIR SPORTS POLICY 2022

- Ministry of Civil Aviation (MoCA) has launched National Air Sport Policy 2022 (NASP 2022). The policy lays out the vision of making India as one of the top sports nations.
- Air sports encompasses various sports activities involving the medium of air such as air-racing, aerobatics, aero-modelling, hang gliding, paragliding, para motoring and skydiving etc.

NASP 2022

- It has been drafted with the help of multi-stakeholder approach involving policy makers, air sports practitioners and public at large.
- **Coverage**: The policy is set to include a set of ***13 air sports*** such as: aerobatics, aero modelling, model rocketry, ballooning, drones, gliding, powered gliding, rotorcraft, hang gliding, parachuting, and para motoring among others.

There will be four-tier governance structure for air sports in India -

i) Air Sports Federation of India (ASFI) as the apex governing body
ii) National associations for individual air sports or a set of air sports
iii) Regional or State and Union Territory level units of the national air sports associations
iv) District-level air sports associations

Role of ASFI

- The ASFI will be an autonomous body under the **Ministry of Civil Aviation**. It will be chaired by the **Secretary, Ministry of Civil Aviation,** who will nominate up-to three eminent experts related to air sports as members of the ASFI governing council.
- It will present India at the Federation Aeronautique Internationale (World Air Sports Federation) and other global platforms related to air sports.
- It will provide governance over all aspects of air sports, including regulation, certification, competitions, awards, and penalties. The National Air Sports Associations will be accountable to ASFI.

Reporting Of An Accident

- The policy also stated that a person, or an associated person, involved in an accident will inform the concerned air sports association in writing, along with a copy to the ASFI, no later than 48 hours after an incident.

Provision Of Penal Action

- Inability to enforce adequate safety standards by an air sports association may lead to penal action by the ASFI against such association. This includes financial penalties, suspension or dismissal.

NSAP will not only provide a safe, affordable, accessible, enjoyable and sustainable air sports ecosystem in India but will also help India become air sports hub by 2030.

DIGITAL PERSONAL DATA PROTECTION BILL, 2022

Ministry of Electronics and Information Technology (MeitY) released the revised Digital Personal Data Protection Bill (DPDB), 2022 and invited public comments for the same. The latest DPDP Bill, 2022 is the 4th iteration of a data protection law in India.

Objective:

- To process digital personal data in a way that recognizes the right of an individual to protect his/her personal data and the need to process it for lawful purposes.

Key Provisions of the New Bill

- **Global Principles of data protection: The bill is based on globally accepted principles of data protection –**
  - **Lawfulness, fairness, and transparency.**
  - **Purpose limitation.**
  - **Data minimization.**
  - **Accuracy.**
  - **Storage limitation to fixed duration**
  - **Integrity and confidentiality.**
  - **Accountability.**

Applicability –

- **Includes**
  - **Within Indian Territory:** To process digital personal data collected online or offline and digitized.
  - **Outside Indian Territory:** To process digital personal data if it is concerned with profiling of or activity of *offering goods or services to individuals within India.*
    - Profiling is any form of personal data processing that analyses or predicts the behavior, attributes or interests of an individual.
- **Excludes**
  - Data processing by *Indian data fiduciaries that collect and process personal data outside India, of data principals who are not located in India.*
  - Non-automated processing of personal data
  - Offline personal data
  - Personal data processed by an individual for any personal or domestic use
  - Personal data about an individual that is contained in part of a record for at least 100 years.

Applicability –

- **Defines Data fiduciary and Data Principal:**
  - **Data Fiduciary**- Any person who alone or in conjunction with other persons determines the purpose and means of processing of personal data.
  - **Data Principal-** it is the individual to whom the personal data belongs and if such individual is a child, it includes his parents or lawful guardian.
- **Rights of Data Principal:**

Right to Information	Right to Correction or Erasure	Right to Grievance Redressal	Right to Nominate

About the following:
• **Confirmation** about processing personal data
• **Summary** of personal data being processed
• **Identities** of all the Data Fiduciaries with which data has been shared
	• Upon receiving a request from Data Principal, a Data Fiduciary can make:
	  ○ **Corrections**
	  ○ **Updations**
	• **Erase** any personal data no longer required except for legal purposes.
		If the data principal is unsatisfied with the response of a Data Fiduciary to a grievance or receives no response within 7 days, it may register a complaint with the Board.	In the event of death or incapacity of the Data Principal, any nominated individual can exercise the rights on behalf of the Data Principal.

Notice and Consent

- A Data Fiduciary is required to give the Data Principal a notice in clear and plain language with details of personal data being sought and the purpose of processing it.
- The notice should be in either English or any of the 22 languages specified under the 8th Schedule of the Constitution.
- The Data Principal has the right to withdraw her consent at any time and its consequences shall be borne by the Data Principal.
- The withdrawal of consent will not affect the lawfulness of processing of personal data based on consent before its withdrawal.

Data Protection Board-

Functions

- Directs Data Fiduciary to adopt urgent measures to remedy personal data breach or mitigate any harm caused to Data Principals.
- Mandate appointment of **Data Protection Officers and independent data auditors** to ensure compliance with the law. They will be appointed by businesses of "significant" size (based on the volume of data they process)
- Hold companies responsible for **not storing user data** that no longer serves a business purpose, with special safeguards with respect to personal data of minors.
- Act on complaints received from the affected person/ reference by the Central or State Government/ court orders/ non-compliance by a Data Principal.

Powers

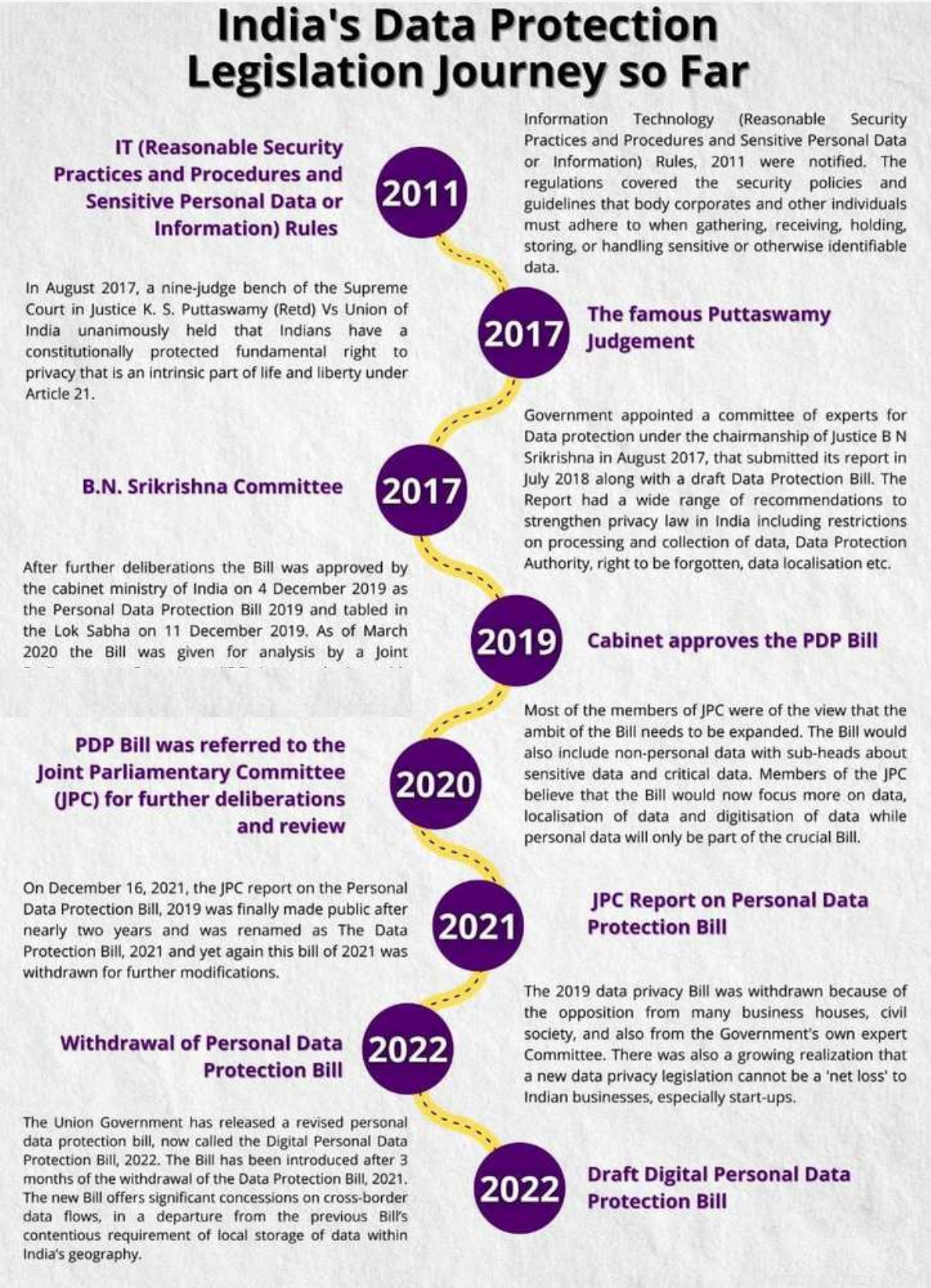
- It has the power of a Civil Court as provided in the **Code of Civil Procedure, 1908.**
- **Its decisions can be appealed in a High Court.**
- Power to summon and enforce the attendance of persons, examine them on oath and inspect any data, book, document, register, books of account or any other document.
- **Review its order** on a representation made to it, or on its own, and can modify, suspend, withdraw or cancel any of its orders.
- Refer complaints for **Alternate Dispute Resolution.**
- Accept voluntary undertakings.

- **Cross-border Transfer of Data – Storage and transfer of data** will be permissible in "trusted" jurisdictions as defined by the central government.
- **Financial Penalty:**
  - Upon non-compliance, the board may impose a financial penalty not exceeding rupees five hundred crore between Rs 50 – 500 crores on companies in each instance.
  - For users, a consumer who submits false documents for an online service or makes bogus grievance complaints may face a Rs 10,000 fine.
  - Amount of financial penalty will be determined by -
    - Nature, gravity and duration of non-compliance.
    - Type and nature of personal data affected by non-compliance;
    - Repetitive nature of non-compliance;
    - Whether the person has realized a gain or avoided any loss because of non-compliance.
    - Whether the person took any action to mitigate the effects and consequences of the non-compliance.
    - Likely impact of financial penalty on the person.
- **Exemption:**
  - The bill exempts any or all of government agencies (as specified by government) from adhering to its provisions in the interest of "sovereignty and integrity of India, security of the state, friendly relations with foreign states, and maintenance of public order or preventing incitement to any cognizable offense."
  - The government also holds the power to exclude certain enterprises from Bill's restrictions based on the volume of users and personal data handling.

Difference b/w New Bill and 2019 Draft

New Bill	2019 Bill
• Has less number of clauses. • Proposes a Data Protection Board appointed by the central government. • Relaxes data localization norms and permits cross border data transfer. • Has revised penalties to Rs 50 crores and eliminated the possibility of any criminal convictions in case of violations.	• Had around 90 clauses. • Proposed Data Protection Authority which was recognized as a statutory body. • Prohibited cross border data transfer and mandated the companies to keep a copy of their data stored locally if located outside India. • Provided for penalties of ₹15 crore, or 4% of the total worldwide turnover of any data collection or processing entity, for violating provisions.

New Bill	2019 Bill
• First ever legislation to use the pronouns 'she' and 'her' to refer to all individuals, as against the use of 'he', 'him' and 'his.' • Dropped hardware regulation terming its scope to be very large and prone to misuse, allegation and counter-allegations and legal disputes. • Right to post mortem privacy • Incorporates "deemed consent": DPDP Bill, 2022, states that personal data can be processed for "lawful purposes" or for which processing could be performed on the basis of "deemed permission." • Deemed consent refers to consenting to voluntarily provide data that may be used for purposes other than what it was initially collected for.	• No such use of pronouns. • Mandated monitoring, testing and certification of hardware devices by the Data Protection Authority (DPA). • No such provision • Personal data can be processed for the purpose consented to by the data principal.



AMENDMENTS TO IT RULES 2021

- Government has notified amendments to the Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Rules, 2021 pushing towards an open, safe, trusted, and accountable internet.

About IT Rules, 2021

- The new rules were released under Section 87(2) of Information Technology Act, 2000 and superseded the earlier Information Technology (Intermediary Guidelines) Rules, 2011.
- They prescribe a framework for the regulation of content by online publishers of news and current affairs content, and curated audio-visual content.

Features

- Due Diligence to Be Followed by social media Intermediaries: failing which safe-harbour provisions will not apply to them.
  - Social Media Intermediaries (SMI) are the ones which primarily or solely enable interaction between two or more users and allow them to create, upload, share, disseminate, modify or access information using its services.
- **Grievance Redressal Mechanism:**
  - A Grievance Officer will be appointed and his contact details will be shared on the website of SMI.
  - The officer should acknowledge the complaint within 24 hours and resolve it within 15 days of its receipt.
  - A three-level grievance redressal mechanism has been established
- **Level I- Self-regulation by the Publisher:** Publisher shall appoint a Grievance Redressal Officer based in India.The officer shall take a decision on every grievance received by it within 15 days.
- **Level II- Self-Regulatory Body:** There may be one or more self-regulatory bodies of publishers. Such a body shall be headed by a retired judge of the Supreme Court /a High Court or independent eminent person and have not more than six members. Such a body will have to register with the Ministry of Information and Broadcasting (Mo I&B), and it will oversee the adherence by the publisher to the Code of Ethics and address grievances that have not been resolved by the publisher within 15 days.
- **Level III- Oversight Mechanism:** Mo I&B, shall formulate an oversight mechanism and publish a charter for self-regulating bodies, including Codes of Practices. It shall establish an Inter-Departmental Committee for hearing grievances.
  - **Categorization of SMIs:** The rules distinguish between Social Media Intermediaries (SMIs) and Significant Social Media Intermediaries (SSMIs) based on the number of users on their platform. Intermediaries with registered users above a notified threshold will be classified as SSMIs are required to follow additional due diligence
- Publishing a monthly compliance report with details of complaints received and action taken as well as details of contents removed proactively by the SSMIs.
- **User Identification:** Enabling identification of the first originator of the information Publishing a physical contact address in India on its website or mobile app or both.

Voluntary User Verification Mechanism:

- **Opportunity to Be Heard**: Prior intimation should be communicated to the user whose content has been removed or disabled access to by the SSMIs explaining the grounds and reasons
- **Code of Ethics:** Prescribes the guidelines to be followed by OTT platforms and online news and digital media entities.
- **Self-Classification of Content:** Should be done by the OTT platforms into 5 age-based categories- U (Universal), U/A 7+, U/A 13+, U/A 16+, and A (Adult). Parental locks should be implemented for content classified as U/A 13+ or higher

Amendments to IT Rules 2021

These amendments are called the IT (Intermediary Guidelines and Digital Media Ethics Code) Amendment Rules, 2022 and include:

- **Imposing Legal Obligation:** Currently, Intermediaries are required to only inform users about not uploading certain categories of harmful/unlawful content under IT Rules 2021. The new amendments impose a legal obligation on these intermediaries to take reasonable efforts to prevent users from uploading such content.
- **Use of Regional Languages**: For effective communication of the rules and regulations
- **Judicial Review:** The grounds in rule 3 (subclause 1) have been rationalized by removing the words 'defamatory' and 'libellous'.

- Whether any content is defamatory/ libelous will be determined through judicial review.
- **Respecting Constitutional Rights:** Intermediaries are required to respect the rights guaranteed to users under the Constitution including in the articles 14, 19 and 21 and ensure accessibility of its services to users with a *reasonable expectation of due diligence, privacy and transparency.*
- **Grievance Appellate Committee(s):**
  - To be established within 3 months from the date of commencement of the IT Amendment Rules, 2022.
  - It will allow users to appeal against the inaction or decisions taken by intermediaries on user complaints.
  - Each appellate committee will consist of a chairperson (ex-officio) and two whole time (independent) members appointed by the Central Government.
  - Any aggrieved person can appeal to the Grievance Appellate Committee within a period of 30 days from the date of receipt of communication from the Grievance Officer.
  - The appeal should be resolved within 30 days from the date of receipt.
  - It will adopt an **online dispute resolution mechanism** wherein the entire appeal process, from filing of appeal to the decision shall be conducted through digital mode.

FRAMEWORK FOR FAKE E-COMMERCE REVIEWS

- The Department of Consumer Affairs launched the framework for protecting consumer interest from fake and deceptive reviews in e-commerce.
- Titled Indian Standard (IS) 19000:2022 Online Consumer Reviews — Principles and Requirements for their Collection, Moderation and Publication, the framework was prepared by Bureau of Indian Standards (BIS).

Key points of the Standard

- The guiding principles of the standard are integrity, accuracy, privacy, security, transparency, accessibility and responsiveness.
- The standard will be **applicable to every online platform that publishes consumer reviews.** These include suppliers of products and services which collect reviews from their customers, third parties contracted by suppliers or independent third parties.
- The organization will have to develop a code of practice, and necessary requirements for terms and conditions like accessibility, criteria, and ensuring content does not contain financial information etc.

Paid Reviews

- The BIS has defined reviews as **solicited and unsolicited**. Solicited review refers to consumers' reviews of products or services as requested by the supplier or review administrator.
- E-commerce platforms will **need to "voluntarily" disclose "paid customer reviews" of products and services.**
  - If a review is purchased or you are rewarding the person for writing the review, then that has to be clearly marked as a purchased review.

Certification

- BIS will soon come out with a certification process to check whether an organisation is complying with these standards. E-commerce players can apply for the certification of this standard with the BSI.

Bureau of Indian Standards
The National Standards Body of India

- Bureau of Indian Standards Act, 2016 established BIS as the **National Standards Body of India** working under the Ministry of Consumer Affairs, Food & Public Distribution.
- BIS is **established by the Bureau of Indian Standards Act, 1986.**
- The Minister in charge of the Ministry or Department having administrative control of the BIS is the ex-officio President of the BIS.
- The organisation was **formerly the Indian Standards Institution (ISI),** which was registered under the Societies Registration Act, 1860.
- It has 25 members **drawn from Central or State Governments,** industry, scientific and research institutions and consumer organisations.
- It also works as a **WTO-TBT** enquiry point for India.
- The Agreement on **Technical Barriers to Trade (WTO-TBT) Agreement**, is an international treaty (binding on all WTO members) administered by World Trade Organisation (WTO).

A DECADE OF POCSO

- The analysis, titled "A Decade of Pocso," was conducted by the Justice, Access, and Lowering Delays in India (JALDI) Initiative at Vidhi Centre for Legal Policy in partnership with the World Bank's Data Evidence for Justice Reform (DE JURE) initiative.

Protection of Children from Sexual Offences (POCSO) Act

- It is the **first comprehensive law** in the country dealing specifically with sexual abuse of children, enacted in 2012 and is administered by Ministry of Women and Child Development.
- It was intended to protect children from sexual assault, sexual harassment and pornographic violations, as well as to establish Special Courts for such trials.

Key provisions:

- **Gender-neutral legislation:** The Act defines a child as "any person" under the age of 18.
- **Non-reporting is a crime:** Any person in charge of an institution (excluding children) who fails to report the commission of a sexual offense involving a subordinate, faces punishment..
- **No time limit for reporting abuse:** A victim may report an offence at any time, even years after the abuse has occurred.
- **Keeping victim's identity confidential** in any form of media unless authorised by the special courts established by the Act.

Amendment to the Act

- The Act was amended for the first time in **2019** for enhancing the punishments for ***specific offences.***
- This amendment enhanced the punishment to include ***death penalty for aggravated penetrative sexual assault*** of the child. It also provides for levy of fines and imprisonment up to 20 years to curb child pornography.
- The **new definition of child pornography** reads, "Any visual depiction of sexually explicit conduct involving a child which include photographs, video, digital or computer-generated image indistinguishable from an actual child and an image created, adapted or modified but appear to depict a child."

POCSO Rules 2020

- **Mandatory police verification:** Any institution housing children or coming in regular contact is required to conduct a periodic police verification and background check of every employee. Such an institution must impart regular training to sensitise its employees on child safety and protection.
- **Support persons**: It also made a provision for appointment of support persons for victims to render assistance to them through the process of investigation and trial.
- A support person may be a person or organisation working in the field of child rights or child protection, an official of a children's home or a shelter home having custody of the child, or a person employed by the District Child Protection Unit (DCPU), who hand holds the victim through the entire legal process.

REPORT ON MII REGULATION

- The Securities and Exchange Board of India (SEBI) recently submitted a report on 'Strengthening governance of market infrastructure institutions (MIIs)'.
  - MIIs are institutions providing infrastructure of trading, settlement and record keeping and include stock exchanges, clearing corporations and depositories.

MIIs

- **Stock exchanges, depositories and clearing houses** are all Market Infrastructure Institutions and constitute a key part of the nation's vital economic infrastructure.
- The primary purpose of securities /capital market is to enable allocation/reallocation of capital/financial resources. It helps optimal use of money in the economy and stimulates economic development.
- According to a panel set up in 2010, under the chairmanship of former Governor Bimal Jalan:
  - The term 'infrastructure' would mean the basic, underlying framework or features of a system; and
  - The term '**market infrastructure**' denotes such fundamental facilities and systems serving this market.
- Well-functioning MIIs, constitute the nucleus of the capital allocation system, are essential for economic growth and have a net positive effect on society like any other infrastructure institution.

Key Points of the report

The panel has proposed measures for:

- Strengthening the role played by the **governing board and committees of MIIs.**
- Reviewing the requirements related to **appointment and role & responsibility of directors on the board and key managerial persons (KMPs).**
- Developing effective **metrics for monitoring** various aspects of their functioning.
- Reviewing the policy on **safekeeping and sharing of information held by MIIs.**
- Revisiting the **code of conduct and code of ethics for directors** of the governing board and KMPs and
- Activities and governance of **investee companies of MIIs**.

Functions of MIIs

- Under the proposal, the functions of MIIs should be categorized into three verticals:
  - Critical operations
  - Regulatory, compliance and risk management
  - Other functions including business development
- The KMPs heading the functions under the first two verticals should be at par in hierarchy with the KMPs heading the third vertical.
- In terms of **resource allocation and utilization**, the functions under the first two verticals separately should be given higher priority by MIIs over functions under the third vertical.
- The resources including the **human as well as financial and technology resources** deployed by MIIs for each of the core functions should be disclosed in the annual report of the MIIs.

Guidelines for the Board

- To ensure greater independence of the Board of the MII, at least two-third members of the Board of the MII should comprise **Public interest directors (PIDs).**
- The roles and responsibilities of all directors should be clearly outlined, especially their responsibilities towards regulatory, compliance and risk management functions.
- In order to enhance transparency, the MIIs should disclose the **agenda and minutes of meetings of their board.**
- The board meetings of MIIs should be required to have **audio and video recordings.**

Periodic Review

- Periodic review through an **internal as well as external mechanism,** should be conducted to evaluate the effectiveness of the MIIs in discharging their **core and critical functions.**
  - Accordingly, the MIIs, should internally evaluate its own performance on an annual basis and engage an external agency for evaluating its performance once in every three years.
- The first external evaluation should be conducted within a period of twelve months from the date of implementation of the recommendations. MII may frame its own **evaluation metrics** based on the indicative parameters specified by SEBI. MIIs should develop an escalation matrix for sharing confidential and sensitive information for any legitimate purpose.

Specific institutions in India that qualify as MIIs

- Among stock exchanges, the SEBI lists seven, including the BSE, the NSE, the Multi Commodity Exchange of India and the Metropolitan Stock Exchange of India.
- There are two depositories — charged with the safekeeping of securities and enabling their trading and transfer — that are tagged MIIs: the Central Depository Services Ltd. and the National Securities Depository Ltd.
- The regulator also lists seven clearing houses including the Multi Commodity Exchange Clearing Corporation.

CRITICAL INFORMATION INFRASTRUCTURE (CII)

- The Information Technology Act of 2000 explicitly defines Critical Information Infrastructure as a computer resource, the incapacitation or destruction of which shall have debilitating impact on national security, economy, public health or safety.
- The government, under the Act, has the power to declare any data, database, IT network or communications infrastructure as CII to protect that digital asset.
- National Critical Information Infrastructure Protection Centre (NCIIPC) is the nodal agency to protect nations CIIs. MeitY has declared IT resources of ICICI Bank, HDFC Bank and UPI managing entity NPCI as 'critical information infrastructure.

National Critical Information Infrastructure Protection Centre

- It is an organization of the Government of India created under the Section 70A of the Information Technology Act, 2000 (amended 2008) in 201.4
- It is a unit of the National Technical Research Organization **(NTRO)** and therefore comes under the Prime Minister's Office (PMO).
- NCIIPC has broadly identified the following as 'Critical Sectors':

Government	Strategic & Public Enterprises	Power & Energy	Banking, Financial Services & Insurance	Telecom	Transport

PRESS AND REGISTRATION OF PERIODICALS BILL 2022

- The Press and Registration of Periodicals Bill 2022 which seeks to replace the Press and Registration of Books (PRB) Act 1867 is likely to be introduced in the Parliament.

Need For The Bill

- The Central government wanted to replace the colonial era PRB Act, 1867 with the proposed Press and Registration of Periodicals (PRP) Bill in order to bring digital news media under its purview.

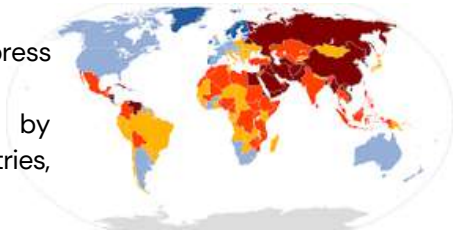
- At present, while traditional media and electronic media are governed by various laws, digital news platforms are not covered by any registration process.
- To fix this, in 2021, the Central government introduced the **Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Rules, 2021.**
  - Under these Rules, it was made mandatory for digital news platforms to register themselves with the government.
  - The PRP Bill will serve as an extension of the same rules and will make it mandatory for digital news platforms to do a "one-time registration" in order to operate.
- This will also help in weeding out apps, websites and social media accounts which have sprouted in recent months, serving as vendors of fake news.

Salient Features Of The Bill

1. It proposes to **remove the existing provisions relating to registration of Books** & matters connected thereto.
2. It proposes to do away with the existing procedure of furnishing of declaration by publishers/ printers before the District Magistrate and its subsequent authentication.
3. The process of title and registration of periodicals including newspapers is proposed to be effected centrally by the **Press Registrar General** as a simultaneous process.
4. The Bill enables the Central Government & State Government to frame appropriate rules/ regulations to regulate the criteria/conditions for issuing Government advertisements in newspapers, accreditation of newspapers and such other facilities for newspapers.
5. The Bill proposes to have a simple system of registration of e-papers.
6. It **proposes to do away with the earlier provision under the PRB Act, 1867 of prosecution of publishers.**
7. Currently, in the PRB Act offences are punishable with an imprisonment term of up to 6 months for improper disclosure of information.

Press Freedom Index 2022

- India has fallen 8 ranks from **142 to 150** out of 180 countries in the world press freedom index. It is lowest ever ranking of India.
- The report reveals a two-fold increase in "polarisation" amplified by information chaos, that is, media polarisation fuelling divisions within countries, as well as polarisation between countries at the international level.



About Press Freedom Index

- It is released by **reporters without borders or Reporters Sans Frontiers (RSF)**. This is being released since 2002 every year. Its head-quarter is in Paris.
- RSF is an independent NGO and has a ***consultative status with UNESCO.***

Ranking of Countries

- Norway (1st) Denmark (2nd), Sweden (3rd) Estonia (4th) and Finland (5th)
- North Korea remained at the bottom of the list of the 180 countries.
- Nepal has climbed up by 30 points in the global ranking at 76th position.
- The index placed Pakistan at 157th position, Sri Lanka 146th, Bangladesh 162nd and Myanmar at 176th position. China was ranked at 175th position.

Criteria for Ranking: The ranking is based on 5 categories:

1. **Political context (India's ranking is 145)** – It is measured in terms of degree of support and respect for media autonomy vis-à-vis political pressure and to hold people in power accountable, and standard of journalism. Eg. Surveillances of prominent journalist by **Pegsus** Software allegedly.
2. **Legal framework (India's ranking is 120)** – It is measured in terms of level of censorship, access to information and protection of sources as well as level of impunity for violence against journalists. E.G Sedation charges on **Assam journalist on editorial**.
3. **Economic context (India's ranking is 149)** – It is measured in terms of policies related to advertisement by both state and non-state actors and media owners' conflict of interests. Allegedly Government gives advertisement on certain media platform to do embedded journalism.
4. **Socio-cultural context (India's ranking is 127) –** It is measured in terms of attack on journalists based on issues of gender, class, ethnicity and religion. It also takes account of inability of journalists to question certain bastion of powers due to cultural constraints.
5. **Safety of journalists (India ranking is 163) –** It is determined by ability to gather news without risk of physical, psychological/emotional and professional harm. Eg reporters are often harassed by police and paramilitaries (Kashmir issue).

Press freedom is protected under **Article 19(1)(a)** of Indian constitution. The SC has time and again observed that the press freedom is the very foundation of democratic structure. An independent press gives voice to voiceless and holds person in power accountable.

ELECTRICITY (AMENDMENT) BILL 2022

- The All-India Power Engineers Federation called for a strike in protest of the government's intention to introduce the Electricity (Amendment) Bill 2022. The bill, which amends the Electricity Act of 2003, aims to bring competition and accountability to electricity distribution.
  - Amid stiff opposition, bill was referred to the Parliamentary Standing Committee on Energy.

Need For The Bill

- To improve the financial health of Distribution Companies (DISCOMS), the weakest link in the entire power value chain
- **Distress in DISCOMS:**
  - Accumulated debt: Rs 5.5 lakh crores
  - Debt to Power Generation Companies (GENCOS): Rs 1 lakh crores
  - Arrears from state governments: Rs 76,000 crores.

Key Provisions Of The Bill

- Allow private sector participation in distribution of electricity post license. Non-discriminatory open access to the use of existing distribution network for all licensees on payment of certain charges
- Appropriate Electricity Regulatory commission to fix minimum and maximum tariff ceilings for supply of electricity
- Load dispatch centers(LDC) to stop supply of electricity to distribution utilities if payment is not made as agreed in the contract
- State governments shall set up Cross-subsidy balancing fund if multiple distribution licenses are granted in the same area
- Provisions relating to State regulatory commissions:
  - Decide on grant of distribution license within 90 days or else application will be considered to have been approved
  - Initiate graded tariff revision proceedings Suo moto if DISCOMS or GENCOS fail to file tariff revision petitions before them
  - Removal of members in case of any neglect of rules or willful violation of the provisions of the act
  - Central government nominee will be a member of the selection committee to recommend appointments to SERCs
- Central Electricity Regulatory Commission (CERC) will grant license for multi-state distribution companies
- It also aims at increasing the share of green energy in the context of global climate change concerns and India's commitments at COP 26.

The main features of the Electricity Act, 2003

1. Generation is being de-licensed and captive generation freely permitted. Metering of electricity supplied is made mandatory. Provisions related to thefts of electricity were made more stringent.
2. Trading as a distinct activity recognised with the safeguard of Regulatory commissions being authorised to fix ceiling on trading margins.
3. For rural and remote areas, stand-alone systems for generation and distribution are permitted.
4. The state governments are required to unbundle State Electricity Boards.
   - Before 2003, the generation, distribution and transmission of electricity were carried out mainly by the State Electricity Boards in various States. Due to the politico-economic situation, the cross-subsidies reached an unsustainable level.
5. Setting up the Central Electricity Regulatory Commission (CERC) and the State Electricity Regulatory Commission (SERC) has been made mandatory. An appellate tribunal to hear appeals against the decision of CERC and SERC. Central government to prepare National Electricity Policy and Tariff Policy.
6. Central Electricity Authority (CEA) to prepare the National Electricity Plan. The act also recognized the role of renewable energy in the country's National Electricity Policy and in stand-alone systems.

THE MEDIATION BILL, 2021

- The Bill aims at institutionalising mediation and establishing the Mediation Council of India.
- In its report, submitted to Rajya Sabha, the Committee recommends substantial changes to the Mediation Bill.

Background

- While there is no standalone legislation for mediation in India, there are several statutes containing mediation provisions. This includes:
  - *Code of Civil Procedure, 1908,*
  - *Arbitration and Conciliation Act, 1996,*
  - *Companies Act, 2013,*
  - *Commercial Courts Act, 2015, and*
  - *Consumer Protection Act, 2019.*
- India is a signatory to the **Singapore Convention on Mediation** (formally the United Nations Convention on International Settlement Agreements Resulting from Mediation).
- Hence, it is appropriate to enact a law governing domestic and international mediation.

Key Features of the Bill:

- **Pre-litigation mediation:**
  - Parties must attempt to settle civil or commercial disputes by mediation before approaching any court or certain tribunals.
  - Even if they fail to reach a settlement through pre-litigation mediation, the court or tribunal may at any stage refer the parties to mediation if they request for the same.
- **Disputes not fit for mediation:**
  - These include disputes: (i) relating to claims against minors or persons of unsound mind, (ii) involving criminal prosecution, and (iii) affecting the rights of third parties. The central government may amend this list.
- **Applicability:**
  - The Bill will apply to mediations conducted in India: (i) involving only domestic parties, (ii) involving at least one foreign party and relating to a commercial dispute (i.e., international mediation), and (iii) if the mediation agreement states that mediation will be as per this Bill.
  - If the central or state government is a party, the Bill will apply to: (a) commercial disputes, and (b) other disputes as notified.
- **Mediation process:**
  - Mediation proceedings will be confidential, and must be completed within 180 days (may be extended by 180 days by the parties). A party may withdraw from mediation after two sessions.
  - Court annexed mediation must be conducted as per the rules framed by the Supreme Court or High Courts.
- **Mediators:**
  - Mediators may be appointed by: (i) the parties by agreement, or (ii) a mediation service provider (an institution administering mediation).
  - They must disclose any conflict of interest that may raise doubts on their independence.
  - Parties may then choose to replace the mediator.
- **Mediation Council of India:**
  - The central government will establish the Mediation Council of India.
  - The Council will consist of a chairperson, two full-time members (with experience in mediation or ADR (Alternative dispute resolution)), three ex-officio members (including Law Secretary, and Expenditure Secretary), and a part-time member from an industry body.
- **Functions of the Council include:** (i) registration of mediators, and (ii) recognising mediation service providers and mediation institutes (which train, educate, and certify mediators).
- **Mediated settlement agreement:**
  - Agreements resulting from mediation (other than community mediation) will be final, binding, and enforceable in the same manner as court judgments.
  - They may be challenged on grounds of: (i) fraud, (ii) corruption, (iii) impersonation, or (iv) relating to disputes not fit for mediation.
- **Community mediation:** Community mediation may be attempted to resolve disputes likely to affect the peace and harmony amongst residents of a locality.

PARLIAMENT PASSED NATIONAL ANTI-DOPING BILL

- The Anti-Doping bill has been passed by the Indian Parliament to provide statutory framework for prohibition of doping in sports in the country.

About doping:

- Doping is the consumption of certain prohibited substances by athletes to enhance performance
- The substances include cannabinoids, narcotics, stimulants, Hormone and metabolic modulators among a host of other substances

National anti-doping agency (NADA)

- It was set up as a registered society in 2005
- It has been implementing the anti-doping rules in the country to control the use of performance enhancing drugs by athletes in sports. It however lacked statutory status.

Key Provisions Of The legislation

- It categorically prohibits doping across the spectrum which includes athletes, support personnel, and other persons engaged in sports
- Therapeutic use exemptions are permitted: if an athlete requires a prohibited substance or method, they can apply for Therapeutic use exemption to the National Anti-doping Agency
- Provides for severe consequences in case of violations:
  - Ban on participation for a certain duration
  - Disqualification of results including forfeiture of medals or winnings
  - Financial sanctions
  - Other consequences as may be prescribed
- To determine the consequences of anti-doping rule violation the existing disciplinary and appeal panel will be reconstituted.
- The Disciplinary panel will have a Chairperson; 4 Vice-Chairpersons (legal experts) and 10 members (medical practitioners and retired eminent athletes)
- Appeals against the decision of the Disciplinary panel will go to the Appeal panel headed by a retired High court Judge as its chairperson
- Provides for the creation of a NADA as a statutory body headed by a director general. The agency is supposed to plan, implement and monitor all anti-doping activities in sports. It Empowers NADA to enter and search premises
- Provides for a National board for anti-doping in sports to make recommendations to the government on anti-doping regulation and oversee the functioning of the NADA
- Legal sanctity for the operation of National Dope Testing Laboratory (NDTL).

CITIZENSHIP (AMENDMENT) ACT 2019

The Supreme Court of India directed the Union government to file its response to the batch of petitions challenging the Citizenship (Amendment) Act 2019 which came into force from January 2020.

Constitutional Provisions Relating To Citizenship In India

- The regime of citizenship in India is governed by Articles from 5-11 of Part-II of the Constitution
- Article 11 explicitly accords to Parliament the power to make laws to regulate citizenship. It was this power that Parliament used when it enacted the Citizenship Act of 1955.
- Entry 17 of the Union list under 7th Schedule provides for "Citizenship, naturalization and aliens" making the subject of citizenship an exclusive domain of union.

Key Provisions Of Citizenship Act, 1955

- It provided for acquisition of Indian citizenship in the following ways:

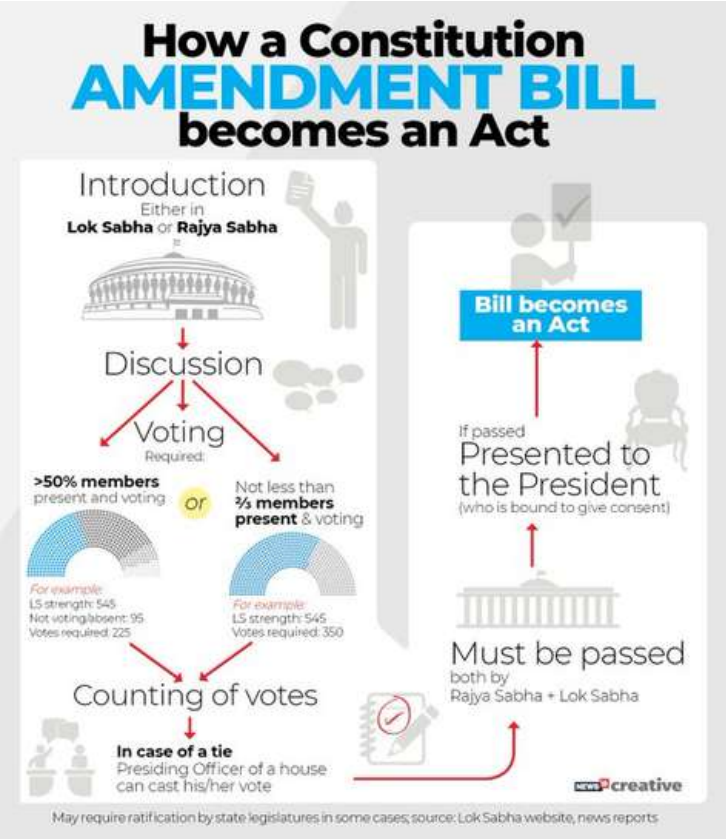
- It defined illegal migrant and prohibited them from acquiring citizenship under aforesaid recognized paths.
  - The illegal migrant is a foreigner who has entered India without a valid passport or travel documents (visa) or with a valid passport or travel documents but remained in the country beyond the permitted period of time.
- It doesn't allow dual nationality or citizenship.

CITIZENSHIP FROM ARTICLES 5 TO 11 UNDER PART II.

- Citizenship at the commencement of the Constitution
- Rights of citizenship of certain persons who have migrated to India from Pakistan
- Rights of citizenship of certain migrants to Pakistan
- Rights of citizenship of certain persons of Indian origin residing outside India
- Persons voluntarily acquiring citizenship of a foreign State not to be citizens
- Continuance of the rights of citizenship
- Parliament to regulate the right of citizenship by law

Key Provisions Of Citizenship Amendment Act (CAA), 2019

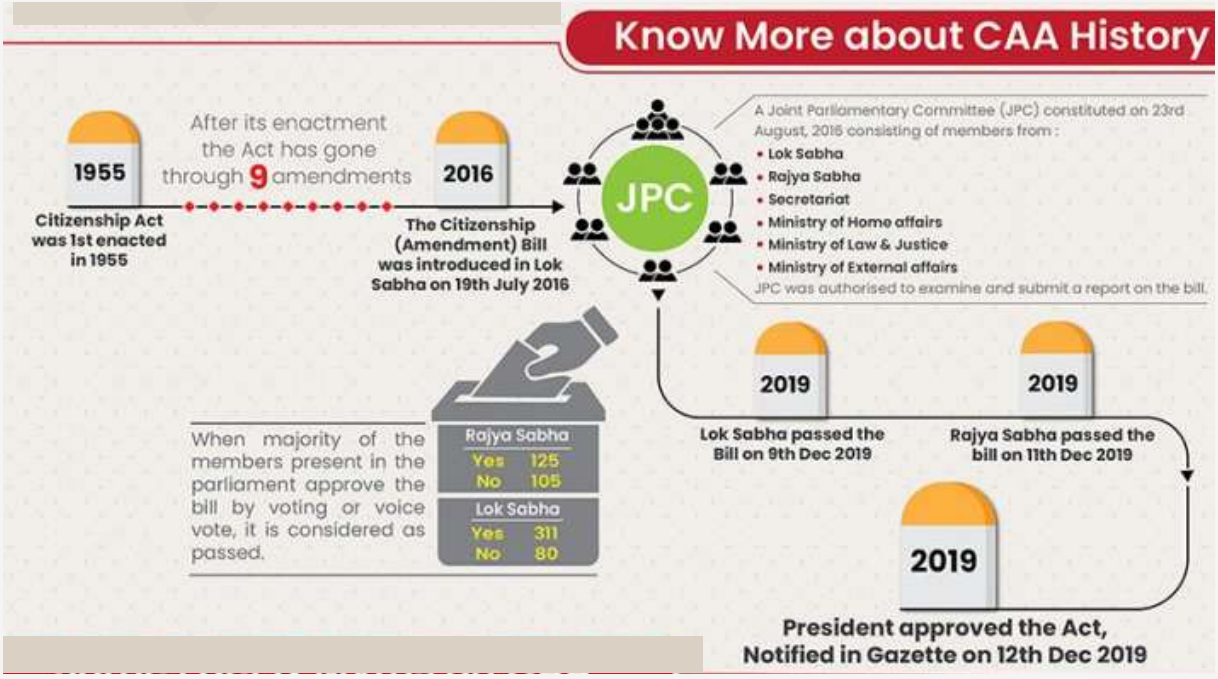
- Provides Indian citizenship to persecuted religious minorities (which include **Hindus, Buddhists, Christians, Parsis, Jains and Sikhs**) from **Bangladesh, Pakistan and Afghanistan** who came to India (without valid documents) on or before **December 31, 2014.**
- The aforesaid category of persons "**shall not be treated as an Illegal migrants**"
- Proposed to protect the applicants under this category from all pending legal cases with regard to 'Illegal migration'.
- The Naturalization requirement is reduced from **11 years to 5 years** for the aforesaid category of persons
- Exemptions: Act would not apply to Tribal areas of Assam, Meghalaya, Mizoram and Tripura as well as to states such as Arunachal Pradesh, Mizoram and Nagaland that are protected by Inner Line Permit under Bengal Eastern frontier Regulation 1873.



CAA and Article 14 of the Indian Constitution

- Article 14 is at the center of debate on citizenship amendment act 2019. This article provides that state shall not deny to any person equality before law or equal protection of laws within the territory of India. It therefore places a specific obligation on the state to treat all people regardless of whether they are citizens or non-citizens equally.
- **Differentiation & classification are however permissible** under Article 14 but must satisfy following 3 tests as per Supreme Court:

1. Classification is based on 'Intelligible Differentia' (good reasons).
2. There is a Legitimate state objective.
3. Differentia drawn has a rational nexus with the objective that the law seeks to achieve.



QUOTA \BENEFITS FOR DALIT MUSLIMS AND CHRISTIANS

- In response to various petitions filed challenging Paragraph 3 of 1950 Presidential order, the Supreme Court asked the central government to clarify its stance on the issue of extending Scheduled castes (SCs) reservation benefits for Dalits who have converted to Islam or Christianity.
- Dalit Muslims and Dalit Christians have long been demanding Scheduled Cates status and reservations for themselves and have filed petitions challenging the Paragraph 3 of 1950 Presidential order.

Supreme Court Judgment: Soosai V. Union of India 1985

- In this case, the constitutional validity of Paragraph 3 of 1950 order was challenged as being discriminatory on the basis of religion.
- In this Judgment, the SC accepted that the Caste continued even after conversion from one religion to another but insisted for 'material' to show that the handicaps of persons of Scheduled Castes had remained the same even after conversion to Christianity.
- The Court was not satisfied with the material placed before it and therefore decided in favour of the constitutionality of 1950 order.

Does The Religion-Based Bar On Reservations Apply To Converted Scheduled Tribes (STs) And OBCs?

Unlike SCs, the reservation benefits for STs and OBCs are not linked to one's religious identity and as a result of which converted STs and OBCs are claiming the benefits of reservation.

Grounds On Which Case Is Made For Extending SC Status To Dalit Muslims And Dalit Christians

- Restrictions imposed on them on the ground of religion was a violation of the fundamental right to equality (Art 14, 15(1)), religious freedom and non-discrimination (Art 25)
  - Reports by Ranganath Misra Commission (submitted in 2007) and by Satish Deshpande stated that Dalits who embrace Christianity and Islam continue to suffer extreme social educational and economic hardships.
- Deprivation from various constitutional and legal safeguards that have been made available to other Dalits.

- Ranganath Misra Commission 2004, in its report, recommended that
  - Paragraph 3 of the Constitution (Scheduled Castes) Order 1950 should be made religion neutral.
  - But no action has been taken by the government on this recommendation "on the ground that it was not substantiated by field studies".
- Rajinder Sachar Committee 2005 observed that "social and economic situation of Dalit Muslims and Dalit Christians did not improve after conversion".
- A study commissioned by National Commission for Minorities, under the leadership of Satish Deshpande, made a strong case for extending SC status to Dalit Christians and Dalit Muslims. It was also not considered reliable due to insufficient data.

DRAFT TELECOMMUNICATION BILL 2022

- Central government, in an effort to overhaul the regulatory framework of the Indian Telecom space, had come up with a new Draft Telecommunication Bill 2022 and invited feedback and suggestions from public over it.

Key Proposals Of The Draft Bill

- Internet-based and OTT communication services such as WhatsApp, Zoom, Facetime, Google Meet etc. to come under definition of Telecom services.
- OTT services will need licenses to operate. Entities that have been granted licence have to identify the user of their platforms via a verifiable mode of identification
- To prevent cyber fraud, the Bill provides that the identity of the person sending a message through telecom services shall be available to a user receiving it.
- Spectrum should primarily be allocated through auction; but for specific functions related to government and public interest like defense, transportation and research the spectrum is assigned through administrative process.
- Equip government with power to intercept communication in the interest of sovereignty, integrity or security of India, friendly relations with foreign states, public order, or preventing incitement to an offence.
- Power to government to terminate spectrum allocations partly or in full, if it determines that assigned spectrum has remained unutilized for insufficient reasons over a period of time.
- Dilution in some crucial powers and responsibilities of the Telecom Regulatory Authority of India (TRAI):

By eliminating the need for the government to seek regulator's recommendations before issuing licenses

By removing the provision that empowered TRAI to request the government to furnish information or documents necessary to make such recommendations

- TRAI may direct operators "to abstain from predatory pricing"
- Simplify the framework for mergers, demergers, acquisitions or other forms of restructuring, by only requiring intimation to the licensing authority
- In case a telecom entity in possession of spectrum goes through insolvency or Bankruptcy, the spectrum assigned to that entity will revert to central government control.
- Right of way enforceable at the state and municipal corporation level. A public entity that owns the land has to Grant right-of-way permission expeditiously unless it gives a substantive ground for refusal. This legal framework is key to the rollout of 5G services.
- Universal Service Obligation Fund (USOF) which was created under the Indian Telegraph Act, 1885, will be referred to as the "Telecommunication Development Fund".
    - USOF is name for the levies collected by the Centre from telecom companies with a view to ensuring funding & development of communication services in rural & underserved areas.

AMENDMENTS TO BCCI'S CONSTITUTION

The Supreme Court (SC) allowed amendments proposed to the constitution of the Board of Cricket Control of India (BCCI) to relax the mandatory cooling-off period requirement.

Relaxation In Cooling-Off Period

- Cooling-off period is a duration till which one can't contest election for a particular post in BCCI or at state level after completion of their tenure. It was introduced into BCCI's constitution based on RM Lodha committee recommendations.
    - In 2015, the Supreme Court had appointed a committee headed by retd. Chief Justice of India R M Lodha to recommend reforms for cricket in India particularly suggesting amendments to the processes followed by BCCI
    - The committee suggested various changes within the BCCI such as the appointment conditions of the CFO and CEO, age of office bearers, advertisements during the IPL matches, and appointment of the Comptroller and Auditor General (CAG) official.
    - In 2016, the Supreme Court upheld the recommendations made by the Lodha committee, paving the way for a major change within the BCCI.
- Rationale behind cooling-off period: To prevent the concentration of power in the hands of few individuals in BCCI's governance structures
    - To safeguard cricket administration from any vested personal interest
    - To bring new blood into the administration
- The current cooling-off regime is based on 2018 order of the SC. In its latest Judgment, SC agreed to give further relaxation to cooling-off period.

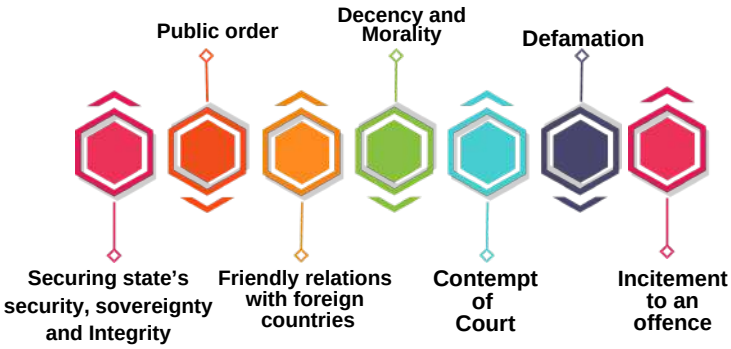
Earlier Regime On Cooling Off Period	New Regime
An officer bearer who has held any post for two consecutive terms either in a state association or in the BCCI or a combination of both must undergo a three-year cooling-off period. This means that:	The cooling-off period of 3 years would come into effect only if a person serves two consecutive terms at the BCCI or the State Association. To put it simply:
1. One who serves as an office bearer in a state association for 2 consecutive terms would have to undergo a cooling-off period. 2. One who serves as an office bearer of BCCI for 2 consecutive terms would have to undergo a cooling-off period. 3. One who served as an office bearer in a state association for one term followed by one term as an office bearer of BCCI similarly have to undergo cooling-off period.	1. One who serves as an office-bearer in the State Association for 2 consecutive terms has to undergo a cooling off period. 2. One who serves as an office-bearer in the BCCI for 2 consecutive terms has to undergo a cooling off period. 3. One who has been part of a state association for two consecutive three-year terms will not have to undergo a cooling-off period if they are contesting for a BCCI post — and, if elected, they can continue in the BCCI for six years. In effect, an individual can continue to remain in a state body and the BCCI together for an unbroken period of 12 years.

Other Amendments Approved By Supreme Court To BCCI Constitution

1. Currently the 'ministers', 'government servants' or 'persons holding public offices' are barred from being part of cricket administration. SC agreed to remove 'public office' from the ambit of the disqualification.
2. Currently a person can be disqualified from contesting BCCI or state elections if they are charged for committing any criminal offence. SC agreed to apply disqualification only to those persons 'convicted' of an offence.
3. Bar on office bearers of other sports bodies from being part of BCCI or state associations has also been lifted.

PROVISIONS AND RULES GOVERNING CIVIL SERVANTS RIGHT OF FREE SPEECH

Article 19(1)(a) of the constitution guarantees fundamental right of freedom of speech and expression to citizens (which include civil servants) subjected to reasonable restrictions under Article 19(2) in the interest of:



Rule 9 of the Central Civil Services (Conduct) Rules of 1964

1. It states that "No government servant shall make any statement of fact or opinion which has the effect of an adverse criticism of any current or recent policy or action of the Central government or a state government.
2. It is imposed on them:
3. To prevent chaos in governance and ensure administrative stability
4. To establish discipline in the organization

Rule 5 of the All India Services (Conduct) Rules, 1968 deals with the involvement of a government employee in politics and elections. It places reasonable restrictions on the expression of opinions which extend to political issues.

1. Sub Rule 1 of Rule 5 prohibits "government servants from being members of or being associated with any political party or political activity."
2. Sub Rule 4 of Rule 5 states that "no member of the Service shall canvass or otherwise interfere with, or use his influence in connection with, or take part in, an election to any legislature or local authority.

Judicial Verdicts On Civil Servants Freedom Of Speech

- **Lipika Paul v/s The State of Tripura (2020) judgment: Tripura High Court held that "A government servant is entitled to hold his/her own beliefs and express them in the manner one desired, subject to not crossing the borders laid down in the conduct rules which were applicable in Tripura.**
- **Kerala High Court Judgment (2018): One can't be prevented from expressing his views merely he is a government employee. In a democratic society every institution is governed by democratic reforms. Healthy criticism is a better way to govern public institution.**

COMPETITION COMMISSION OF INDIA (CCI)

The CCI has clubbed complaints against Google by several news agencies like News Broadcasters & Digital Association (NBDA), Indian Newspaper Society (INS) and the Digital News Publishers Association (DNPA).

About Section 144 of CRPC

1. The NBDA filed a complaint against the tech giant Google under **Section 19(1)(a) of the Competition Act, 2002** before the CCI.
   a. **Section 19(1)(a)** states that the Competition Commission may inquire into any alleged contravention of anti-competitive agreements or abuse of dominant position either on its own motion or on receipt of any information.
2. **Composition:** It consists of a Chairperson and 6 Members appointed by the Central Government who shall be persons of ability, integrity, and:
   a. Has been, or is qualified to be a judge of a High Court.
   b. Has special knowledge of, and professional experience of not less than 15 years in international trade, economics, business, commerce, law, finance, accountancy, management, industry, public affairs, administration, or in any other matter which, in the opinion of the Central Government, may be useful to the Commission.

1. Its **appellate authority is National Company Law Appellate Tribunal (NCLAT)** constituted under section 410 of the Companies Act, 2013. Its functions are:
   a. To hear and dispose-off appeals against any direction issued or decision made or order passed by the Commission.
   b. To adjudicate on a **compensation claim** arising from Commission findings or Tribunal orders in an appeal against any findings of the Commission.
2. CCI is a member of international organizations like **International Competition Network (ICN), BRICS Competition Authority and Organization for Economic Co-operation and Development (OECD)**.

The Competition (Amendment) Bill, 2022

- Recently, the Competition (Amendment) Bill, 2022 was introduced in the Indian Parliament by the Ministry of Finance.
- The Bill seeks to amend the Competition Act, 2002, and to bring the Act in line with modern conditions, including the development of new digital technology.
- Later, the Bill was referred to the **Standing Committee on Finance** for further scrutiny.

The Key Amendment Includes

- **Expansion of scope of the combinations** to include transactions with a **value above Rs. 2000 crores.**
  - Combinations imply mergers, acquisitions, or amalgamation of enterprises.
- **Reduction in the time period** for approval of combinations from 210 days to 150 days.
- Modification in the definition of control for the purpose of classification of combinations.
  - The Act defines "control" as control over the affairs or management by one or more enterprises over another enterprise or group.
  - The Bill **modifies the definition of control** as the ability to exercise material influence over the management, affairs or strategic commercial decisions.

COOPERATIVES ON GEM

The Union Cabinet, recently gave its approval for expanding the mandate of Government e-Marketplace (GeM) to allow procurement by Cooperatives as buyers on GeM.

Government e-Marketplace (GeM)

- It was launched in 2016, by the **Ministry of Commerce and Industry** to create an **open and transparent procurement platform**, facilitating online procurement of common use **Goods & Services** for government buyers.
- Later, a Special Purpose Vehicle (SPV) by the name of GeM SPV was set up as the **National Public Procurement Portal** in 2017.
- The portal is **open for all government buyers**—Central and State Ministries, departments, public sector enterprises, autonomous institutions, local bodies, etc.
- Till now, private-sector buyers were not allowed to purchase through the platform, although **sellers can be from both the segments** – private and government. Sellers range from small businesses to large companies.
- It also provides the tools of **e-bidding and reverse e-auction** to facilitate the government users achieve the best value for their money.
- GeM has made it mandatory for sellers to enter the **Country of Origin** while registering all new products on GeM so that the buyers can choose to buy only those products that meet the minimum local content criteria.
- **SPV** is an entity which is **formed for a single, well-defined purpose** and can be formed for any lawful purpose. It is, primarily, **a business association of persons or entities** eligible to participate in the association.

Implementation Roadmap

1. GeM will offer a dedicated onboarding process for cooperatives, technical infrastructure to support additional users on existing portals and other assistance to them.
2. At the same time, to protect the sellers' interests and ensure timely payments, the modalities of payment systems will be decided by GeM in consultation with the cooperation ministry.
3. To cover for these incremental costs, GeM may charge an appropriate transaction fee from cooperatives. This will be planned to ensure self-sustainability of operations for GeM, and hence no major financial implication is expected for government.

Significance of GeM

- GeM is *transparent, efficient, has the economy of scale and is speedy in procurement.*
- The Gross Merchandise Value (GMV) on GeM has grown at a compound annual growth rate (CAGR) of over 84.5% from FY 2018-19 to FY 2021-22.
  - **GMV** is the total amount of sales a company makes over a specified period of time, typically measured quarterly or yearly.
- GeM has *delivered 178% growth in GMV in the FY 2021-22* and has crossed Rs 1 lakh crore in FY 2021-22 alone, which is higher than the cumulative GMV till FY 2020-21.
- Different independent studies, including those by the World Bank and National Economic Survey 2021, have highlighted *substantial savings due to GeM's ability to pool in more participation and provide cost effective options.*

ENFORCEMENT DIRECTORATE

Several political personalities are being probed by Enforcement Directorate due to money laundering and economic offence cases.

Enforcement Directorate (ED)

- ED is a multi-disciplinary organization and a law enforcement agency. It is **mandated with investigation of economic offences and violation of foreign exchange laws.**
- ED was established as '**Enforcement Unit'** *under Dept. of Economic Affairs* for handling exchange control laws under Foreign Exchange Regulation Act (FERA) 1947. It was renamed as 'ED' in 1957. The administrative control of ED was transferred to *Dept. of Revenue in 1960.*
- In 1973, a new FERA was enacted. The control of ED was transferred to *Department of Personnel and Training (DoPT) for a brief period.* Later, it was again transferred to Dept. of Revenue.
- Post LPG reform, in 1999, FERA was replaced by the *Foreign Exchange Management Act (FEMA).* ED is entrusted with enforcement of FEMA now.

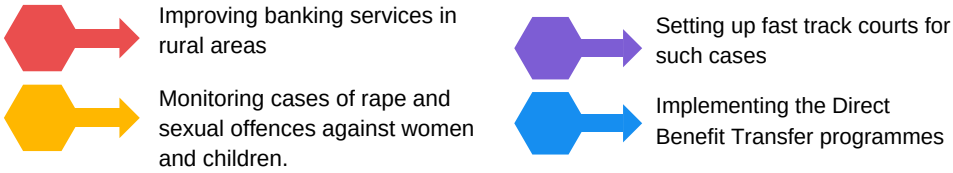
  - ED also enforces the Prevention of Money Laundering Act, 2002 (PMLA) and the Fugitive Economic Offenders Act, 2018 (FEOA).
- ED is also **sponsor agency under Conservation of Foreign Exchange and Prevention of Smuggling Activities (COFEPOSA) Act 1974**. It is empowered to sponsor cases of preventive detention with regard to contraventions of FEMA.
- ED renders cooperation with foreign countries and multi-lateral organization in matters related to money laundering and restoration of assets.

NORTHERN ZONAL COUNCIL DISCUSSES SECURITY, WATER SHARING

The Union Home minister chaired the 30th meeting of the Northern Zonal Council held in Jaipur, Rajasthan.

What are the Issues discussed in the Meeting?

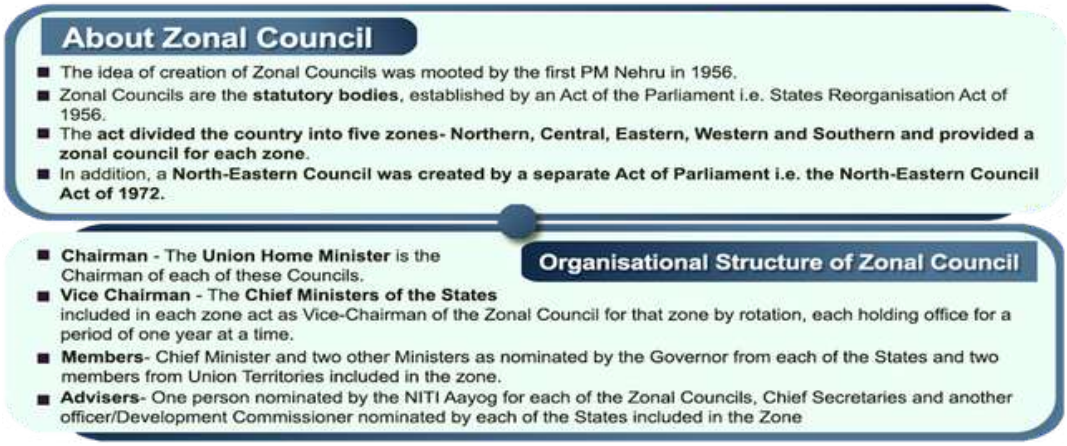
- A total of 47 issues were discussed at the meeting of which four were identified as important topics at the national level.



- Union home minister said a committee would be formed under the Union home secretary to formulate a strategy to fight cyber-attacks.

Functions of Zonal Council: It may discuss, and make recommendations with regard to –

- Any matter of common interest in the field of economic and social planning.
- Any matter concerning border disputes, linguistic minorities or inter-State transport.
- Any matter connected with or arising out of the States Reorganisation Act..



NITI AAYOG-COMMISSIONED REPORT - COST OF ENVIRONMENT CONSERVATION

- NITI Aayog commissioned a report titled '**Economic Impact of Select Decisions of the Supreme Court and National Green Tribunal of India'.**
- NITI Aayog had commissioned **CUTS (Consumer Unity and Trust Society) International,** a Jaipur-based policy research and advocacy group.

Major Highlights of the Report

- **At least 75,000 people were adversely impacted** with around **16,000 workers losing their jobs,** due to five major environment-related judgements. 5 judgements By The SC and NGT,
  - Stopping iron ore mining in Goa.
  - Shutting down Sterlite Copper's Tuticorin plant in Tamil Nadu
  - Halting consultation of Mopa Airport in Goa
  - NGT sand mining ban case
  - Halt on construction activities in Delhi-NCR.
- The **industry lost close to Rs 15,000 crore in revenues**, and workers lost around Rs 500 crore of income.
- The **government lost revenue worth Rs 8,000 crore** from mid-2018 to mid-2021.
- If this revenue had been spent as capital expenditure, the economic returns would have been to the tune of Rs 20,000 crore.

Suggestions Given In This Report

- The **judiciary needs to be equipped well to balance economic & ecological interests** of the country.
- For better quality of judges, the law on ***National Judicial Commission*** could be revived.
- It recommended that **selection procedures of judges should also be changed**.
- ***Courts should undertake economic impact analyses*** facilitated by a group of experts including economists, environmentalists, and sociologists, to address and adjudicate public interest cases involving economic sensitive matters.

NATIONAL E-GOVERNANCE SERVICE DELIVERY ASSESSMENT 2021

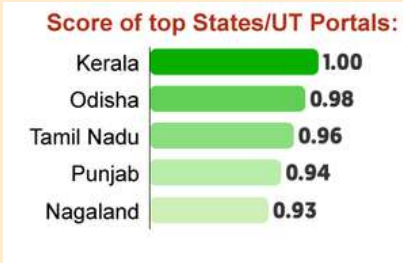
Union Ministry of Personnel, Public Grievances and Pensions has released the second edition of the National e-Governance Service Delivery Assessment (NeSDA) 2021.

About NeSDA

- Department of Administrative Reforms & Public Grievances (DARPG) had constituted NeSDA in 2019. This drive was part of DARPG's mandate to boost the e-government endeavors and drive digital government excellence.
- It is a **biennial study** which assesses States, UTs, and focus Central Ministries on the effectiveness of e-Governance service delivery.
- NeSDA helps the respective governments improve their delivery of citizen centric services and shares best practices across the country.

NeSDA 2021

- NeSDA 2021 covers services across **seven sectors** -- Finance, Labour & Employment, Education, Local Governance & Utility Services, Social Welfare, Environment and Tourism sectors.
- The portals assessed were classified into one of two categories.
  - **1st category:** The designated portal of the respective government that provides a **single window access** to information and service links. These portals were assessed on four parameters, viz., ***Accessibility, Content Availability, Ease of Use, and Information Security & Privacy.***
  - **2nd category:** It comprises of the **Services Portals** which focus on the digital delivery of services and provide service-related information. The Services Portals were assessed on an additional three parameters: ***End-service Delivery, Integrated Service Delivery, and Status & Request Tracking.***



Government Initiatives

- **In Maharashtra Government has issued a resolution allowing citizens to inspect records at district level and local bodies under RTI for two hours every Monday. It will bring transparency.**

MISSION KARMAYOGI:

The capacity building programme will be delivered through an Integrated Government Online Training or iGOT-Karmayogi digital platform, with content drawn from global best practices rooted in Indian national ethos.

E- KRANTI:

Electronic delivery of services- transforming e-gov by delivering all government services electronically to the citizens through integrated and interoperable systems.

ASPIRATIONAL DISTRICTS PROGRAMME:

It is aimed at transforming 115 most backward districts with focused interventions in the field of health and nutrition, education, agriculture and water management, financial inclusion and skill development.

GOVERNMENT E- MARKETPLACE (GEM)

It was launched in 2016 for single window online procurement.

NATIONAL DATA SHARING AND ACCESSIBILITY POLICY (NDSAP)

to promote data sharing and enable access to Government of India owned data for national planning and development.

NATIONAL E-GOVERNANCE PLAN 2006

- **for improving service delivery and ensuring efficiency, transparency and reliability.**
- Programs launched under e-Governance: Pro-Active Governance and Timely Implementation (PRAGATI), Digital India Program, MCA21 (to improve the speed and certainty in the delivery of the services of Ministry of Corporate Affairs), Passport Seva Kendra (PSK), online Income tax return, etc.

SEVOTTAM MODEL

It was developed in 2006 that access the quality of internal process and their impact on quality-of-service delivery.

LEGAL REFORMS:

The Central Government has scrapped nearly 1,500 obsolete rules and laws with an aim to bring about transparency and improve efficiency.

RIGHT TO INFORMATION:

RTI Act, 2005 gives greater access of the citizen to the information which in turn improves the responsiveness of the government to community needs Government of India commenced the exercise to formulate Citizen's charters in 1996 for all states and UTs.

POLICE REFORMS:

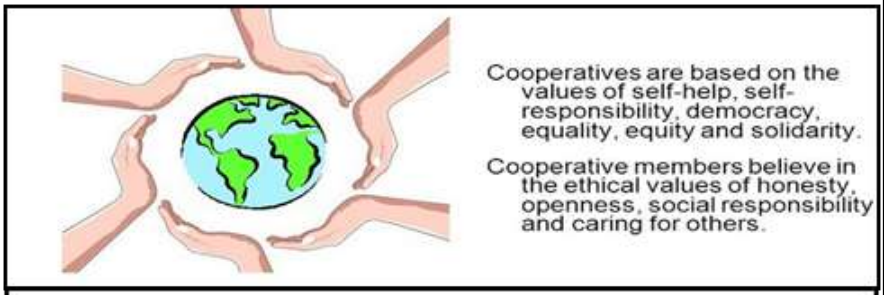
Modernizing police forces and implementing the Model Police Act of 2015. Reform of FIR lodging mechanism, including introducing filing e-FIRs for minor offences.

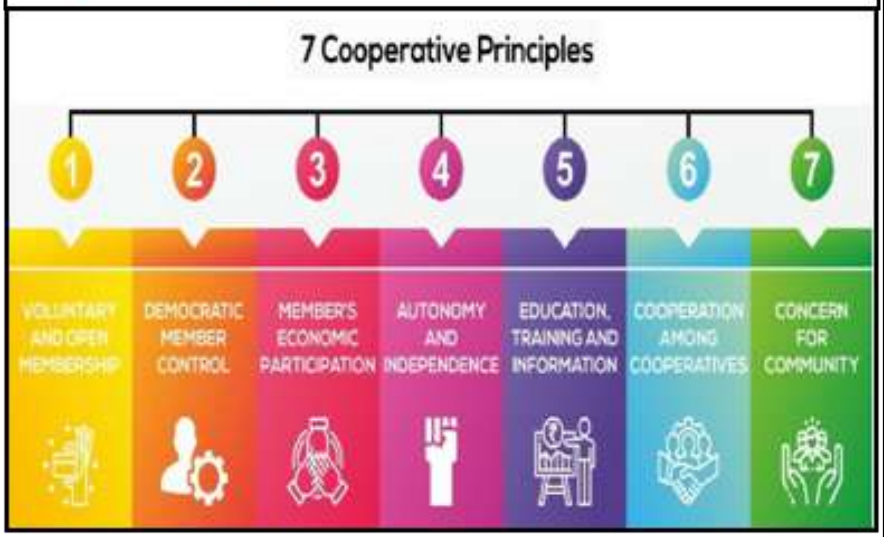
COOPERATIVES MODEL

Union Cooperation Minister Amit Shah has called the cooperative model a 'middle path' of economic development on the 100th International Day of Cooperatives. He termed Capitalism and communism as extreme models of economic development which have caused unbalanced development.

What Are Cooperatives?

- Cooperatives are people-centred enterprises owned, controlled and run by and for their members to realise their common economic, social, and cultural needs and aspirations.
- They include 95,000 Primary Agricultural Cooperative Societies, both credit and non-credit. Currently, only 63,000 PACs are operational.
- Maharashtra has the highest number of cooperative societies in the country





Regulation of Cooperatives

- The item "Cooperative Societies" is in the State List (via entry 32). However, multistate cooperative societies are regulated by the Multi State Cooperative Societies (MSCS) Act, 2002.
- In July 2021, a new ministry of cooperation was created for cooperative societies in the country. It has been created with the vision of 'Sahakar se Samriddhi' (prosperity through cooperatives).

97th Constitutional Amendment And Cooperatives

The 97th constitutional amendment was passed in 2011, dealt with issues related to effective management of co-operative societies in the country.

- It had amended Article 19(1)(c) to give protection to the cooperatives and inserted Article 43 B and Part IX B, relating to them.

In July 2021, Supreme Court quashed part of the 97th amendment.

- It held that the Parliament could not have introduced a law regulating cooperative societies within states, without first getting it ratified from half of the state legislatures.

However, the SC stated that the act will remain valid with regard to multistate cooperative societies.

Key Suggestions on New Cooperative Policy

Land available with PACS can be leveraged for expanding the resource base of cooperative societies. PACS have more land than the Railways

Sahakar se Bajar: PACS should be given better market linkages under the label "Sahakar se Bajar" (cooperative to market).

Electronic voting to be implemented in cooperative societies

Foreign Direct Investment (FDI): Allow FDI in the cooperative sector, particularly in PACS to improve infrastructure

Upper age limit: Fix an upper age limit of 70 years for board members in cooperative societies.

Technology upgradation: Creation of a technology upgradation fund .

AIM PRIME PLAYBOOK

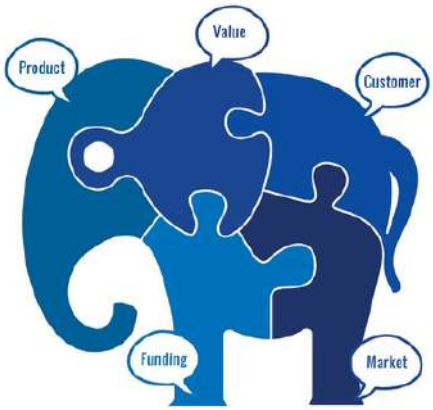
The AIM-PRIME Playbook was launched at the Dr Ambedkar International Center, New Delhi by NITI Aayog. This will help academician to launch deep-tech spin-off.

Atal Innovation Mission (AIM)

It is Government of India's flagship initiative to create and promote a culture of innovation and entrepreneurship across the country.

AIM PRIME

- In April 2021, **NITI Aayog**, in collaboration with the **Bill & Melinda Gates Foundation** launched AIM-PRIME (Program for Researchers on Innovation, Market Readiness and Entrepreneurship).
- The programme was aimed at promoting **science-based, deep technology ideas to market, through training and guidance** over a period of **12 months** using a blended learning curriculum.
- The programme included several lectures and hands-on sessions on various topics related to the lab-to-market journey.
- It will be implemented by Venture Centre - a non-profit technology business incubator hosted by **Council of Scientific And Industrial Research–National Chemical Laboratory (CSIR-NCL).**



Objectives of AIM

- To develop new programmes and policies for fostering innovation in different sectors of the economy.
- To provide platforms and collaboration opportunities for different stakeholders of the process.
- To create an umbrella structure to oversee the innovation & entrepreneurship ecosystem of the country.

AIM-PRIME Playbook

- It is a guide for science-based entrepreneurs and ventures. It aims to be a comprehensive resource for academic researchers, entrepreneurs and incubators involved in building science-based enterprises from lab to-market.
- It consists of the **PRIME Library**, a curated resource shared by the faculty and expert mentors associated with the program, and the **PRIME Videos,** an open-access video collection of the lectures delivered as part of the PRIME Classroom.

FOREIGN CONTRIBUTION (REGULATION) AMENDMENT RULES, 2022

Ministry of Home Affairs notified the changes in Foreign Contribution (Regulation) Act (FCRA) and its rules. The law sought to regulate foreign donations to individuals and organizations so that they could act in accordance with the values of a sovereign democratic republic.

Foreign Contribution Regulation (Amendment) Act 2020:

- It was first enacted in 1976. Later on, it was amended in 2010 and subsequently in 2020 where by new measures were introduced each time.
- All such NGOs who intend to receive foreign funding are required to get registered themselves under FCRA. In 2015, MHA notified a new rule which requires NGOs to mandatorily give an undertaking that the acceptance of foreign funds is not likely to prejudicially affect the sovereignty and integrity of India or impact friendly relations with any foreign state or communal harmony.
- In 2017, the government through a finance act paved the way for political parties to receive foreign funding outside the ambit of FCRA. This action of government was criticized because it is discriminatory and non-transparent in nature.

FCRA Amendment 2020 :

- Expansion of definition of public servant to bar them from foreign funding: The Act prohibits the receipt of foreign funds by Candidates for elections, Journalists or newspaper and media broadcast companies, Judges and government servants, Members of legislature and political parties or their office-bearers, and Organisations of a political nature.
- Prohibition of **transfer of foreign contribution** from NGO to any other person/organization.
- Mandatorily having "FCRA account" designated in SBI branches, Delhi for receiving foreign contribution.
- Reduction in use of **foreign contribution** for administrative expenses from 50% to 20%.
- As per FCRA 2010, the government may suspend the registration of a person for 180 days in case of non-compliance of FCRA. However, FCRA amendment 2020 adds that such suspension may be extended up to an additional 180 days.
- Making Aadhaar mandatory for registration, while in case of a foreigner, they must provide a copy of the passport or the Overseas Citizen of India card for identification.
- **Insertion of Rule 9** – which deals with obtaining registration or prior permission to receive foreign funds and stop utilisation of foreign funds through enquiry.

The Government came up with new Rules in Nov' 2020.

The new rules made new FCRA registrations more stringent

- Any organisation that wants to register itself under FCRA shall be in existence for **three years.**
- Further, it should have spent a minimum amount of **₹15 lakh** on its core activities for the benefit of society during the last 3 financial years.
- However, the rules for declaring an organisation as a "political organisation" have been relaxed, with student, farmer, worker and youth organisations being exempted unless they participate in "active politics or party politics". Political organisations can't receive foreign funds.
- Any organisation seeking prior permission for receiving a specific amount from a specific donor for carrying out specific activities or projects will have to submit a specific commitment letter from the donor indicating the amount of foreign contribution & the purpose for which it is proposed to be given.
- If the value of foreign contribution is over Rs 1 crore, it may be given in installments. However, the second and subsequent installment shall be released after submission of proof of utilisation of 75% of the foreign contribution received in the previous installment.

- MHA in **January 2021** again laid out a series of guidelines and charter to make NGOs and banks comply with new provisions of the amended FCRA.
  - The charter for banks says that "donations received in Indian rupees" by NGOs from "any foreign source even if that source is located in India at the time of such donation" should be treated as "foreign contribution".
  - Also, it stated foreign contribution has to be received only through banking channels and any violation by the NGO or by the bank may invite penal provisions of FCRA.

New Changes Made In FCRA

- **Remittances:** Now it will allow Indians to receive up to ₹ 10 lakh in a year from relatives staying abroad without informing the authorities. The earlier it was ₹ 1 lakh.
  - If the amount exceeds, the individuals will now have 90 days to inform the government instead of 30 days earlier.
  - Political parties, legislature members, election candidates, judges, government servants, journalists and media houses among others will no longer be prosecuted if they receive foreign contribution from relatives abroad and fail to intimate the government within 90 days (earlier it was 30 days).
- **Offences:** Made five more offences under the FCRA "compoundable", making 12(Earlier 7), instead of directly prosecuting the organisations or individuals. The amount of penalty ranges from ₹ 10,000 to ₹ 1 lakh or 5% of foreign funds, whichever is higher.
- **Application of obtaining 'registration' or 'prior permission':** It now gives NGOs 45 days (instead of 30 days under the earlier rule), to intimate the Union Home Ministry about one or more bank accounts opened for utilisation of foreign funds received.
- **Bank account changes:** Time limit has now been increased from 15 days to 45 days, where NGOs were required to inform the ministry if there was a change in bank account, name, address, purpose, objectives or key members.
- **Transparancy:** Anyone receiving foreign funds under the FCRA will now be required to comply with the existing provision of submitting an audited statement of accounts on receipts and utilisation of the foreign contribution for each fiscal year.
  - As a result, a provision requiring an NGO or individual receiving foreign funds to declare such contributions on its official website every quarter has been repealed.

REGULATION OF SOCIAL MEDIA INTERMEDIARIES

- The Minister for MeitY has proposed a government appointed Appeals' Committee, as a fresh draft of amendment to IT Rules 2021, to look into complaints of 'content moderation' against social media companies.
- However, he has further added that the government is 'open' to self-regulation of social media companies if tech-giants were to handle users' grievances and appeals in a satisfactory manner.

Need For New Proposal Of Appointing Appeals' Committee

- Lack of accountable and responsible system of self-regulation by social media intermediaries.
- De-platforming or removing a person from a social media platform by the social media intermediaries without giving him/her opportunity to explain their action is violative of principle of natural justice and Article 14 (right to equality) of Indian Constitution.

Working of the Committee

- The Grievance Appellate Committee is set up to provide an alternative to a user to file an appeal against the decision of the Grievance Officer rather than directly going to the court of law.

- These committees will be empowered to review and possibly reverse content moderation decisions taken by social media companies like Facebook, Twitter and YouTube.
- The Committee has to dispose of the appeals within 15 days of receiving them and its decision will be binding on the intermediaries or the large social media companies concerned.
- Intermediaries have to acknowledge suspension, removal or blocking of any user account or any complaint from its users in the nature of request for removal of information or communication link within 24 hours.
- The draft also proposes to place additional responsibilities on grievance officers.
  - It suggests that if a user complains about content which is "patently false", infringes copyright, and threatens the integrity of India, among other things, a grievance officer will have to expeditiously address it within 72 hours.
  - Current rules require these officers to address all content-related complaints within 15 days.

AMRIT SAROVAR MISSION

Union Government has asked the Ministry of Railways and National Highways Authority to use the soil/silt excavated from ponds/tanks in all districts across the country under the Amrit Sarovar Mission for their infrastructure projects.

New Changes Made In FCRA

- It is a mission to conserve water for the future. It was launched in April 2022.
- It aims at developing and rejuvenating 75 water bodies in each district of the country as a part of celebration of Azadi ka Amrit Mahotsav.
- Mission Amrit Sarovar is to be completed by 15th of August 2023. Around 50,000 Amrit Sarovar may be constructed in the country. Each of Amrit Sarovar will have approx. area of 1 acre with a water holding capacity of 10,000 cubic meters.
- The mission works through the states and Districts, by refocusing on various scheme such as Mahatma Gandhi NREGS, 15TH Finance Commission Grants, Pradhan Mantri Krishi Sinchayee Yojana (PMKSY) sub scheme such as Har Khet Ko Pani etc.
- **Implementation:** The site of Amrit Sarovars will be approved by special Gram Sabha, which will also name Panchayat Partinidhi, who will on its behalf supervise development of Amrit Sarovar.
- **Technical partner:** Bhaskaracharya National Institute for Space Application and Geo-informatics (BISAG-N)
- On every 15th August, National Flag hoisting will be organized on every Amrit Sarovar site. The mission has been launched with a whole Government Approach with following Ministries/Departments namely -
  - Ministry of Rural Development (Department of Rural Development/ Department of land resources)
  - Ministry of Jal Shakti (Department of Drinking Water and sanitation/ Dept. of Water Resources)
  - Ministry of Culture
  - Ministry of Panchayati Raj
  - Ministry of Forest, Environment and Climate Change

SOCIETY

CREATE MORE WOMEN-CENTRIC NREGS WORK

Parliamentary Standing Committee on Rural Development and Panchayati Raj has submitted its recommendations w.r.t. Mahatma Gandhi National Rural Employment Guarantee scheme. The committee has recommended to emphasise more on women-centric work under the scheme.

Major Recommendations

- Women-centric work –
  - The committee noted that the average percentage of women's participation in the workforce under the MGNREG scheme, for more than 5 years, has been around 50% mark which is way higher than the stipulated one-third mark.
- Wage parity –
  - The committee reiterates that the Ministry of Rural Development needs to bridge the wage disparity among states by notifying a uniform wage rate structure addressing through suitable linkage to the inflation index.

Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS)

- The National Rural Employment Guarantee Act (NREGA) was notified in September, 2005.
  - In 2009, through an amendment, the name of the Act was changed to **Mahatma Gandhi National Rural Employment Guarantee Act** (MGNREGA).
- **Mandate**: To provide at least 100 days of guaranteed wage employment in a financial year to **every rural household** whose adult members volunteer to do **unskilled manual work.**
- **MGNREGS** was created as the means to implement the Act. It is a **Centrally-Sponsored Scheme** i.e. the scheme is jointly funded by the Central government and the State governments.
- **Concerned Ministry**: Ministry of Rural Development

Salient Features of the Scheme

- **Legal Right to Work**: It provides a **legal guarantee for wage employment** to every rural household. Also, at least 1/3rd of the beneficiaries of the scheme have to be women.
  - There are legal provisions for allowances & compensation both in cases of failure to provide work on demand and delays in payment of wages.
- **Demand-Driven** where provision of work is triggered by the demand for work by wage-seekers.
- **Decentralized mode of implementation: The State governments have powers to make rules and amend the concerned State scheme.**
  - Gram Panchayats (GPs) are to implement at least 50% of the works in terms of cost.
  - Plans and decisions regarding the nature and choice of works to be undertaken are to be made in open assemblies of the Gram Sabha and ratified by the GP.
- **Annual Report tabled in the Parliament**: Prepared by the Central Employment Guarantee Council (CEGC), on the outcomes of MGNREGA is required to be presented annually by the Central Government to Parliament.
  - CEGC is a statutory body set up under Section 10 of the MGNREGA.
  - It is chaired by the Union Minister for Rural Development.
- The MGNERGA **covers the entire country with the exception of districts that have 100% urban population.**

Mobile Monitoring System for MGNREGA

- The Union Ministry of Rural Development introduced a Mobile Monitoring System (geo-tagged photograph) for effective implementation of the MGNREGA.
- All MGNREGS payments in all panchayats have to be now made through a single account.

NON-TRADITIONAL LIVELIHOODS SKILLING INCLUDED IN BBBP

- An inter-ministerial conference on non-traditional livelihoods (NTLs) for adolescent girls was held on the occasion of the International Day of the Girl Child.
- At the event, to expand the mandate of BBBP scheme, the Central government announced the inclusion of skilling of girls in NTL under its flagship programme.
  - NTLs- Sectors and jobs where participation of women is and has historically been conventionally low or absent. Like STEM (Science, Technology, Engineering, Mathematics) subjects due to gender-based categorization of the work, in the society.

Need For Beti Bachao Beti Padhao Scheme

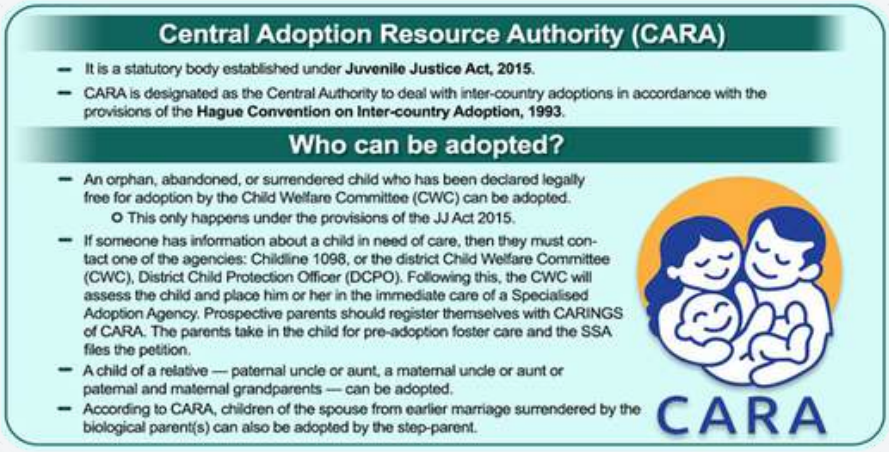
- The scheme was launched in 2015 after the revealed detraction in key gender metrics – Child Sex Ratio (CSR) and Sex Ratio at Birth (SRB).
  - CSR is defined as the number of girls per 1,000 boys aged 0-6 years.
  - This ratio has showcased a steady decline, from 945 in 1999 to 927 in 2001.
  - This declined further to 918 girls for every 1,000 boys in 2011.
- Research concluded that the strong socio-cultural and religious preference for boys was the root cause of the problem and this provided impetus for launch of the BBBP initiative.

Changes Introduced To The Scheme:

- The scheme will now also focus on increasing the enrolment of girls in secondary education, particularly in STEM (Science, Technology, Engineering, Mathematics) subjects.
- Some of the new aims for the scheme include –
  - Ensuring 1% increment in enrolment at the secondary level and skilling of girls and women every year,
  - Raising awareness about safe menstrual hygiene
  - Promulgating elimination of child marriages.
- A national committee headed by the Secretary, Ministry of Women and Child Development, formed under the larger Mission Shakti mandate, will be the apex committee to review the implementation of the BBBP scheme at regular intervals.

NO. OF GIRLS ADOPTED IN INDIA OUTSTRIPS BOYS

Of the 2,991 domestic 'in-country' adoptions made between 2021 and 2022, as many as 1,698 were girls.



Legal Provisions

- In India, two legislations deal with the adoption of a child:
  - The Hindu Adoption and Maintenance Act, 1956 (HAMA)
  - The Juvenile Justice (Care and Protection of Children) Act, 2015
- This includes Juvenile Justice (Care and Protection of Children) Model Rules, 2016 and Adoption Regulations, 2017.
- A database of children and registration of prospective parents is done on a centralised Child Adoption Resource Information and Guidance System (CARINGS), which is maintained by CARA.
- Juvenile Justice (Care and Protection) Amendment Act 2021 provides that instead of the court, the district magistrate has the authority to issue adoption orders.

PETITION ON POLYGAMY

Recently, the Delhi High Court (HC) asked the Centre to respond to a petition to declare bigamy or polygamy by a Muslim husband, in the absence of prior consent of the existing wife or wives, as illegal.

The petitioner contended that bigamy or polygamy without the consent of the existing wife and securing her well-being was unconstitutional, anti-Shariat, illegal, arbitrary, harsh, inhuman, and barbaric.

SINGLE WOMEN GET EQUAL ABORTION RIGHTS

- In a landmark decision, which coincided with the International Safe Abortion Day, the Supreme Court of India (SC) granted unmarried and single women with pregnancies ranging from 20 to 24 weeks access to safe and legal abortion care on par with married women.
  - The SC loosened the stranglehold of a 51-year-old abortion law - Medical Termination of Pregnancy (MTP) Act of 1971 and its Rules of 2003, which prohibit unmarried women between 20 and 24 weeks pregnant from aborting with the assistance of registered medical practitioners.

The Medical Termination of Pregnancy (MTP) Act:

- The law allowed for termination under the opinion of **one doctor** for pregnancies **up to 20 weeks. (In MTP Act 1971, for termination of pregnancy up to 12 weeks from conception, the opinion of one doctor was required)**
- For pregnancies between 20 and 24 weeks, the amended law **requires the opinion of two doctors.**
- The government has issued the new MTP (Amendment) Rules, 2021, which define the situations that define eligibility criteria for termination of pregnancy **up to 24 weeks**, as opposed to the previous upper limit of **20 weeks**.
- The new MTP Rules, 2021, specified seven categories (Survivors of sexual assault or rape or incest; Minors; etc) of women who would be eligible for seeking termination of pregnancy, for a period of up to 24 weeks.

GUARDIANSHIP AND ADOPTION OF MINORS

The department-related Parliamentary Standing Committee on Personnel, Public Grievances, Law and Justice tabled its report, in both Houses of Parliament on the 'Review of Guardianship and Adoption Laws'.

Recommendations of the Parliamentary panel on guardianship and child custody

- **Urgent Need to Amend the HMGA (Hindu Minority and Guardianship Act, 1956):**
  - The existing law treats mothers as subordinates to their husband. Hence, the law violated the right to equality and right against discrimination envisaged under Articles 14 and 15 of the Constitution.
- **Joint Custody Of Children During Marital Disputes**

1. In cases of marital dispute, the panel says there is a need to relook at child custody which is typically restricted to just one parent. In such cases, mothers tend to get preference.
2. The panel recommended that courts should be empowered to:
   - grant joint custody to both parents when such a decision is conducive for the welfare of the child, or
   - award sole custody to one parent with visitation rights to the other.

- **On adoption**
  - The Committee has said that there is a need for a new legislation that harmonises the Juvenile Justice (Care and Protection of Children) Act, 2015 & the Hindu Adoptions and Maintenance Act (HAMA), 1956.
  - It also said that such a law should cover the LGBTQI community as well.

Current law on guardianship

- **Legislative framework:** Indian laws accord superiority to father in case of guardianship of a minor.

HMGA, 1956	The natural guardian of a Hindu minor in respect of the minor's person or property is the father, and after him, the mother. Provided the custody of a minor who has not completed the age of five years shall ordinarily be with the mother. However, HMGA **does not** contain any independent, legal or procedural mechanism for deciding **custody rights or declaring court-appointed guardians.**
Muslim Personal Law (Shariat) Application Act, 1937	It says that the Shariat or the religious law will apply in case of guardianship according to which the father is the natural guardian, but custody vests with the mother until the son reaches the age of seven and the daughter reaches puberty though the father's right to general supervision and control exists.

SC Judgment

Githa Hariharan vs RBI in 1999 challenged the HMGA for violating the guarantee of equality of sexes under Article 14. The court held that the term "after" should not be taken to mean "after the lifetime of the father", but rather in the absence of the father. But the judgment failed to recognise both parents as equal guardians, subordinating a mother's role to that of the father. Though the judgment sets a precedent for courts, it has not led to an amendment to the HMGA.

- The **Law Commission of India Report in 2015**, on Reforms in Guardianship and Custody Laws in India, also recommended joint custody and shared parenting.
- Report of **Justice Bindal Committee, in 2018**, also said that "best interests of the child" are of paramount importance in matters relating to child custody in view of UN Convention on Rights of the Child (UNCRC).

Q&A

Can Queer And Transgender People Adopt Children In India?

The Adoption Regulations, 2017 is silent on adoption by LGBTQI people and neither bans nor allows them to adopt a child.

CHILD LABOUR (PROHIBITION AND REGULATION) AMENDMENT ACT, 2016

- The Child Labour (Prohibition and Regulation) Amendment Act, 2016 amended the original Child Labour (Prohibition and Regulation) Act of 1986.
- The Amendment Act provides for complete prohibition on employment or work of children below 14 years and also prohibits employment of adolescents (14-18 years) in hazardous occupations and processes.
- A child is permitted to work only to help family, in family enterprise or as child artist after school hours or during vacations. The offences under the Act have now been made compoundable and cognizable notwithstanding the provisions of the Criminal Procedure Code.
- It provides for setting up of the Child and Adolescent Labour Rehabilitation Fund in which all the amounts of penalty have to be realised.
- After strengthening the legislative framework through amendment in Child Labour Act, Government has framed the Child Labour (Prohibition & Regulation) Amendment Rules, 2017 which specifies the duties and responsibilities of State Governments and District Authorities to ensure effective enforcement of the provisions of the Act.

National Commission for Protection of Child Rights (NCPCR)

- NCPCR is a statutory body established by the **Commission for Protection of Child Rights (CPCR) Act**, 2005.
- It was established to ensure that all Laws, Policies, Programmes, and Administrative Mechanisms are in consonance with the Child Rights perspective as enshrined in the Constitution of India and also the **UN Convention on the Rights of the Child.**
- It works under the administrative control of the Ministry of Women & Child Development.

Composition of the commission

- A chairperson who, is a person of eminence and has done outstanding work for promoting the welfare of children;
- Six members, out of which at least two are woman, are appointed by the Central Government. These members must have experience in child related fields.

STUDY REVEALS CHILD ARTISTS WORK FOR MORE THAN 12 HOURS A DAY

- A recent study reveals that a child below the age of 15 in the entertainment industry in India works for more than 12 hours a day.
- The report titled 'Child Artists in India' by Child Rights and You, a non-governmental organisation, highlights that casting agencies are violating the Child and Adolescent Labour (Prohibition and Regulation) Act (CALPRA) that prohibits engagement of children in all occupations.
- It is clearly mentioned in CALPRA, 1986, that no child shall be allowed to work for more than five hours in a day, and for not more than three hours without rest.

ONLINE CHILD SEXUAL ABUSE CASES

- The CBI is in the process of sending requests to several countries seeking information under the Mutual Legal Assistance Treaties (MLATs).
- MLAT is a legal agreement between two or more countries for the purpose of gathering/exchanging information in an effort to enforce public or criminal laws.

Enforcing MLATs in India

- Ministry of Home Affairs (MHA) is the nodal Ministry and the Central authority for seeking and providing mutual legal assistance in criminal law matters.
- Ministry of External Affairs (MEA) may be involved in this process when such requests are routed through diplomatic channels by these Ministries.
- Section 105 of the Criminal Procedure Code (CrPC) speaks of reciprocal arrangements to be made by the Centre with the Foreign Governments.

Background

- The CBI agency has gathered inputs related to over 50 groups with more than 5,000 offenders, involving the nationals of about 100 countries.
- The United Nations Economic and Social Commission for Asia and the Pacific (ESCAP) defines child sexual abuse as:

- Contacts or an interaction between a child and an older or more knowledgeable child or adult when the child is being used as an object for the older child's or adult's sexual needs.
- These contacts or interactions are carried out against the child using force, trickery, bribes, threats or pressure.

COUNTERING ONLINE CHILD SEXUAL EXPLOITATION AND ABUSE

International conventions	Convention on the Rights of Child of 1989, and The Optional Protocol to the Convention on the Rights of the Child on the sale of children, child prostitution and child pornography of 2000. These two conventions enumerate children's rights and clarify the obligation of states to protect children from sexual exploitation and sexual abuse.
We Protect Initiative	• In 2014, to tackle this issue globally, the UK government, with support from other national governments, leading technological companies, INTERPOL, UN agencies and civil society organizations, established this initiative. • The initiative developed **WeProtect Global Alliance *Model National Response (MNR).*** • MNR provides a comprehensive blueprint for effectively tackling child sexual exploitation and abuse at the national level.
INTERPOL's International Child Sexual Exploitation (ICSE) database	This database has been created to counter online child sexual exploitation and abuse. It not only aids in the identification of child victims of sexual exploitation and abuse, but also aid in the identification and investigation of perpetrators.

Indian Laws/Initiatives

- **Protection of Children against Sexual Offences Act**, 2012 (POCSO Act)
- Section 67B of the **Information Technology (IT) Act, 2000** specifically provides stringent punishment for publishing, browsing or transmitting child pornography in electronic form.
- **Sections 354A and 354D of IPC** provide punishment for cyber bullying and cyber stalking against women.
- **Cyber Crime Prevention against Women and Children (CCPWC)** under which an online Cyber Crime reporting portal has been launched.
- **National Commission for Protection of Child Rights (NCPCR)** and State Commission for Protection of Child Rights (SCPCRs) are also mandated to monitor the implementation of the POCSO Act, 2012.

RISE IN UNVACCINATED CHILDREN IN INDIA

- UNICEF and WHO sound the alarm as new data shows global vaccination coverage continued to decline in 2021, with 25 million infants missing out on lifesaving vaccines.

Key Highlights

- Largest sustained decline in childhood vaccinations in approximately 30 years
  - The percentage of children who received three doses of the vaccine against DTP fell 5 percentage points between 2019 and 2021 to 81%. DTP acts a marker for immunization coverage within and across countries.

India Specific Observation

- India was able to arrest the declining trend between 2020 and 2021. The number of children with zero dose rose sharply to three million in 2020. But a further backsliding was prevented and the number dropped to 2.7 million in 2021. This was due to catchup programmes such as 3rd Intensified Mission Indradhanush (IMI).

CHILD MORTALITY: 35 PER 1,000 LIVE BIRTHS

- India has taken rapid strides in reducing child mortality since 2014 from 45 per 1,000 live births to 35 per 1,000 live births in 2019. Union Minister of State launched 'Paalan 1000' National Campaign & Parenting App.
- A baby's brain development begins during pregnancy and is influenced by the pregnant woman's health, nutrition and environment. Hence, the concept of 'Continuum of Care', that emphasizes on care during critical life stages in order to improve child survival, is being followed under the national programme.

PAALAN 1000

- The 'Paalan 1000 - Journey of the First 1000 Days', focuses on the cognitive developments of children in the first 2 years of its life.
- It also includes the parenting app to focus on child health. The app will provide practical advice to caregivers on what they can do in their everyday routine and will help clear doubts.
- The programme is aligned with the mission of the Rashtriya Bal Swasthya Karyakram (RBSK), emphasising responsive care and focused interventions during the first 1,000 days.

Rashtriya Bal Swasthya Karyakram (RBSK)

- Rashtriya Bal Swasthya Karyakram (RBSK) is a program to improve the overall quality of life of children enabling all children achieve their full potential.
- It aims at early identification and early intervention for children from birth to 18 years to cover 4 'D's –
  - Defects at birth, Deficiencies, Diseases, Development delays (including disability).
- Children diagnosed with identified selected health conditions are provided early intervention services and follow-up care at the district level.
- These services are provided free of cost, thus helping their families reduce out of pocket expenditure incurred on the treatment.
- To facilitate screening of children, there is a strong convergence with:
  - Ministry of Women and Child Development for screening children in the age group 0 – 6 years enrolled at Anganwadi centres and
  - Ministry of Education for screening the children enrolled in Government and Government aided schools.

New Rules For Child Welfare Panel Members

- Following the enactment of Juvenile Justice Amendment Act, 2021, the Government of India recently notified the **Juvenile Justice (Care and Protection Amendment) Model Amendment Rules 2022**.
- The recently amended rules for implementing the **Juvenile Justice Act** prohibit anyone *associated with an organisation receiving foreign funds from serving on Child Welfare Committees (CWC).*

Juvenile Justice (Care or Protection of Children) Act/JJ Act, 2015	JJ (Care or Protection of Children) Amendment Act, 2021

• The Act was introduced (by the Ministry of Women and Child Development) and passed in 2015 to replace the Juvenile Delinquency Law and the Juvenile Justice (Care and Protection of Children) Act, 2000.
• One of the main provisions of the Act is allowing the trial of juveniles in conflict with law in the age group of 16-18 years as adults.
  ○ Under the Act, offences committed by juveniles are categorised as heinous (with minimum or maximum sentence of 7 years), serious (with 3-7 years of imprisonment) and petty offences.
  ○ It provides that an offence which is punishable with imprisonment between 3-7 years to be cognizable (where arrest is allowed without warrant) and non-bailable.
  ○ ·According to the Act, juveniles charged with heinous crimes and between the ages of 16-18 years would be tried as adults and processed through the adult justice system.
  ○ The nature of the crime and whether the juvenile should be tried as a·minor or a child, was to be determined by a Juvenile Justice Board.
• The second major provision is with regards to adoption.
  ○ The Act streamlined adoption procedures for orphans, abandoned and surrendered children and the existing Central Adoption Resource Authority (CARA) has been made a statutory body to enable it to perform its function more effectively
	• The amendment has been based on a National Commission for Protection of Child Rights (NCPCR) report (2018-19) in which over 7,000 Child Care Institutions (CCIs or children's homes) were surveyed.
	• The report found that 1.5% of CCIs do not conform to rules and regulations of the JJ Act and 29% of them had major shortcomings in their management.
	• It also found that not a single CCI in the country was found to be 100% compliant to the provisions of the JJ Act.
	
	The Amendments:
	• According to the Act, serious offences will also include offences for which the maximum punishment is more than 7 years in prison and the minimum punishment is not prescribed or is less than 7 years.
	• It provides that offence which is punishable with imprisonment between 3-7 years will be non-cognizable.
	• Both heinous and serious crimes have also been clarified for the first time, removing ambiguity.
	  ○ This provision has been made to ensure that children, as much as possible, are protected and kept out of the adult justice system.
	• Instead of the court, District Magistrates (DMs), including Additional District Magistrates (ADMs), can now issue adoption orders under the JJ Act.
	• This is to ensure faster case resolution and increased accountability.
	• The new amendment prohibits the opening of any new CCI without the sanction of the DM.
	• Now, DMs are also responsible for ensuring that CCIs falling in their district are following all norms and procedures.

- The State Government may, by notification, establish one or more Child Welfare Committees (CWC) for each district or group of districts to exercise the powers conferred under this Act.
- The Committee shall be composed of a Chairperson and four other members, at least one of whom shall be a woman and another a child expert.

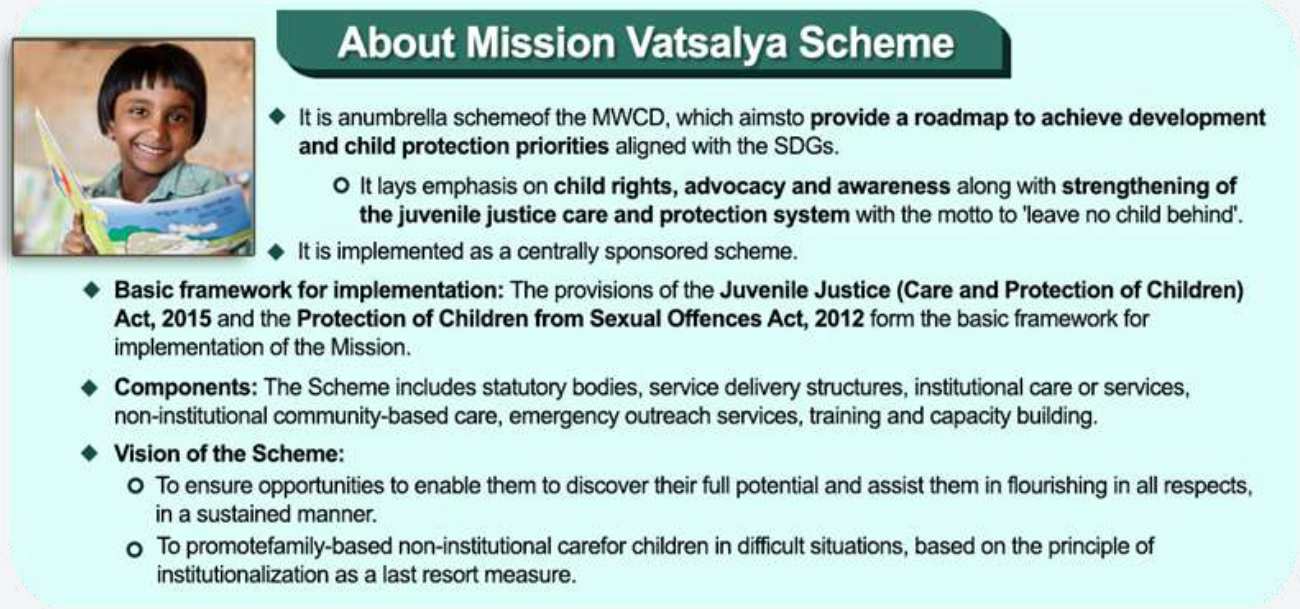
- The DM will also carry out background checks (including educational qualifications) of CWC members, who are usually social welfare activists, as there was no such provision then.
- The CWCs are also to report regularly to the DMs on their activities in the districts.

NEW GUIDELINES FOR 'MISSION VATSALYA'

The Ministry of Women and Child Development (MWCD) recently issued new guidelines for the 'Mission Vatsalya' Scheme in order to lay out a future roadmap for child protection.

Background

- Integrated Child Protection Scheme (ICPS) was implemented by the Ministry since 2009-2010.
- The scheme was then renamed as "Child Protection Services (CPS)" Scheme in 2017.
- The CPS Scheme has been now subsumed under Mission Vatsalya from 2021-22 onwards.



Key Highlights Of The New Guidelines

- The guidelines elaborate on the vision for "Vatsalya Sadan," (Integrated Home Complex of Child Care Institutions) with a specific focus on "Juveniles in Conflict with the Law."
- The new guidelines include promoting family-based non-institutional care for children in difficult situations, as well as the establishment of "Cradle Baby Reception Centres" for receiving abandoned babies vulnerable to trafficking.
- It makes no mention of the existing helpline number (1098-Childline) or its future. It, however, states that "Mission Vatsalya," in collaboration with states and districts, will implement a 24x7 helpline service for children.
- **States will have to retain the official name**, as given by the Centre to get benefits under this scheme.
- **Funds to states** will be approved through **Mission Vatsalya Project Approval Board (PAB)**, which will be chaired by the WCD Secretary.
- At state level, there will be a committee headed by the Chief Secretary to monitor, review and promote convergence in the implementation of the scheme.

MINORITY STATUS OF RELIGIOUS, LINGUISTIC COMMUNITIES IS STATE-DEPENDENT: SC

- The Supreme Court said that the religious and linguistic minority status of a community is to be decided on the basis of the state's population.
- The SC court made this observation while hearing a petition filed by a Mathura resident, Devkinandan Thakur. As per the petition, followers of Judaism, Bahaism and Hinduism are the real minorities in various state. They cannot establish and administer educational institutions of their choice because of non-identification of 'minority' at State level.
- The petitioner challenged the provisions of the National Commission for Minorities (NCM) Act, 1992 and National Commission for Minorities Educational Institutions (NCMEI) Act, 2004.

About Minorities In India

- The term Minority is not defined in the Indian Constitution. However, the Constitution recognizes only religious and linguistic minorities.
- As per the Census 2011, the percentage of minorities in the country is about 19.3% of the total population of the country. The population of Muslims are 14.2%; Christians 2.3%; Sikhs 1.7%, Buddhists 0.7%, Jain 0.4% and Parsis 0.006%.
- As per 2011 census Hindus have become a minority in Lakshadweep (2.5%), Mizoram (2.75%), Nagaland (8.75%), Meghalaya (11.53%), J&K (28.44%), Arunachal Pradesh (29%), Manipur (31.39%), and Punjab (38.40%).

About Religious Minorities

- The **central government decides who gets the minority community status in India under the National Commission for Minorities Act, 1992**. Only those belonging to the communities notified under Section 2(c) of the 1992 law are regarded as minority citizens.
- The **central government has notified only six communities** as having the minority status at the national level. **Five of them Muslims, Christians, Sikhs, Buddhists and Parsis were declared minority communities in October 1993. In January 2014, the Centre added Jains to the list.**
- **States generally don't have their separate lists of the minority communities.** But there are exceptions. For example, Maharashtra has notified Jews as a minority community in the state.

Constitutional Provisions For Minorities

- The **subject of identification of the minority community is on the Concurrent List.**
  - **Article 246** of the constitution read with Entry 20, 'Economic planning and social planning', of the concurrent list of 7th schedule to enact laws to **promote and protect the interests of minorities**
- **Article 29** - It protects the interests of the minorities by making a provision that any citizen / section of citizens having a distinct language, script or culture have the right to conserve the same.
- **Article 30** - It says all minorities, whether based on religion or language, shall have the right to establish and administer educational institutions of their choice.
- **Article 350(B)** - There shall be a Special Officer for linguistic minorities to be appointed by the President.

Various SC Judgements Dealing With Minorities

- **DAV College vs State of Punjab 1971** -The court held that the Arya Samaj, who were Hindus, were a religious minority in the state of Punjab, even though they may not have been so in relation to the entire country.
- **TMA Pai Case 2003** - The 11-judge bench of the apex Court stated that for the purposes of Article 30, religious and linguistic minorities have to be considered state-wise.
- **Bal Patil 2005** - SC in its judgement in 'Bal Patil' referred to the TMA Pai ruling. In this judgement, the court said that henceforth the unit for determining status of both languishing and religious minorities would be state.
- **Inamdar Case 2005** - The SC said that Minority whether linguistic or religious is to be determined by the demography of state.

Steps Taken by Government for Minorities

- **Ministry of Minority Affairs -** It was created in 2006 to ensure a more focused approach towards issues relating to the minorities.
- **Prime Minister's 15 Point Programme for the Welfare of Minorities -** Objective of the Programme is to ensure that an appropriate percentage of the priority sector lending should be targeted for the minority communities. It also provides that, wherever possible, 15% of targets and outlays under various schemes should be earmarked for minorities.

- **Schemes** - Educational Empowerment Scholarship Schemes, Padho Pardesh Scheme of Interest Subsidy on Educational Loans for Overseas Studies for the Students Belonging to the Minority Communities, USTTAD, Nai Roshni - The Leadership Development of Minority Women.

MODERN TIMES WATCHES KEEP AN EYE ON WORKERS

- Various organisations have written letter to National Commission for Safai Karamcharis (NCSK) over the increasing surveillance of sanitation workers. These workers are forced to wear GPS watches to keep an eye on them.

GPS Watch: A New Tool Of Suppression

- Coercion Involved:
  - Sanitation workers are forced to wear these watches under the threat to reduction in salary.
  - Several times, the GPS watches showed wrong locations and the workers had to explain and provide proofs regarding their whereabouts. This has made these workers a slave.
- Against Privacy, Dignity And Autonomy Of The Workers
  - While privacy is not an absolute right, any State intrusion into privacy has to satisfy the thresholds of legality, necessity, and proportionality. This was laid down by the Supreme Court in the Right to Privacy decision.
- Tracking location is not a solution to ensure that work has been done: Just by tracking workers' location, it cannot be ensured that the work has been done. A worker might go to his or her place of work and just loiter.

National Commission for Safai Karamcharis (NCSK)

- NCSK was established as an institution to investigate the conditions of Safai Karamcharis (waste collectors) in India and make recommendations to the Government.
- It is currently a **non-statutory body under the Ministry of Social Justice and Empowerment**.
- The NCSK was established in the year 1993 as per the provisions of the NCSK Act 1993 initially for the period upto 31.3.1997.
  - Hence, initially **NCSK was established as a statutory body.**
- Later the validity of the Act was initially extended up to 2002 and thereafter up to 2004.
  - The NCSK Act ceased to have effect from 29.2.2004.
- After that the tenure of the NCSK has been extended as a non-statutory body from time to time through resolutions.
- The tenure of the present Commission was up to March 2022. However, it was extended further for a period of three years.
- The NCSK has been assigned the work to monitor the implementation of the Prohibition of Employment as Manual Scavengers and their Rehabilitation Act, 2013

GOVT. TO ENUMERATE PEOPLE WHO CLEAN SEWERS

The government is now preparing to undertake a nationwide survey to enumerate all people engaged in hazardous cleaning of sewers and septic tanks. Hazardous cleaning of sewers and septic tanks has led to at least 351 deaths since 2017. The enumeration exercise is part of the Union government's National Action Plan for Mechanized Sanitation Ecosystem (NAMASTE) scheme.

Extending Insurance Scheme Benefits

- These workers and their families will be covered under the Ayushyaman Bharat- Pradhan Mantri Jan Arogya Yojana (AB-PMJAY).
- The premium for AB-PMJAY for those identified SSWs families who are not covered earlier shall be borne under NAMASTE.
- **Livelihood Assistance:** Identified SSWs and their dependants will be given counselling on available livelihood choices and an opportunity to acquire alternative skills, if they so desire.
- The worker may choose to explore an alternative livelihood option or an entrepreneurial venture.
- **Saturation with Social Security Schemes' benefits:** The identified SSWs and their family members will be extended benefits of all the social security schemes.
- **Other assistance:** The scheme will include capital subsidies of up to ₹5 lakh on sanitation machinery costing up to ₹15 lakh and interest subsidies on loans.
- Interest rates will be capped between 4-6% for the beneficiaries. The scheme also provides for training the workers in the use of these machines, during which time a stipend of up to ₹3,000 per month will be provided.

Key Highlights

- Practice of manual scavenging does not exist in India anymore as per the **Ministry of Social Justice and Empowerment (MoSJ&E).** This is because all manual scavengers had been accounted for and enrolled into the rehabilitation scheme.
- **Earlier scheme for the Rehabilitation of Manual Scavengers**
  - Self-Employment Scheme for the Rehabilitation of Manual Scavengers (SRMS) was started in 2007.
- **Provisions of NAMASTE scheme** are similar to the ones that the SRMS already provides for, save for one component — a one-time cash transfer of ₹40,000.

NAMASTE Scheme

- Launched in July 2022 with an objective to ensure safety and dignity of sanitation workers in urban India as well as providing sustainable livelihood to these workers.
- **Ministries involved:** It is launched as a joint initiative of the Ministry of Social Justice and Empowerment (MoSJE) and the Ministry of Housing and Urban Affairs (MoHUA).
- **Implementing agency** - National Safai Karamchari Financial Development Corporation (NSKFDC)
- **Coverage**: Five hundred cities (converging with AMRUT cities) will be taken up under this phase of NAMASTE. It will be implemented for the period 2022-26.

Aim

- Zero fatalities in sanitation work in India. All sanitation work to be performed by skilled workers
- No sanitation workers come in direct contact with human faecal matter
- Sanitation workers are collectivized into SHGs and are empowered to run **sanitation enterprises**
- All Sewer and Septic tank sanitation workers (SSWs) to have access to alternative livelihoods

TRIBAL HEALTH

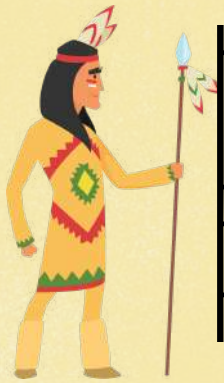
On the occasion of International Day of the World's Indigenous Peoples on 9th August, the scholars have analyzed the need for the launch of the National Tribal Health Mission for India. Over 104 million tribal people live in India. Spread across 705 tribes, they account for 8.6% of the country's population.

Background:

- Tribal people in India have:
  - poorer health indicators
  - greater burden of morbidity and mortality
  - very limited access to healthcare services'
  - inequity in health and health care
- Health Status of Tribal communities in India
  - The Lancet in its study in 2016 titled 'Indigenous and Tribal People's Health' found that:
    - India has 2nd highest Infant Mortality Rate (IMR) for tribal people, next only to Pakistan.
    - Life expectancy at birth is 63.9 years, as against 67 years for the general population
- The Expert committee on Tribal Health headed by Dr Abhay Bang in its report titled 'Tribal Health in India-Bridging the Gap and a Roadmap for the future' had given the following findings:
  - **Malnutrition**
    - 42% of Tribal children suffer from malnutrition which is 1.5 times higher than non-tribal children
  - **Communicable diseases**
    - Malaria and Tuberculosis are 3 to 11 times more common among them.
    - They account for 30% of all cases of malaria & 50% of all malaria related deaths
    - Incidence of Tuberculosis among them is significantly higher than rest of the country-703 against 256 per 10,000
  - **Non-communicable diseases**
    - Hypertension: one out of every four tribal adults suffer from it

Suggestions to improve Tribal Health

- Abhay Bang committee & Virginius Xaxa committee made a number of recommendations related to Tribal Health



Few Important Schemes Related To STs

- **Eklavya Model Residential School (EMRS):** To provide high-quality middle and high-level education for ST students in remote areas, to allow them to take advantage of reservations in high-level and professional education courses and as public and private jobs
- **Vanbandhu Kalyan Yojana:** Holistic development and welfare of the tribal population.
- **Van Dhan Yojana:** Skills upgrading and capacity-building of tribals so as to promote enterprise and marketing skills in them.
- **Pradhan Mantri JI-VAN yojana:** To provide financial assistance to Integrated Bio-ethanol Projects using lignocellulosic biomass and other such renewable feedstock.

AYUSHMAN BHARAT TO COVER TRANS PEOPLE

- The Union government has announced that the transgender persons will get yearly health insurance of Rs 5 lakh each under the Ayushman Bharat scheme.
- In this regard, the National Health Authority, under the Health Ministry, signed a MoU with the Social Justice Ministry.

Ayushman Bharat Pradhan Mantri Jan Arogya Yojana (AB-PMJAY)

- Launched in September 2018, the scheme aimed to offer cashless secondary and tertiary care services to the poor & vulnerable population in the society.
  - It offers Health Benefit Packages which covers surgery, medical and day care treatments, cost of medicines and diagnostics.
  - It was launched as a second component of the 'Ayushman Bharat' scheme.
- This scheme aimed to offer medical coverage of Rs. 5 lakh per family per year
- The scheme covers over nearly 40% of the population. The scheme is targeted to cover 10.74 crore rural families & identified occupational category of urban worker's families.
- The beneficiaries are identified by latest Socio-Economic Caste Census (SECC) data.

Role of National Health Authority (NHA)

- NHA is the apex body responsible for implementing India's flagship public health insurance/assurance AB-PMJAY scheme. It has been entrusted with the role of designing strategy, building technological infrastructure and implementation of National Digital Health Mission to create a National Digital Health Eco-system.
- To implement the scheme at the State level, State Health Agencies (SHAs) in the form of a society/trust have been set up by respective States.

Key Highlights

- **Eligibility:** The scheme will cover all transgender persons not receiving such benefits from other centre/state sponsored schemes. Benefits will be extended to those holding a transgender certificate issued by the national portal for transgender persons.
- **Health package offered:** The health package, being offered to transgender persons, will also cover components of **hormone therapy and gender re-affirmation surgery**. This package can be redeemed at all private and government healthcare facilities empanelled under the AB PMJAY.
- **New cards will be generated for verified beneficiaries:** An 'Ayushman Bharat TG Plus Card' will be generated for verified beneficiaries.
- **Definition of family changed:** The Rs 5-lakh cover is for an entire family under the Ayushman Bharat scheme. But the govt. changed the definition of the family to **provide the total yearly coverage to transgender persons.** Health cards issued to trans persons will not cover their family members.

CENTRAL ADVISORY BOARD ON DISABILITY

The Central Advisory Board on Disability, which is mandated to meet every six months under the Rights of Persons with Disabilities Act, 2016, has not been re-constituted since the previous board's three-year term ended in November 2020.

Central Advisory Board on Disability

- Section 60 of the Act empowers the Central Government to constitute a body to be known as Central Advisory Board on Disability
- In pursuance of this power, the Central Government had constituted the Central Advisory Board on Disability with **Union Minister of Social Justice and Empowerment** as the ex-officio chairperson.
- The panel is meant to "**facilitate the continuous evolution of a comprehensive policy for the empowerment of persons with disabilities and the full enjoyment of rights**"
- The board is mandated to meet every six months under the Act.

Government's Initiatives For Persons with Disabilities (PwDs)

Accessible India Campaign	Department of Empowerment of Persons with Disabilities (DEPwD) has launched Accessible India Campaign **(Sugamya Bharat Abhiyan)** as a nation-wide Campaign for achieving universal accessibility for PwDs in 2015. It has three components: ○ Build Environment accessibility ○ Build Transportation system accessibility ○ Build Information & Communication system accessibility
DISHA	This is an early intervention and school readiness scheme for children up to 10 years with the disabilities covered under the National Trust Act
VIKAAS	A day care scheme for persons with autism, cerebral palsy, mental retardation and multiple disabilities, above 10 years for enhancing interpersonal and vocational skills.
SAMARTH	A scheme to provide respite home for orphans, families in crisis, PwD from BPL, LIG families with at least one of the four disabilities covered under the National Trust Act.
SAHYOGI	A scheme to set up Caregiver Cells (CGCs) for training and creating skilled workforce of caregivers to care for PwD and their families.

- The Social Justice and Empowerment Ministry has invited public feedback on the new draft national policy on persons with disabilities (PwD). The draft policy proposes interventions in disability prevention, education, healthcare, social security and accessibility.

National Policy for PwD, 2006

- The existing National Policy for PwD was adopted in 2006. The policy seeks to --
  - recognize that PwDs are valuable human resource for the country
  - create an environment that provides them equal opportunities, protection of their rights and full participation in society.

Focus Areas Of 2006 Policy

- **Prevention of Disabilities**: The policy calls for programme for prevention of diseases, which result in disability and the creation of awareness regarding measures to be taken for prevention of disabilities.
- **Rehabilitation Measures:** Physical, educational and economic rehabilitation.
- **Women with disabilities:** Special programmes will be developed for education, employment and providing of other rehabilitation services to women with disabilities
- **Children with Disabilities**: These are the most vulnerable group and need special attention. The Government would strive to:
  - Ensure right to care, protection and security for children with disabilities;
  - Ensure the right to development with dignity and equality creating an enabling environment where children can exercise their rights.
  - Ensure inclusion and effective access to education, health, vocational training.
- **Barrier-free environment:** That supports the independent functioning of individuals.
- **Issue of Disability Certificates:** The Government will ensure that the persons with disabilities obtain the disability certificates without any difficulty in the shortest possible time.
- ·Implementing Agency: Ministry of Social Justice & Empowerment is the nodal agency to coordinate all matters relating to the implementation of the Policy.

Major Proposals In New Policy

- **Focus On Diversified Causes Of Disability**
  - The draft said the current national programme on prevention of disabilities focused on traditional causes.
  - However, there were other causes of disability, such as malnourishment, medical negligence, socio-cultural factors and impairment caused by disasters.

- **Cross Disability Early Intervention Centres:**
  - Research findings show that one-third of disabilities in children are preventable if detected early. Hence, the new draft Policy calls for developing a network of **'Cross Disability Early Intervention Centres' (CDEICs)** in every district of the country.
  - The policy lays out broad roadmap for developing CDEICs to provide facilities like screening and identification and referral for rehabilitative services.
- **Educational Institutions:**
  - The States and UTs should add a provision on compliance with the RPwD Act 2016 when granting permission or recognition to educational institutions.
  - A module on disability should be included in MBBS and other medical courses.
- **More Accessible Vehicles**
  - The draft policy said that the Ministry of Road Transport and Highways will issue necessary guidelines for making modification in the personal vehicles being used by persons with disabilities as per requirement. This is to make vehicles more accessible.

SMILE-75 INITIATIVE

- To mark 75 years of independence, Union Minister for Social Justice and Empowerment is planning to undertake the task of identifying and rehabilitating persons engaged in begging as a step forward to implement the SMILE Scheme.
- Under the Smile-75 initiative, the 75 identified municipal corporations will undertake comprehensive rehabilitation of persons engaged in the act of begging.
- Municipal Corporations, in collaboration with NGOs and other stakeholders will cover several comprehensive welfare measures with focus on rehabilitation, provision of medical facilities, counselling, awareness, education, skill development, economic linkages and convergence with other Government welfare programmes etc

Comprehensive Rehabilitation for Welfare of Transgender Person Scheme

- The scheme has a provision to provide scholarships to the transgender students studying in IX and till post-graduation to enable them to complete their education.
- There is also a provision of setting up of Transgender Protection Cell to ensure timely registration, investigation and prosecution of offenses.
- Through Composite Medical Health it provides a comprehensive package in convergence with PM-JAY (Pradhan Mantri Jan Arogya Yojana) supporting Gender-Reaffirmation surgeries through selected hospitals.

Comprehensive Rehabilitation of persons engaged in the Act of Begging

- It will focus on survey and identification, mobilisation, rescue/shelter home and comprehensive resettlement. Pilot projects have already been initiated on Comprehensive Rehabilitation in ten cities namely Delhi, Bangalore, Chennai, Hyderabad, Indore, Lucknow, Mumbai, Nagpur, Patna and Ahmedabad.

SOCIAL SECURITY PENSIONS FOR ELDERLY

Indian population has been ageing. Elderly (persons aged 60 years and above) constituted close to 9% of India's total population in 2011 and may reach 18% by 2036 according to the National Commission on Population.

Constitutional Arrangements For Old Age Pensions

- **Article 41** of the Indian Constitution directs the state to provide public assistance to its citizens in case of "unemployment, 'old age', sickness and disablement within the limit of its economic capacity and development."

- Entry 24 of **List III (Concurrent list) under 7th schedule** has a mention about 'old age pension' which implies that both Centre and states have the responsibility of providing social security to the elderly.

Programmes Implemented By The Government For The Welfare Of Elderly

- **Integrated Programme for older persons (IPOP):** To improve quality of life of senior citizens by providing basic amenities like shelter, food, medical care and entertainment opportunities.
- **Pradhan Mantri Vaya Vandana Yojana (PMVVY):** It is a government subsidized pension-cum-insurance scheme for senior citizens aged 60 years and above which provides monthly/quarterly/half-yearly/yearly pension to senior citizens upon buying the plan by paying lump sum amount between Rs 1,50,000 to Rs 15,000,000.
- **Atal Pension Yojana Scheme:** It is pension scheme focused on unorganized sector workers
- Annapurna scheme: To provide 10 kgs of food grains free of cost to all such senior citizens who though eligible have remained uncovered under NOAPS
- **National Programme for the Health Care of the Elderly (NPHCE):** To provide promotional, preventive, curative and rehabilitative services to elderly persons at various levels of healthcare delivery system.
- **Rashtriya Vayoshri Yojana (RVY):** Scheme for providing Physical Aids and Assisted-living Devices for Senior citizens belonging to BPL category.
- **Vayoshreshtha Samman:** It is the National award conferred on eminent citizens and institutions involved in rendering services for the cause of elderly persons, especially indigent (poor) senior citizens.
- **SAGE and SACRED portals:**
  - **SAGE (Senior-care Aging Growth Engine)**- to encourage entrepreneurs in the area of elderly care
  - **SACRED (Senior Able Citizens for Re-Employment in Dignity)**- to connect the senior citizens with job providers in the private sector

BAN ON CONVERSION THERAPY FOR LGBTQIA+ COMMUNITY

- The National Medical Commission (NMC) issued a letter to all State Medical Councils banning conversion therapy for the LGBTQIA+ community and calling it professional misconduct.
  - NMC is India's apex regulatory body of medical professionals.
- While also empowering state bodies to take disciplinary action against medical professionals who violate the guideline, the NMC stated that it was following a Madras High Court (HC) directive.
- In 2022, the Madras HC directed NMC to issue an official notice under the **Indian Medical Council (Professional Conduct, Etiquettes, and Ethics) Regulations, 2002,** listing conversion therapy as a wrong.
- The judgement **barred any attempt to change the sexual orientation** of LGBTQIA+ (lesbian, gay, bisexual, transgender, queer, intersex, asexual, or of any other orientation) people through medical means.

Other Guidelines Issued By The Court

- The court asked the **Ministry of Social Justice & Empowerment** to draw up a list of NGOs and other groups which could handle the issues faced by the community.
- The court said the community should be provided with **legal assistance by the District Legal Services Authority in coordination with law enforcement agencies.**
- The court ordered agencies to follow the **Transgender Persons (Protection of Rights) Rules, 2020, and the Transgender Persons (Protection of Rights) Act, 2019**, in letter and spirit.

Conversion Therapy

- Conversion or reparative therapy is an intervention aimed at **changing the sexual orientation or gender identity** of an individual.
- This occurs through the use of psychiatric/mental treatment, medicines, exorcism and even violence, **with the goal of transforming the individual into a heterosexual** (attracted to people of opposite sex)
- Conversion therapy also includes efforts to transform the basic identity of young people whose gender identity contradicts their sex anatomy.

CABINET APPROVES ADDITION OF TRIBES TO ST LIST

The Union Cabinet, chaired by PM Modi, approved the inclusion of 4 new tribes of five states in the Scheduled Tribes (ST) category. Among the states whose tribes have been included in the list are Chhattisgarh, Himachal Pradesh, Tamil Nadu, Karnataka, and Uttar Pradesh.

List of Scheduled Tribes

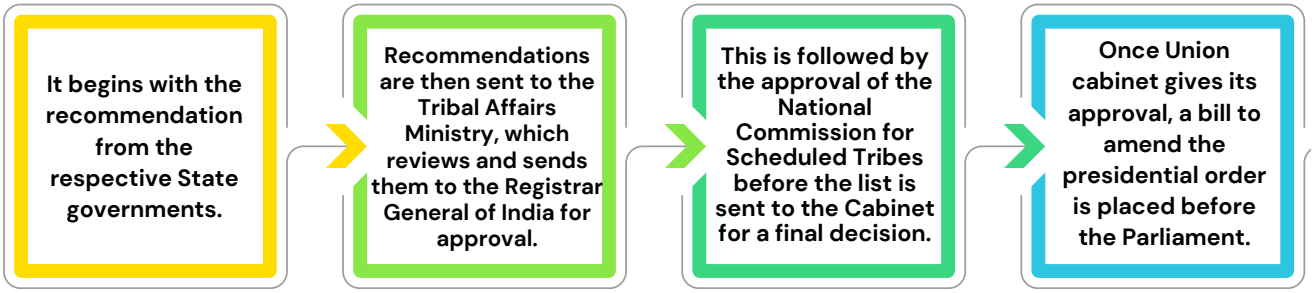
- Art 342(1) states that "the President may with respect to any State/ UT and where it is a State, after consultation with the Governor thereof, by a public notification, specify the tribes or tribal communities or part of or groups within tribes or tribal communities to be treated as Scheduled Tribe in relation to that State/ UT as the case may be".

- **Art 342(2) -** once the notification is issued by the President under Art. 342(1), any modifications therein, by way either of including or excluding from the list any caste, tribe or a part or a group thereof, can be made by Parliament by law and not by a Presidential notification.
- In pursuance of these provisions, the list of Scheduled Tribes is notified for each State/ UT.
- These lists are valid only within the jurisdiction of that State/ UT and not outside.
  - A community declared as a Scheduled Tribe in a State need not be so in another State.

Criteria for Inclusion in ST List

- Indications of primitive traits; distinctive culture; geographical isolation; shyness of contact with the community at large; and backwardness.
- However, these criteria are not spelt out in the Constitution.

Process of Inclusion



Tribes To Be Included In ST Category List

- **Hattee community** of the Trans-Giri region of Himachal Pradesh's Sirmaur district: The Cabinet approval to the proposal for grant of ST status to the Hattee community after rejecting earlier proposals in 1995, 2006 and 2017.
- **Narikoravan and Kurivikkaran community** from Tamil Nadu
- **Binjhia in Chhattisgarh:** Binjhia were listed as ST in Jharkhand and Odisha but not in Chhattisgarh.
- **Gond community residing in 13 districts of Uttar Pradesh**
  - The Cabinet approved a proposal to bring the Gond community residing in 13 districts of Uttar Pradesh, under the ST list from the *Scheduled Caste list*.
  - This includes the five subcategories of the Gond community (Dhuria, Nayak, Ojha, Pathari, and Rajgond).
- In **Pankaj Kumar Saha v. Sub-Divisional Officer 1996**, the Supreme Court observed that:
  - The Court is devoid of power to include or exclude from or substitute or declare synonyms to be a Scheduled Caste or Scheduled Tribe.
  - It is for Parliament to amend the list and include therein, or exclude there from, any caste, race or tribe.

PM-SHRI SCHOOLS TO BE DEVELOPED AS 'GREEN' HUBS: MODI

PM Modi, on the occasion of Teacher's Day, announced a new scheme — PM-SHRI Yojana to develop 14,500 schools as model schools. The schools will be equipped with modern infrastructure, including labs, smart classrooms, libraries, and sports facility.

PM SHRI Yojana

- PM SHRI Yojana stands for PM Schools for Rising India.
- It will be a centrally-sponsored scheme. Centrally Sponsored Schemes (CSS) are those schemes which are implemented by the state government but sponsored by the central government with a defined shareholding.

Features:

- Upgradation & development of more than 14,500 schools across the country by strengthening the selected existing schools from amongst schools managed by Central Government/ State/ UT Government/ local bodies.
- The schools will showcase all components of the National Education Policy 2020 and act as exemplar schools and also offer mentorship to other schools in their vicinity.
- Pedagogy adopted in these schools will be more experiential, holistic, integrated, play/toy-based (particularly, in the foundational years), inquiry-driven, discovery-oriented, learner-centered, discussion-based, flexible and enjoyable.
- Focus will be on achieving proficiency in learning outcomes of every child in every grade.
- Assessment at all levels will be based on conceptual understanding and application of knowledge to real life situations and will be competency-based.
- These schools shall also be developed as green schools with water conservation, waste recycling, energy-efficient infrastructure and integration of organic lifestyle in curriculum.

- The aim of these schools will not only be qualitative teaching, learning and cognitive development, but also creating holistic and well-rounded individuals equipped with key 21st century skills.

National Education Policy (NEP) 2020

- Approved by Union Cabinet in July 2020, it outlines the vision of India's new education system.
- The committee that drafted the NEP 2020 was headed by **Shri K Kasturirangan.**
- NEP 2020 focuses on five pillars: **Affordability, Accessibility, Quality, Equity, and Accountability** – to ensure continual learning.
- The new policy **replaces the previous National Policy on Education, 1986** and forms a comprehensive framework to transform both elementary and higher education in India by 2040.
  - This is the 3rd such education policy since India's independence. The earlier two were launched in **1968 & 1986.**

SCHOOL STUDENTS TO BE PART OF UNIFIED CREDIT SYSTEM

- Union Ministry of Education (MoE) unveiled the draft National Credit Framework.
- Students will soon be able to earn credits for both classroom learning and extracurricular activities through a unified credit system, which will be deposited in a credit bank - a system that is already in place at the higher academic level.

National Credit Framework (NCrF)

- Based on the **inter-ministerial committee** (led by Nirmaljeet Singh Kalsi, chairperson of National Council for Vocational Education and Training) report, the MoE recently unveiled the draft NCrF and started a national level public consultation on it.
- NCrF aims to bring **all school students** under **a unified credit system**.
  - Aside from class tests, activities such as festival celebrations and school cleaning will earn credits that will be stored in the **Academic Bank of Credit (ABC),** just like in higher education.
  - There will be no hard and fast distinction between curricular and extracurricular or co-curricular activities, or between vocational and academic tracks.
- Aadhaar will be used for student registration, and **each candidate will be assigned an academic bank account number,** where degrees and credits will be accumulated.
- At the school level, the draft National Credit Framework proposes that the credit regime be divided into **five levels -**

PRE-SCHOOL TO CLASS II	CLASSES III TO V	CLASSES VI TO VIII	CLASSES IX TO X	CLASSES XI AND XII

  - It proposes credit levels from class 5 onward itself - which will be credit level 1, going up to credit level 7 and 8 with post-graduation and a doctorate, respectively.
  - Credit levels will increase by 0.5 for every year of learning.
  - A student who clears class XII will be at credit level 4
- Under the draft framework, the credit points will be carried over to the graduation level, and further.
- A student will have to earn **at least 40 credits** (annual "notional learning" duration to earn at least 40 credits has been fixed at 1,200 hours - time spent in classrooms + a range of extracurricular activities and sports) for completing each year of school, besides clearing the exams.
- Taking the vision of the new National Education Policy (NEP) 2020, NCrF **will enable the integration of academic** and vocational domains to ensure flexibility and mobility between the two. Thus, mainstreaming skilling and vocational education.
- NCrF will also enable students who have dropped out of mainstream education **to re-enter the education ecosystem.**
- It will also promote **Recognition of Prior Learning for workers** who have acquired knowledge and skills informally through traditional family inheritance, work experience, or other means.

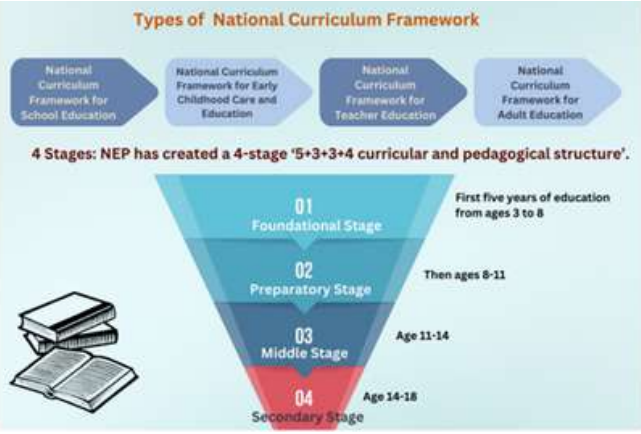
NATIONAL CURRICULUM FRAMEWORK (NCF)

- The National Curriculum Framework for foundational stage (NCF-FS) (children aged 3 to 8 years) education was recently released by the Union Ministry of Education.
- Dedicating the NCF for early childhood care and education (ECCE), the Minister also launched 'Balvatika' at Kendriya Vidyalayas

Background

- Early childhood lays the groundwork for life-long learning and development, as experts have proved that 85% of the brain development happens by the age of 7 or 8.

- Against this backdrop, the Ministry of Education had constituted the National Steering Committee (chaired by K Kasturirangan) in 2021, for the development of NCF.
- The recently released NCF is based on the recommendations of the above committee.
- The NCF for the foundational stage will be followed (in future) by its editions for higher classes, as well as teacher and adult education.



Previous NCFs

- NCF serves as a guideline for syllabus, textbooks and teaching practices for the schools in India.
- Previously, four NCFs (1975, 1988, 2000 and 2005) have been published by the **NCERT** in India.

- **Language teaching is a complex issue in a multilingual country** like India, where teachers may be required to cope with a number of languages in a classroom.
  - According to the NCF 2005, the language of interaction and communication in ECCE would normally be the child's first or home language.
  - However, in light of socio-political realities, English must be introduced as a second language as early as Class I or as early as preschool.

About The New NCF

- The new framework includes the '**panchakosha**' concept for education of children aged 3 to 8, with five components –
  - **Physical development (sharirik vikas),**
  - **Development of life energy (pranik vikas),**
  - **Emotional and mental development (manasik vikas),**
  - **Intellectual development (bauddhik vikas),**
  - **Spiritual development (chaitsik vikas).**
- It provides for the holistic overall transformation of the curriculum of the ECCE that will enable positive transformation of the school education system of India, including pedagogy.
  - **It uses 'play' at the core of the approaches to curriculum organisation, as children learn best through play.** Hence, NCF will enable the achievement of Foundational Literacy and Numeracy for all children.
  - The NCF will deal with the role of teachers as well as parents and communities to achieve developmental outcomes that are sought during this stage.

PARAKH

- The Union government plans to create a benchmark framework for assessing students at the secondary and higher secondary levels in order to achieve **uniformity among state and central boards,** which now use diverse evaluation criteria, resulting in huge differences in scores.
- The proposed regulator, **PARAKH – Performance Assessment, Review and Analysis of Knowledge for Holistic** Development, will work to eliminate the emphasis on rote learning that the New Education Policy (NEP) envisions.

About

- PARAKH will act as **a constituent unit of the NCERT** and will be tasked with –
  - **Setting norms, standards and guidelines** for student assessment and evaluation for all recognized school boards of India.
  - Holding **periodic learning outcome tests** like the National Achievement Survey (NAS) and State Achievement Surveys.
- PARAKH team will consist of leading assessment experts with a deep understanding of the education system in India and internationally.
- PARAKH will eventually become the national single-window source for all assessment-related information and expertise, with a mandate to assist all forms of learning assessment, both nationally and globally, where relevant.

NCERT STUDY

According to a study, 11% of Indian children in Class III lack basic mathematics skills when compared to the global benchmark proficiency level.

Study Undertaken by NCERT

- A large-scale foundational learning study (FLS) was recently undertaken jointly by the Ministry of Education and the NCERT.
- Foundational learning, which is the children's ability to read with meaning and do basic math calculations by Class III, forms the basis of all future learning.
- The survey categorizes learners based on their knowledge and skills into four groups: those who

  LACK THEM | **HAVE LIMITED PROFICIENCY** | **HAVE SUFFICIENT COMPETENCY** | **ARE SUPERIOR**

- The survey results will assist the government in establishing benchmarks in 20 languages and numeracy.

Related Government Initiatives

- **National Education Policy 2020:**
  - It advocates for a 3-language formula in which two of the languages are indigenous to India.
  - It states that the medium of instruction should be in the mother tongue until at least Class V, and preferably until Class VIII, after which it can be taught as a language.
  - The Policy also emphasizes the significance of foundational learning.
- **National Initiative for Proficiency in Reading with Understanding and Numeracy (NIPUN) Bharat:**
  - Union Ministry of Education launched the NIPUN Bharat in 2021 as a national mission to enable all children at the end of Class III to attain foundational skills by the year 2026-2027.

Projection and Trends of School Enrolments by 2025

- The study, titled "Projection and Trends of School Enrolments by 2025," noted that school enrolment is expected to decline at all levels by 2025 due to a decline in population in the age group of 6 - 16 years.
- The report stated that **enrolment is a function of population,** consequently, if the population of an age group falls, so would enrolment.
  - According to Census 2011 data, the **proportion of children aged 0-6 years in the overall population declined from 18% to 13.12% between 1991 and 2011.**
  - As a result, the gap between enrolment and population also decreased.
- A look at the **social categorisation of the figures** reveals that the drop in enrollment for students from Scheduled Castes and Scheduled Tribe communities began in the 1990s.
  - During the period 2011-2016, growth in SC and ST children's primary stage enrollment was negative: -5.27% and -12.20%, respectively.
  - The reduction in enrollment of SC, ST children is remarkably comparable to the overall enrolment pattern in India.

70% NEW SCHOOLS IN INDIA PRIVATE: UNESCO REPORT

- According to the UNESCO's released Global Education Monitoring Report 2022, South Asia has undergone tremendous education expansion in the last 30 years, surpassing the rest of the globe.
- While India is driving these regional averages, 7 of every 10 new schools built in the last eight years in India have been private independent institutions.

Highlights of GEM 2022 with focus on India

- 1/3rd of students are in private schools that receive no state help, highlighting the fact that non-state actors are heavily involved in all aspects of education systems in South Asia.
- 67,000 of the 97,000 schools established since 2014 have been private and unaided.
- Approximately 29,600 unrecognised schools educating 3.8 million children in 2020.

- Over 500,000 students are educated at an estimated 4,139 unrecognised madrasas.
- Only 46% of adults thought that the government bore primary responsibility for delivering school education, the lowest number among 35 middle- and high-income countries.
- Furthermore, there has been a significant increase in the rates of private tutoring in India, with 61% of secondary school students reporting that they sought tutoring owing to low schooling quality.
- The main choice criteria of a school by parents included English-medium instruction, schools' ability to provide classes beyond pre-primary, proximity to home and education quality proxies such as school reputation.

MHA UNDERLINES NEED TO UPDATE NPR

- The Home ministry in its latest annual report has underlined the need to update the National Population Register (NPR) database across the country, except Assam.
  - This is to incorporate the changes due to birth, death, and migration for which demographic and other particulars of each family and individual are to be collected.

NATIONAL POPULATION REGISTER (NPR)

- The NPR is a register of **usual residents of the country**. It is mandatory for every usual resident of India to register in the NPR.
  - According to the Citizenship (Registration of Citizens and issue of National Identity Cards) Rules, 2003, a usual resident is:
    - a person ***who has resided*** in a local area for the past 6 months or more; or
    - a person ***who intends to reside*** in that area for the next 6 months or more.
  - It includes both **Indian citizens as well as a foreign citizen.**
- The first National Population Register was prepared in 2010 and updating this data was done during 2015 by conducting door to door survey.
  - The next National Population Register was to be held along with the Census 2021.
  - Due to the outbreak of Covid-19 pandemic, the work of NPR updation and other related field activities got postponed.
- NPR is conducted by the Office of the Registrar General of India (RGI) under the Home Ministry.

Legal basis of NPR

- NPR is prepared under Rule 3 of the ***Citizenship (Registration of Citizens and Issue of National Identity Cards) Rules, 2003.***
  - These rules were framed under the ***Citizenship Act, 1955.***
- The NPR is different from the National Register of Citizens (NRC) which excludes the foreign citizens.
  - ***NRC is a register containing details of Indian Citizens living in India and outside India.***

Details required for NPR

- The demographic details are required for every usual resident on 21 points.
- This includes 'date and place of birth of parents', last place of residence, Permanent Account Number (PAN), Aadhar (on a voluntary basis), Voter ID card number, Driving License Number and Mobile Number.
- In the NPR done in 2010, the data was collected on the 15 points and it did not include 'date and place of birth of parents' and last place of residence.

Key Highlights of the report

- **Three-pronged approach for updating the NPR database**
  - self-updating wherein residents will update their own data after following some authentication protocols on a web portal.
  - updating of NPR data in paper format, and
  - mobile mode.
- The demographic and other particulars of each family and individual are to be collected/updated during the exercise.
  - No documents or biometrics will be collected during the updation.
- **Citizenship certificates granted by authorities**
  - From April 1, 2021, to December 31, 2021, a total of 1,414 citizenship certificates have been granted by all authorities.
  - As per the report, the Central government has delegated its powers to grant Indian citizenship with respect to certain categories to Collectors of 29 districts and Home Secretaries of nine states.
    - This includes powers to grant citizenship by registration or naturalisation with respect to members of Hindu, Sikh, Jain, Buddhist, Christian or Parsi communities from Pakistan, Bangladesh and Afghanistan.
- **Long-term visas issued**
  - Home Ministry granted long-term visas to 2,439 members of minority communities from the three neighboring countries (Pakistan, Afghanistan and Bangladesh) in the last one year.
    - Long term visa is a precursor to Indian citizenship.

NCPCR LAUNCHES 'GHAR'

- On World Children's Day (November 20), the National Commission for Protection of Child Rights (NCPCR) launched a web portal - **"GHAR - Go Home and Re-Unite."**
- The portal will be a platform for digital tracking and monitoring of children from every district to smoothen the process of their repatriation and restoration.
- NCPCR also launched the -
  - Training Modules for the **Child Welfare Committees (CWCs)** for implementing the amendments brought in the **Juvenile Justice Act.**
  - Protocols for Restoration and Repatriation of Children.

About NCPCR

- It is a **statutory** body established in 2007 under the Commission for Protection of Child Rights Act, 2005. It works under the aegis of Union Ministry of Women & Child Development (WCD).

- Its mandate is to ensure that all laws, policies, programs and administrative systems ***conform to the vision of the rights of the child*** (age 0 - 18 years) as enunciated in the Indian Constitution as well as the UN Convention on the Rights of the Child.
- The Commission envisages a **rights-based perspective,** which flows into national-state-local policies and programmes & Strong institution-building processes.
- **Some portals of NCPCR** -
  - **MASI Portal** (Monitoring App for Seamless Inspection at shelter homes)
  - **Baal Swaraj Portal** (for online tracking and digital real-time monitoring mechanism of children in need of care and protection).

Need for the GHAR portal

- The portal will enable digital transfer of cases of children to the authorities concerned.
  - Many children who were taken before Juvenile Justice Board (JJBs) and the CWCs were discovered to be from another place, but it was difficult to repatriate them due to a lack of information on their native place.
- It will significantly reduce the number of children languishing in child care Institutions (CCIs).

CENTRE EXTENDS SCHOLARSHIP FOR J&K, LADAKH STUDENTS

The Central government has extended the Prime Minister's Special Scholarship Scheme (PMSSS) for students from Jammu and Kashmir and Ladakh for another five years in the wake of the encouraging response it has received.

Prime Minister's Special Scholarship Scheme (PMSSS)

- It was introduced by the Central government in **2011.**
- **Objective**: To promote employment opportunities for students from J&K and Ladakh.
- Under the scheme, **funding is provided to 5,000 meritorious students each year to study in private and government educational institutions across the country.**
- The scheme offers 4,500 seats for general education courses (Bachelor's in Arts, Commerce and Science), and 250 each for engineering and medical degrees.
- **Budget**: Rs 180-190 crore annually
- **Implementing Agency:** All India Council for Technical Education (AICTE)

Eligibility

- Students who are the **domiciles** of Union Territories of J&K and Ladakh.
  Those who have passed the **10+2** exam from the J&K Board or CBSE affiliated schools located in UTs of J&K and Ladakh.
  Students who have passed **10+3 diploma** from UTs of J&K and Ladakh Polytechnic.
  Students having an annual family income of less than **Rs 8 lakh.**

PMSSS Benefits

- A total of 5,000 scholarships are awarded for students pursuing courses in General Degree, Professional Degree, and Medical Streams.
- Students selected for the scholarship will receive the following benefits:

General Degree	• Up to RS 30,000 per annum for the academic fee (payable to the institution) • Maintenance charges of RS 1 lakh per annum (hostel and mess charges-payable to the student)
Professional Degree	• Up to RS 1.25 lakh per annum for the academic fee (payable to the institution) • Maintenance charges of RS 1 lakh per annum (payable to the student)
Medical stream	• ₹ 3 lakh per annum for the academic fee • Maintenance charges of RS 1 lakh per annum (payable to the student)

NIRF 2022

According to the Ministry of Education's National Institutional Ranking Framework (NIRF) 2022, IIT Madras is once again the country's top higher educational institute.

National Institute Ranking Framework (NIRF)

- The NIRF was launched by the Ministry of Human Resource Development (MHRD now Ministry of Education) in 2015 (First edition came in 2016). Prior to the advent of NIRF, higher education institutions (HEIs) were often ranked by private entities, particularly news magazines.
- While participation in the NIRF was initially voluntary, it became mandatory in 2018 for all government-run educational institutions.

Ranking Parameters And Categories

- **Categories:** NIRF ranks best institutions across 11 categories - overall national ranking, universities, engineering, college, medical, management, pharmacy, law, architecture, dental and research

UGC PROPOSES CLUSTERING OF COLLEGES

- Recently, the University Grants Commission (UGC) issued new guidelines for transforming colleges and universities into multi-disciplinary institutions.
- The aim is to help State governments and universities frame appropriate rules and policies.

Multi-disciplinary Institutions and National Education Policy (NEP) 2020

- More multi-disciplinary institutions in the country is one of the recommendations for higher education in the National Education Policy 2020.
- The policy document has set a target of 2030 for all higher education institutions (HEIs) to become multi-disciplinary, and thereafter, increase student enrolments preferably in the thousands by 2040.
- The goal is to increase the Gross Enrolment Ratio (GER) in higher education including vocational education from 26.3% (2018) to 50% by 2035.
- The NEP proposes that though a number of new institutions may be developed to attain these goals, a large part of the capacity creation will be achieved by expanding and improving existing HEIs.

INTELLECTUAL HERITAGE PROJECT

The Union Education Ministry is planning to create an "Intellectual Heritage in Development" — a dialogue, documentation and research programme on the Government's initiatives.

Intellectual Heritage in Development

- The project aims to create an 'Intellectual Heritage' in Development, Knowledge Resource and making New India, based on the government's initiatives.
- Under this project, few of the themes based on the initiatives of **various Ministries/ Departments of the Government have been identified.**

Key Features

- The plan is to hold about 100 conferences across the country on 100 themes during the three months.
- In these conferences, research papers based on secondary data and sources available in ministries or elsewhere will be presented.

- Researchers belonging to reputed Higher Education Institutions will contribute to these papers, which will eventually be published in a book.

Some Of The Focus Areas Identified By Ministry

ECONOMIC REFORMS AND EMERGING GLOBAL ECONOMY

The Finance Ministry and related ministries to focus on:

- India becoming the fastest growing economy, expanding markets beyond borders,record-breaking export year, GST, making India an investment-friendly destination, transparency in procurement, Atmarnirbhar Bharat, etc

INDIA'S GREAT CULTURAL HERITAGE: BHAVYATA AND DIVYATA

The Culture Ministry to focus on :

- Bringing our culture history back home,
- Tribute to India's great freedom fighters,
- Statue of Unity, Kranti Mandir (Red Fort),
- Jallianwala Bagh Samarak

The project also refers to restoring historical sites, including Ram Janmabhoomi temple and Somnath temple, among others.

EDUCATION MINISTRY

The Education Ministry's initiatives to be highlighted include:

- The National Education Policy,
- Samagra Shiksha (National Education Mission),
- NIPUN Bharat/ National Achievement Survey (NAS),
- Higher Education Financing Agency,
- National Initiative for School Heads and Teachers Holistic Advancement (NISHTHA),
- Scheme for Higher Education Youth in Apprenticeship and Skills (SHREYAS),
- Rashtriya Uchchatar Shiksha Abhiyaan (RUSA) and PM-eVidya.

TECH-POWERED INDIA: TRANSFORMING WORK, EMPOWERING PEOPLE

IT Ministry to conduct research on:

- Harnessing IT for Good Governance' and 'Jeevan Parmaan Patra',
- 'Ayushman Bharat Digital Mission',
- Atma Nirbhar India through Unified Payment Interface' (UPI),
- UMANG (Unified Mobile App for New age Governance).

SPORTS MINISTRY, SOCIAL JUSTICE MINISTRY AND TRIBAL AFFAIRS MINISTRY

- The Social Justice Ministry is to focus on "Empowering Divyangs UDID (Unique ID for Persons with Disability).
- The focus in sports will be on Sports Ministry programmes such as Fit India and SPOT Scholarships.
- The Tribal Affairs Ministry is to highlight "Restoring Janjatiya Gourav through Heroes, Histories", "Eklavya Model Residential School" and scholarships.

NAAC'S SCORES UNDER LENS

A deemed-university in Bhubaneshwar outperformed the distinguished Indian Institute of Science (IISc) Bengaluru, in terms of its NAAC score.

What is Accreditation?

- Accreditation is certification of quality for a fixed period, which in the case of NAAC is 5 years.
- The University Grants Commission (UGC) through a gazette notification in January 2013, has made it mandatory for Higher Educational Institutions (HEIs) to undergo accreditation.

NATIONAL ASSESSMENT AND ACCREDITATION COUNCIL (NAAC)

- NAAC is an autonomous body established by the University Grants Commission (UGC).
- It was established in **1994** on the basis of recommendations made under the National Education Policy (1986).
- Headquarters: Bengaluru.

Objectives of NAAC -

- To arrange for **periodic assessment and accreditation of institutions of higher education** or units thereof, or specific academic programmes or projects;
- To **stimulate the academic environment for promotion of quality** of teaching-learning and research in higher education institutions;
- To encourage self-evaluation, accountability, autonomy and innovations in higher education;
- To undertake quality-related research studies, consultancy and training programmes.

What is National Institute Ranking Framework (NIRF)?

- It is a methodology adopted by the Ministry of Education, to rank institutions of higher education in India.
- In July 2022, the Ministry released the 7th edition of NIRF.
- The ranking framework judges educational institutions under five broad generic groups of parameters of –
  - Teaching, Learning and Resources (TLR),
  - Research and Professional Practice (RP),
  - Graduation Outcomes (GO),
  - Outreach and Inclusivity (OI)
  - Perception (PR).

NAC Accreditation vs NIRF Rankings

- Accreditation is a comprehensive assessment that takes place as a one-time (5 year) event.
- **Ranking on the other hand is a yearly event** (since 2015).
- Despite both being an assessor of educational institutes, **both have considerable differences in terms of specific criteria, metrics used to prepare the qualitative and quantitative reports**.
- Chairman of the NAAC's executive committee has said that **there are some discrepancies in the scores and current system needs to be reviewed and improved upon.**

HAI SURVEILLANCE-INDIA PROJECT

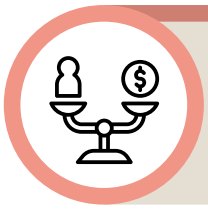
- A year-long surveillance of hospital-acquired infections (HAIs) across the country reveals a grim picture of superbugs (or drug-resistant microorganisms) victory over medicines.
- The survey was conducted by the newly formed Healthcare Associated Infection Surveillance-India.

Healthcare Associated Infection (HAI) Surveillance-India Project

- Under this cooperative agreement, AIIMS-New Delhi collaborated with the US Centers for Disease Control and Prevention (CDC) and Indian Council of Medical Research (ICMR) to

Strengthen the national capacity for surveillance of HAIs to serve the need for reliable AMR data.

Support successful patient care and to measure, track and report the magnitude and types of AMR and HAI threats affecting India.



Leverage the existing capacities for microbiology and robust academic capabilities of the ICMR-AMR network.

Findings of Healthcare Associated Infection (HAI) Surveillance-India

- According to the **first-ever year-long surveillance,** superbugs were widely present in Indian hospitals.
  - The presence of superbugs indicates resistance to older antibiotics and the need for costly last-resort antibiotics (such as carbapenem and colistin).
- **Intensive Care Units (ICUs) are hotbeds for HAIs.**
  - Most doctors are aware that ICU patients in India who stay for long periods become infected with gram-negative microorganisms, which are more difficult to treat than gram-positive organisms found in ICUs of western countries.
  - The findings confirm the magnitude of these gram-negative infections
  - Gram-negative bacteria are surrounded by a thin peptidoglycan cell wall, which itself is surrounded by an outer membrane containing lipopolysaccharide. Gram-positive bacteria lack an outer membrane but are surrounded by layers of peptidoglycan many times thicker than is found in the Gram-negatives.

STAR RATING FOR FOOD MAY MISLEAD BUYERS

- The Food Safety and Standards Authority of India (FSSAI) had recently proposed to introduce **'Health Start Rating' (HSR)** to check how healthy the packaged food items are.
- The HSR is similar to the one used by the **Bureau of Energy Efficiency** for measuring the energy efficiency of electrical appliances.
- In February 2022, the FSSAI decided in its **draft regulations for a Front of Package Labelling (FoPL) system that it will propose the health star rating system, which rates the overall nutritional profile of packaged food and assigns it a rating from half a star to five stars.**
- The move has upset public health experts who favour the **warning label system** such as a **black-and-white stop symbol used in Chile** or the red warning symbol in Israel for each of the three ingredients — salt, sugar and fat.

About Health Star Rating

- As per the 'Health Star' rating system, packaged foods will display the number of stars on the front of the pack, indicating how healthy or unhealthy it is, depending upon the amount of salt, sugar and fat it has.
- The FSSAI is bringing in the regulation based on a report from Indian Institute of Management – Ahmedabad. The study endorsed the HSR format as the best suited to Indians in helping to choose healthier packaged food items under a new policy on Front of Package Labelling (FoPL).

GLOBAL REPORT ON FOOD CRISES 2022

Recently, the Global Network Against Food Crises (GNAFC) published its annual report titled 'Global Report on Food Crises' for the year 2022.

What is Food Security?

- Food security means **availability, accessibility and affordability of food** to all people at all times.
  - **Availability** of food means food production within the country, food imports and the previous years' stock stored in government granaries.
  - **Accessibility** means food is within reach of every person.
  - **Affordability** implies that an individual has enough money to buy sufficient, safe and nutritious food to meet one's dietary needs.

STATE OF FOOD SECURITY AND NUTRITION IN THE WORLD, 2022

The State of Food Security and Nutrition in the World, 2022 report has been released.

- It is an annual flagship report to inform on progress towards ending hunger, achieving food security and improving nutrition. It is jointly prepared by: ***Food and Agriculture Organisation (FAO), International Fund for Agricultural Development (IFAD), UNICEF, World Food Programme (WFP), WHO.***

Key Highlights

World is moving backwards its efforts to end hunger, food insecurity & malnutrition

- We are now only eight years away from 2030, but the distance to reach many of the SDG 2 (Zero Hunger) targets is growing wider each year.
- At the same time, more frequent and extreme climate events are also disrupting supply chains, especially in low-income countries.

Global hunger has increased

- Number of people affected by hunger globally rose to as many as 828 million in 2021.
- This number saw an increase of about 46 million since 2020 and 150 million since the outbreak of the Covid-19.
- It further said that, in 2021, around 2.3 billion people are facing moderate or severe difficulty in obtaining enough to eat.
- This was before the Ukraine war, which has disrupted supply chains & sparked increases in the cost of grain, fertilizer, and energy.
- Gender gap in food insecurity continued to rise in 2021
- 31.9% of women in the world were moderately or severely food insecure, compared to 27.6% of men.

GOVT. HEALTH SPEND FALLS AS PERCENTAGE OF GDP

- The latest National Health Accounts (2018-19) reveal that public health expenditure as a percentage of Gross Domestic Product (GDP), after rising steadily from 2004-05 to 2017-18, fell to 1.28% in 2018-19 from 1.35% in 2017-18.
- The Total Health Expenditure (THE) in 2018-19 was Rs 5.96 lakh crore in which government spending was Rs 2.42 lakh crore, which is Rs 1,815 per capita.
- Government's share in THE was highest in Uttarakhand at 61% and Assam at over 55%, while lowest in UP and Kerala at about 25%. Per capita spending is highest in Kerala, while lowest in Bihar.

Other Key Highlights

- **Decline In Out-Of-Pocket Expenditure**
  - The NHA 2018-19 estimates show a continuous decline in out-of-pocket expenditure as a share of Total Health Expenditure (THE) from 64.2% to 48.2% between 2013-14 to 2018-19.
- **Health Outcomes Are Not Directly Corelated To Per Capita Spending By State**
  - The report showed that J&K had indicators nearly as good as those of Kerala, Himachal or Maharashtra with less than half the spending.
- **Spending Is Necessary, But Spending Alone Is Not Sufficient**
  - States with the least per capita spend — Bihar, MP and Assam in that order — have very poor health indices, which underlines that spending is necessary.
- **Increased Public Spending On Health**
  - Assam had the highest jump in share of public spending in the total health expenditure between 2004-05 and 2018.
- **Private Health Insurance –**
  - Private health insurance expenditure forms only Rs 39,201 crore — 6.57% of the total health spending and has been stagnating for years.

National Health Accounts (NHA)

- It is a process through which countries monitor the flow of money in their health sector.
- WHO has been coordinating efforts at the global level to produce those estimates for every country.
- It is published by **National Health Systems Resource Centre** under the Ministry of Health & Family Welfare.
  - NHA 2018-19 is the **6th round** in the series of annual Health Accounts for India for 20 large states.

Comparing India's Government Health Expenditure With Other Countries'

- The average for OECD countries in 2018 was 8.8% of GDP while the healthcare expenditure in the developed countries like the US was 16.9%.
- China – 5%, Germany - 11.25%, France - 11.2% and Japan - 10.9%.

GLOBAL HUNGER INDEX 2022

- India ranks 107 out of 121 countries on the Global Hunger Index.
- Created in 2006, the GHI is a joint project of Welthungerhilfe and NGO Concern Worldwide.
- India ranks below Sri Lanka (64), Nepal (81), Bangladesh (84), and Pakistan (99).
- Afghanistan (109) is the only country in South Asia that performs worse than India on the index.
- Goal 2 of the SDGs aims to end hunger and all forms of malnutrition by 2030.

How is GHI Defined?

- The GHI captures three dimensions of hunger –
  - Insufficient availability of food,
  - Shortfalls in nutritional status of children
  - Child mortality
- Accordingly, the index includes the following 4 indicators (given in fig. beside):
- A score between 20 and 34.9 is pegged in the "serious" category and this is where India finds itself with a total score of 29.1

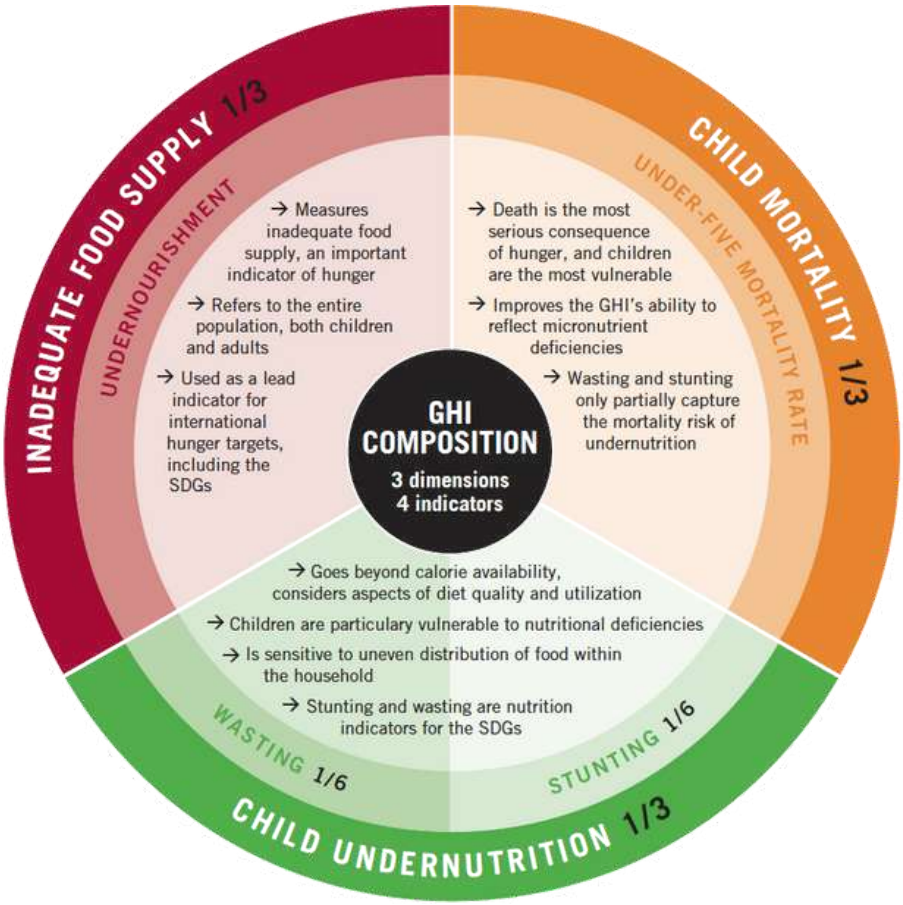
India's Performance

Child Wasting Rate –

- India's child wasting rate (low weight for height), at 19.3%, is worse than the levels recorded in 2014 (15.1%) and even 2000 (17.15%).

Undernourishment –

- Prevalence of undernourishment(224 million people in India) , which is a measure of the proportion of the population facing chronic deficiency of dietary energy intake, has also risen in the country from 14.6% in 2018-2020 to 16.3% in 2019-2021.



- **Child Stunting & Mortality** –
  - Child stunting has declined from 38.7% to 35.5% between 2014 and 2022.
  - Child mortality has also dropped from 4.6% to 3.3% in the same comparative period.
- On the whole, India has shown a slight worsening with its GHI score increasing from 28.2 in 2014 to 29.1 in 2022.

STATE RANKING INDEX FOR IMPLEMENTATION OF NFSA 2013

- Recently, the Ministry of Consumer Affairs, Food and Public Distribution, Government of India, released the first State Ranking Index for implementation of the National Food Security Act, 2013.
- Among the 20 big states and Union Territories (UTs), Odisha topped the list while Goa came last.

National Food Security Act (NFSA)

- **Legal right**
  - It provides a legal right to persons belonging to "eligible households" to receive food grains at subsidised price - rice at Rs 3/kg, wheat at Rs 2/kg and coarse grain at Re 1/kg, under the under Targeted Public Distribution System (TPDS).
    - These are called central issue prices (CIPs).
  - The Act covers up to 75% of the rural population and up to 50% of the urban population for receiving subsidised food grains (overall 67% of the total population).
- **Special focus on the nutritional support to women and children.**
  - **Women**: It provides meals to pregnant women and lactating mothers during pregnancy and six months after the child birth.
  - **Children**: Up to 14 years of age will be entitled to nutritious meals.
- **Food security allowance**: In case of non-supply of entitled food grains or meals.
- **Setting up Grievance redressal mechanism** at the District and State levels.

1st Edition State Ranking Index for Implementation of The NFSA

- It was launched by the Ministry of Consumer Affairs, Food & Public Distribution.
- It highlights the reforms undertaken by States and UTs and creates a cross-learning environment and scale-up reform measures by all states and UTs.

Key Features

- It largely focused on NFSA distribution and will include procurement, Pradhan Mantri Garib Kalyan Anna Yojana (PMGKAY) distribution in future.
- It is built on 3 key pillars which covers the end-to-end implementation of NFSA through TPDS.
  - Coverage of NFSA, rightful targeting, and implementation of all provisions under NFSA.
  - Delivery platform while considering the allocation of food grains, their movement, and last-mile delivery to Fair Price Shops (FPS).
  - Nutrition initiatives of the department.

Ranking

- Overall, Odisha, Uttar Pradesh and Andhra Pradesh Secured the top three positions in the Index.
- Among the special category states (northeastern, Himalayan and Island states), Tripura, Himachal Pradesh and Sikkim obtained the top positions.
- Jharkhand, Uttar Pradesh, Dadra and Nagar Haveli and Daman and Diu scored the highest in terms of coverage, targeting and implementing provisions of NFSA.
- Bihar, Andhra Pradesh and Telangana had the best delivery platform displaying the efficiency of the TPDS supply chain.

PANEL CALLS FOR BOOSTING PROTEIN, NUTRIENTS IN GOVERNMENT MEAL PROGRAMMES

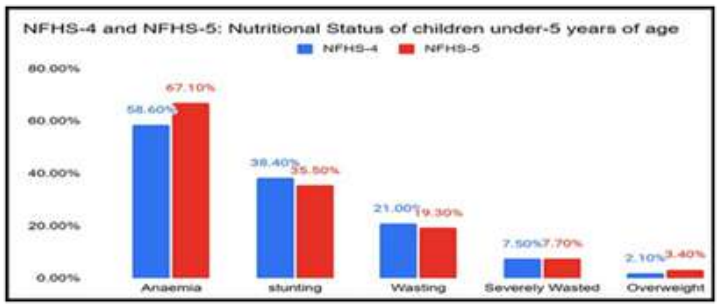
An inter-ministerial committee has observed that the Covid-19 pandemic is likely to have aggravated the silent crisis of undernutrition in India. It was submitted in October 2021 and is currently under the Centre's consideration.

Nutritional Status in India

- According to the National Family Health Survey (NFHS-5) 2019-21, India has seen no significant improvement in nutritional status among its population. {Refer the Picture given beside}

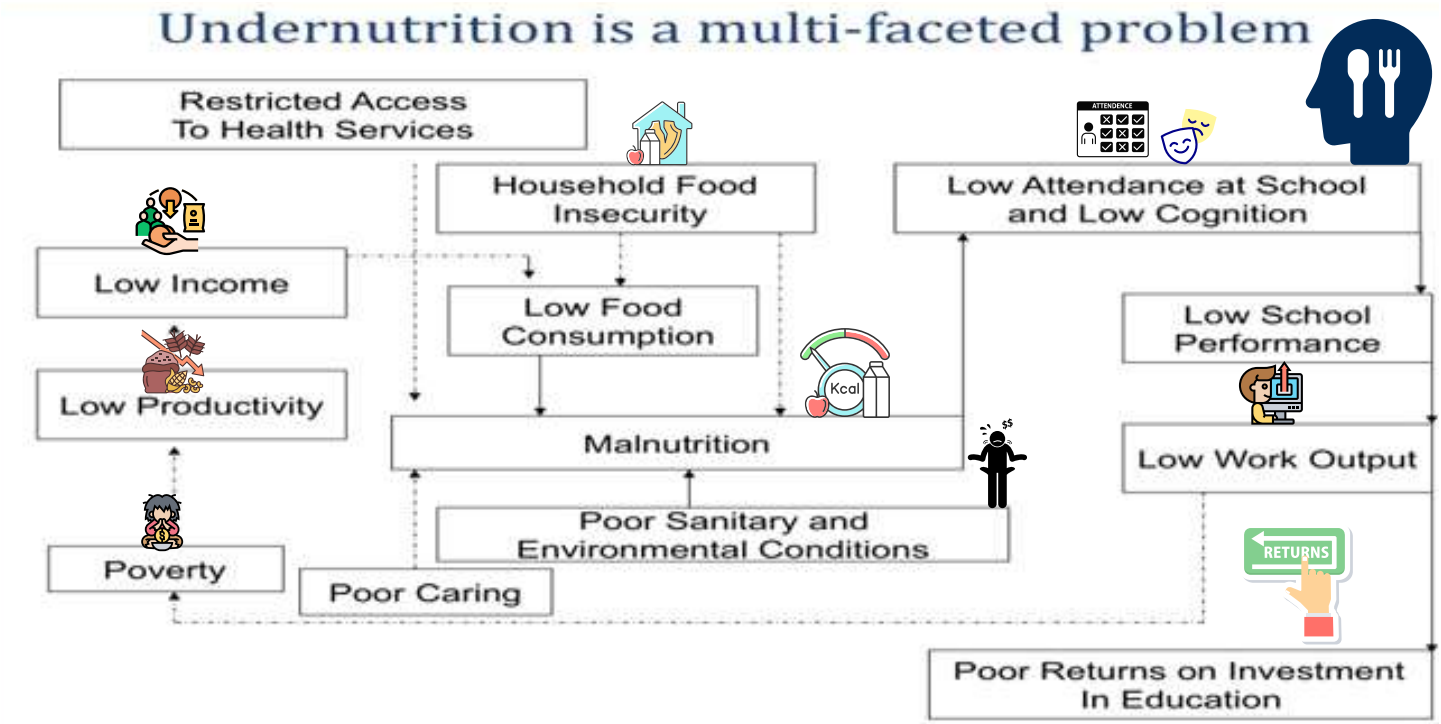
India's Key Observations

- Protein rich food items as well as micronutrients to be legally included in meals given through food safety programmes in schools and anganwadis.
- This could be done by revising Schedule II of the National Food Security Act (NFSA), 2013.
- Schedule II of the NFAS lays down nutritional standards for government food safety programmes like mid-day meal, PM Poshan and Integrated Child Development Services scheme.
- Currently, it quantifies nutrition per meal in terms of calories and protein only.
  - However, inter-ministerial panel has called for micronutrients also to be taken into account.
- **Recommended new standards of kilocalories and protein per meal** along with fixing proposed intake of **micronutrients** for all categories of beneficiaries.
    - It also recommended the food items required to achieve those standards. This excludes milk and fruits.
    - According to the cost implications of the recommendations, the cost per meal in lower primary classes will be Rs 9.6 and Rs 12.1 in upper primary.
    - Currently, the cooking costs are Rs 4.97 and Rs 7.45 respectively.



STATES/UTs THAT HAVE PERFORMED POORLY IN INITIATING BREASTFEEDING IN THE FIRST HOUR OF BIRTH

STATES		UNION TERRITORIES
Assam	Maharashtra	Dadra Nagar Haveli and Daman & Diu
Bihar	Manipur	Ladakh
Goa	Mizoram	
Gujarat	Sikkim	
Karnataka	Tripura	



DRUG, MEDICAL DEVICES, AND COSMETICS BILL-2022

- The Union Health ministry has released the new draft 'Drug, Medical Devices, and Cosmetics Bill-2022'.

Medical Device Sector in India

- The current market size of the medical devices sector in India is estimated to be $11 bn and its share in the global medical device market is estimated to be 1.5%.
- The medical device is a multi-product sector, with the following broad classifications:

ELECTRONICS EQUIPMENT | **CONSUMABLES AND DISPOSABLES** | **SURGICAL INSTRUMENTS** | **IMPLANTS** | **IN VITRO DIAGNOSTIC REAGENTS**

- Both drugs and medical devices are now regulated by Central Drugs Standard Control Organisation (CDSCO).
  - CDSCO is the Central Drug Authority for discharging functions assigned to the Central Government under the Drugs and Cosmetics Act, 1940.
- Recently, Department of Pharmaceutical (DoP) published the draft Uniform Code for Medical Device Marketing Practices (UCMDMP) to regulate fair marketing practices by the medical device industry

Key Provisions of Drug, Medical Devices, and Cosmetics Bill-2022

- It seeks to replace the Drugs and Cosmetics (D&C) Act, 1940.
- **Defining Medical Devices:**
  - Currently, medical devices are treated as drugs and there is no separate definition
  - The draft Bill has separate definition for medical devices that bring under its ambit diagnostic equipment, its software, implants, devices for assistance with disabilities, life support, instruments used for disinfection.
- **Medical Technical Advisory Board (MTAB):**
  - The Bill proposes MTAB on the lines of existing Drugs Technical Advisory Board.
  - This board will not only include medical professionals, but also people with technical knowledge of the devices.
  - The board will include officials from various departments such as atomic energy, department of science and technology, ministry of Electronics, DRDO, etc.
  - The draft Bill also proposes medical device testing centres on the lines of drug laboratories in states and at the central level.

- **Mandatory Permission For Clinical Trials:**
  - The new Bill also proposes compulsory permission of the **central licensing authorit**y for clinical trials or clinical investigation of drugs and medical devices.
  - Although companies at present also have to seek permission from the apex drug regulator to conduct trials, **medical devices** was never mentioned in the previous law.
  - Also, medical management and compensation to persons who are injured while participating in such trials.
- **E-Pharmacies:**
  - Central government must come up with rules to regulate **online sale of drugs** and for online pharmacies to operate in accordance with a licence or permission issued.

NICOTINE REPLACEMENT THERAPY

- Nicotine Replacement Therapy (NRT) is likely to be added to the National List of Essential Medicines (NLEM).

National List of Essential Medicines (NLEM)

- Essential medicines are those that satisfy the priority healthcare needs of the majority of the population.
- The primary purpose of NLEM is to promote rational use of medicines considering the three important aspects i.e., cost, safety and efficacy.
- The first NLEM of India was prepared and released in 1996.

Nicotine Replacement Therapy (NRT

- It is a WHO-approved 12-week regimen that reduces smokers' dependency on cigarettes gradually and finally leads to them to quit smoking.
- NRT gives nicotine – in the form of **gum, patches, sprays, inhalers, or lozenges** – but not the other harmful chemicals in tobacco.
  - Lozenges are solid dosage forms that are dissolved slowly in the mouth.
- NRT **can help relieve some of the physical withdrawal symptoms so that a nicotine-addicted person can focus on the psychological (emotional) aspects of quitting.**
- Many studies have shown using NRT can double the chances of quitting smoking.
- On average, the daily therapy cost could range between Rs 10-13 per patient and is taken over 60-90 days.

- Under the latest NLEM 2015, a total 376 drugs are under price control. The revision in the NLEM every 5 years was delayed in 2020 due to Covid-19 pandemic.
- **Issued by**: Ministry of Health and Family Welfare. It is based on WHO's Model List of Essential Drugs.

52% RURAL HOMES NOW HAVE PIPED WATER

- PM Modi recently declared that India had reached a landmark by connecting 10 crore rural households (52% of total rural households) to piped clean water under the Jal Jeevan Mission.
- At the State level, Goa, Telangana and Haryana have achieved 100% tap connectivity to all households in the State. UTs like Puducherry, the Andaman and Nicobar Islands, Dadra & Nagar Haveli and Daman & Diu have also provided 100 % of their households with tap water connections.

Jal Jeevan Mission (JJM)

- Introduced in 2019. It emphasises the significance of reaching 100% **Functional Household Tap Connection (FHTC)** by 2024 to all households in **rural India** (Har Ghar Jal) at affordable service delivery charges envisaging supply of **55 litres of water per person per day**
- It aims to provide functional tap connection to schools, anganwadi centres, Health and wellness centres, community buildings, etc.
- It is an initiative of the **Ministry of Jal Shakti**
- The Mission also implements **source sustainability measures** (such as recharge and reuse through grey water management, water conservation, rain water harvesting, water supply infrastructure) as mandatory elements.
- The JJM is be based on a **community approach** to water and will include extensive Information, Education and Communication (IEC) as a key component of the mission.
- The JJM rests on **four pillars** - people's participation, stakeholder participation, political will and optimum utilisation of resources.
- The fund sharing pattern between the Centre and states is 90:10 for Himalayan and North-Eastern States, 50:50 for other states, and 100% for Union Territories.

objectives of JJM

- To promote and ensure voluntary ownership among local communities by way of contribution in cash, kind and/or labour and voluntary labour (shramdaan).
- To empower and develop human resources in the sector such as the construction, plumbing, water quality management, water treatment, etc.
- To bring awareness on various aspects and significance of safe drinking water and involvement of stakeholders in manner that make water everyone's business.

Paani Samitis

Local people and Gram Sabhas and other institutions of local governance have been given an unprecedented role in the campaign. Local women are trained for water testing and are members of 'Paani Samitis' (village water and sanitation committees under JJM). JJM is managed by paani samitis to plan, implement, manage, operate and maintain village water supply systems.

These consist of 10-15 members, with at least 50% women members and other members from SHGs, accredited social and health workers, Anganwadi teacher, etc. The committees prepare a one-time village action plan, merging all available village resources. The plan is approved in a Gram Sabha before implementation. The mobile application will provide details of water infrastructure, an Aadhaar-verified data set of beneficiaries, and water quality and contamination-related information for each village.

CANNOT SHARE AADHAAR DETAILS FOR CRIME INQUIRY, UIDAI TELLS HC

Recently, the **Unique Identification Authority of India (UIDAI)** told the **Delhi High Court** that fingerprints found at a scene of crime cannot be matched against the Aadhaar database **to identify a criminal.**

- The query came after the prosecution sought to know if potential fingerprints and photographs of unknown accused could be matched with the Aadhaar database to identify the culprits.
- In an order passed in February, the High Court asked the UIDAI to respond whether the **Aadhaar Act 2016** permits the same.

UIDAI Response

- The UIDAI said in its affidavit that sharing or use of biometric information for any use other than the generation of the Aadhaar number, and authentication, is "impermissible".
- **Section 29 of the Aadhar Act places restrictions on sharing information collected or created under the Act.**
- The UIDAI also referred to regulation 3 of the Aadhaar Act, which says "**core biometric information collected by the Authority under the Act shall not be shared with anyone for any reason whatsoever**".
- The UIDAI also added that it does not have the technology to match fingerprints etc found at the scene of a crime with those available on its database.
- The UIDAI added that the **biometrics information is only used for de-duplication of residents and to ensure uniqueness of Aadhaar number**.
- The UIDAI submitted that as per the mandate of the Aadhaar Act and the direction of the Supreme Court, such information cannot be provided without giving an opportunity of hearing to the Aadhaar cardholder in question.

Exceptions When Information Can Be Revealed

- Certain provisions of the Aadhar Act, 2016 allow for sharing the information in the following two scenarios:
- In the interest of national security, a Joint Secretary in the Central Government may issue a direction for revealing, (i) Aadhaar number, (ii) biometric information (iris scan, finger print and other biological attributes specified by regulations), (iii) demographic information, and (iv) photograph.
  - Such a decision will be reviewed by an Oversight Committee and will be valid for six months.
- On the order of a court, only (i) an individual's Aadhaar number, (ii) photograph, and (iii) demographic information, may be revealed.

About Aadhar Act, 2016

The Aadhaar (Targeted Delivery of Financial and Other Subsidies, Benefits and Services) Act, 2016 (shortly called Aadhar Act), was passed by the Parliament in March, 2016.

Objectives:

- To provide legal backing to the Aadhaar unique identification number project.
- To provide for targeted delivery of subsidies and services to individuals residing in India by assigning them unique identity numbers, called Aadhaar numbers.

Major Features of the Act

Eligibility:

- **Every resident shall be entitled to obtain an Aadhaar number.**
- A resident is a person who has **resided in India for 182 days, in the one year preceding the date of application for enrolment for Aadhaar.**

Information to be Submitted:

- Biometric (photograph, finger print, iris scan) and Demographic (name, date of birth, address) information.

Use of Aadhar Number:

- To verify the identity of a person receiving a subsidy or a service, the government may require them to have an Aadhaar number.
- Any public or private entity can accept the Aadhaar number as a proof of identity of the Aadhaar number holder, for any purpose.
- **Aadhaar number cannot be a proof of citizenship or domicile.**

Protection of Information:

- Biometric information such as an individual's finger print, iris scan and other biological attributes (specified by regulations) will be used only for Aadhaar enrolment and authentication, and for no other purpose.
- Such information will not be shared with anyone, nor will it be displayed publicly, except for purposes specified by regulations.

Offences & Penalties:

- A person may be punished with imprisonment up to three years and minimum fine of Rs 10 lakh for **unauthorised access to the centralized data-base, including revealing any information stored in it**

CENTRE RETRACTS CAUTION ON AADHAAR PHOTOCOPIES

- The government has withdrawn the notification cautioning people against sharing a photocopy of their Aadhar card, claiming that it could be misinterpreted.

What Was The Earlier Notification?

- The earlier notification asked the general public not to share photocopy of one's Aadhaar with any organisation because it can be misused. It was issued by the Bengaluru Regional Office of the UIDAI.

- It further added that a masked Aadhaar, which displays only the last 4 digits of the biometric ID, can be used for the purpose.
- That notification also advised against using a public computer to download electronic versions of the Aadhar.
- Only those organisations with a 'user licence' from the UIDAI could use Aadhar for establishing a person's identity.
  - Hotels and cinema halls weren't authorised to collect photocopies of Aadhar.

UIDAI Stand On Sharing The Card Details

- UIDAI, on multiple occasions, had publicly stated that Aadhar details, without biometric information, couldn't be used to impersonate a person.

- However, it should be remembered that Aadhar is a document that detailed a person's personal information.
- Hence, it was akin to giving out a mobile phone number, or a bank account number or a PAN card and ought to be "ordinarily protected" to ensure a person's privacy.
- In 2018, UIDAI tweeted that Aadhar as an identity document by its very nature needs to be shared openly with others as and when required for.
  - On the other hand, in November 2016, UIDAI from its official handle tweeted: We urge you to be very discreet about your Aadhar and other identity documents. Do not share the document no. or a printed copy with anyone.

Unique Identification Authority of India
Government of India

- UIDAI is a statutory authority established under the provisions of the Aadhaar (Targeted Delivery of Financial and Other Subsidies, Benefits and Services) Act, 2016 ("Aadhaar Act 2016").
- It has been established under the administrative control of the Ministry of Electronics and Information Technology (MeitY).
- UIDAI was created to issue Unique Identification numbers (UID), named as "Aadhaar", to all residents of India.
  - As on 31st October 2021, the Authority has issued 131.68 crore Aadhaar numbers to the residents of India.
- It has its Headquarters (HQ) in New Delhi and eight Regional Offices (ROs) across the country.
  - UIDAI has two Data Centres, one at Hebbal (Bengaluru), Karnataka and another at Manesar (Gurugram), Haryana

Role & Responsibilities: Under the Aadhaar Act 2016, UIDAI is responsible for:

- Aadhaar enrolment and authentication, including operation and management of all stages of Aadhaar life cycle,
- Developing the policy, procedure, and system for issuing Aadhaar numbers to individuals
- Perform authentication and the security of identity information and authentication records of individuals.

Composition of the Authority

- The Authority consists of two part-time Members and a Chief Executive Officer who shall be the Member-Secretary of the Authority.
- Chairman of the Authority is Vacant.

GOVT CRACKS WHIP ON MISLEADING ADS

- To protect people from being exploited or affected by misleading advertisements, the Central Consumer Protection Authority (CCPA) has notified new guidelines for stopping them across all platforms — regardless of form, format or medium.
- The Central government has notified stricter norms related to mass advertising in print, television and social media under the Consumer Protection Authority (Prevention of Misleading Advertisements and Necessary Due Diligence for Endorsement of Advertisements) Guidelines 2022.

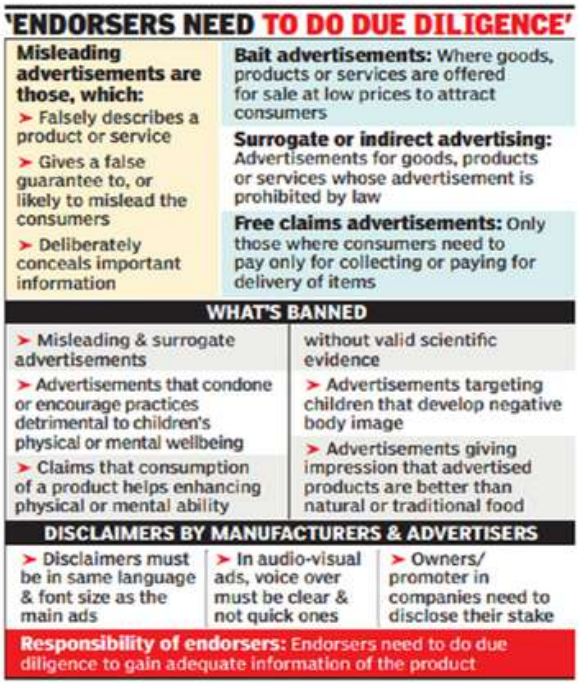
Major Highlights Of The Guidelines Include

Accountability of Celebrities

- Celebrities endorsing products or services can be held responsible and face action for appearing in misleading promotions.
- Celebrities endorsing misleading ads can be fined up to ₹10 lakh by the consumer protection authority.
- For repeat offences, the authority can impose a fine of up to ₹50 lakh and a jail term of up to five years.
- These guidelines come at a time when several popular actors and top cricketers have been endorsing gaming and gambling apps, and chewing tobacco.

Set Criteria

- An advertisement will be considered non-misleading and valid only when it meets a set of criteria laid down in the new rules.
- These include "truthful representations" that don't "exaggerate accuracy, scientific validity or practical usefulness or capability or performance".



Ban on Surrogate Advertising:

- The new guidelines ban surrogate advertising, a practice where a seller promotes a product whose advertisement is not allowed by disguising it as another product.
- Liquor ads commonly indulge in such practices — under the guise of selling soda, CDs, and even holiday packages.

Ban On Certain Advertisements For Children:

- An advertisement for junk foods, including chips, carbonated beverages and such other snacks and drinks shall not be advertised during a programme meant for children or on a channel meant exclusively for children.

Central Consumer Protection Authority (CCPA)

- It is a **statutory body** constituted under Section 10 of the **Consumer Protection Act, 2019.**
- **Mandate**: To protect the rights of the consumer by cracking down on unfair trade practices, and false and misleading advertisements that are detrimental to the interests of the public and consumers.
- **Concerned Ministry:** Ministry of Consumer Affairs, Food and Public Distribution

Powers & Functions of CCPA:

- To recall goods or withdrawal of services that are "dangerous, hazardous or unsafe";
- Pass an order for refund the prices of goods or services so recalled to purchasers of such goods or services;
- Discontinuation of practices which are unfair and prejudicial to consumer's interest;
- Impose penalties on manufacturers/endorsers/publishers of misleading advertisements.

Consumer Protection Act, 2019

- It replaced the **Consumer Protection Act,** 1986, and seeks to widen its scope in addressing consumer concerns.
- The new Act recognises offences such as providing false information regarding the quality or quantity of a good or service, and misleading advertisements.
- It also specifies action to be taken if goods/services are found "dangerous, hazardous or unsafe".
- The Act came into force in July 2020 and it will empower consumers and help them in protecting their rights through its various notified rules and provisions

WORLD PRESS FREEDOM INDEX

- The Centre said it doesn't subscribe to views of "foreign non-government organisation" Reporters Without Borders, whose World Press Freedom Index ranked India at the bottom. It has ranked India in the bottom 30 worst nations in a list of 180.

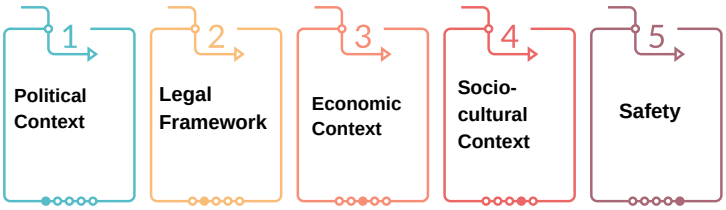
World Press Freedom Index

- The Press Freedom Index is an annual ranking of countries compiled and published by Reporters Without Borders since 2002.
- Reporters Without Borders is an international non-profit and non-governmental organization with the stated aim of safeguarding the right to freedom of information.
- It is based in Paris, France.
- The Index highlights the degree of freedom that journalists, news organisations and netizens have in each country, and the government's efforts to respect such freedom.

Parameters:

- The Index's rankings are based on a score ranging from 0 to 100 that is assigned to each country or territory, with 100 being the best possible score (the highest possible level of press freedom) and 0 the worst.

- This score is calculated on the basis of two components:
- A **quantitative tally** of abuses against journalists in connection with their work, and against media outlets;
- A **qualitative analysis** of the situation in each country or territory based on the responses of press freedom specialists to Reporters Without Borders (RSF) questionnaire.



World Press Freedom Index 2022

- This year, Norway (1st) Denmark (2nd), Sweden (3rd) grabbed the top positions.
- On the other hand, North Korea remained at the bottom of the list of the 180 countries and territories ranked by the Index.

India's Scenario

- India's position has been consistently falling in the index since 2016 when it was ranked 133.
- With a global score of 41, India has gone down to the 150th position from 142 last year.

MOTHER TONGUE SURVEY OF INDIA

- The Ministry of Home Affairs (MHA) has completed the Mother Tongue Survey of India (MTSI) with field videography of the country's 576 languages.

Mother Tongue Survey of India (MTSI)

- It is a project that surveys the mother tongues, which are returned consistently across two and more Census decades.
- It also documents the linguistic features of the selected languages.
- The National Informatics Centre (NIC) and the National Film Development Corporation (NFDC) will be documenting and preserving the linguistic data of the surveyed mother tongues in audio-video files.

Number of mother tongues spoken in India

- According to the 2011 linguistic census data released in 2018, there are more than 19,500 languages and dialects spoken as mother tongues in India.

- These 19,500 languages were further grouped into **121 categories** of mother tongue after linguistic scrutiny and rationalising.
- According to 2011 linguistic census data, ***Hindi is the most spoken mother tongue*** by 52.8 crore people of the country, accounting for 43.6% of the population.
- Following that, 9.7 crore people or 8% of the population spoke ***Bengali, making it the country's second most popular mother tongue.***
  - It should be noted that mother tongue is a designation given to a language by the respondent of the survey.
  - It need not be identical with the actual linguistic medium.

Mother tongue in education

- National Education Policy (NEP), 2020, also aims to promote mother tongue and regional languages.
- The new National Curriculum Framework (NCF) for the foundational stages (ages 3 to 8) of education has recommended that mother tongue should be the primary medium of instruction in schools for children up to eight years of age.

Linguistic Survey of India (LSI)

- LSI is a regular research activity in the country since the 6th Five Year Plan.
- The primary objective of the present Linguistic Survey of India is to present an updated linguistic scenario.
- It further aims to provide necessary inputs to the social/educational planners in respective States for their planning to attain the envisaged goals.

PGI 2020-21

- The Department of School Education and Literacy, Ministry of Education released the Performance Grading Index (PGI) for States/UTs for 2020-21.

About Performance Grading Index (PGI)

- It assesses states' performance in school education based on data drawn from several sources:
  - Unified District Information System for Education Plus
  - National Achievement Survey
  - Mid-Day Meal
- The prime objective of PGI is to promote evidence-based policymaking and highlight course correction to ensure quality education for all.
- The Education Ministry released the first PGI in 2019 for the reference year 2017-18.

Grading System

- States are scored on a ***total of 1,000 points across 70 parameters***, which are grouped under **five broad categories**
  - **Access** (e.g., enrolment ratio, transition rate and retention rate);
  - **Governance process**;
  - **Infrastructure & Facilities**;
  - **Equity** (difference in performance between scheduled caste students and general category students) and
  - **Learning outcomes** (average score in mathematics, science, languages and social science).

What does the Grading system reflect?

- The PGI grading system has 10 levels.
- **Level I** indicates top-notch performance and a score between 951 and 1,000 points.
- **Level II** indicates a score between 901 and 950.
- The lowest is **Level X**, and it means a score between 0 and 550 points.
- The ultimate aim of PGI is to propel States and UTs towards undertaking multi-pronged interventions that will bring about the much-desired optimal education outcomes covering all dimensions.

About PGI 2020-21

- No state/UT managed to attain the highest achievable grade of level I.
- **Punjab** shared top honours with **Kerala and Maharashtra** as all three states have scored 928 out of total of 1,000 points to make it to Level II
- Apart from the above three states, four new state/ UTs have been listed in Level II for the first time. These are Gujarat, Chandigarh, Rajasthan and Andhra Pradesh.
- The newly formed UT viz., **Ladakh** has made significant improvement in PGI from Level 8 to Level 4 in 2020-21 or improved its score by 299 points in 2020-21 as compared to 2019-20 resulting into the highest ever improvement in a single year.

UNIVERSAL PERIODIC REVIEW (UPR)

- The UPR is a process through which all UN Member States are provided the opportunity to review the human rights records of all other Member States.
- At the same time, each State under review has the opportunity to report on human rights conditions within their own borders.
  - This includes actions that have been taken to address concerns detailed by other States.

- UPR sessions take place in Geneva 3 times a year under the auspices of UNHRC & are orchestrated by the Office of the High Commissioner for Human Rights.
- Individual countries are scheduled for review every four and a half years.
- Outcome of the review consists of the questions, comments and recommendations made by States to the country under review, as well as the responses by the reviewed State.
  - State has the primary responsibility to implement the recommendations contained in the final outcome.
  - However, UNHRC will decide on the measures it would need to take in case of persistent non-co-operation by a State with the UPR.

Background

- Recently, the 4th cycle of the Universal Periodic Review of **India** at the UNHRC was started.
- At this event, countries like **Greece, Netherlands, and Vatican City** called upon the Government of India to ensure freedom of religion and end discrimination against human rights defenders and religious minorities.

- Some member states, like Ireland, had raised concerns over the issue of the **Foreign Contribution (Regulation) Act (FCRA), 2010** under which over 6,000 NGOs have had their operating licenses revoked.
- The US also called on India to:
  - reduce the broad application of the Unlawful Activities (Prevention) Act (UAPA) and similar laws against human rights activists, journalists and religious minorities;
  - ratify the Convention Against Torture and prosecute those responsible for human rights abuses;
  - improve the transparency of license adjudications related to FCRA; and
  - create easier pathways for NGOs to appeal adverse government decisions on FCRA licenses.

NEW PHD REGULATIONS

- UGC has notified new regulations on PhD (Doctor of Philosophy) degrees called "UGC (Minimum Standards and Procedures for Award of PhD Degree) Regulations, 2022".
- These rules will replace the rules notified in 2016.

Key highlights

- Eligibility criteria for admissions
  - Anyone with a four-year/eight-semester Bachelor's programme degree with a minimum 75% marks in aggregate or its equivalent grade will be eligible for a PhD.
    - So far, a Master's degree with at least 55% marks in aggregate was mandatory for doctoral aspirants.
    - Many universities also insisted on using M.Phil as the gateway.

  - Those joining PhD programmes after a four-year UG programme can do so after a one-year Master's degree.
- Graduates with conventional three-year UG degrees need to have completed two-year Master's degrees.
- **M.Phil programme to be discontinued:** However, new rules will have no bearing on those holding or pursuing M.Phil degrees currently.
  - Mandatory requirement of publishing research papers has been scrapped
  - The mandatory requirement of publishing research papers in refereed (Peer-reviewed) journals or presenting in conferences has been scrapped.
  - Part-time PhDs have been launched for working professionals.
  - Eligibility conditions are the same for both full-time and part-time candidates.
    - Their PhD work will be assessed in the same way as is done for the full-time PhD students.
    - However, in addition to meeting the regular criteria, the part-time PhD candidates will also have to produce a No-Objection Certificate (NOC) from their employer.
- Relaxation for EWS candidates: Apart from reserved category applicants, those falling under the EWS bracket will also be granted 5% relaxations.

No major changes in the procedure for admissions: As was the norm so far, universities and colleges will be free to admit students through the NET/JRF qualification route as well as entrance exams at the level of the institutions.

- The proposed common entrance test for PhDs has been left out of the new Regulations.

Functioning of research supervisors

- Eligible professors, associate professors, and assistant professors can continue to guide up to eight, six, and four PhD candidates respectively at any given time, as earlier.
- However, earlier, professors, associate professors, and assistant professors could also guide three, two, and one M.Phil scholars respectively over and above their PhD candidates. Now they cannot do so as the MPhil program has been scrapped
- The new Rules also bar faculty members with less than 3 years of service left before superannuation from taking new research scholars under their supervision.

Quality of doctoral education and research

- It has introduced a new requirement for PhD scholars, irrespective of discipline, to train in teaching/education/ pedagogy/ writing related to their chosen subject during their doctoral period.
- They may also be assigned four to six hours per week of teaching/ research assistantship for conducting tutorial or laboratory work and evaluations.
- Earlier, to ensure the quality of their output, research scholars had to appear before a Research Advisory Committee once in six months and present the progress of their work for evaluation and further guidance.
- They will now have to do this every semester.

POPULATION CRITERIA FOR NEW EKLAVYA SCHOOL

- The Tribal Affairs Ministry intends to go ahead with its plan to build new Eklavya Model Residential Schools (EMRS) on 15 acres of land in all sub-districts which have Scheduled Tribe communities of more than 20,000 people, who make up at least 50% of their total population.
- This is despite a Parliamentary panel saying that this criteria is "impractical".

About Eklavya Model Residential School (EMRS)

- EMRS started in 1997-98 with the aim of imparting quality education to children belonging to Scheduled Tribes (ST) in remote areas.
- It enables students to avail of opportunities in high and professional educational courses and get employment in various sectors.
- Each school has a capacity of 480 students, catering to students from Class VI to XII.

Background:

- Earlier this year, the **Parliamentary Standing Committee on Social Justice and Empowerment** recommended immediate review of criteria of having 15 acres of continuous land.
- The committee had pointed out that in many areas where the population criteria is met, ***suitable land is not available for constructing the schools and even if the land is available, the legal acquisition of the land is taking time.***
  - In hilly areas, Left-Wing Extremism-affected areas, and North-East India, finding a contiguous piece of land measuring 15-acres, as recommended, is becoming one of the most difficult tasks.
- This criterion would also deprive scattered ST populations of the benefit of the Eklavya schools, the panel said.
- However, the **Tribal Affairs Ministry** said that these criteria were decided and finalised by the Union Cabinet and the ministry intends to go ahead with it.
- In keeping with the government's intent, President Murmu laid the foundation stones for seven more such Eklavya schools in Jharkhand on **Janjatiya Gaurav Divas (November 15)**.

- These are being set up by grants provided under Article 275(1) of the Constitution.
- **Nodal Ministry – Ministry of Tribal Affairs**
  - Tribal Affairs Ministry in May , 2021, signed an MoU with Microsoft to help Tribal schools such as EMRS and Ashram Schools have digital transformation
  - National Education Society for Tribal Students (NESTS), an autonomous Society has been set up under the Ministry of Tribal Affairs to establish, endow, maintain, control, and manage the schools and to do all acts and things necessary for or conducive to the promotion of such schools. The NESTS shall function through an Executive Committee under the Chairmanship of Secretary, Tribal Affairs.
- **Eklavya Model Day Boarding Schools (EMDBS) –**
  - Wherever density of ST population is higher in identified Sub-Districts (90% or more), it is proposed to set up Eklavya Model Day Boarding School (EMDBS) on an experimental basis.
  - This is aimed at providing additional scope for ST Students seeking to avail school education without residential facility.

INDORE BAGS CLEANEST CITY AWARD FOR 6TH YEAR

- Indore was awarded the cleanest city in India for the sixth year in a row and Madhya Pradesh awarded the cleanest state in the country.
- The awards were given by the President of India as part of the Azadi@75 Swachh Survekshan 2022, hosted as part of the Swachh Bharat Mission (SBM).

Swachh Survekshan

- It is an annual survey of cleanliness, hygiene and sanitation in cities and towns across India, launched as part of the Swachh Bharat Abhiyan (specifically under SBA-Urban).
- It was launched by the Ministry of Housing and Urban Affairs (MoHUA) with Quality Council of India (QCI) as its implementation partner.
  - The SBA was launched (on 2nd October 2014) to make India clean and free of open defecation by 2nd October 2019.

- The SBA was split into two - rural (SBA-Gramin, monitored by the Department of Drinking Water and Sanitation under the Ministry of Jal Shakti) and urban (SBA-Urban, overseen by the MoHUA).
- SBM-U 2.0 was launched on 1st October, 2021, focused on ensuring complete access to sanitation facilities for all.
- The vision of a Garbage Free India is an initiative under SBM-U 2.0.

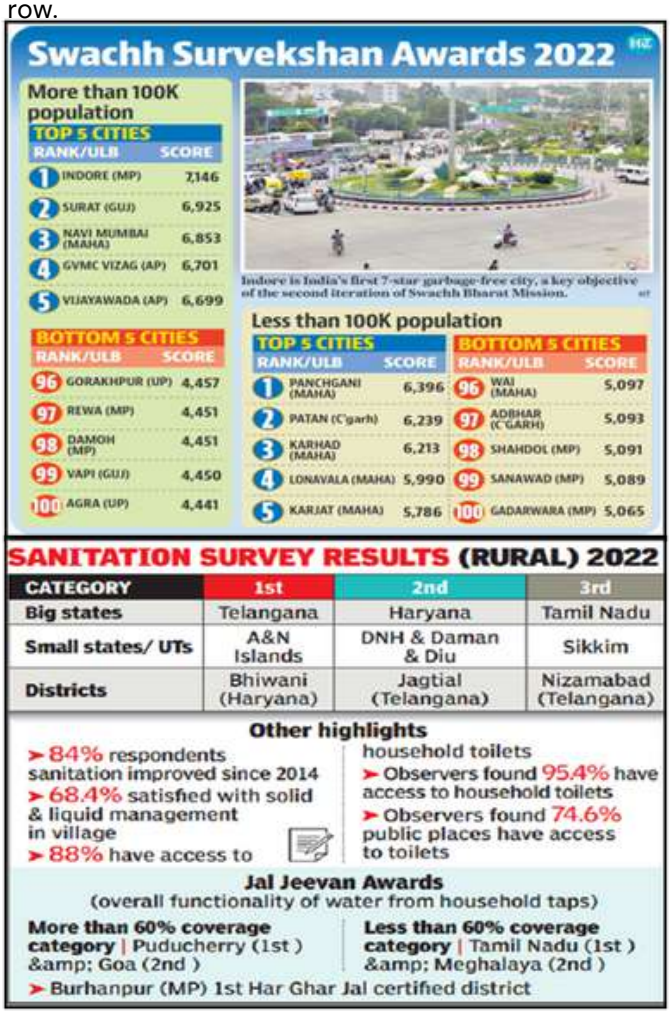
- The first survey was undertaken in 2016 (covering 73 cities), which had grown to cover 4242 (by the 2020 survey).

Swachh Survekshan 2022 - Seventh edition

Awards

- **In the State Awards**
  - Madhya Pradesh was named the Cleanest State in the category of "more than 100 Urban Local Bodies," displacing Chhattisgarh, the previous three years' cleanest state, to second place. Maharashtra was named the third cleanest state.
  - Similarly, Tripura won the cleanest State award in the "less than 100 urban local bodies category," unseating Jharkhand, which had won the previous two years in a row.
  - Uttarakhand finished third.

- **Winners In Other Categories:**
  - Indore strengthened its position by becoming India's first 7-star Garbage Free city, while Surat, Bhopal, Mysuru, Navi Mumbai, Vishakhapatnam, and Tirupati received 5-star Garbage Free designations.
  - Tirupati was named the best city in the Safai Mitra Suraksha category, while Haridwar in Uttarakhand was named the best Ganga town among cities with more than one lakh inhabitants.
  - Shivamogga in Karnataka was named a fast-moving city.



Swachh Survekshan Gramin (SSG) 2022

- According to the Swachh Survekshan Gramin (SSG) 2022, **Telangana, Haryana and Tamil Nadu** emerged the cleanest among all large states on parameters of rural sanitation.
- On the other hand, Assam, Bihar and Jammu and Kashmir were the three worst performers.
- It is monitored by the **Department of Drinking Water and Sanitation under the Ministry of Jal Shakti.**
  - ODF Plus activities under Phase II of SBM-G will reinforce ODF behaviours and focus on providing interventions for safe management of solid and liquid waste in villages.
  - Phase II is implemented from 2020-21 to 2024-25.

SSG 2022

- The 2022 survey was recently released by the President of India on the occasion of Gandhi Jayanti, which is now also celebrated as Swachh Bharat Diwas.
  - Golaghat district of Assam finished at the bottom of 709 districts, ranked in this survey. The two other worst performers were from Bihar - **Banka and Katihar.**

UNDP PRAISES & CAUTIONS INDIA IN POVERTY REPORT

- As many as 415 million people exited multidimensional poverty in India in 15 years (2005/06 to 2019/21), as per the Global Multidimensional Poverty Index 2022.

About Multidimensional Poverty

01 A person who is poor can suffer multiple disadvantages at the same time – for example they may have poor health or malnutrition, a lack of clean water or electricity, poor quality of work or little schooling.

02 Focusing on one factor alone, such as income, is not enough to capture the true reality of poverty.

03 Multidimensional Poverty is a measure of poverty that captures deprivations in education and access to basic infrastructure in addition to income or consumption at the USD 1.90 international poverty line.

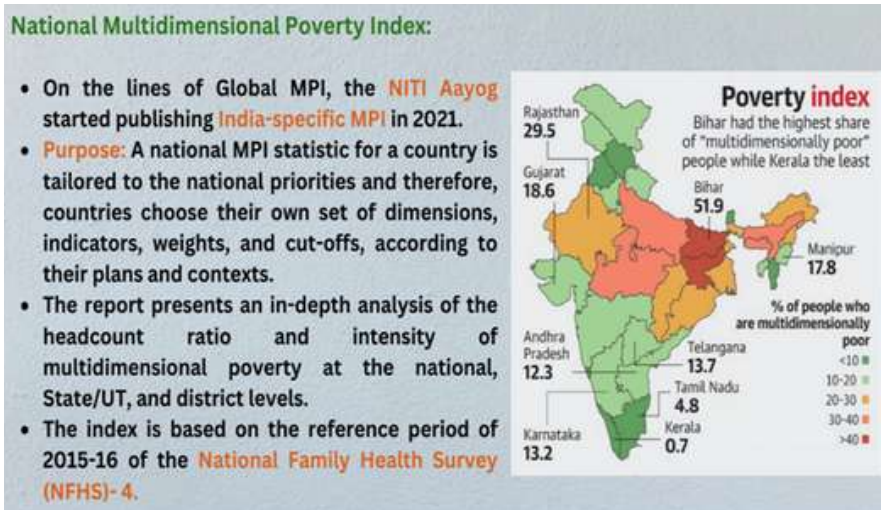
Global Multidimensional Poverty Index

- It is a key international resource that measures **acute multidimensional poverty** across more than 100 developing countries.
- The MPI is published by the Oxford Poverty and Human Development Initiative (OPHI) and the UNDP's Human Development Report Office.
- The Index tracks deprivation across the following **3 dimensions and 10 indicators**.
- The MPI ranges from **0 to 1,** and higher values imply higher poverty.

- By identifying who is poor, the nature of their poverty (their deprivation profile) and how poor they are (deprivation score), the global MPI complements the international USD 1.90/day poverty rate.

India's Performance –

- India continues to house the **largest number of poor people worldwide (228.9 million) in 2020**
- In India, **415 million people** exited poverty between 2005/06 and 2019/21. The incidence of poverty fell from 55.1% in 2005/06 to 16.4% in 2019/21 in the country.
- The relative reduction from **2015/2016 to 2019/21** was faster: 11.9% a year compared with 8.1% from 2005/2006 to 2015/2016.
- Across states and UTs the **fastest poverty reduction in relative terms** was in Goa, followed by J&K, Andhra Pradesh, Chhattisgarh and Rajasthan.



- Bihar, the poorest state in 2015-16, saw the fastest reduction in MPI value in **absolute terms.**
- **Poverty Region Wise:** The incidence of poverty fell from 36.6% in 2015-2016 to 21.2% in 2019-2021 in rural areas and from 9.0% to 5.5% in urban areas.

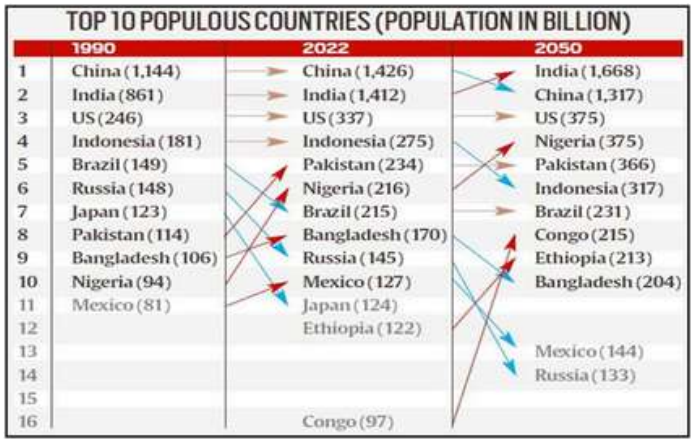
UNS' WORLD POPULATION PROSPECTS (WPP)

The 2022 edition of the United Nations' World Population Prospects (WPP) has been released on the World Population Day (11 July). Report says that India is projected to surpass China as the world's most populous country in 2023.

Key Highlights of 2022 Report

- The world's population continues to grow, but the pace of growth is slowing down
  - The global population is expected to grow to around 8.5 billion in 2030, 9.7 billion in 2050 and 10.4 billion in 2100.
  - In 2020, the global growth rate fell under 1% per year for the first time since 1950.
- Rates of population growth vary significantly across countries and regions
  - More than half of the projected increase in global population up to 2050 will be concentrated in just eight countries including India and Pakistan.
- The population of older persons is increasing both in numbers and as a share of the total: It is projected to rise from 10% in 2022 to 16% in 2050.
- Policies aimed at reducing fertility would have little immediate impact
- Rapid population growth is both a cause and a consequence of slow progress in development
  - The necessity of educating growing numbers of children, draws resources away from the quality of education.
  - At the same time, achieving the SDGs, particularly those related to health, education and gender, is likely to hasten the transition towards lower fertility in countries with continuing high levels.

- **More and more countries have begun to experience population decline**
- Two-thirds of the global population lives in a country or area where lifetime fertility is below 2.1 births per woman
- COVID-19 pandemic has affected all three components of population change (births, deaths, and migration)
  - Global life expectancy at birth fell to 71.0 years in 2021, down from 72.8 in 2019
  - Available evidence about the effect of COVID-19 on fertility levels remains mixed.



- In low- and middle-income countries, the availability of and the demand for contraception, as well as reported numbers of unintended pregnancies and births, have remained relatively stable.
- In high-income countries, short-term fluctuations in numbers of pregnancies and births.

- Pandemic restricted all forms of human mobility, including international migration.

INDIA'S DEMOGRAPHY AT CROSSROADS

- As per the "Youth in India 2022" report, India's favourable demographic dividend is at an inflection point, with the population share of the youth starting to taper off.
- Demographic dividend occurs when the proportion of working people in the total population is high.
- This report has been released by the Ministry of Statistics and Programme Implementation.

Entity/Instrument/ Organization	Age (years)
UN Secretariat/UNESCO/ILO	Youth: 15-24
UN Habitat (Youth Fund)	Youth: 15-32
UNICEF/WHO/UNFPA	Adolescent: 10-19 Young people: 10-24 Youth: 15-24
UNICEF/ The Convention on Rights of the Child	Child under 18
The African Youth Charter	Youth: 15-35

Objectives	Priority Areas
Create a productive workforce that can make a sustainable contribution to India's economic development	• Education • Employment and skill development • Entrepreneurship
Develop a strong and healthy generation equipped to take on future challenges	• Health and healthy lifestyle • Sports
Instil social values and promote community service to build national ownership	• Promotion of social values • Community engagement
Facilitate participation and civic engagement at all levels of governance	• Participation in politics & governance • Youth engagement
Support youth at risk and create equitable opportunity for all dis advantaged and marginalized youth	• Inclusion • Social justice

Who Are Youths?

There is no universally agreed international definition of the youth age group.

- United Nations defines 'youth' as those persons between the ages of 15 and 24 years.
- In India, as per National Youth Policy-2003, 'youth' was defined as a person of age between 13-35 years.
- But in the National Youth Policy 2014, the persons between the age group of 15 and 29 years are considered youth.

INDIA RANKS 132 IN UNDP'S HDI

- According to the Human Development Index (HDI) 2021, India ranks 132 out of 191 countries, following a decline in its score. The decline is consistent with the global trend since the outbreak of COVID-19.
- The Index is part of the United Nations Development Programme's (UNDP) recently issued Human Development Report (HDR) 2021-2022.

Human Development Index (HDI)

- It is a statistical composite index (first published in 1990 by UNDP), which measures average achievement of a country in 3 basic dimensions -

- It was developed by Pakistani economist **Mahbub ul Haq** and is now used to assess a country's development as part of the United Nations Development Programme's Human Development Report (UNDP-HDR).

HDR presents:

- Human Development Index (HDI)
- Multidimensional Poverty Index (MPI),
- Inequality-adjusted Human Development Index (IHDI),
- Gender Inequality Index (GII) since 2010 and
- Gender Development Index (GDI) since 2014.

- HDI also embodies **Amartya Sen's "capabilities"** approach to understand human well-being, which emphasizes the importance of ends (like a decent standard of living) over means (like income per capita).

Human Development Report 2021-2022

- According to the recent report, global progress is reversing, as the 'Human Development' has fallen for two years in a row (2020 and 2021).
- The latest HDR highlights that **stress, sadness, anger and worry** have been increasing over the last decade and are now at record levels as the new normal takes shape.
- The world is stillnot transitioning to a post-Covid-19 build-back-better scenario.
- On the contrary, **developing countries across the globe are entering a period of sharp social, political and economic divergence,** adversely affecting the most vulnerable and increasing gender inequality (which increased 6.7% globally).

GLOBAL GENDER GAP INDEX FOR 2022

- The Global Gender Gap Index for 2022 has been released by the World Economic Forum (WEF). The index ranks India at 135 out of 146 countries. In 2021, India was ranked 140 out of 156 countries.

Global Gender Gap Report

- It is published annually by WEF. The first report was published in 2006.
- The index benchmarks the current state and evolution of gender parity across four key dimensions.

Key Highlights

- Time to reach gender parity: It will take another 132 years (compared to 136 years in 2021) to close the gender gap. This is due to continued disruption caused by Covid pandemic. South Asia will take the longest to reach gender parity, which is likely to be in 197 years.

- **Top performers:** Iceland (90.8%) is leading the global ranking. It was the only economy to have closed more than 90% of its gender gap. Iceland is followed by Finland, Norway, New Zealand and Sweden.
- **Performance of India's neighbours:** India also ranks poorly among its neighbours and is behind Bangladesh (71), Nepal (96), Sri Lanka (110), Maldives (117) and Bhutan (126).
- Iran (143), Pakistan (145) and Afghanistan (146) perform worse than India in south Asia.

India's Performance

- India has approximately 66.2 crore women. In 2022, India's overall score has improved from 0.625 (in 2021) to 0.629.
- India's (135th) global gender gap score has oscillated between 0.593 and 0.683 since the index was first compiled.
- In 2022, India scored 0.629, which is its seventh-highest score in the last 16 years.

- **Political Empowerment**
  - This includes metrics such as the percentage of women in Parliament, the percentage of women in ministerial positions etc.
  - Some of the best ranking countries in this category score much better.
  - E.g., Iceland is ranked 1 with a score of 0.874 and Bangladesh is ranked 9 with a score of 0.546.
- **Economic Participation and Opportunity:** This includes metrics such as the percentage of women who are part of the labour force, wage equality for similar work, earned income etc.
- **Educational Attainment:** This sub-index includes metrics such as literacy rate and the enrolment rates in primary, secondary and tertiary education.
- **Health and Survival:** This includes two metrics: the sex ratio at birth (in %) and healthy life expectancy (in years). In this metric, India is ranked the last (146) among all the countries. Its score hasn't changed from 2021 when it was ranked 155th out of 156 countries.

SEX RATIO AT BIRTH

- Registrar General of India's (RGI) released the Sample Registration System (SRS) Statistical Report 2020. Uttarakhand has the worst (844) sex ratio (number of females per 1,000 males) at birth in the country and Kerala has the best (974).

About SRS Statistical Report 2020:

The present Report contains data on fertility and mortality indicators for the year 2020 for India and bigger States or UTs (separately for rural and urban areas). The estimates are segregated by residence and also by gender, wherever required.

Key Highlights Of The Report

- **Sex Ratio At Birth:**
  - The overall sex ratio at birth in the country **increased to 907** in 2018-20 (907 in the rural and 910 in the urban areas) from 904 in 2017-19.
  - Kerala (973) and Uttarakhand (853), respectively, had the highest and lowest sex ratios at birth in rural areas.
  - In urban areas, the sex ratio at birth ranged from 975 in Kerala to 821 in Uttarakhand.
- **Child Mortality Rates:**
  - As per the report, the country has been witnessing a progressive reduction in IMR, U5MR and NMR since 2014 towards achieving the **SDG targets by 2030**.
  - **Six States/UT have already attained SDG target of NMR** (<=12 by 2030): Kerala (4), Delhi (9), Tamil Nadu (9), Maharashtra (11), Jammu & Kashmir (12) and Punjab (12).
  - **Eleven States/UT have already attained SDGs target of U5MR** (<=25 by 2030): Kerala (8), Tamil Nadu (13), Delhi (14), Maharashtra (18), J&K (17), Karnataka (21), Punjab (22), West Bengal (22), Telangana (23), Gujarat (24), and Himachal Pradesh (24).

About Sample Registration System (SRS)

- SRS in India is one of the largest demographic surveys in the world covering about 8.2 million sample population.
- It is carried out by the Office of Registrar General & Census Commissioner of India.

- Registrar General and Census Commissioner of India is a permanent department under the Ministry of Home Affairs.
- The office was founded in **1961** for arranging, conducting and analysing the results of the demographic surveys of India including Census of India and **Linguistic Survey of India.**

- It is conducted with an **objective of providing reliable annual estimates** of birth rate, death rate, infant mortality rate and various other fertility and mortality indicators through an **SRS Statistical Report**.

INDIA CAN PREVENT 30K ROAD DEATHS PER YEAR

- According to a recent report published in the medical journal Lancet, India could have prevented at least 29,400 road deaths (nearly 20% of total road fatalities) in 2018 if it had implemented interventions focusing on speeding, drunk driving, seat belt and helmet use.
- The report was released ahead of the UN General Assembly's (UNGA) high-level meeting on Global Road Safety, at which member countries pledged to reduce road deaths and injuries by half by 2030.
- According to Ministry of Road Transport and Highways (MoRT&H) statistics, India remains one of the worst-performing countries in this area, with 1,47,913 people killed in road traffic accidents in 2017.

Proposals for India

- Recently, the National Road Safety Board Rules, 2021, call for the formation of technical working groups to address issues such as crash investigation and forensics, which is a positive beginning.
- Major interventions in India, first proposed by the Sundar Committee (2007) and ordered by the Supreme Court (S. Rajasekaran vs Union of India), needs immediate implementation.
  - The measures include establishing a centralized national body for road safety and establishing decentralized responsibility at the district level.

MoRT&H seeks comments on a proposal to introduce the **Bharat New Car Assessment Program (Bharat-NCAP)**. India's present **Central Motor Vehicle Rules (CMVR)** mandate a safety and performance assessment. However, this does not involve a crash test rating.

About Bharat NCAP

- **Description:** It is a new car safety assessment programme which proposes a mechanism of awarding 'Star Ratings' to automobiles based upon their performance in crash tests. The proposed assessment will allocate Star Ratings from 1 to 5 stars.
- **Meeting global standards:** BNCAP standard is aligned with global benchmarks and it is beyond minimum regulatory requirements.
- **Implementation:** BNCAP will be rolled out from April 1, 2023.
- **Applicability:** It will be applicable on type-approved motor vehicles of category M1 with gross vehicle weight less than 3.5 tonnes, manufactured or imported in the country.
  - M1 category motor vehicles are used for the carriage of passengers, comprising eight seats, in addition to driver's seat.
- **Responsibility:** The testing of vehicles for this programme will be carried out at testing agencies, with the necessary infrastructure.
- **Significance:** It is intended to increase the export-worthiness of vehicles and competition on safety parameters among manufacturers, as well as instill consumer confidence in their safety.

NEW INSURANCE COVERS DON'T NEED IRDAI'S NOD

- IRDAI extended the "Use and File" procedure to all health insurance products, facilitating faster customer access to health policies.
- The "Use and File" procedure allows insurers to launch a product first and then file its details with the regulator. Until now the IRDAI required prior approval for launching products.
- This helps in avoiding a longer waiting duration in offering innovative insurance solutions to customers in order to help address the dynamic environment. The "Use and File" is a system that is used by non-life regulators globally.

About Insurance Regulatory and Development Authority of India (IRDAI)

- It was set up as autonomous body under the IRDA Act, 1999.
- **Objective:** To protect the interests of policyholders, to regulate, promote and ensure orderly growth of the insurance industry and for matters connected therewith or incidental thereto.
- IRDA is the apex body that supervises and regulates the insurance sector in India.
  - Nodal Ministry: Ministry of Finance

STATE OF INEQUALITY IN INDIA 2021 REPORT

A report, titled "The State of Inequality in India" has been released by the Economic Advisory Council to the Prime Minister (EAC-PM).

The State of Inequality in India 2021 Report

- The report was commissioned by the **EAC-PM** and prepared by the **Institute for Competitiveness.**
- It presents a holistic analysis of the depth and nature of inequality in India.
- This report cuts across the intersections of class, gender, and region and highlights how inequality affects the society.

Methodology

- Consisting of **2 parts – Economic Facets and Socio-Economic Manifestations** – the report looks at
- **five key areas** that influence the nature and experience of inequality.
- These are **income distribution, labour market dynamics, health, education and household characteristics.**
- It uses data derived from various rounds of the Periodic Labour Force Survey (PLFS), National Family and Health Survey (**NFHS**) and Unified District Information System for Education (**UDISE+**).

Each chapter is dedicated to explain the **current state of affairs, areas of concern, successes and failures in terms of infrastructural capacity and finally, the effect on inequality.**

Key Highlights Of The Report

- Move Beyond Wealth Concentration As A Metric Of Inequality
  - The report presents the case for moving beyond wealth concentration as a metric of inequality.
  - Instead, emphasis should be given to dynamic variables like income distribution that determine capital flow and measure the purchasing power of the households.

- Earnings Have Risen Over The Years, Benefits Remain Concentrated
- The report concedes that while earnings have risen over the years, the benefits of that growth have largely remained concentrated. This has marginalised the poor further.

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- **Move Beyond Wealth Concentration As A Metric Of Inequality**
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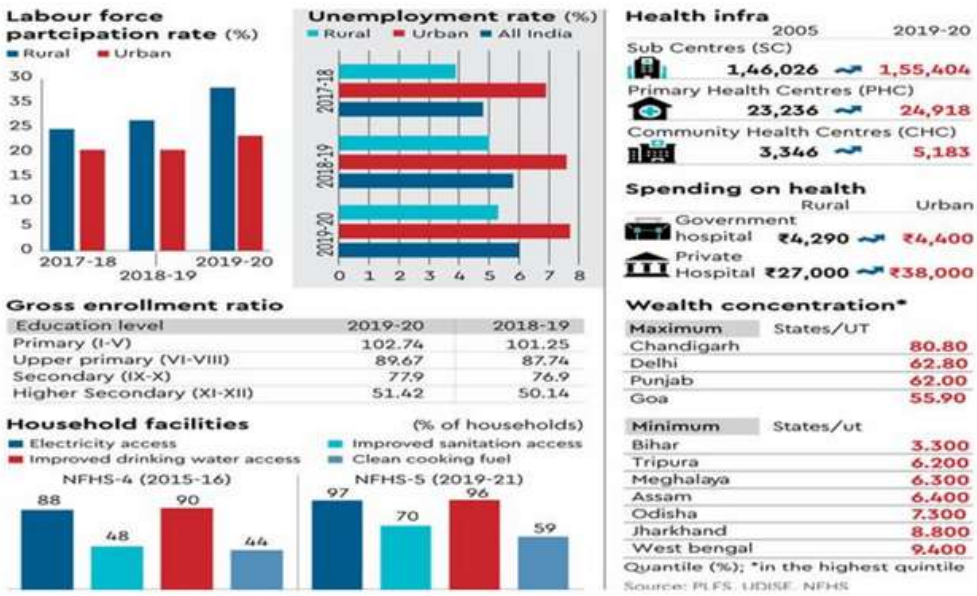
- **Earnings Have Risen Over The Years, Benefits Remain Concentrated**
  - The report concedes that while earnings have risen over the years, the benefits of that growth have largely remained concentrated. This has marginalised the poor further.
- **Progress Has Been Made In Various Indicators**
  - The report noted that the progress has been made in various indicators such as labour participation (pre-Covid), health infrastructure, enrolment ratio of students, and child mortality.
- **Wealth Concentration Has Worsened**
  - 44.4% wealth concentration in the highest quintile in urban areas is contrasted with a meagre 7.1% concentration that in rural India.
  - The share of the top 1% accounts for 6-7% of the total incomes earned, while the top 10% accounts for one-third of all incomes earned.
- **Unemployment Rate & Different Employment Categories**
  - In 2019-20, among different employment categories, the highest percentage was of self-employed workers (45.78%), followed by regular salaried workers (33.5%) and casual workers (20.71%).
  - The share of self-employed workers also happens to be the highest in the lowest income categories.
  - The country's unemployment rate is 4.8% (2019-20), and the worker population ratio is 46.8%.
  - The gender disparity in the labour market continues to be stark over the three years in 2019-20. The female LFPR was at 30%, in contrast the male LFPR is recorded at 76.8%.
- **Nutrition Profile Among Children Has Improved Compared To 2015-16 (NFHS 4)**
  - As per the report, stunting in children has gone down from 38.4% and wasting from 21%, and 7.7% are severely wasted.
  - Additionally, 32.1% of children (under five years) were reported to be underweight.
- There has been a considerable improvement in increasing the infrastructural capacity with a targeted focus on rural areas.



CRS REPORT 2020

The UT of Ladakh has recorded highest sex ratio at birth in 2020, followed by Arunachal Pradesh, A&N Islands, Tripura and Kerala, according to annual report of Vital Statistics based on 2020 Civil Registration System Report.

About Civil Registration System (CRS)

- The Annual Report on Vital Statistics of India based on Civil Registration System for 2020 **has been published by the office of Registrar General of India** on the basis of reports provided by the **Chief Registrar of Births and Deaths of respective States/UTs** as per the mandate of "**The Registration of Births and Deaths Act, 1969**".
- The **implementation of the statute is vested with the State Governments.**
  - The registration of births and deaths in the country is done by the functionaries appointed by the State Governments.
- It is the unified process of **continuous, permanent, compulsory and universal recording of the vital events such as births, deaths and stillbirths, and their characteristics.**
  Civil Registration records are the best source of Vital Statistics. A complete CRS system is a must for the country as it has important administrative and statistical uses.
- The data generated through CRS is essential for **socio-economic planning** and the **evaluation of social sector programs**. They also serve as the cornerstone of the public health system.
- The **Registration of Births and Deaths Act, 1969 provides for the compulsory registration of births and deaths.**
- The CRS records provides for the legal identity to an individual citizens and access to their rights and entitlements i.e., social benefits provided by the Government. Registration of birth is a right of every child and is the first step towards establishing her/his legal identity.

Key Highlights Of The Report

- **Sex Ratio:**
  - Highest SRB (Sex Ratio at Birth: **Ladakh (1104)**, Arunachal Pradesh (1101), A&N Islands (984), Tripura (974) and Kerala (969).
  - Lowest SRB: **Manipur (880),** Dadar & Nagar Haveli, Daman and Diu (898), Gujrat (909), Haryana (916) and MP (921).
- **Birth Rate:**
  - States such as **Nagaland, Puducherry, Telangana, Manipur,** Delhi, Arunachal Pradesh, West Bengal, Kerala, Gujrat, Karnataka, Himachal Pradesh, Uttar Pradesh, Assam, TN, Uttarakhand, Maharashtra, Mizoram and Chandigarh recorded a **decrease in the registered birth rate.**
  - States such **as Bihar, Haryana, Sikkim, MP & Rajasthan** recorded an increase in registered birth rate.
- **Death Rate:**
  - States such as **Maharashtra, Gujarat, Andhra Pradesh, Bihar**, WB, Nagaland, Haryana, Karnataka, TN, Sikkim, Punjab, MP, Odisha, Rajasthan, A&N Islands and Assam recorded an **increase in death rate in 2020** compared to previous year. Bihar saw the maximum increase in the death rate followed by Maharashtra and Assam.
  - States such as Manipur, Chandigarh, Telangana, UP, Uttarakhand, Puducherry, Arunachal Pradesh and Kerala saw a decrease in death rates in 2020 with respect to 2019.
- **Infant Deaths:**
  - The report noted that the share of infant death registration was only 23.4% for rural areas and 76.4% for urban areas. Non registration of infant deaths in rural areas was a cause of concern due to non-reporting of infant deaths to local registrars.

Ministry of Home Affairs
Government of India

Registrar General of India (Ministry of Home Affairs)

- **It arranges, conducts and analyses the results of the demographic surveys** of India including the decadal **Census of India** and **Linguistic Survey of India**
- Census organization was set up on an ad-hoc basis for each census till the year 1951 census.
- The **Census Act** was enacted in the year **1948** to provide a plan for conducting population census along with the **duties and responsibilities** of census officers.
- The Government of India decided to take steps to develop a systematic collection of data on population figures including vital statistics and census. For that reason, a permanent office of the Registrar General of India and ex-officio Census Commissioner was set up under the Ministry of Home Affairs in May 1949.
- Later, this office was also entrusted with the task of implementation of the Birth and Death Registration Act, 1969 in the country.

Proposed Amendment To The Registration Of Births And Deaths Act, 1969

- According to the **2020-21** annual report of the Ministry of Home Affairs (MHA), the government is planning to automate (real time registration) the **Civil Registration System (CRS).**
- The RGI has proposed amendment to the Registration of Births and Deaths Act, 1969. This amendment will enable it to maintain the database of registered birth and deaths at the national level.
- According to the proposed amendment, the database may be used to update the **Population Register, Electoral Register, Aadhar, Ration Card, Passport and Driving License databases.**

PLFS SURVEY

According to the latest Periodic Labour Force Survey (PLFS), which also captured data on migration for the first time, nearly 88% of migrants moved within the same state in 2020-21, while 11.8% moved to another state during the same period.

- PLFS is released by Ministry of Statistics and Programme Implementation (MOSPI).

Periodic Labour Force Survey

National Statistical Office (NSO) launched the Periodic Labour Force Survey (PLFS) in April 2017.The objective of PLFS is primarily two fold:

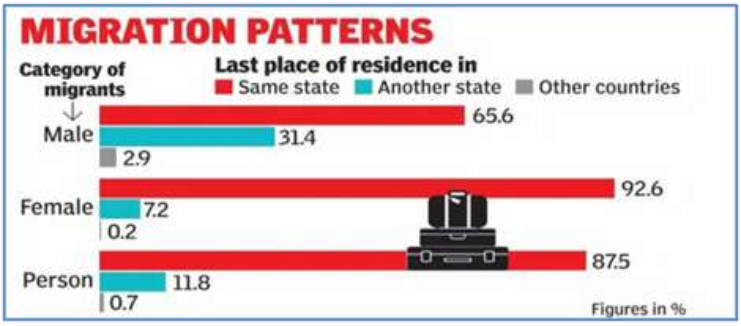
- To estimate the key employment and unemployment indicators (viz. Worker Population Ratio, Labour Force Participation Rate (LFPR), Unemployment Rate) in the short time interval of three months for the **urban areas only** in the **Current Weekly Status (CWS).**
- To estimate **employment and unemployment** indicators in both **Usual Status and CWS** in both **rural and urban** areas *annually.*

Overview of Migration In India

- Migration is the **movement of people away from their usual place of residence, across either internal (within country) or international (across countries) borders.**
- **Article 19(1)(e)** of the Indian Constitution guarantees all Indian citizens the right to reside and settle in any part of the territory of India, subject to reasonable restrictions in the interest of general public or protection of any scheduled tribe.
- As per 2011 Census, India had **45.6 crore migrants in 2011** (38% of the population) compared to 31.5 crore migrants in 2001 (31% of the population).
- Between 2001 and 2011, while the population grew by 18%, **the number of migrants increased by 45%.**
- In 2011, **99% of total migration was internal and immigrants** (international migrants) comprised 1%.

Findings of PLFS

- **Unemployment Rate:** It fell to 4.2% in 2020-21, compared with 4.8% in 2019-20. The rural areas recorded an unemployment rate of 3.3% and urban areas recorded an unemployment rate of 6.7%.
- **LFPR:** The percentage of persons in the labour force (that is, working or seeking work or available for work) in the population increased to 41.6% during 2020-21 from 40.1% in the previous year.
- **Worker Population Ratio (WPR):** It increased to 39.8% from 38.2% of the previous year.
- The massive migration triggered by the lockdown in the aftermath of the pandemic had prompted calls for better data on the issue to devise policies to combat a surge in such movement.
- **The migration rate** (percentage of migrants belonging to male or female category of persons) across the country was at 28.9% during the July 2020-21 period.
- The survey looked at distribution of internal migrants by four types of migration streams, which includes rural-to-rural, rural-to-urban, urban-to-rural and urban-to-urban.



Patterns of Migration

- One kind of classification is - rural-rural (54% of classifiable internal migration), rural-urban, urban-rural (7% or 3 crore) and urban-urban. Rural-urban and urban-urban movement accounted for around 8 crore migrants each.
- Another way to classify migration is - intra-state and inter-state.
  - In 2011, intra-state movement accounted for almost 88% of all internal migration (39.6 crore persons).
- According to 2011 Census, there were 5.4 crore inter-state migrants. As of 2011, Uttar Pradesh (83 lakh) and Bihar were the largest source of inter-state migrants while Maharashtra (60 lakh) and Delhi were the largest receiver states.

DECLINE IN LFPR: A SERIOUS CONCERN

Data from the Centre for Monitoring Indian Economy (CMIE) shows that India's labour force participation rate (LFPR) has fallen to just 40% from an already low 47% in 2016.

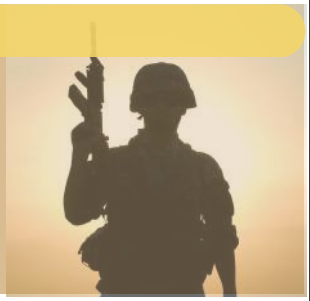
Labour Force Participation Rate (LFPR)

- As per CMIE, the labour force consists of persons who are of age 15 years or older, and belong to either of the following two categories:
  - **Category 1:** Employed; **Category 2:** Unemployed but are willing to work and are actively looking for a job.
- Thus, the LFPR is the percentage of the working-age (15 years or older) population that is asking for a job. It includes both employed as well as unemployed and represents the demand for jobs in an economy.

Reasons For Low LFPR In India

- The high UER suggests that among those looking for jobs, proportion of people unable to find jobs are high. Also, many people have opted out of the labour force, as they are disappointed by the absence of remunerative, productive jobs.
- There are signs of increasing formalisation as indicated by the Employees' Provident Fund Organisation (EPFO) data. However, a substantial share of the labour force continues to remain employed in the informal sector, lacking a safety net.
- One of the most important reasons is the significantly low female LFPR. According to CMIE, as of December 2021, while the male LFPR was 67.4%, the female LFPR was as low as 9.4%.
- Even data from the World Bank shows that India's female labour force participation rate is around 25% when the global average is 47%.

AGNIPATH" SCHEME



- Defence Minister recently announced the "Agnipath" scheme, for **recruitment of youth in the armed forces for four years.**
- The process of recruitment has planned an intake of about 46,000 young men and women in 2022. Under the scheme, around 45,000 to 50,000 soldiers will be recruited annually, and most will leave the service in just four years.
- This will be the only form of recruitment of soldiers into the three defence services hereon and the soldiers recruited under the scheme will be called **Agniveers.**

Mode of Induction

- **Enrolment:** Enrolment to all three services will be through a centralised online system, with special rallies and campus interviews at recognised technical institutes such as the Industrial Training Institutes, and the National Skills Qualifications Framework (NSQF)
- **Eligibility criteria:** The new system is only for personnel below officer ranks.
- **Recruitment:** Recruitment will be carried out on an 'All India All Class' basis with the eligibility age ranging from 17.5 to 21 years, with medical and physical fitness standards in accordance with existing norms.
- **Qualification:** The required educational qualification will be Class X-XII.
- **Reselection:** For those who are re-selected, the initial four-year period will not be considered for retirement benefits.
- **Permanent Commission:** Up to 25% of each batch will be enrolled as regular cadre as under permanent commission & would be required to serve for a further minimum period of 15 years.

Post-selection plan

- **Training:** Once selected, the aspirants will go through training for 6 months and then will be deployed for three and a half years.
- **Remuneration**: During this period, they will get a starting salary of Rs 30,000, along with additional benefits which will go up to Rs 40,000 by the end of the four-year service.
- **Annual pacakage:** The "Agniveers" will received an annual package of ₹4.76 lakh in the 1st year to ₹6.92 lakh in 4th year, apart from risk and hardship and other allowances as applicable.
- **Contribution:** The recruits will have to contribute 30% of their monthly emoluments to Seva Nidhi, with a matching contribution made by the government.
- **Tax free grant:** Under the "Seva Nidhi" package (which is exempt from Income Tax), they will receive about ₹11.71 lakh, including contribution and interest, on completion of service.
- **Post-retirement benefits:** There will be no entitlement to gratuity and pensionary benefits under the scheme.
- **Life insurance:** The "Agniveers" will be provided non-contributory life insurance cover of ₹48 lakh during their service.
- **Insurance in case of life lost:** In case of death attributable to service, apart from over ₹1 crore, which will include the "Seva Nidhi" package, full pay for the unserved period will be given.
- **Disability:** In the case of disability attributable to service, a provision of up to ₹44 lakh based on the percentage of disability, apart from full pay for the unserved period, including "Seva Nidhi" with interest as applicable, has been made.

FAMILY COURTS (AMENDMENT) BILL

- The Rajya Sabha has passed the Family Courts (Amendment) Bill, which seeks to extend statutory cover to family courts set up in Himachal Pradesh & Nagaland.
  - The Family Courts (Amendment) Bill seeks to extend the application of the Act to the state of Himachal Pradesh, with effect from February 15, 2019, and to the state of Nagaland, with effect from September 12, 2008.

Family Courts (Amendment) Bill

- The Family Courts (Amendment) Bill was introduced and passed in Lok Sabha in July 2022. The Bill amends the Family Courts Act, 1984. The Family Courts Act, 1984 allows state governments to establish Family Courts.
- The Central Government is empowered to notify dates for the Act to come into force in different states. The governments of Himachal Pradesh and Nagaland have set up Family Courts in their states under the Act. However, the central government had not extended the application of the Act to these states.

Family Courts Act, 1984

- According to 59th Law Commission Report (1974) and Committee on the Status of Women (1975), it was recommended that family disputes should get handled differently from conventional civil proceedings.
- Subsequently, the Family Courts Act was passed in 1984. Under the Act, setting up of family courts & their functioning comes under the purview of state governments in consultation with their respective High Courts (HC).
- As per the Act, it is mandatory for the state government to set up a family court for every city or a town whose population exceeds one million. The state government appoints the family court judges with the approval of HC. 716 Family Courts are functional across the country (February 2022).

WORLD @ 8 BILLION

- The United Nations Population Fund said that the world's population reached 8 billion on November 15, 2022.
- This is due to the gradual increase in human lifespan owing to improvements in public health, nutrition, personal hygiene and medicine.
- It is also the result of high and persistent levels of fertility in some countries.

United Nations Population Fund (UNFPA)

- UNFPA, formerly (1969–87) known as United Nations Fund for Population Activities, is trust fund under the jurisdiction of the United Nations Development Programme (UNDP).
- Established in 1969, the UNFPA is the largest international source of assistance for population programs.
- It is the leading UN organization for the implementation of the 1994 **Programme of Action** of the International Conference on Population and Development.
- In other words, **UNFPA is the United Nations sexual and reproductive health agency.**
  - Its mission is to deliver a world where every pregnancy is wanted, every childbirth is safe and every young person's potential is fulfilled.

UNFPA Assistance

- UNFPA funds assistance, research, and advocacy programs in three major areas:
  - reproductive health, including family planning, safe motherhood, and the prevention and treatment of sexually transmitted diseases,
  - the population problems of developed and developing countries and possible strategies for addressing them,
  - issues related to the status of women, including the gender gap in education.
- UNFPA assistance programs are undertaken only in response to government requests.

Growth trend

  - Falling mortality rate first led to a spectacular population growth, peaking at 2.1% per year between 1962 and 1965.
  - Between 1950 and 1987, world population doubled from 2.5 billion to 5 billion.
  - **But as fewer children were born generation to generation**, growth started to slow.
- **As of 2022 More than half the world's population lives in Asia:** China and India being the two most populous countries with more than 1.4 billion people each.
    - World Population Prospects 2022, released in July 2022, put India's population estimate at 1.412 billion this year, compared with China's 1.426 billion.
    - It also said that India is set to become the world's most populous country next year by surpassing China.

INTERNATIONAL RELATIONS

BANGLADESH OFFERS CHITTAGONG PORT FOR USE TO INDIA

Bangladesh PM Sheikh Hasina offered India the use of the Chittagong Port. This port would be of benefit to India's north-eastern States, particularly Assam and Tripura. Meghalaya and Mizoram could also benefit from access to the port.

- Assam, Meghalaya, Tripura and Mizoram — share a 1,879 km border with Bangladesh. The Northeast has been the key to the increase in bilateral engagements between India and Bangladesh in recent years.

Activities On The Ground To Increase The Connectivity

- In March 2021, the Prime Ministers of the two countries **inaugurated the Maitri Setu,** a bridge built over the Feni River. This has reduced the distance between Sabroom in southern Tripura and the Chittagong port to just 111 km.
- The government is working on a **multi-modal transit hub at Sabroom** that can help goods reach the Chittagong port in a few hours.
- Road connectivity in Meghalaya's Dawki, southern Assam's Sutarkandi and Tripura's Akhaura linking eastern and south-eastern Bangladesh is also being improved.
- Apart from the **India-Bangladesh Protocol Route** involving the Brahmaputra, cargo ships from Bangladesh have reached Tripura through the Gomati River and Assam's Karimganj via the Kushiyara River.

Mujib-The Making Of Nation

- The first trailer of the feature film, 'Mujib- the Making of a Nation', was unveiled at the Cannes Film Festival.
  - This year, India was the Country of Honour at the Marche du Film, or Cannes Market, which runs parallel to the Cannes Film Festival.
- The film is a biopic of the founder and first Prime Minister of Bangladesh, Bangabandhu Sheikh Mujibur Rahman.
- The feature film directed by Indian filmmaker Shyam Benegal is a co-production of India and Bangladesh.
- It is a tribute to the great leader on his birth centennial and to mark the 50 years of Bangladesh's formation.

Bangladesh Opens Its Longest Bridge

- Bangladesh inaugurated the long-awaited **Padma Bridge**, the country's biggest development project since its birth in 1971.
- The main bridge is 6.15 km long — 9.83 km in all, including the road and rail via ducts at the two ends and 21.65 m wide. It connects to Shariatpur and Madaripur, linking the southwest of the country, to the northern and eastern regions.
- This bridge is expected to give the nation's development index a big boost and connect India directly to Dhaka, through road, rail and ports.
  - The distance of Dhaka from the Indian border at Benapole by road will now be reduced by 70km and travel time by 4. 30 hours.
  - It will also reduce the Kolkata-Dhaka train journey time by half.
- The Padma Bridge, **connecting India, Nepal, China, Myanmar, Singapore and Thailand, will be a major link of the Trans Asian Highway Network.**

BANGLADESH PM VISITS INDIA

Bangladesh PM Sheikh Hasina paid an official visit to India. She held bilateral meeting with Indian PM during which the two sides signed 7 agreements covering railways, science and technology, space cooperation, media, and water sharing.

List of Projects Inaugurated/Announced

- **Unveiling of Unit I of Maitree Power Plant**
  - The 1320 (660x2) MW super critical coal-fired thermal power plant at Rampal, Khulna is being set up with Indian Development Assistance.
- **Inauguration of Rupsha Bridge**
  - The 5.13 km Rupsha rail bridge will connect for the first time Mongla Port with Khulna by rail, and thereafter to Central and North Bangladesh (connectivity to the Indian border at Petrapole and Gede in West Bengal.)

- **Supply Of Road Maintenance & Construction Equipment And Machinery To Bangladesh**
- **Khulna Darshana Railway Line Link Project**
  - The project is upgradation of existing (doubling of Broad Gauge) infrastructure linking the current cross border rail link at Gede-Darshana to Khulna.
- **Parbatipur** - Kaunia railway line: The project will connect to the existing cross border rail at Birol (Bangladesh)-Radhikapur (West Bengal) .

Other Highlights Of The Meeting

- **Negotiations On A Comprehensive Trade Pact:** The two sides also decided to start negotiations on a Bilateral Comprehensive Economic Partnership Agreement (CEPA).
- **Scholarship for '71 war soldiers' descendants:** Bangladesh PM announced the Mujib scholarship for the direct descendants of Indian soldiers killed or grievously injured in the 1971 Bangladesh war

India-Bangladesh Bilateral Relation

2021: A Golden Chapter
2021 marks the triveni of events that have epochal significance

- **The golden jubilee of liberation of Bangladesh**
- **The birth centenary of Sheikh Mujibur Rahman**
- **50th anniversary of diplomatic ties**

Connectivity:

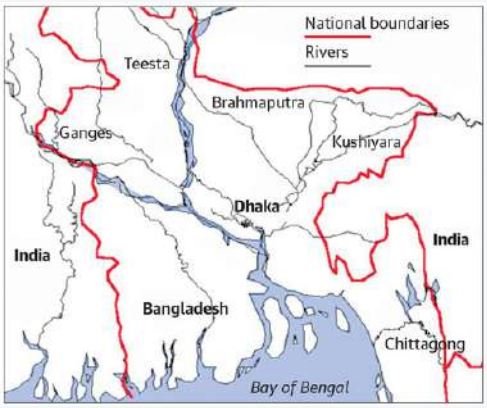
- India-Bangladesh Friendship Bridge 1 (also known as Feni Bridge) has been constructed which will connect Tripura with Chittagong port of Bangladesh.
- To boost sub-regional connectivity, Bangladesh-Bhutan-India-Nepal (BBIN) Motor Vehicles Agreement (MVA) was signed in June 2015.

Interim Agreement On Kushiyara Water Sharing

- There were **54 rivers that pass through the Indo-Bangladesh border**
- Bangladesh has sought the early conclusion of the **Teesta water sharing agreement, which has been hanging since 2011 due to opposition from West Bengal.**

Kushiyara River

- Kushiyara River is a distributary river in Bangladesh and Assam. The waters of Kushiyara originate in the state of Nagaland and pick up tributaries from Manipur, Mizoram and Assam.
- It forms on the India-Bangladesh border as a **branch of the Barak River** when the Barak separates into the Kushiyara and Surma. From its origin at the **mouth of the Barak,** Kushiyara river flows westward forming the boundary between Assam, and the Sylhet District of Bangladesh.
- After that the river forms several braided streams, **it is joined the Khowai River and heads southwest where it is rejoined by the Surma and becomes the Meghna River.**



Water Dispute Between India And Bangladesh

- The Teesta River dispute and the Ganges River dispute are the two main long-standing water conflicts between India and Bangladesh.

GANGES RIVER DISPUTE

- The Ganga water sharing arrangement was signed in 1996.
- The treaty established a 30-year water-sharing arrangement. This deal is about to expire.
- According to the treaty India can withdraw up to 40,000 cusecs and Bangladesh can withdraw 35,000 cusecs of flow at the Farakka Barrage.
  - If availability at Farakka falls below 70,000 cusecs, the flow will be divided equally between the two countries.

TEESTA RIVER DISPUTE

- The Teesta water-sharing agreement has not yet been resolved by any treaty.
- In 1983, there was an agreement on Teesta water. According to agreement, sharing was valid until 1985 end.
- The agreement gave India 39% and Bangladesh 36% of Teesta water and 25% water remain unallocated.
- In 2011 an Interim deal that was supposed to last for 15 years gave India 42.5% and Bangladesh 37.5% of Teesta water.
  - West Bengal and Sikkim opposed this interim deal. Since then, the deal was shelved and remains unsigned.

India, Bangladesh Flag Off New Jalpaiguri-Dhaka Mitali Express

- India and Bangladesh jointly flagged off a new passenger train – **Mitali Express.**
- The new **bi-weekly** Mitali Express will connect New Jalpaiguri in North Bengal with Dhaka in Bangladesh through Haldibari in India and then Chilahati in Northern Bangladesh.
- The new passenger service, Mitali Express, will give a **boost to both countries' tourism** since it connects Bangladesh with north Bengal as well as the northeastern region of India.
- It will also provide an **access to Nepal to Bangladeshi citizens** via India by rail.

MYANMAR HOSTS REGIONAL MEETING

- Myanmar's military government hosted the 7th Lancang-Mekong Cooperation (LMC) meeting.
- This was the **first high-level regional meeting hosted by Myanmar since the Army took power in a military coup of February 2021.**
- The meeting held under the **theme "Solidarity for Peace and Prosperity" in the central city of Bagan (Myanmar)**, a UNESCO World Heritage site.

About Lancang-Mekong Cooperation (LMC)

- It is a multilateral platform established in 2016 for cooperation between the riparian states of the Lancang River and Mekong River.
- **Participants** – China, Cambodia, Laos, Myanmar, Vietnam and Thailand.
- It is a **China-led initiative** which aims to manage water flow from **Chinese hydropower dams** with the other riparian states.
  - This region is a potential source of regional tensions due to an increasing number of hydroelectric projects. (China has built 10 dams)
  - These projects are altering the flow and raising concerns of ecological damage.

SRI LANKA ALLOWS CHINESE SHIP TO DOCK AT HAMBANTOTA PORT

The Sri Lankan government allowed the Chinese research ship, Yuan Wang 5, to dock at the southern port of Hambantota from August 16-22

India's Concern

- The 'Yuan Wang 5' is a powerful tracking vessel whose **significant aerial reach** is reportedly **around 750 km**. This means that several ports in Kerala, Tamil Nadu, and Andhra Pradesh could be on China's radar.
- Reports have claimed that several **vital installations** in South India could be under threat of being snooped upon.
- India was worried that the surveillance vessel could be involved in mapping the ocean floor for **potential anti-submarine operations against the Indian Navy.**

INDIA ABSTAINS ON SRI LANKA VOTE AT UN HUMAN RIGHTS COUNCIL

- India abstained on a draft resolution in the UN Human Rights Council in Geneva on promoting **reconciliation, accountability and human rights in Sri Lanka.**
- It is the first time that a UNHRC resolution on Sri Lanka calls for **accountability for violation of human rights due to corruption and economic crisis.**
- However, it urged the government in Colombo to deliver on commitments towards the Tamil minority.
- It also observed that Sri Lanka's progress in implementing commitments on the **13th Amendment, meaningful devolution, and early provincial elections remains inadequate.**

Tamil Issue

- Communal tensions between the Sinhalese and Tamil communities had been brewing since the early 1940s.
- The nearly three-decade long armed conflict between Sri Lankan forces and the LTTE came to an end in May 2009.
- Since then, Indian govt. is persuading Sri Lankan govt. for greater devolution of power to Tamils.
- The need for national reconciliation through a political settlement of the ethnic issue has been reiterated by India at the highest levels.

13th amendment in the Constitution of Sri Lanka

- The Sri Lankan Parliament passed the Thirteenth Amendment to the constitution in November 1987 with the objective of creating **provincial councils** based on the provisions of the **Indo-Sri Lanka Accord of July 1987**. (Popularly referred to as the **Rajiv-Jayewardene Accord**)
- The Thirteenth Amendment to the Constitution provides for:
  - The establishment of **Provincial Councils**
  - The appointment and powers of the Governor of Provinces
  - Membership and tenure of Provincial Councils
  - The legislative powers of the Provincial Councils
  - Tamil as an official language and English as a link language
- Elections to the three provinces – Northern, Central and North Western Provinces were held.
- However, the terms of Sri Lanka's nine provincial councils expired about three years ago, and they have remained defunct since.

UNHRC

- **The Human Rights Council is an inter-governmental body within the United Nations system.**
- **It is made up of 47 States responsible for the promotion & protection of all human rights around the globe.**
- **The Council was created by United Nations General Assembly (UNGA) on 15 March 2006 by resolution.**
- **The Human Rights Council replaced the former United Nations Commission on Human Rights.**
- **Members of the Council serve for a period of three years. They are not eligible for immediate re-election after serving two consecutive terms.**

VISIT OF PM MODI TO NEPAL

PM Modi paid an official visit to Lumbini on the occasion of Buddha Purnima. This was his fifth visit to Nepal since 2014.

Key Highlights Of The Visit

India International Centre for Buddhist Culture and Heritage

- PM Modi launched the construction of the India International Centre for Buddhist Culture and Heritage during a day-long visit to Lumbini in Nepal.
- The construction of the India International Centre for Buddhist Culture & Heritage is to be undertaken by the International Buddhist Confederation (IBC), India, with financial support from the Ministry of Culture.
  - The IBC is a grantee body under the Ministry of Culture and it was registered in November 2012.
  - It aims to propagate and preserve the teachings and heritage of the Buddha across the world, and especially in India's immediate neighbourhood.
- Most foreign nations, including US, China, Canada, France, Germany etc. have already built their centres in Lumbini as an instrument of promoting Buddhist philosophy.

MoUs Signed

- The Indian Council for Cultural Relations (ICCR) will sign two MOUs with authorities in Nepal:
  - One on setting up the Dr B R Ambedkar Chair for Studies on Buddhism at Lumbini University and
  - Another on a Chair Professor at Kathmandu University.

Sister City Relations Between Lumbini and Kushinagar

- The two sides agreed in principle to establish sister city relations between Lumbini and Kushinagar.

Trans-national Buddhist Tourist Circuit

- India's Ministry of Tourism has collaborated with Nepal to **build a trans-national Buddhist Tourist Circuit** to trace the footsteps of Buddha.
  - This circuit will be starting from Lumbini and concluding at Kushinagar.
  - An international airport was recently inaugurated at Kushinagar.
- This circuit will be in addition to the project to build the **Ramayana circuit** linking various sites in the two countries.

NEPAL'S NEW CITIZENSHIP LAW

- Nepal President Bidhya Devi Bhandari sent back the Citizenship Amendment Act, 2006 to the lower house of the Nepal Parliament, urging the members to reconsider the Act.
- ·Parliament of Nepal passed the first ever "Citizenship Amendment Bill" in July, 2022. It will amend the Nepal Citizenship Act 2006

Background: Nepal's citizenship law

- Nepal transitioned into a democracy beginning with the fall of the monarchy in 2006 and the subsequent election of the Maoist government in 2008.
- The emergence of the multiparty system was followed by the adoption of a constitution in September, 2015.
- **All Nepalese citizens born before this date got naturalised citizenship**. But their children remained without citizenship as that was to be guided by a federal law which has not yet been framed.
  - In the case of Nepalese men marrying Indian women, many women could not become citizens of Nepal.
  - This is because they were subjected to the seven-year cooling off period before they could apply for citizenship in Nepal.
  - As such women were state-less, children of such families were also often found to be without Nepalese citizenship.
- This amendment Act is expected to pave the way to citizenship for many such stateless youth as well as their parents.
  - The new amendments have **done away with the cooling off period** for these stateless women.
  - This will benefit the children of such families where the mother and children remained stateless for years.

US BECOMES INDIA'S BIGGEST TRADING PARTNER

The US surpassed China to become India's top trading partner in 2021-22, reflecting the strengthening economic ties between the two countries.

Key Highlights: Statistics

Bilateral Trade Between India and US in 2021-22

- According to the data of the Commerce Ministry, in 2021-22, the bilateral trade between the US and India stood at $119.42 billion. It was $80.51 billion in 2020-21.
- Exports to the US increased to $76.11 billion in 2021-22. Imports from US rose to $43.31 billion in 2020-21.
  - America is one of the few countries with which India has a trade surplus. In 2021-22, India had a trade surplus of $32.8 billion with the US.

Bilateral Trade With China

- During 2021-22, India's two-way commerce with China aggregated at $115.42 billion as compared to $86.4 billion in 2020-21.
- Exports to China marginally increased to $21.25 billion last fiscal year.
- On the other hand, imports from China jumped to $94.16 billion.
- Trade gap rose to $72.91 billion in 2021-22 from $44 billion in previous fiscal year.

Trade With Other Countries

- In 2021-22, the UAE with $72.9 billion, was the third largest trading partner of India.
- It was followed by Saudi Arabia ($42,85 billion), Iraq ($34.33 billion) and Singapore ($30 billion).

Extra Mile: U.S. Supreme Court Overturns Abortion Right

- The US Supreme Court took the dramatic step of overturning the landmark 1973 Roe vs Wade ruling.
- By erasing abortion as a constitutional right, the ruling restored the ability of states to ban it. Now states are free to enact their own laws on this matter.

CAATSA Sanctions Waiver To India

- US House of Representatives approved legislation recommending an **India-specific waiver** for the **Countering America's Adversaries Through Sanctions Act (CAATSA).**
- The amendment urges the Biden administration to use its authority to provide India with a CAATSA waiver to help deter aggressors like China.

- The President does not need legislative approval for a waiver. He has the executive authority to do so. However, Congressional support helps in keeping with the spirit of one president who once sought legislative cover for action.

Countering America's Adversaries Through Sanctions Act (CAATSA)

- In August 2017, President Donald Trump signed into law **which specifically targets Russia, Iran, and North Korea**, known as CAATSA.
- Title II of the Act primarily deals with sanctions on Russian interests such as its **oil and gas industry, defence and security sector, and financial institutions**, in the backdrop of its military intervention in Ukraine and its alleged meddling in the 2016 US Presidential elections.
- The act empowers the US President to impose at least five of 12 listed sanctions on persons engaged in a "**significant transaction**" with the Russian defence and intelligence sectors.
- Basically, this law was meant to punish countries having deep engagements with Russia, North Korea, and Iran using economic sanctions.

Waivers Under CAATSA

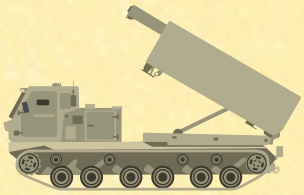
- The act said countries having a **"significant transaction"** with Russian intelligence and military agents will be subject to at least five kinds of sanctions.
- Hence, **ordinary transactions** will not invite sanctions and the imposition of sanctions comes down to the **interpretation of significant transaction**. **This leaves the scope of waiver**.
- Other exemptions mentioned include the *transaction not affecting US strategic interests, not endangering the alliances it is a part of, etc.*

CAATSA and India

- In 2018, India purchased S-400 missile system from Russia and in November 2021 the delivery of this missile system began.
  - India had signed a $5 billion deal with Russia to buy **five units of S-400 defence missile systems**.
- In July 2018, the US communicated that it was ready to grant India (along with Indonesia and Vietnam) a waiver on the CAATSA sanctions.

S-400 Triumf

- Russian-built S-400 Triumf is the world's most dangerous operationally deployed modern long-range surface-to-air missile system.
- A missile defence system is intended to act as a shield against incoming ballistic missiles.
- It is considered much more effective than the Terminal High Altitude Area Defence (THAAD) system developed by US.
- S-400 was made operational in 2007, and is responsible for defending Moscow. It was deployed in Syria in 2015 to guard Russian and Syrian naval and air assets.



EU SLAPS ANTI-TRUST CHARGE AGAINST APPLE

EU stepped up its antitrust case against Apple by accusing the company of abusing its dominant position by limiting access to technologies allowing contactless payment.

Antitrust Policy of EU

- EU Antitrust policy is developed from Articles 101 and 102 of the Treaty on the Functioning of the European Union (TFEU).
  - Article 101 prohibits anti-competitive agreements between two or more independent market operators.
  - Article 102 prohibits abusive behavior by companies holding a dominant position on any given market.
  - Under these articles, European Commission is empowered to start investigation on charges of companies abusing their dominant position to scuttle competition.

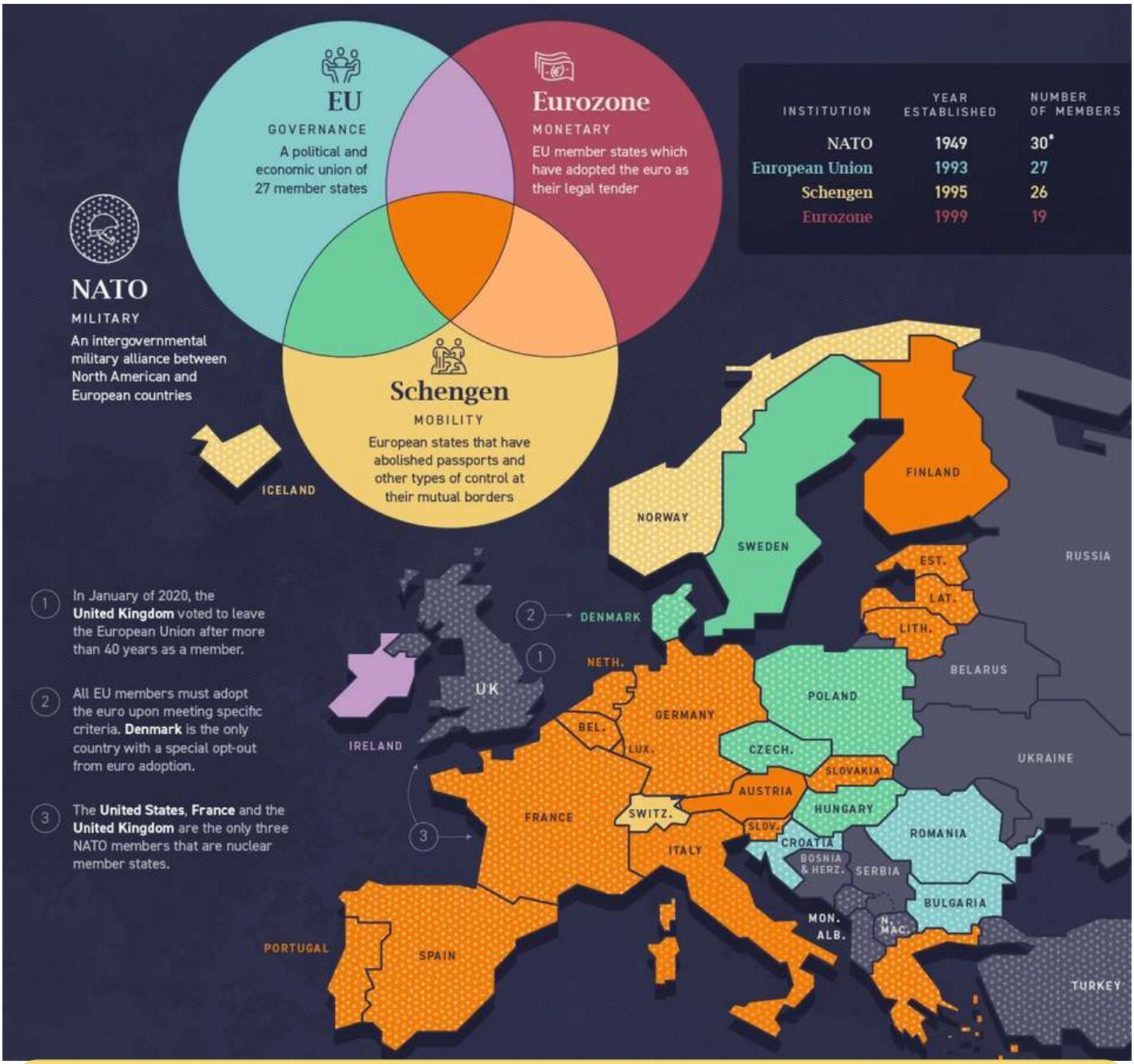
European Commission (EC)

European Commission

- The European Commission is the **EU's politically independent executive arm**
- EC is known as the guardian of the treaties.
  - It is due to its responsibility to represent the European interest and enforce the **treaties and legislation** that provide the legal foundation for the EU.
- Its members consist of a team of **27 Commissioners (one from each EU country)** – led by the Commission President.
- It is located at Brussels (Belgium).

Functions

- It is alone responsible for **drawing up proposals for new European legislation**, and it implements the decisions of the European Parliament and the Council of the EU.
- It is also responsible for upholding EU treaties and managing the day-to-day business of the EU.
- It also has legislative functions and judicial functions.
  - **Legislative functions** - proposing new laws for the European Parliament,
  - **Judicial functions** - finding legal solutions to business and trade issues between countries within the EU.



UKRAINE AND MOLDOVA GRANTED COVETED EU CANDIDATE STATUS

- The EU agreed to grant coveted EU candidate status to Ukraine and Moldova, thereby putting these countries on a path toward EU membership. However, it could take Ukraine & Moldova more than a decade to eventually join the bloc.

Countries aspiring to gain membership of EU

- Becoming a member of the EU is a complex and a time-consuming process.
  - **Croatia was the last country to join the bloc**. Its application process lasted 10 years before it was formally accepted in 2013.
- At present, there are five candidate countries which are willing to join the EU.
  - **Turkey** applied in 1987 but the membership process has long been on ice.
  - **North Macedonia, Montenegro, Albania and Serbia** applied to join between 2004 and 2009.
  - Albania and North Macedonia fulfilled the conditions to begin accession talks in 2020, with a view to joining in 2025.
  - But negotiations have been **blocked by Bulgaria** in an obscure row over whether the language spoken in North Macedonia is a regional variant of Bulgarian or not.

European Union

- EU is a unique economic and political union between 27 European countries that together cover much of the continent.
- The predecessor of the EU was created in the aftermath of the Second World War.
  - The first steps were to foster economic cooperation by creating European Economic Community (EEC) in 1958.

- Initially economic cooperation was ensured between six countries: Belgium, Germany, France, Italy, Luxembourg and the Netherlands.
- Later, 22 other members joined and a huge single market (also known as the 'internal' market) has been created. On 31 January 2020 the United Kingdom left the European Union.

Conditions for Joining EU

Obligation	• **Article 49** of the EU treaties state that any European nations that seek to join the bloc, must be committed to respecting and promoting the EU's fundamental values set out in **Article 2.** • These include respect for freedom, democracy, equality, the rule of law, etc.
Consideration	After the application is received, the EU members judge the suitability of the nation on the basis of these terms
Specific criteria	• The European Council meeting in Copenhagen in 1993 set out more specific criteria called the **Copenhagen Criteria**. • Copenhagen Criteria includes a *free-market economy*, *a stable democracy*, *the rule of law*, *human rights* and the *implementation of all EU rules and regulations in all areas, including the Euro*.

Process of Joining EU

- **First stage:** The country is given the status of an official candidate. Ukraine completed the first stage of application.
  - The application in this regard is **submitted to European Council,** which asks the **European Commission to assess the country's ability to meet Copenhagen criteria.**
  - If the Commission agrees that the applicant country meets the 'Copenhagen criteria', the European Council then agrees upon **a negotiating mandate.**
- **Second stage:** The formal membership negotiations with the candidate begin, which involves the adoption of EU law into national law, and the implementation of judicial, administrative, economic and other reforms, called the **accession criteria.**
- **Third stage:** Once the negotiations are completed and the candidate has met all the accession criteria, they can join the EU. Membership is put to a final vote of the existing member states.

EU Member States And Institutions

- The unique feature of EU is that, although all the Member States remain sovereign and independent states, they have **decided to pool some of their sovereignty in areas where it makes sense to work together.**
- Several institutions are involved in making decisions at EU level, in particular:
  - **European Parliament**, which represents EU's citizens and is directly elected by them;
  - **European Council,** which consists of the Heads of State or Government of the EU Member States;
  - **The Council**, (also called the Council of the European Union) which represents the governments of the EU Member States; and
  - **European Commission,** which represents the interests of the EU as a whole.

Euro and Schengen Area

- The euro is the single currency of the EU as a whole. However, **the euro area currently comprises only 19 Member States.**
  - While Denmark has an opt-out and the remaining countries do not yet meet the criteria for joining.
- 22 Member States are members of the **Schengen area, which enables passport-free movement**, with five (Romania, Bulgaria, Croatia, Cyprus, Ireland) maintaining their own border controls.

LEAKAGES IN NORD STREAM PIPELINES

- Four leaks were reported at different points in the Nord Stream pipelines, linking Russia and Europe. Two of the leaks were in Swedish waters while the other two were reported from Danish waters.

Nord Stream Gas Pipelines

- Nord-stream consists of two pipelines, which have two lines each.
  - **Nord Stream 1** was completed in 2011 and runs from Vyborg in Leningrad to Lubmin near Greifswald (Germany).
  - **Nord Stream 2** which runs from Ust-Luga in Leningradto Lubmin was completed in September 2021.

- The Nord Stream crosses the **Exclusive Economic Zones (EEZs)** of several countries including **Russia, Finland, Sweden, Denmark and Germany, and the territorial waters of Russia, Denmark, and Germany.**
- In Germany, the pipeline connects to the **OPAL (Baltic Sea Pipeline)** and **NEL (North European Pipeline)** which further connects to the European grid.

INDIA, GERMANY TO WORK ON PROJECTS IN THIRD COUNTRIES

Prime Minister Modi paid an official visit to Germany. During this visit, PM Modi held bilateral discussions with Chancellor Scholz, and co-chaired the 6th India-Germany Inter-Governmental Consultations (IGC). The biennial IGC is a unique dialogue format that also sees participation of several Ministers from both sides.

- Both sides agreed to create a biennial Ministerial Mechanism within the framework of the IGC. It will provide high-level political direction to this Partnership.
- All existing bilateral formats and initiatives in the fields of climate action, sustainable development, energy transition, development cooperation and triangular cooperation will report on progress to the Ministerial Mechanism

Green and Sustainable Development Partnership

- The Joint Declaration of Intent (JDI) establishing the Green and Sustainable Development Partnership envisages a whole-of-government approach to India-Germany cooperation on SDGs and climate action.
- Under this, **Germany has agreed to make an advance commitment of 10 billion Euros** of new and additional development assistance until 2030.
- As deliverables of the Indo-German Partnership for Green and Sustainable Development, both sides agreed to:
  - Develop an **Indo-German Green Hydrogen Roadmap**
  - Establish an **Indo-German Renewable Energy Partnership** focusing on innovative solar energy and other renewables
  - Establish a lighthouse cooperation on **"Agroecology and Sustainable Management of Natural Resources"**
  - Further examine collaboration on **Green Energy Corridors, e.g. the Leh-Haryana transmission line and the project of a carbon neutral Ladakh.**
  - Deepen cooperation in restoring forest landscapes under the **Bonn Challenge.**
  - Work together on Triangular Cooperation, based on individual strengths and experiences in development cooperation and offer sustainable, viable and inclusive projects in **third countries** to support the achievement of SDGs and climate targets.

AEGEAN ISLAND DISPUTE

- Turkey and Greece have a long-standing rival claim over the Aegean Sea's Island and Territory.
- Turkey has accused Greece of building a military presence in violation of the **1923 Treaty of Lausanne and the 1947 Paris Treaty,** which guarantee the Aegean islands' unarmed status.
- In 1995, Greece ratified the 1982 United Nations Convention on the Law of the Sea (UNCLOS), which provides a legal framework to recognize the limits of maritime zones of coastal nations. Turkey did not sign it as it did not favor its interest in the Aegean Sea.

THE NORTHERN IRELAND PROTOCOL BILL

- The current UK government has come up with a new legislation, the Northern Ireland Protocol Bill.
- The bill would enable U.K. to **override provisions of the Brexit deal** that concern trading arrangements in Northern Ireland — the Northern Ireland Protocol (NIP).
- This has been opposed by the European Union as it violates international law.

The Northern Ireland Protocol (NIP)

- Northern Ireland is the only part of the U.K. that shares a land border with the EU, as the Republic of Ireland (or Ireland) is an EU member-state.

Brexit created two problems:

- Since, Republic of Ireland is still a member of union, EU has to preserve the sanctity of EU.
- Ireland, being a part of UK, was to be treated as a domestic market for UK.

- The NIP was agreed as a solution to avoid customs check at the actual customs border — on the island of Ireland, between Northern Ireland and the Republic of Ireland. **It instead shifted the customs border to that between Northern Ireland and Great Britain (England, Scotland and Wales).**
- That is because, unlike Northern Ireland, Great Britain won't have to follow EU rules in future.
- As per the NIP, goods flowing into Northern Ireland would be checked at this 'sea border' before entering the island, and Northern Ireland would continue to follow EU rules in product standards.

- The main irritant for the U.K. in the current version of the NIP was the creation of unacceptable barriers to trade within the U.K. internal market — between Great Britain and Northern Ireland.

INDO-PACIFIC ECONOMIC FRAMEWORK

US President Joe Biden, during his East Asia trip, has launched Indo-Pacific Economic Framework (IPEF) in Tokyo. US President was on an East Asia trip that saw him touch down first in Seoul and in Tokyo ahead of the May 24 Quad summit.

Indo-Pacific Economic Framework (IPEF)

- According to an insight paper on IPEF, put out by the US Congressional Research Service, the IPEF is not a traditional trade agreement. IPEF is not a free trade agreement. Neither is it a security pact. The agreement is more of an administrative arrangement.
- Rather, it would include different modules covering:

- Countries would have to **sign up to all of the components within a module,** but do not have to participate in all modules.
- The **fair and resilient trade module** will be led by the US Trade Representative and include digital, labour, and environment issues, with some binding commitments.
- Under IPEF, **no market access or tariff reductions have been outlined,** although experts say it can pave the way to trade deals. After the launch, so far, **IPEF is being joined by 12 other countries including India.**
  - The other 11 countries are Australia, Brunei, Indonesia, Japan, the Republic of Korea (South Korea), Malaysia, New Zealand, the Philippines, Singapore, Thailand, and Vietnam.
  - These countries, together, account for **40% of the world's GDP.**

Four Pillars of IPEF

Connected Economy higher standards and rules for digital trade, such as cross-border data flows

Resilient Economy resilient supply chains that will withstand unexpected disruptions like the pandemic

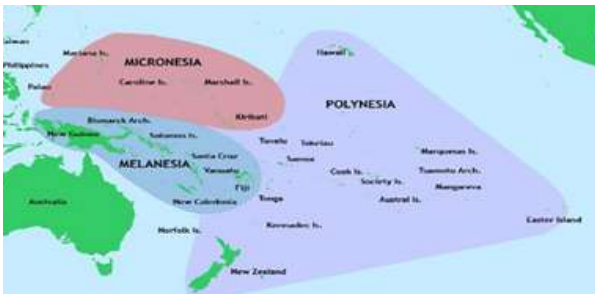
Clean Economy targeting green energy commitments and projects

Fair Economy implementing fair trade, including rules targeting corruption and effective taxation

WHY US IS KEEN ON LAUNCHING THE IPEF?

- The US is trying to regain credibility in the region after former President Donald Trump pulled out of the **Trans Pacific Partnership (TPP).**
  - China is an influential member of the TPP, & has sought membership of its successor agreement Comprehensive & Progressive Agreement on Trans Pacific Partnership (CPTPP).
  - It is also in the 14-member Regional Comprehensive Economic Partnership (RCEP), of which the US is not a member (India withdrew from RCEP).
- The Biden Administration is projecting IPEF as the new US vehicle for re-engagement with East Asia and South East Asia.

Pacific Island Nations



- Islands of the Pacific Ocean are commonly named as Pacific Island Nations.
- As shown in the map, Pacific Island Nations consist of three major groups of islands named as **Polynesia, Micronesia and Melanesia.**
  - North of Equator and east of Philippines are the islands of Micronesia.
  - The great arc of islands located north and east of Australia and south of the Equator is called Melanesia.
  - In the eastern Pacific, largely enclosed within a huge triangle formed by the Hawaiian Islands to the north, New Zealand to the southwest, and Easter Island (Rapa Nui) far to the east, are the islands of Polynesia.

INDIA, JAPAN 2+2 MEET

The second India-Japan 2+2 ministerial dialogue took place recently in Tokyo, Japan.

About 2+2 Ministerial Dialogue

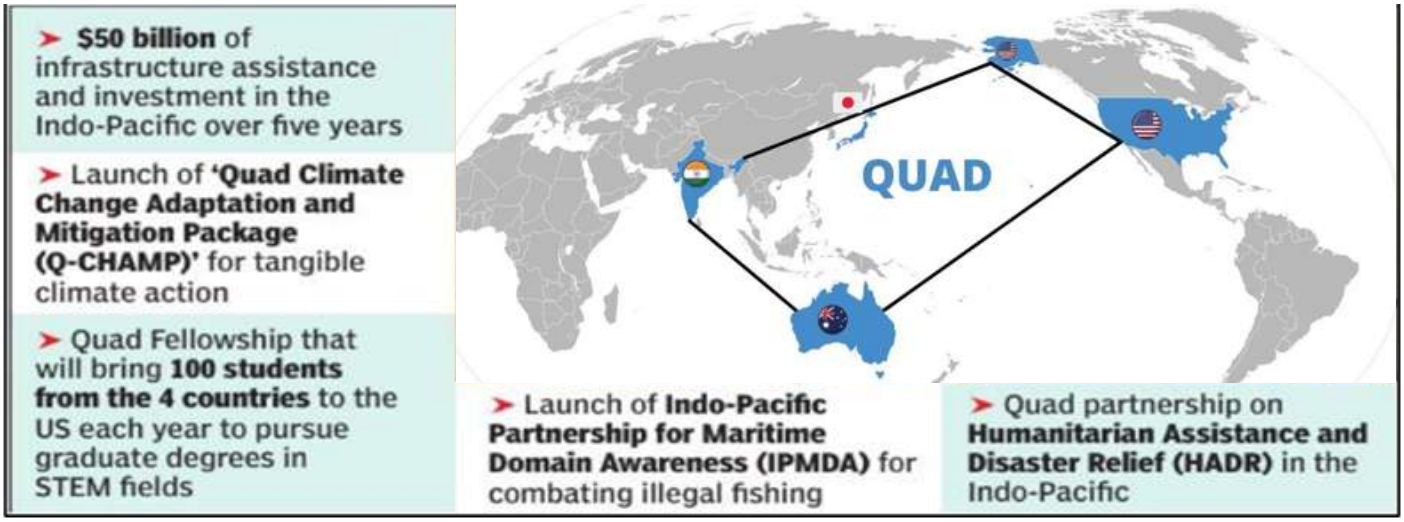
- The 2+2 dialogue is a format of meeting of the foreign and defence ministers of India and its allies on strategic and security issues.
- A 2+2 ministerial dialogue enables the partners to better understand and appreciate each other's strategic concerns and sensitivities taking into account political factors on both sides.
- India has 2+2 dialogues with four key strategic partners: US, Australia, Japan, and Russia.

2+2 with Japan

- India and Japan held their inaugural 2+2 minister level dialogue in November 2019.
- The idea of such a 2+2 meeting was initiated during the summit meeting between Modi and Abe in Tokyo in October 2018.
- India and Japan have had a 2+2 foreign and defense dialogue led by secretary level officers from 2010.

QUAD LEADERS' SUMMIT 2022

The second in-person Quad summit took place at Tokyo, Japan. The summit saw the participation of leaders of Australia, India, Japan and the United States. India was represented by PM Modi.

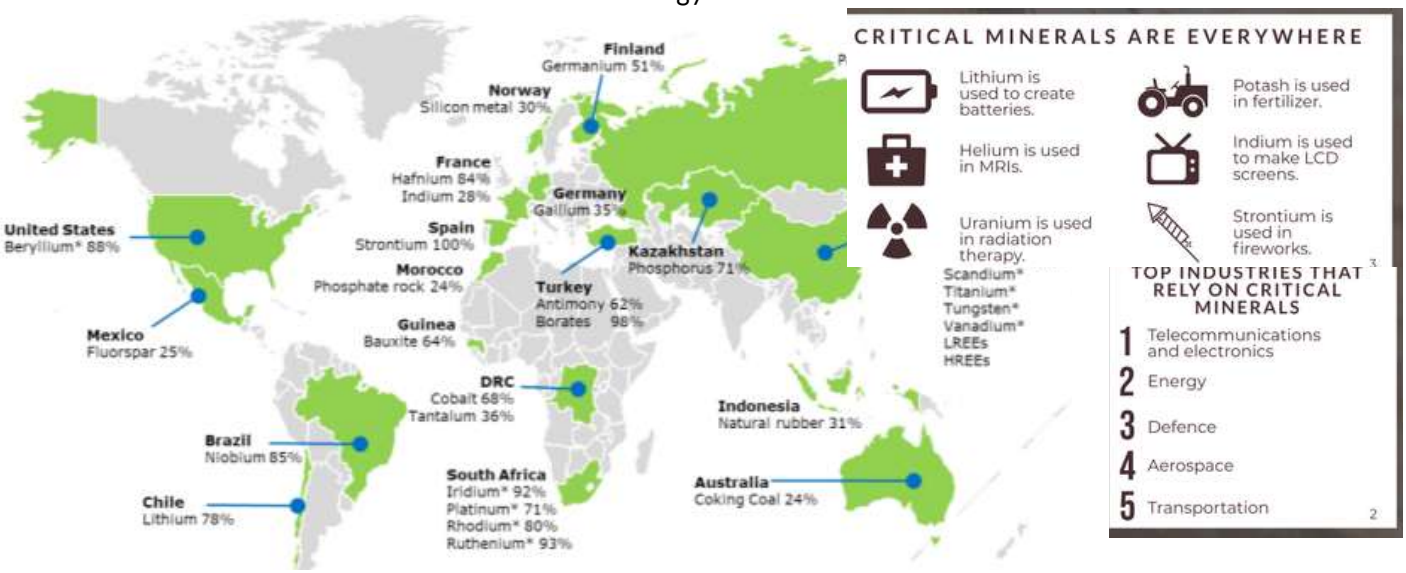


About Quad:

- It is an informal grouping of four democracies –**India, Australia, the US, and Japan** that aims to ensure and support a **"free, open and prosperous**" Indo-Pacific region.
- All four nations find a common ground of being democratic nations and also support the common interest of unhindered maritime trade and security.
- In 2020, the trilateral **India-US-Japan Malabar naval exercises** expanded to include Australia, marking the first official grouping of the Quad since its resurgence in 2017.
- In March 2021, the Quad leaders met virtually and later released a joint statement titled '**The Spirit of the Quad**,' which outlined the group's approach and objectives.

INDIA, AUSTRALIA BRINGS CRITICAL MINERALS INTO STRATEGIC TIES

- India and Australia are expanding their strategic ties to critical minerals in a bid to create a bulwark against China's dominance over raw materials.
- An MoU has been signed to establish India-Australia Critical Minerals Investment Partnership.
  - The partnership envisages joint investment for viable lithium and cobalt projects in Australia. This is critical for India's transition towards clean energy ambitions.



FIRST RUSSIAN TRAIN CARRYING INDIA-BOUND CARGO VIA INSTC ARRIVES IN IRAN

- An India-bound Russian cargo, sent by train for the first time using the ambitious International North-South Transport Corridor (INSTC), has reached Iran after travelling around 3,800 km through Kazakhstan and Turkmenistan.
- From Iran, the cargo will be was shipped to India by sea. Turkmenistan currently is not a formal member but is likely to have road connectivity to the corridor

Historical Background

- The foundation of the North-South transport corridor was laid in September, 2000 in accordance with an intergovernmental agreement signed between Russia, Iran, and India in Saint Petersburg (Russia).
- This agreement has been ratified by 13 countries in total. These countries are:
  - Azerbaijan, Belarus, Armenia, India, Iran, Kazakhstan, Kyrgyzstan, Oman, Russia, Tajikistan, Turkey, Ukraine, Syria.
  - Bulgaria is the Observer State
  - Baltic countries like Latvia and Estonia have also expressed willingness to join INSTC.

Components & Funding

The project has a number of components

- **Northern and Western Europe**
- **Russian Federation, Caucasus**
- **Persian Gulf (Western route)**
- **Central Asia – Persian Gulf (Eastern route)**
- **Caspian Sea – Iran Persian Gulf (Central route)**

- While India has backed the development of the port, free trade zone and railway line at Chabahar, Azerbaijan has come to Iran's aid to expedite the completion of the Iranian section of the corridor.

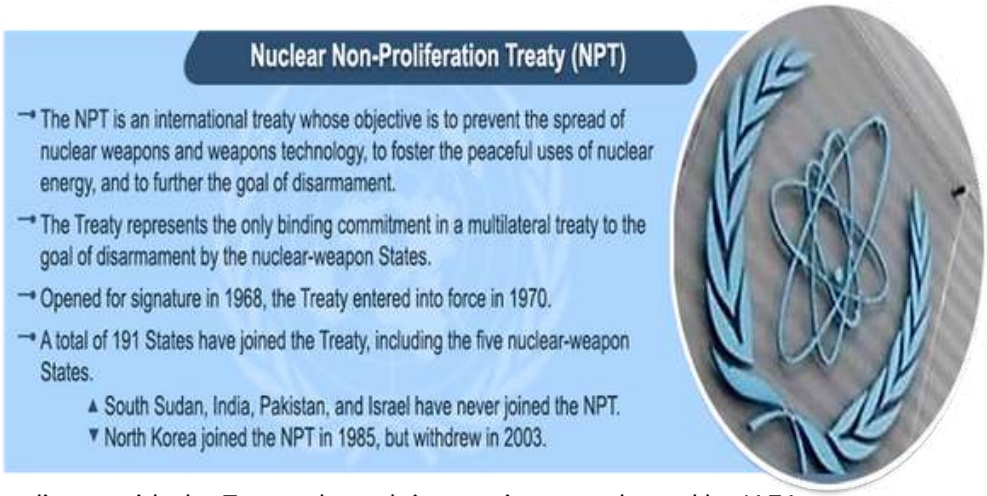
RUSSIA BLOCKS ADOPTION OF N-DISARMAMENT TEXT

- Russia blocked agreement on the final document of a **four-week review of the U.N. treaty - Nuclear Non-Proliferation Treaty (NPT).**
- Russia had one key objection on some paragraphs which, according to the Russian officials, were blatantly political in nature.

- Russia had one key objection on some paragraphs which, according to the Russian officials, were blatantly political in nature.
  - The latest draft text had expressed grave concern over military activities around **Ukrainian power plants, including Zaporizhzhia.**

Key Features

- The Treaty is regarded as the cornerstone of the global nuclear non-proliferation regime and an essential foundation for the pursuit of nuclear disarmament.
- The Treaty establishes a safeguards system under the responsibility of the International Atomic Energy Agency (IAEA).



- Safeguards are used to verify compliance with the Treaty through inspections conducted by IAEA.
- The provisions of the Treaty envisage a review of the operation of the Treaty every 5 years.
- The treaty's term was originally 25 years, but it was extended indefinitely at a review conference in 1995.

Extra Mile: Imports from Russia Increased

- Driven by a sharp spike in crude oil shipments, India's imports from Russia have shot up 3. 7 times to top $5 billion during April and May 2022. Apart from petroleum, some other product categories, such as fertiliser and edible oil, have also seen a significant rise.

PM MODI MEETS IRAN PRESIDENT, REVIEWS CHABAHAR PORT PROGRESS

At the Shanghai Cooperation Organisation (SCO) meeting in Samarkand, Uzbekistan, PM Modi met Iran's President Ebrahim Raisi. During the meeting, both the leaders discussed India – Iran relations and the progress on Chabahar port development project.

About Chabahar Port

- It is a seaport in Chabahar located in south-eastern Iran, on the **Gulf of Oman**.
- The port consists of two separate ports named **Shahid Kalantari** and **Shahid Beheshti**, each of which has five berths.

- In May 2016, India and Iran signed a bilateral agreement in which India would refurbish one of the berths at Shahid Beheshti port, and reconstruct a 600-meter-long container handling facility at the port.

India – Iran Relationship: In Brief

- India-Iran relations span centuries marked by meaningful interactions. The two countries shared a border till 1947 and share several common features in their language, culture and traditions.
- Independent India and Iran established diplomatic links in March 1950.

Why has India stopped importing crude oil from Iran?

- In 2019, due to the sanctions imposed by the US on Iran, India had stopped importing crude oil from the country.
- Before 2019, India was the second biggest buyer of oil from Iran.

Why it is in India's favour to restart oil import from Iran?

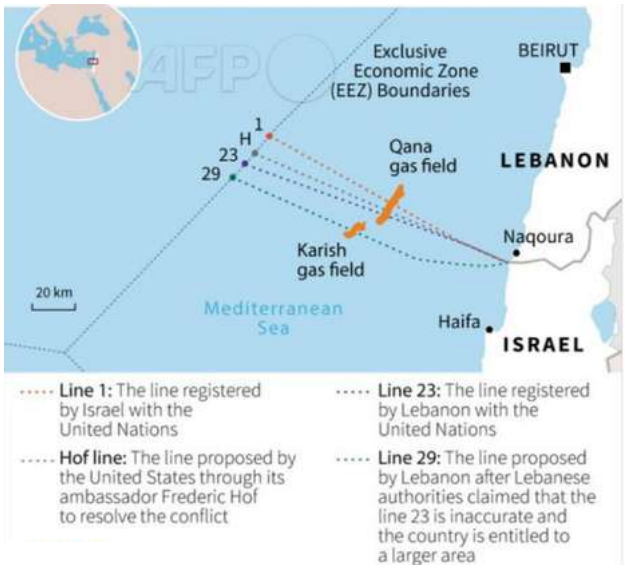
- Firstly, most of India's refineries are adept to Iranian sweet oil
- Secondly, Iran trades oil for Indian rupee or goods.
- Thirdly, transportation costs of goods from **Bandar Abbas port** and **Chabahar port** are lower.

ISRAEL AND LEBANON REACH AN AGREEMENT ON MARITIME BORDER

- Lebanon and Israel have reached a historic deal, brokered by USA, to end a long-running maritime border dispute in the gas-rich Mediterranean Sea.
- Israel and Lebanon do not have official diplomatic relations and the two countries remain technically at war.

Maritime Dispute Between Israel And Lebanon

- The two countries declared overlapping boundaries in 2011 in the Mediterranean Sea.
- Since both countries have been technically at war, the United Nations was asked to mediate.
- The issue gained significance after Israel discovered two gas fields off its coast a decade ago, which experts had believed could help turn it into an energy exporter.



Land border dispute not covered under the agreement (Blue line issues)

- The agreement does not touch on the shared land border between Israel and Lebanon.
  - Land border between the two countries is still disputed. However, both countries have committed to a ceasefire.
  - This border is also called the Blue Line, a boundary that was drawn up by the UN after Israel withdrew from southern Lebanon in 2000.
- This land border is currently patrolled by the United Nations forces.

INDIA, ISRAEL TO ENHANCE DEFENCE TIES

·With the intention to further strengthen the existing framework of the Indo-Israeli defence cooperation architecture, both the sides adopted the India-Israel Vision on Defence Cooperation.

Comprehensive 10-year Roadmap

- In October 2021, India and Israel had agreed to form a task force to formulate a comprehensive 10-year roadmap. This was formulated to identify new areas of cooperation as part of efforts to further advance the bilateral defense cooperation.

India-Israel Bilateral Relation

Historical Background

- Both countries gained their independence from the UK within months of each other. However, they headed in different directions for nearly four decades --
  - India as a leader in the NAM maintained close relations to the Arab world and the Soviet Union and Israel established close ties with the US and Western Europe.
- The two famous foreign policy decisions of India in relation to Israel at the time of Independence included:
  - India's participation in the UN Special Committee on Palestine and
  - Its decision on Israel recognition as a State. India had recognised Israel in September, 1950. Full-fledged diplomatic relations between the countries were established in January, 1992.

Agriculture

- Agricultural cooperation between the two sides is formalized through **three-year action plans.**
- The two sides are currently implementing the fifth phase of joint action plan (2021-23).
- The focus during the new work programme (2021-23) will be to convert the villages surrounding the Centres of Excellence (COEs) into Villages of Excellence (VOEs) through massive outreach programmes.

Water Technologies

- Israeli company IDE has built several desalination plants in India. A 100 MLD (Million Litre per day) desalination plant set up by IDE at Nemelli in Tamilnadu was commissioned in 2013.
- Israeli drip irrigation technologies and products are now widely used in India.

Israeli weapon systems

- Phalcon AWACS (airborne warning and control systems) and Heron,
- Searcher-II and Harop drones,
- Barak anti-missile defence systems and Spyder quick reaction anti-craft missile system.
- India is now finalising "Project Cheetah" to arm the Heron drones with laser-guided bombs with Israel's help.

Cooperation in S&T

- During the visit of PM Modi in July 2017, a MoU for establishing India-Israel Industrial R&D and Innovation Fund (i4F) was signed.

1MALAYSIA DEVELOPMENT BERHAD SCANDAL

- Recently, Malaysia's top court upheld the conviction and 12-year prison sentence awarded to former Prime Minister Najib Razak in the multi-billion-dollar graft scandal.
- The scandal is linked to the looting of funds from **1Malaysia Development Berhad (1MDB).**

1 MDB scandal

- Now insolvent, 1MDB was a state-owned company co-founded by Najib in 2009 purported to promote development.
- During its initial years, 1MDB signed ventures with companies like PetroSaudi and was also funded by investment company Goldman Sachs.
- In 2015, prominent newspaper reported that millions of dollars from 1MDB accounts were transferred to Najib's personal accounts.

RUSSIA LAUNCHES NUCLEAR ICEBREAKERS IN ARCTIC REGION

President Putin presided over the flag-raising ceremony and dock launch for two nuclear-powered icebreakers that will ensure year-round navigation in the Western Arctic.

Key highlights

- The 173.3-metre Yakutia, with a displacement of up to 33,540 tonnes, was launched into water. It can smash through ice of up to three metres. It will join service by end-2024.
- The flag was raised on another vessel Ural. It is expected to become operational in December.
- Two other icebreakers in the same series, Arktika and Sibir, are already in service and another, the Chukotka, is scheduled for 2026.
- Super-powerful nuclear icebreaker known as Rossiya, with a displacement of up to 71,380 tonnes, would be completed by 2027. It will be able to break through ice four metres thick.

India's involvement in Arctic

Initial Phase

- India's engagement with the Arctic dates back to 1920 with the signing of the Svalbard Treaty in Paris.
- India is one of the very few countries to set up a permanent station in the Arctic for the purposes of scientific research.
- It launched its first scientific expedition to Arctic in the first week of August, 2007.
  - Subsequently, India has been sending scientific teams every summer and winter for carrying out studies in the Arctic.
  - Indian studies are primarily focused in the fields of glaciology, hydrochemistry, microbiology, and atmospheric sciences.

- **Subsequent involvement**
  - The Himadri research station, located in Ny Alesund, Svalbard in Norway, was started in July 2008.
  - In 2014, India deployed IndArc, a multisensory observatory in Kongsfjorden.
  - In 2016, India's northernmost atmospheric laboratory was established at Gruvebadet.
    - It was established to study clouds, precipitation, long-range pollutants, and other background atmospheric parameters.
- **India is an observer in the Arctic Council since 2013**
  - India is Observer to the Arctic Council since 2013. Its membership as an observer was renewed in 2019 for another five years.
    - The Council is the leading intergovernmental forum promoting cooperation on common Arctic issues.
  - Established by the eight Arctic States — the countries whose territories fall in the Arctic region — through the Ottawa Declaration of 1996.
    - Member Nations of the Council - Canada, Kingdom of Denmark, Finland, Iceland, Norway, Russian Federation, Sweden and United States.
- **Arctic Policy launched**
  - In March 2022, the Indian government unveiled an Arctic policy.
  - It envisages India's engagement in the Arctic region for climate research, environmental monitoring, maritime cooperation and energy security.
  - The National Centre for Polar and Ocean Research (under the Ministry of Earth Sciences) will serve as the nodal agency in implementing the Arctic Policy.

SUMMITS AND ORGANISATIONS

2022 UN OCEAN CONFERENCE (UNOC)

- United Nations Ocean Conference was held at Lisbon, Portugal. This conference was co-hosted by the Governments of Portugal and Kenya.
- This summit pursued the objective of scaling up solutions to **reverse the decline in ocean health and build the sustainable future.**
- Theme of the conference - **"Scaling up ocean action based on science and innovation for the implementation of Goal 14: stocktaking, partnerships and solutions**".

Sustainable Development Goal 14: Life Below Water

- It was adopted in 2015 as an integral aspect of the 2030 Agenda for Sustainable Development and its set of 17 transformative goals.
- Advancement of Goal 14 is guided by specific targets that focus on an array of ocean issues, including:
  - reducing marine pollution
  - protecting marine and coastal ecosystems
  - minimizing acidification
  - ending illegal and over-fishing
  - increasing investment in scientific knowledge and marine technology
  - respecting international law that calls for the safe and sustainable use of the ocean and its resources.
- **UN Decade of Ocean Science for Sustainable Development 2021 – 2030**
  - The Decade provides a common framework to ensure that ocean science can fully support countries' actions to sustainably manage the ocean and more particularly to achieve the 2030 Agenda for Sustainable Development.

Key Outcome

Lisbon Declaration – A Suite Of Science-Based And Innovative Actions

- The Conference adopted the Lisbon Declaration titled - Our ocean, our future, our responsibility. It is a legally non-binding document.

Enhancing the management, protection and restoration of marine ecosystems and biodiversity in territorial and extraterritorial seas

- Since 1870s, almost half of global coral reefs have been lost; and nearly 87% of the global wetlands have disappeared over the past 300 years. To address this decline, it was decided to protect at least 30% of ocean by 2030 (30×30 target).
- While, to cover critical gap, the conference called for the rapid adoption of a new legally binding agreement on the conservation and sustainable use of marine biodiversity areas beyond national jurisdiction - BBNJ Treaty.
  - BBNJ treaty is currently under negotiation at United Nations.
  - 5th round of negotiations for implementing international treaty is scheduled to be held in August 2022.

Preventing, Reducing And Controlling Marine Pollution Which Includes:

- Nutrient pollution; Untreated wastewater; Solid waste discharges; Hazardous substances; Emissions from the maritime sector, including shipping, shipwrecks; Anthropogenic underwater noise.

Creation Of Sustainable Ocean-Based Economies

- Participating members pledged to develop and promote innovative financing solutions to help create sustainable ocean-based economies.
- They also decided to expand nature-based solutions to help conserve and preserve coastal communities.

Empowerment of Women and Girls

- Member nations recognized that their participation is crucial to building a sustainable ocean-based economy and achieving the UN-mandated SDG 14.

Improving Fishing Practices & Aquatic Food Production Compliance With Environmental Standards

- FAO's State of World Fisheries and Aquaculture 2022 (SOFIA) was released during conference.
- It pointed out a decrease to 64.6% of fishery stocks within biologically sustainable levels in 2019.
- Also, there was an announcement from Canada, United-States and UK to launch an international alliance to drive collective action to eradicate illegal, unreported and unregulated (IUU) fishing.

Towards Commitments For Deep-Sea Protection

- It encouraged the creation of a "legal framework to stop high seas mining and not to allow new activities that endanger ecosystems".

Accelerating The Transition Of Blue Economy of the Small Island Developing States (SIDS) has been particularly emphasized.

Other Conventions Related to Ocean Conservation

- **London Convention, 1972 –** The "Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter" is one of the 1st international agreements for the protection of the marine environment from human activities. It has been in force since 1975
- **MARPOL 73/78 –** MARPOL refers to marine pollution. It is the International Convention for the Prevention of Pollution from Ships. India is a party to MARPOL 73/78.
  - Came into force in 1973 and later revised by the protocol in 1978
- **ACCOBAMS –** This refers to the "Agreement on the Protection of Cetaceans in the Black Sea, the Mediterranean Sea and the Contiguous Atlantic Region".

FIRST LEADERS' SUMMIT OF I2U2

The first Leaders' Summit of I2U2 (India-Israel-UAE-USA) was held virtually in July 2022. PM Modi, along with PM of Israel, President of the UAE and President of USA, participated in the Summit.

Key Highlights Of The Summit

Objective Of The Summit

- To encourage joint investments in **6 mutually identified areas** such as **water, energy, transportation, space, health, and food security.**
- It intends to mobilize **private sector capital and expertise to help**:
  - modernize the infrastructure
  - low carbon development pathways for our industries
  - improve public health
  - promote the development of critical emerging and green technologies

Focused On The Food Security Crisis And Clean Energy

- The leaders discussed innovative ways to ensure longer-term, more diversified food production and food delivery systems that can better manage global food shocks.

AIM For Climate

- The participating leaders welcomed India's interest in joining the United States, UAE, and Israel in the **Agriculture Innovation Mission for Climate initiative (AIM for Climate).**
- The **AIM for Climate/ AIM4C** is a joint initiative by US and UAE. It was launched in November 2021, on the sidelines of CoP26.
- It seeks to address climate change and global hunger by uniting participants to significantly increase investment in climate-smart agriculture and food systems innovation over five years (2021 – 2025).

About 12-U2 Group

- I2U2 is a **diplomatic group** of the India, Israel, UAE and United States.
  - US Secretary of State Antony Blinken has used the **I2-U2 moniker for the four-member grouping**.
- The grouping was launched in October 2021 when the first virtual meeting of the foreign ministers of India, Israel, US and UAE took place.
- The new grouping is described as an **international forum for economic cooperation.**
- This grouping is already being termed as a **New Quad' or the 'Middle-Eastern Quad'.**
- **Objective** – To generate synergies that go beyond government level cooperation.

Areas of cooperation

- The grouping will focus on expanding economic and political cooperation in Asia and Middle East through **energy cooperation, trade, transportation, global public health, infra, coordination on vital shared interests and combating climate change.**
- The group **does not have a military angle to it** and it only features cooperation in maritime security.

Abraham Accord

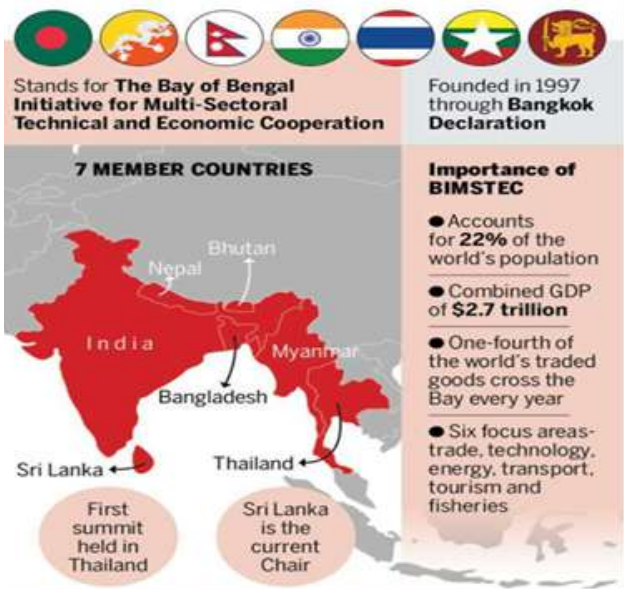
- The new grouping was possible only after the resumption of formal diplomatic relations between **Israel and the UAE,** through the Abraham Accord.
- Under the Abrahamic accords promoted by the Trump Administration, the **UAE, Bahrain, Sudan and Morocco** set up formal ties with **Israel in 2020**.

25TH FOUNDING DAY OF BIMSTEC

- The 25th Founding Day of BIMSTEC was celebrated in Dhaka on June 6.

BIMSTEC

- It is an **economic bloc with Permanent Secretariat at Dhaka, Bangladesh.**
- **Aim:** To counter the onslaught of **globalisation** by accelerating **regional growth** through mutual cooperation by utilising regional resources and geographical advantages.
- It is **sector-driven cooperative organisation** in which **6 sectors** have been included.
- Under these 6 sectors, 14 priority areas have been identified. **Climate change was added as the 14th priority area of cooperation in 2008.**
- Among these priority areas, a member country chooses which of the 14 priority areas it is willing to take lead.
- **India is lead country** for - Transport & Communication, Tourism, Environment & Disaster Management, Counter-Terrorism & Transnational Crime.



Significance of BIMSTEC for India

- **Bridge-builder between the SAARC and the ASEAN –** Myanmar and Thailand are members of ASEAN while other member nations belong to SAARC.
- **Strategic Significance -** China has diverted its attention to the Bay of Bengal with greater assertion. The Bay of Bengal acts like a funnel to the Malacca Strait, a major trade route for China.

5th BIMSTEC Summit

- In March 2022, the 5th BIMSTEC Summit was hosted in virtual mode by Sri Lanka, the current chair of BIMSTEC.
- The Summit's theme was "Towards a Resilient Region, Prosperous Economies, Healthy People".

XIV BRICS SUMMIT

- The 14th BRICS Summit was hosted by China in virtual format. India was represented by PM Modi at the summit.
- **Theme of BRICS Summit** - *"Foster High-quality BRICS Partnership, Usher in a New Era for Global Development"*.
- **BRICS Plus** virtual conference was also held as part of the main meeting with ministers from countries, including the UAE, Saudi Arabia, Egypt, Kazakhstan, Indonesia, Argentina, Nigeria, Senegal, and Thailand.

About BRICS

- BRICS brings together 5 major emerging economies - Brazil, Russia, India, China and South Africa.
- BRICS as a platform comprises 41% of the world population, 24% of the world GDP and over 16% share in the world trade.
- Headquarter: Shanghai

Beijing Declaration

- The participating members issued a joint statement in the form of Beijing Declaration. Key highlights of the declaration are as follows:
  - **Working In Solidarity to Combat COVID-19:**
    - It supported the leading role of WHO in combating the pandemic, as well as acknowledged initiatives such as the COVAX and the ACT-A.
      - COVAX is the vaccines pillar of the Access to COVID-19 Tools (ACT) Accelerator.
      - The ACT Accelerator (ACT- A) is a ground-breaking global collaboration to accelerate the development, production, and equitable access to COVID-19 tests, treatments, and vaccines.
  - **Promoting Economic Recovery:**
    - It emphasized the importance of continued implementation of the Strategy for BRICS Economic Partnership 2025 in all relevant ministerial tracks and working groups.
    - The declaration took note of China's hosting the "Buy BRICS" online promotion event.
    - It welcomed the establishment of Digital Economy Working Group by upgrading the E-commerce Working Group.

New Development Bank (NDB)

- The declaration congratulated NDB on its relocation to its permanent headquarters building in Shanghai as well as the opening of NDB's regional office in India.

Iran, Argentina Apply To Join BRICS Bloc

- Iran and Argentina have applied to join BRICS mechanism.
- During the recent BRICS summit, leaders agreed to continue to discuss the possibility of admitting new countries to the grouping on the basis of full consultation and consensus.

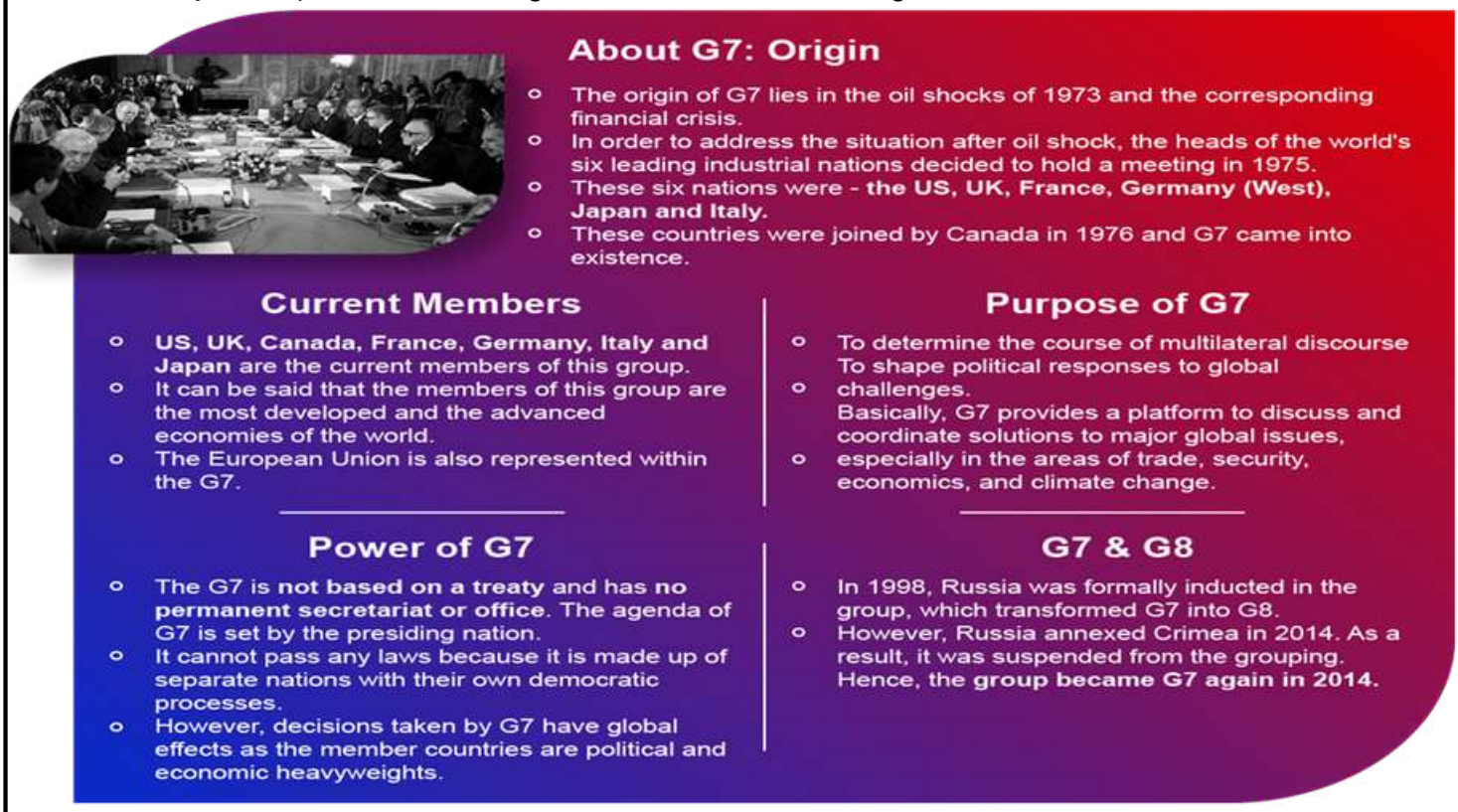
BRICS 2014
Fortaleza · Brasil

The Fortaleza Declaration

- In the Fortaleza Declaration, the 5 BRICS member states had decided on creating the **New Development Bank (NDB)** worth US$100 billion.
- The five countries agreed on designing the New Development Bank as a representative of the financial interests of the member states. The New Development Bank was proposed and established, so as **to act as an alternative to the International Monetary Fund and the World Bank.**
- The proposal for the **headquarters to be held in Shanghai** was also made during this summit.
- One of the major organs of this declaration came up in the form of signing an agreement for the cooperation of the export credit agencies of the BRICS nations.
- The export credit agencies of these nations are **ABGF (for Brazil), EXIAR (for Russia), ECGC (for India), ECIC (for South Africa), and SINOSURE (for China).**

48TH G7 SUMMIT

48th G7 Summit was held at Elmau, Germany from 26-28 in June 2022. Besides the member countries, the summit was joined by the Leaders of Argentina, India, Indonesia, Senegal and South Africa, as well as Ukraine.



Key Highlights of The Summit

Theme & Major Goals

- This year's theme was - ***Progress Towards An Equitable World.***
- The summit had **5 major goals** - Strong alliances for a sustainable planet; Setting the course for economic stability and transformation; Enhanced preparedness for healthy lives; Sustainable investments in better future; Stronger together.

Partnership for Global Infrastructure & Investment (PGII)

- At the 2021 Summit (47th Summit), G7 leaders had announced their intent to develop a values-driven, high-impact, and transparent infrastructure partnership (Build Back Better World (B3W) Initiative)
- This was formally launched in the form of PGII at the recently concluded summit through which they aim to mobilize USD 600 billion over the next 5 years to narrow global investment gap.
- **Four Priority Pillars of PGII –**
  - Climate and Energy Security
  - Digital Connectivity
  - Gender Equality and Equity
  - Health and Health Security
- The US has already announced investment worth $30 million for a fund promoting food security in India under the PGII.

2022 Resilient Democracies Statement

- India, along with G7 countries and four invited countries, signed the G7 joint statement on 'Resilient Democracies'.
- Through this statement, the participating countries expressed their commitment to:
  - **Guard the freedom, independence and diversity of civil society actors**
  - **Protect the freedom of expression and opinion online and offline**

India at 48th G7 Summit

- **Participation:**
  - India was represented by PM Modi at the summit. Although, India is not a member of G7, but it was called as a guest to attend the summit.
  - At the G-7 summit in Germany, PM Modi participated in two sessions on:
    - Investing In A Better Future: Climate, Energy, Health
    - Food Security
- **Stops Short Of Endorsing Partnership For Global Infrastructure And Investment (PGII)**
  - India endorsed only two outcome documents pertaining to the G7 and the outreach countries together. These are:
    - Resilient democracy (statement)
    - The chair's summary on the Just Energy Transition Partnership
- **Gift Diplomacy**
  - Continuing with his efforts to highlight India's soft power on the global stage, PM Modi gifted a variety of products to heads of governments at the G7 meet.
  - Distinct artistic products identified with different UP regions featured heavily in the PM's gift choices.
    - E.g., a **gulabi meenakari brooch and cufflink set** to US President Joe Biden
  - Gulabi Meenakari is a **GI-tagged art form of Varanasi in Uttar Pradesh.**
  - A piece of pure silver is moulded into a base form, and the chosen design is embossed in the metal.
    - Pieces of black pottery from Nizamabad were gifted to Japanese PM.
    - To celebrate the shared Ramayana links between India and Indonesia, the PM gifted a lacquerware Ram Darbar to Indonesian President.
      - The GI-tagged lacquerware art-form has its roots in the temple town of Varanasi in UP.

2ND INDIA-NORDIC SUMMIT

- PM Modi participated in the second India-Nordic summit in Copenhagen, hosted by Denmark, along with the Prime Ministers of Denmark, Iceland, Finland, Sweden and Norway.
  - The first India-Nordic summit took place in Stockholm, Sweden, in 2018.
- The summit provided a unique opportunity for India to expand cooperation with the Nordic nations.
- The Nordic nations of Denmark, Sweden, Norway and Finland are believed to be some of the most advanced economies in Europe.

INDIA ELECTED AS CHAIR OF THE ASSOCIATION OF ASIAN ELECTION AUTHORITIES

- India has been unanimously elected as the new Chair of the **Association of Asian Election Authorities (AAEA) for 2022-2024.**
- It was elected at the recently held meeting of the Executive Board and General Assembly at Manila (current chair of AAEA), Philippines.

About AAEA

- AAEA was conceived to promote and institutionalize open and transparent elections, independent and impartial election authorities and, professionalization of Asian election authorities.
- This important process to establish AAEA began with the January **1997** Symposium in Manila.
  - In pursuance of the resolution passed by participants of the Symposium, the Association of Asian Election Authorities (AAEA) was finally established in **1998.**
- Election Commission of India is a ***founder member of the AAEA and also served on the Executive Board of the AAEA*** as the Vice Chair during 2011-13 and Chair during 2014-16. Currently, 20 Asian Election Monitoring Bodies are members of the AAEA.
- AAEA is an Associate Member of 118 members Association of World Election Bodies (A-WEB).
- The mission of the AAEA is
  - To provide a non-partisan forum in the Asian region for sharing experiences and best practices among election authorities
  - To act upon ways to promote open and transparent elections with the objective of supporting good governance and democracy

'HINDI @ UN' PROJECT

- India has contributed USD 800,000 to the United Nations as part of the initiative to enhance public outreach of the organisation in Hindi.
- The Govt of India has been making continuous efforts to expand the use of Hindi in the United Nations.
- As part of these efforts, 'Hindi @ UN' project, in collaboration with the UN Department of Public Information, was launched in 2018.
- This project was launched with an objective:
  - To enhance the public outreach of the United Nations in Hindi language, and
  - To spread greater awareness about global issues among millions of Hindi-speaking people around the world.

Extra Mile

- **Official languages of the UN**: Arabic, Chinese, English, French, Russian and Spanish. These 6 languages are used in UN meetings and in these 6 languages all official UN documents are written.
  - India is making efforts to get Hindi recognized as the official United Nations language.
- **Working languages of the UN Secretariat:** English and French are the two working languages.
- **Process to recognize a language as the official language of the UN**: A resolution should be adopted by the UN General Assembly (UNGA) with at least a two-thirds majority.

75TH WORLD HEALTH ASSEMBLY

- The Seventy-fifth World Health Assembly was held in **Geneva, Switzerland.** It was the first in-person Health Assembly since the start of the COVID-19 pandemic.
- Theme of this year's Health Assembly was: **Health for peace, peace for health.**
- Union Health Secretary Rajesh Bhushan has been appointed as the chairperson of the Committee B at the summit.
  - The Assembly functions through two committees - A and B.
  - The Committee A meet to debate technical and health matters.
  - Committee B primarily discusses administrative and financial matters of the WHO.

About the World Health Assembly

- The World Health Assembly is the **decision-making body of WHO**. It focuses on a specific health agenda prepared by the Executive Board.
- The main functions of the World Health Assembly are to:
  - determine the policies of the Organization, appoint the Director-General, supervise financial policies, and review and approve the proposed programme budget.
- The Health Assembly is held annually in Geneva, Switzerland.

INTERNATIONAL MIGRATION REVIEW FORUM

- The first International Migration Review Forum (IMRF) took place at the United Nations Headquarters in New York. It was hosted by the President of the UN General Assembly.
- The Forum serves as the primary intergovernmental global platform for Member States to assess and deliberate on implementation of the Global Compact for Safe, Orderly and Regular Migration.

Global Compact for Migration

- In December 2018, UN General Assembly adopted the historic **Global Compact for Migration.**
- It is considered as a blueprint for helping millions of migrants worldwide achieve a life of safety and dignity.
- It is a **non-binding agreement**, which aims to better manage migration at local, national, regional and global levels, including reducing the risks and vulnerabilities the migrants or refugees face at different stages of their journey.

INDIA HOSTS SCO-RATS MEET

- India hosted a three-day meeting under the framework of the SCO's (Shanghai Cooperation Organisation's) **Regional Anti-Terrorist Structure (RATS).**
- India assumed the chairmanship of the Council of RATS in Oct' 2021 for a period of one year.
- A major focus of the discussions was to be on the situation in Afghanistan, especially in dealing with the threat from terror groups active in the Taliban-ruled country.
  - India has not recognized the Taliban regime in Afghanistan.
  - It has been pitching for the formation of a truly inclusive government in Kabul.
  - It is also insisting that Afghan soil must not be used for any terrorist activities against any country.

WEF ANNUAL MEETING 2022

- The World Economic Forum Annual Meeting was held at Davos, Switzerland.
- Theme of this year's summit was - 'Working Together, Restoring Trust'.

Key Highlights

Global Digital FDI Flows Launched:

- It is a joint initiative of the Digital Cooperation Organization (DCO) and the WEF.
- The DCO focuses on digital economy initiatives supporting youth, startup entrepreneurs and women
- The agreement will see the DCO and WEF work together to to identify methods to increase digital adoption, investment in new digital activities, and investment in digital infrastructure.
  - Under the initiative, DCO and WEF will launch Digital FDI Enabling Projects in countries around the world.

Defining and Building the Metaverse

- The Forum announced a new initiative, Defining and Building the Metaverse.
  - The metaverse refers to a virtual world where people can live, work and play via an avatar.
  - It doesn't actually exist yet, but tech companies are investing billions of dollars into developing the technology.
- Research suggests that the metaverse is expected to grow into an $800 billion market by 2024.

India at Davos 2022

- Launch of Indian CEO Alliance
  - The Forum launched the India chapter of the Alliance of CEO Climate Action Leaders to supercharge India's climate action and decarbonization efforts.

12TH MINISTERIAL MEETING OF WTO

- The 12th Ministerial Meeting (MC12) of World Trade Organization (WTO) members concluded **with first major deal in nearly 9 years.**
- In 2013, at the Bali Ministerial Meet, members had signed **WTO's first trade deal on a peace clause** on public stockholding for food security purposes and trade facilitation agreement.

The outcome of 12th Ministerial Meeting of WTO

Limited Patent Waiver For Covid-19 Vaccines

- The members agreed on a waiver of certain procedural obligations under the TRIPS Agreement.
- This will allow for the **swift manufacture and export** of COVID-19 vaccines without the consent of patent owner.
- The demand to **include diagnostics and therapeutics in the agreement was not agreed upon this time**. WTO members will decide on the same after six months.

An Agreement To Discipline Fisheries Subsidy

- The agreement on **harmful fisheries subsidies** was achieved. It includes a strong prohibition of subsidies contributing to illegal, unregulated and unreported (IUU) fishing with unprecedented transparency provisions. It also includes an absolute prohibition of subsidies for fishing on the **unregulated high seas.**
- Also, there is a provision on overfished stocks. It will bring sustainability rules for subsidies regarding most vulnerable stocks in the first phase of the agreement.
  - For the agreement regarding subsidies on **overcapacity and overfishing** to enter into force, negotiations on UN SDG 14.6 need to be concluded.
  - **SDG 14.6:** By 2020, prohibit certain forms of fisheries subsidies which contribute to overcapacity and overfishing, eliminate subsidies that contribute to IUU fishing and refrain from introducing new such subsidies, recognizing that effective special and differential treatment for developing and least developed countries should be an integral part of the WTO fisheries subsidies negotiation

Food Security and Agriculture

- In a joint Declaration on Food Security, WTO members committed to avoiding **unjustified export restrictions on food.** They also agreed to improve transparency on any export restrictions.
- Moreover, a decision was taken to **completely exempt humanitarian purchases** for the World Food Programme from export restrictions. However, internal food security concerns will take precedence and a country will be free to decide according to this priority.
- On Agriculture, members were not able to overcome their differences on a work programme for agriculture.

Extended A Moratorium On Applying Duties To Electronic Transmissions

- The meeting had reached an agreement to extend a moratorium on applying duties to electronic transmissions **until the next ministerial meeting.**
- Extension of moratorium was backed by major players like the US, the UK and the EU.
- They argued that letting it expire would undermine a global recovery already threatened by spiralling prices.
- The agreement specified that the moratorium would expire in March 2024, should the next conference be postponed.

SPECIAL ASEAN-INDIA FOREIGN MINISTERS' MEETING

- India hosted ASEAN Foreign Ministers and Secretary General for a Special ASEAN-India Foreign Ministers' Meeting (SAIFMM) to commemorate 30 years of ASEAN-India Dialogue Relations.
- In recognition of this milestone, the year 2022 is being celebrated as ASEAN-India Friendship Year.
- The Ministers reviewed the status of the ASEAN-India Partnership and set out the path for the coming decade.
- The leaders also addressed the Ministerial Session of the 12th edition of Delhi Dialogue (DDXII) which focuses on 30 years of ASEAN-India relations with the theme 'Building Bridges in the Indo-Pacific'.
  - Launched in 2009, Delhi Dialogue is India's premier annual Track 1.5 Dialogue.
  - Track 1.5 dialogues are conversations that include a mix of government officials (who participate in an unofficial capacity) and non-governmental experts
  - It aims to strengthen ASEAN-India relations in the context of contemporary global and regional scenario.

WORLD OF WORK SUMMIT

- Union Minister For Labour & Employment participated in High Level Panel discussion in Geneva. The discussion was organised by the International Labour Organisation (ILO) under the World of Work summit.
  - The summit was organized by the International Labour Conference (ILC).
  - ILC is the ILO's highest decision-making body. It is often called the International Parliament of Labour.
- **Theme of Discussion:** "*Tackling multiple global crises: promoting human centered recovery and resilience*".

About ILO

- Established in 1919, as part of the **Treaty of Versailles**, ILO is a specialized agency of United Nations to set labour standards, develop policies and devise programmes promoting decent work for all women and men.
- It is the only tripartite U.N. agency whichbrings together governments, employers and workers of 187 member States.
- **Headquarter** - Geneva, Switzerland
- **Parent organization:** Economic and Social Council of the United Nations
- It is also a member of the United Nations Development Group (UNDP), a coalition of UN organization aimed at helping meet the Sustainable Development Goals.
- **Members -** The ILO has 187 member states (186 Countries + The Cook Islands)
- **Key Reports Published by ILO** - World Employment and Social Outlook; Global Wage Report

MAJOR ECONOMIES FORUM ON ENERGY AND CLIMATE (MEF)

- The Union Minister for Environment, Forest and Climate Change represented India at the virtual meeting of the Major Economies Forum on Energy and Climate (MEF).
- Hosted by U.S. President, the meeting aimed at **galvanising actions that are to strengthen energy security and tackle the climate crisis thereby building momentum for COP27.**
- The Indian Minister called upon the members of MEF to launch a global movement on LIFE i.e. Lifestyle for Environment.
  - While addressing the world leaders at **CoP 26 in Glasgow** (November 2021), PM Modi appealed to world leaders to make lifestyle change a global movement by shunning mindless consumption and adopting mindful utilisation of resources.
  - In this regard, he coined the term **LIFE i.e., Lifestyle For Environment.**

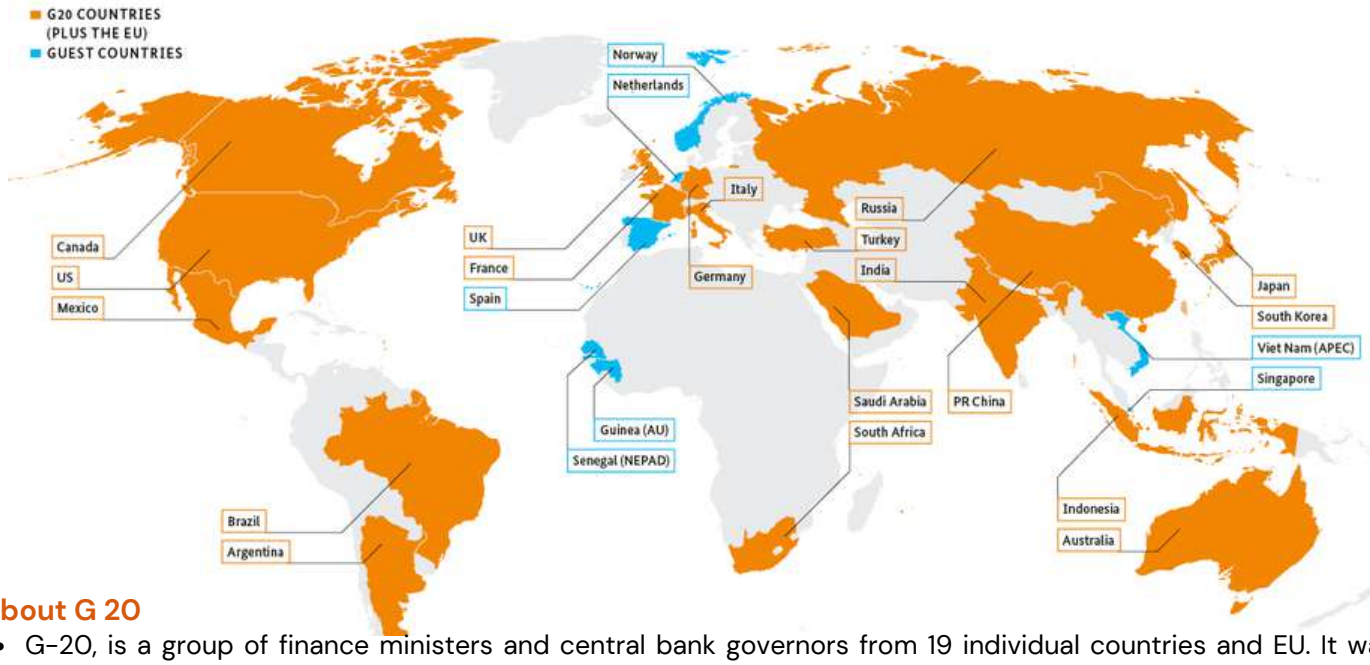
G20 FOREIGN MINISTERS' SUMMIT

- G20 foreign ministers' summit was held at Bali, Indonesia - the current President of G20.
- It was held under the **theme - *Building a more peaceful, stable, and prosperous world together.***

India & G20

- **India was a troika member** - Troika of G20 consists of the current (Indonesia), previous (Italy) and incoming (India) G20 Presidencies.
  - India will assume the G20 Presidency on 1st December 2022 from Indonesia. It will convene the G20 Leaders' Summit for the first time in India in 2023.

- **New Sherpa Nominated**
  - Former NITI Aayog CEO Amitabh Kant has been picked as India's new Sherpa for G-20.
    - A sherpa is the personal representative of a head of state or head of government.
    - Sherpa engages in planning, negotiation & implementation tasks through the Summit.
    - Sherpas meet much before the start of Summit to iron out differences on various issues.



About G 20

- G-20, is a group of finance ministers and central bank governors from 19 individual countries and EU. It was established in 1999.
- G20 was elevated to a forum of Heads of State/Government in 2008 to effectively respond to the global financial crisis of 2008.
- G-20 is a forum, **not a legislative body**, its agreements and decisions have no legal impact, but they do influence countries' policies and global cooperation.

Bali Declaration: Key Highlights

- **On the Russia-Ukraine**
  - The declaration acknowledged differences among members on the Russia-Ukraine war but stressed that it was essential to adhere to international law, including protection of civilians caught in conflicts.
  - It also said that the use/threat of use of nuclear weapons is inadmissible.
- **Welcomed the Turkey and UN-brokered Black Sea Grain Initiative**
  - The declaration welcomed the Turkey and UN-brokered Black Sea Grain Initiative that secured a Russia Guarantee to allow the export of Ukrainian grain.
- **Other issues covered**
  - The declaration covered a range of issues, from climate change to corruption, and from Covid vaccination to imparting computer skills to women.
- **The G20 is not the forum to resolve security issues**
  - The declaration recognised that the G20 is not the forum to resolve security issues.
  - However, it agreed that security issues can have significant consequences for the global economy.

India emerged as leader, consensus builder

- **Declaration Strengthened India's position:** The declaration echoes reiterated India's position since the beginning of the war:
  - respect for UN charter
  - advocating diplomacy and dialogue
  - need for peace and stability
  - against the use and threat of use of nuclear weapons
- Declaration echoed PM Modi's remark
  - The declaration proclaimed "today's era must not be of war", echoing PM Modi's remarks before President Putin on the sidelines of the SCO summit in September.
- India acted as consensus builder

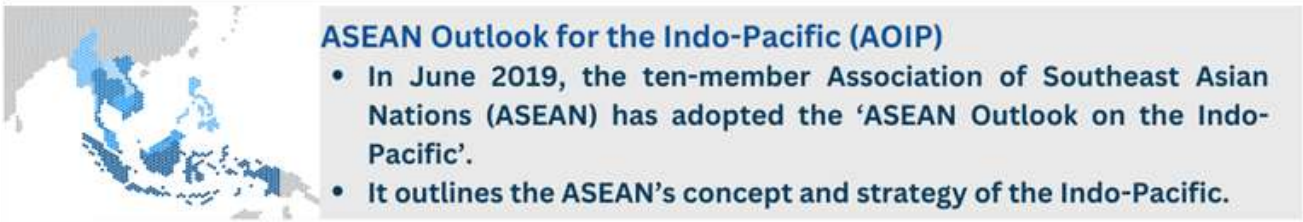
- India played a key and critical role in bringing consensus amongst countries after all the meetings round the year failed and when there was total deadlock.
- India worked in partnership with all developing countries and emerging markets to draft the final statement and the preamble to the statement.
- India made sure that the country's viewpoints are prominently reflected in the statement.
- India also managed to get important references in the communique on:
    - Sustainable development and lifestyles; new quantified goals for climate finance post 2025; additional finance by multilateral development banks for SDGs; multilateral reforms aimed at implementing the 2030 agenda; seamless and interoperable international travel.

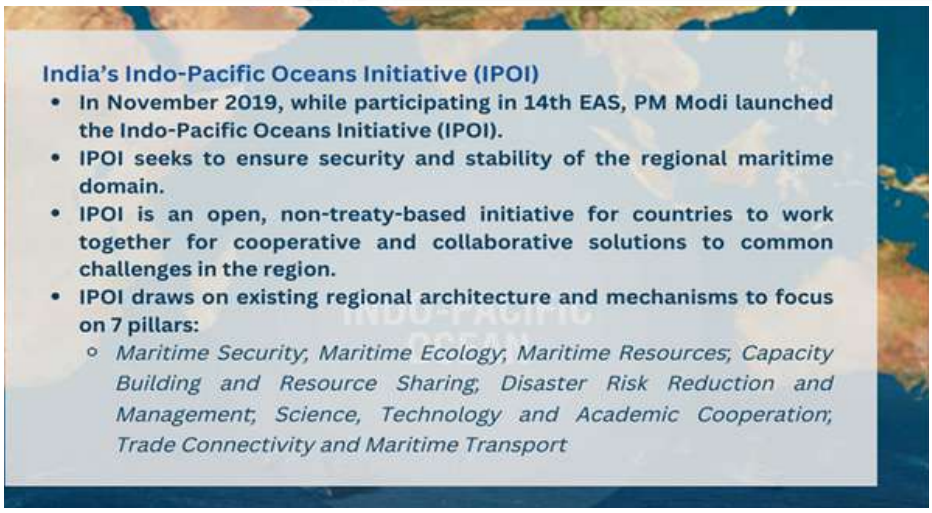
19TH ASEAN-INDIA SUMMIT

- The 19th ASEAN-India Summit was held recently in Phnom Penh, Cambodia. India was represented by Vice President Jagdeep Dhankhar. Cambodia, as the current Chair of ASEAN, hosted this Summit.
- ASEAN-India Summits are held annually.

ASEAN-India Engagement

- Key milestones in India – ASEAN relationship
    - ASEAN and India became **Summit-level partners in 2002,** and **Strategic partners in 2012.**
    - They elevated their relationship to a **Comprehensive Strategic Partnership in November 2022**, during 19th ASEAN-India Summit in Phnom Penh.
    - The year 2022 marks **30 years of ASEAN-India relations** and it has been designated as ASEAN-India Friendship Year by the leaders in October 2021.
    - There is **ample closeness** between India's **"Indo Pacific Oceans Initiative"** and ASEAN's **"Outlook on Indo Pacific".**
    - India firmly believes that a **"Cohesive and Responsive ASEAN"** is essential for **"Security and Growth for All in the Region (SAGAR)".**





India's military relationship with ASEAN countries

- India conducted the SIMBEX naval exercise with Singapore in the Bay of Bengal earlier this month.
- In the November-December time-frame, the Indian Army is also conducting:
    - Agni Warrior' exercise with Singapore
    - 'Harimau Shakti' with Malaysia
    - 'Garud Shakti' with Indonesia

17TH EAST ASIA SUMMIT

- Vice President Jagdeep Dhankhar participated in the 17th East Asia Summit in Phnom Penh, Cambodia. The summit was chaired by Cambodia in its capacity as the ASEAN Chair.

In Focus: East Asia Summit

- EAS is the only leader-led forum of 18 regional leaders for strategic dialogue and cooperation on the key political, security, and economic challenges facing the Indo-Pacific region.

- It is the Indo-Pacific's premier forum for strategic dialogue.

It comprises:

- Ten-member states of the Association of Southeast Asian Nations (ASEAN) –
- Eight dialogue partners of ASEAN - Australia, China, Japan, India, New Zealand, Republic of Korea, Russia and the United States.
  - United States and Russian Federation joined at the 6th East Asia Summit in 2011.
- EAS membership represents around 54% of world's population & accounts for 58% of global GDP.

ADMM-Plus Meeting

- The 9th ASEAN defence ministers-plus (ADMM Plus) meeting was held at Siem Reap, Cambodia. India was represented by Defence Minister Rajnath Singh.
- During this visit, India and Cambodia also co-chaired the maiden India-ASEAN defence ministers meeting. This was hosted to commemorate 30 years of India-ASEAN relations.

6 priority areas of regional cooperation within the framework of the EAS

- Environment and Energy
- Education
- Finance
- Global Health Issues and Pandemic Diseases
- Natural Disaster Management
- ASEAN Connectivity

ASEAN Defense Ministers plus Meeting (ADMM)

- It is the highest defence consultative and cooperative mechanism in ASEAN.
- It was established in 2006 and includes the 10 members of ASEAN.
- It aims to promote mutual trust and confidence through greater understanding of defence and security challenges as well as enhancement of transparency and openness.

ADMM-Plus

- The ADMM-Plus is a platform for ASEAN and its 8 Dialogue Partners.
- The aim of ADMM-Plus is to strengthen security and defence cooperation for peace, stability, and development in the region.
- It currently focuses on seven areas of practical cooperation, namely:
  - Maritime security,
  - Counter-terrorism,
  - Humanitarian assistance and disaster management,
  - Peacekeeping operations,
  - Military medicine,
  - Humanitarian mine action, and
  - Cyber security.
- The Inaugural ADMM-Plus was convened in Ha Noi, Vietnam, in October 2010.

CHINA HOLDS ITS FIRST MEETING WITH 19 COUNTRIES IN INDIAN OCEAN REGION WITHOUT INDIA

- China convened a first **"China-Indian Ocean Region Forum"** bringing together 19 countries from the region.
- Experts believe that the Chinese forum apparently is aimed at countering India's strong influence in the Indian Ocean region where India-backed organizations like the Indian Ocean Rim Association (IORA) have taken strong roots.

Key highlights

- **Organized by:** The meeting was organized by China International Development Cooperation Agency (CIDCA), an organization connected with the Chinese Foreign Ministry.
- **Theme :** The meeting was held in a hybrid manner under the theme of **"Shared Development: Theory and Practice from the Perspective of the Blue Economy".**

Marine disaster prevention and mitigation cooperation mechanism

- During the meeting, China proposed to establish a marine disaster prevention and mitigation cooperation mechanism between China and countries in the Indian Ocean region.
- China expressed its willingness to provide necessary financial, material, and technical support to countries in need.

India's presence in IOR

- India has strong influence in the Indian Ocean region where India-backed organisations like the **Indian Ocean Rim Association (IORA)** have taken strong roots.
  - IORA became an observer to the UN General Assembly and the African Union in 2015.
- PM Modi has proposed **"Security and Growth for All in the Region" (SAGAR)** in 2015 for active cooperation among the littoral countries of the Indian Ocean region.
- The Indian Navy-backed **'Indian Ocean Naval Symposium' (IONS)** seeks to increase maritime cooperation among navies of the region.

IORA

- IORA is an inter-governmental organization that was established in March 1997.
  - It was formerly known as the Indian **Ocean Rim Initiative and the Indian Ocean Rim Association for Regional Cooperation (IOR-ARC).**
- IORA Secretariat is based in Mauritius. It became an observer to the UN General Assembly and the African Union in 2015.
- **Members** – It has 23 Member States and 9 Dialogue Partners.
  - China is a dialogue partner in the IORA.

Objectives

- To promote sustainable growth and balanced development of the region;
- To focus on those areas of economic cooperation which provide maximum opportunities for development, shared interest and mutual benefits;
- To promote liberalisation, remove impediments and lower barriers towards a freer and enhanced flow of goods, services, investment, and technology within the Indian Ocean rim.

Priority pillars:

- Marittime Safety and Security
- Trade and Infrastructure
- Fisheries management
- Disaster Management
- Blue Economy
- Academic, Science and Technology
- Tourism and cultural Economy

NEW PRESIDENT OF FATF

- Singaporean T Raja Kumar had taken over as the president of Financial Action Task Force (FATF). He succeeds Dr Marcus Pleyer as the chief of the FATF and will **serve a two-year-term.**
- FATF is the **global money laundering and terrorist financing watchdog.** It currently comprises 37 member jurisdictions and 2 regional organizations (EU and GCC).
- The FATF has developed the FATF Recommendations, or FATF Standards, which ensure a co-ordinated global response to prevent organised crime, corruption and terrorism.
- They help authorities go after the money of criminals dealing in illegal drugs, human trafficking and other crimes. It also works to stop funding for weapons of mass destruction.

Pakistan Is Out Of FATF 'Grey List' On Terror Funding

- FATF has removed Pakistan from a list of countries under 'increased monitoring' for terror financing.
- Pakistan's exit from FATF's 'grey list' would allow the country to try to get foreign funds for tiding over its precarious financial situation.
  - It would provide Pakistan a boost after the country's sovereign credit rating was downgraded by Moody's.
- Pakistan was placed on the grey list by the FATF in June 2018

Financial Action Task Force (FATF)

- Set up in 1989, FATF is the global money laundering and terrorist financing watchdog.
  - It was established during the G7 Summit in Paris.
- It currently comprises 37 member jurisdictions and 2 regional organisations.
  - India became an Observer at FATF in 2006.
  - In June , **2010 India was taken in as the 34th country member** of FATF.
- The inter-governmental body sets international standards that aim to prevent these illegal activities and the harm they cause to society.
- The FATF functions as an independent body guiding policy, with its President selected by the plenary for a one-year period.
- The FATF ***Secretariat is located at the OECD headquarters in Paris.***

Grey List

- FATF "grey lists" a country which it considers as a safe haven for terror funding and money laundering.

- A country is put into this list when strategic deficiencies are detected in a country's policies to prevent money laundering and terror financing.
- It is a warning to the country to tackle the issues, failing which it could be "blacklisted," the highest level of indictment.
  - So far, only two countries have been blacklisted- Iran and North Korea.

6TH MINISTERIAL MEETING OF CICA

The Minister of State for External Affairs addressed the 6th Summit of the Conference on Interaction and Confidence Building Measures in Asia (CICA). It was held in Astana, Kazakhstan.

About CICA

- Established in 1999, CICA is an inter-governmental forum for enhancing cooperation towards promoting peace, security and stability in Asia.
  - It was proposed by Nursultan Nazarbayev, first president of Kazakhstan, at the 47th session of UN General Assembly in October 1992.
  - It currently has 27 member states and 9 observer states and 5 observer organizations.
- **Secretariat -**Almaty, Kazakhstan.
- For becoming a member of CICA, a state must have at least a part of its territory in Asia.
- India has been a member of CICA since its inception. India also co-chairs two CICA Confidence Building Measures (CBMs) on:
  - Development of Secure and Effective Systems of Transportation Corridors, and
  - Energy Security.

OPEC+ AGREES DEEP CUTS TO OIL PRODUCTION

Recently, OPEC+ agreed its deepest cuts to oil production since the 2020 COVID pandemic at a Vienna meeting.

Organization of the Petroleum Exporting Countries (OPEC)

- Established in 1960 by founding members Iran, Iraq, Kuwait, Saudi Arabia and Venezuela, **OPEC has since expanded and now has 13 member states.**
- OPEC bloc accounts for roughly 40% of the world's crude oil and 80% of the globe's oil reserves, according to estimates from 2018.
- With the addition of another 11 allied major oil-producing countries that include Russia, the grouping is known as OPEC+.
  - I.e., OPEC+ is a group of 24 oil-producing nations.
  - OPEC+ format was born in 2017 with a deal to coordinate oil production among the countries in a bid to stabilize prices.
- The OPEC bloc is nominally led by Saudi Arabia, the group's largest oil producer, while Russia is the biggest player among the non-OPEC countries.

Objective

- To coordinate and unify the petroleum policies of its Member Countries;
- To ensure the stabilisation of oil markets;
- To secure an efficient, economic and regular supply of petroleum to consumers, a steady income to producers
- To ensure a fair return on capital for those investing in the petroleum industry.

UN COUNTER-TERRORISM MEET

- India hosted a special meeting of the United Nations Security Council's Counter Terrorism Committee (CTC).
- This was the first such meeting of the UNSC-CTC in India since its establishment in 2001.
  - The Permanent Representative of India to the UN serves as the Chair of the CTC for 2022.

Key Highlights

- Theme - Countering the use of new and emerging technologies for terrorist purposes.
- Delhi Declaration — on countering the use of new and emerging technologies for terrorist purposes – adopted

UN Security Council - Counter-Terrorism Committee (CTC)

In the aftermath of the 11 September attacks against the United States in in 2001, the Security Council unanimously adopted resolution 1373 (2001).

- This resolution, for the first time, established a dedicated Counter-Terrorism Committee (CTC) of the Council.

10TH IBSA TRILATERAL MINISTERIAL COMMISSION

- The 10th India-Brazil-South Africa Dialogue Forum (IBSA) Trilateral Ministerial Commission meeting took place in New York.
- India is the incumbent IBSA Chair and will be hosting the 6th IBSA Summit on the sidelines of the G20 Summit in November 2022. So far, only 5 IBSA summit has taken place (5th IBSA Summit – Tshwane, October 2011).

India-Brazil-South Africa Dialogue Forum (IBSA)

- IBSA is a unique Forum which brings together **India, Brazil and South Africa,** three large democracies and major economies from three different continents, facing similar challenges.
- The dialogue forum was **created in 2003, with the adoption of Brasília declaration**. IBSA does not have a headquarters or a permanent executive secretariat.
- Cooperation in IBSA is on three fronts:
  - As a forum for consultation and coordination on global and regional political issues. E.g., the reform of the global institutions of political and economic governance, WTO/Doha Development Agenda, climate change, terrorism etc.
  - Trilateral collaboration on concrete areas/projects: This is done through 14 working groups and 6 People-to-People Forums, for the common benefit of three countries.
  - Assisting other developing countries by taking up projects in the latter through IBSA Fund.
  - The **United Nations Office for South-South Cooperation (UNOSSC)** is the fund manager of **IBSA fund.**
  - Each IBSA member country is required to contribute $1 million per annum to the fund.

US-LED CRITICAL MINERALS ALLIANCE - MINERALS SECURITY PARTNERSHIP

- India is concerned that it is not finding a place in the Minerals Security Partnership.

Why India Has Not Been Included In The Partnership So Far?

- It is because the country does not bring much expertise to the table. In the group, countries like Australia and Canada have reserves and also technology to extract them and countries like Japan have the technology to process.

India and Rare Earth (RE) Metals

- Rare earth comprises 17 elements and are classified as **light RE elements (LREE) and heavy RE elements (HREE)**.
- Some RE are available in India such as Lanthanum, Cerium, Neodymium, Praseodymium and Samarium. India has the world's fifth-largest reserves of rare earth elements, nearly twice as much as Australia
- Others such as Dysprosium, Terbium, Europium that are classified as HREE are not available in Indian deposits in extractable quantity.
- Hence, there is a dependence on countries such as China for HREE, which is one of the leading producers of RE with an estimated 70% of the global production.

LATVIA, ESTONIA LEAVE CHINA-BACKED EAST EUROPE FORUM

- Latvia and Estonia have left a Chinese-backed forum aimed at boosting relations with Eastern European countries.

About The Forum

- It is a China-led format with an aim **to expand cooperation between Beijing and the CEE** (Central and Eastern Europe) member countries, with investments and trade for the development of the CEE region.
- It was founded in 2012 in Budapest as 17+1 cooperation forum.
  - However, three countries have so far left the forum and now it has been reduced to 14+1.
- The then member countries included twelve EU member states and five Balkan states:
  - Albania, Bosnia and Herzegovina, Bulgaria, Croatia, Czech Republic, Estonia, Greece, Hungary, Latvia, Lithuania, Macedonia, Montenegro, Poland, Romania, Serbia, Slovakia and Slovenia.
- This platform is largely seen as an extension of China's flagship Belt and Road initiative.

NEW LEADER OF UNMOGIP

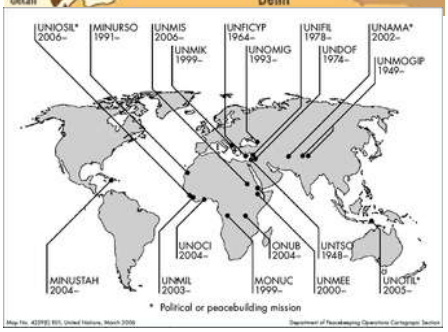
- U.N. Secretary General has appointed Rear Admiral Guillermo Pablo Rios of Argentina as the Head and Chief Military Observer for the United Nations Military Observer Group in India and Pakistan (UNMOGIP).

UNMOGIP: Background

- After the independence in 1947, accession of Kashmir to India became a matter of dispute between India and Pakistan. As a result, fighting broke out later that year.
- In January 1948, the Security Council adopted resolution 39, establishing the United Nations Commission for India and Pakistan (UNCIP) to investigate and mediate the dispute.
- In April 1948, by its resolution 47, the Council decided to enlarge the membership of UNCIP and to recommend various measures including the use of observers to stop the fighting.
- At the recommendation of UNCIP, the Secretary-General appointed the Military Adviser to support the Commission on military aspects and provided for a group of military observers to assist him.
  - These military advisers formed the nucleus of the United Nations Military Observer Group in India and Pakistan (UNMOGIP).
- The first team of such observers arrived in the mission area in January 1949.

Functions of UNMOGIP

- To supervise, in the UT of Jammu and Kashmir, the ceasefire between India and Pakistan;
- To assist the Military Adviser to UNCIP
- To accompany the local authorities in their investigations, gather as much information as possible, and report as completely, accurately and impartially as possible



Karachi Agreement and UNMOGIP

- The conclusion of the Karachi Agreement in July 1949 established a ceasefire line to be supervised by UN military observers.
- It specified that UNCIP would station observers where it deemed necessary, and that the ceasefire line would be verified mutually on the ground by local commanders on each side with the assistance of UN military observers.
- Disagreements were to be referred to the UNCIP Military Adviser, whose decision would be final.

India's Position on UNMOGIP

- After Shimla Agreement of 1972, India took the position that the mandate of UNMOGIP had lapsed. Since then, India has not gone to UNMOGIP with complaints against Pakistan.
  - In the Shimla Agreement, India and Pakistan agreed to move the ceasefire line to the Line of Control and to resolve their disputes bilaterally, without the intervention of a third party.
- India contended that the ceasefire line, established under the Karachi Agreement of 1949, does not exist anymore after the Shimla agreement.
  - Since the Shimla agreement, India has also adopted a non-recognition policy towards third parties over the question regarding the UT of Jammu and Kashmir.
- Time and again, India has requested UNMOGIP to cease its operation in Kashmir.

UN ACCUSES CHINA OF UIGHUR RIGHTS ABUSES

- The United Nations has accused China of committing serious human rights violations against Uyghur Muslims and other ethnic minorities in Xinjiang province

Who Are Uighurs?

- The Uighurs are a nomadic Turkic people native to China's Xinjiang province.
- About 12 million Uighurs live in Xinjiang, with smaller groups in Kazakhstan, Turkey and other countries.
- They are considered as one of China's 55 officially recognized ethnic minorities. They don't speak Mandarin as their native language.

Where is Xinjiang Province?

- Xinjiang, officially known as the Xinjiang Uighur Autonomous Region (XUAR), lies in the north-west of China and is the country's largest province.
- Like Tibet, it is autonomous, meaning - in theory - it has some powers of self-governance.
- But in practice, both regions are subjected to major restrictions by the central government.
- The region produces about a fifth of the world's cotton.
- It is also rich in oil and natural gas and because of its proximity to Central Asia and Europe, it is seen by China as an important trade link.

EASTERN ECONOMIC FORUM SUMMIT

Recently, PM Modi virtually addressed an online plenary session at the 7th Eastern Economic Forum (EEF) —held in the Russian city of Vladivostok.

Eastern Economic Forum (EEF)

- The EEF It was established by the President Vladimir Putin, in 2015.
- The forum aims to support the economic development of Russia's Far East, and to expand international cooperation in the Asia-Pacific region.
- Since its establishment, more than 17 different countries have invested in the Far East. These include countries like China, Japan, South Korea, Australia, New Zealand, and Vietnam.

India's Engagement with Russia's Far East (RFE)

- India is the first country in the world to open a consulate in Vladivostok (Sangam' of Eurasia and Pacific).
- In 2019, India announced a commitment to an **"Act Far-East" policy**, with an aim to increase cooperation with this area. India gave a line of credit worth USD 1 billion for investment in this region.

International Trade and commerce:

- India and Russia agreed to open a maritime route between Chennai and Vladivostok to give impetus to cooperation between India and Russian Far East. This connectivity project along with **International North-South Corridor (INSC)** will bring India and Russia physically closer.
- **Energy:** Indian workers are participating in major gas projects in the Amur region, from Yamal to Vladivostok and onward to Chennai.

DEFENCE AND SECURITY

INS SURAT AND INS UDAYGIRI

- The Defence Minister launched Indian Navy destroyer warship INS Surat and frigate INS Udaygiri in Mumbai.

About INS Surat

- It is the 4th ship of Project 15B destroyers which marks the beginning of a significant overhaul of the P15A (Kolkata class) destroyers
- The only physical distinction between the P-15A (Kolkata class) destroyer warships and the P-15B (Visakhapatnam class) destroyer warships is the bridge layout; the bridge of the P-15B warships is vastly different from that of the P-15A. It was designed to minimise radar cross-section (RCS) and enhance resilience.
- The 1st ship was Visakhapatnam (commissioned in 2021), the 2nd Mormugao and 3rd Imphal.
  - Mormugao) and Imphal ships have been launched and are at different stages of outfitting/ trials.
  - Mormugao is set to be commissioned in 2023 while the other two INS Imphal and INS Surat are planned to be inducted by 2025.
- The ship Surat has been built using the Block construction methodology.
- This methodology includes hull construction at two different geographical locations and has been joined together at MDL, Mumbai.

About INS Udaygiri

- It is the **3rd ship of Project 17A frigates.**
- The ship Udaygiri is named after a mountain range in the state of Andhra Pradesh.
- It will be **more advanced than the P17 Shivalik Class Frigates** with advanced weapons, improved stealth features, sensors and platform management system.

Project 17A

- It is follow-on of the **P17 Frigates (Shivalik Class)** with improved stealth features, advanced weapons and sensors and platform management systems.
- Total of **seven ships** are under construction under this project.
- The main advanced stealth features of P-17A pertain to the smaller Radar cross-section of the ship achieved through the use of a special super structure shape which reduces radar wave reflections.
- These have **low acoustic noise** emanating from propellers, operating machinery like Diesel Generators etc., which prevents sonars to detect its presence.

CHINA BLOCKS INDIA-US BID TO LIST PAK-BASED LET DY CHIEF AS GLOBAL TERRORIST

- China blocked a joint India-US proposal to list Pakistan-based top LeT militant Abdul Rehman Makki as a **'global terrorist' under a UNSC sanctions committee.**
- China blocked the move by placing a "technical hold" on the proposal.
  - Placing a technical hold effectively blocks the proposal to designate Makki as a terrorist until it is withdrawn.
  - This measure (Technical hold) can last for **up to six months** at a time under the Security Council's procedures.

Past Instances When China Blocked Such Proposals

- In the past, China blocked proposals to designate JeM chief Masood Azhar at the UN sanctions committee at least four times by using technical holds.
- China finally relented in Azhar's case by lifting the technical hold in May, 2019.

Application of Sanctions by UN Security Council

- Under Chapter VII of the **United Nations Charter,** the UN Security Council can take action to maintain or restore international peace and security. The **application of sanctions** is one of the possibilities the Council has in this respect.
- Sanctions measures, under **Article 41 of the UN Charter**, encompass a broad range of enforcement options that do not involve the use of armed force.
- The measures can range from **economic and trade embargoes to more targeted measures against specific individuals, companies or entities, such as the freezing of funds and travel bans.**

Sanctions Regimes

- Currently, the ***UNSC has 14 active sanctions regimes*** which focus on supporting political processes in armed conflicts, nuclear non-proliferation and counter-terrorism.
- Sanctions regimes are enacted via a UN Security Council resolution.

Sanctions Committee

- Each sanctions **regime is administered by a sanctions committee that consists of all 15 members (5 permanent member and 10 non-permanent members) of the Security Council.** This requirement effectively gives a veto to all 15 members of the committee.
- These sanctions committees ensure the implementation of the sanctions and can decide by consensus to adopt targeted sanctions against specific individuals, enterprises or entities.
- **UNSC Al-Qaeda and ISIL Sanctions Committee or 1267 sanctions committee** is one of them.

MEGHALAYA VILLAGERS KILLED IN BORDER FIRING BY ASSAM COPS

- The incident took place in an area bordering West Karbi Anglong district of Assam and Mukroh village in Meghalaya's West Jaintia Hill.
- This incident has the potential to derail the Assam-Meghalaya talks or delay a resolution in the border dispute between the two states.
  - The second round of talks between the two states to resolve their boundary dispute have become complicated.

Assam-Meghalaya border dispute

- During British rule, undivided Assam included present-day Nagaland, Arunachal Pradesh, Meghalaya and Mizoram.
- Meghalaya was carved out of Assam under the North-Eastern Region (Reorganisation) Act, 1971.
- Due to different interpretation of this act, it was challenged by both the parties which led to the boundary dispute between these two states.
- As a result, both sides have a longstanding dispute in 12 stretches of the 884-km-long shared border.

Efforts to resolve the dispute

- The two States had in June 2021 adopted a give-and-take policy to start the process of resolving the boundary dispute.
- For this, they constituted three regional committees each.
- The draft resolution, released in March 2022, was prepared on the basis of the recommendations of these regional panels.

Assam-Meghalaya Border Pact

- In March 2022, Assam and Meghalaya partially resolved a 50-year-old border dispute in six of the 12 sectors along their 884-km boundary.
  - The two governments had taken up six of 12 disputed sectors in the first phase of discussions.
- In August, both the States decided to form regional committees.
  - The second round of discussions was set to commence by the end of November

The Agreement

- As per the agreement, out of the disputed 36.79 sq. km land, Assam will get 18.51 sq. km of the disputed areas and Meghalaya will get the remaining 18.28 sq.km.
- About 70% of the inter-State boundary has now become dispute-free with the signing of the agreement.
- The problem in the six other areas will be resolved in the near future.

KUKI-CHIN BANGLADESHI REFUGEE ISSUE

- More than 200 people belonging to the **Kuki-Chin-Mizo community (Christian)** from Bangladesh's Chittagong Hill Tracts (CHT) have entered Mizoram's Lawngtlai district.
- They entered Mizoram illegally due to an armed conflict between the neighbouring country's Army and an ethnic armed group. The Bangladesh Rapid Action Battalion has launched operation against some insurgents belonging to the group.
- The matter was discussed by the Ministry of Home Affairs with the External Affairs Ministry.
  - At present, members of Kuki-Chin-Mizo community are being referred to as officially displaced persons in the government records, as **India does not have a law on refugees. (not even a signatory to** international laws such as the **1951 UN Convention and the 1967 Protocol).**
  - They have been allowed to enter **India on humanitarian grounds.**

EXERCISES/ OPERATIONS

Sea Vigil -22	• The third edition of 'Sea Vigil-22' commenced on the eastern seaboard as part of the nation-wide coastal defence exercise. • This exercise was a build-up towards the major Theatre Level Readiness Operational Exercise (TROPEX), which is conducted by the Indian Navy every two years. Sea Vigil and TROPEX together cover the entire spectrum of maritime security challenges. • This exercise was undertaken along the 7,516 km coastline of the country, covering the Exclusive Economic Zone (EEZ) of India. • It was conducted by the Indian Navy in coordination with the Indian Coast Guard (ICG) and the Ministries entrusted with the task of maritime activities.
Operation Sankalp	• It was launched by Indian Navy in the **Persian Gulf and the Gulf of Oman** as a measure to assure the safety and security of the Indian vessels. • After the attacks on merchant ships in the Gulf of Oman in June 2019, Indian Navy had commenced this operation. • Indian Navy's stealth Frigate, INS Talwar is presently deployed for **Operation Sankalp** commemorating the 3rd continuous year of Indian Navy's presence in the Gulf for protection of India's Maritime Interests.
Ex Khaan Quest -2022	• A **Multinational Peacekeeping exercise** "Ex Khaan Quest 2022" featuring participation from military contingents from 16 countries was held in Mongolia. • The exercise was designed to improve peacekeeping capabilities, enhance the core UN doctrine of peace keeping competencies. • It also provided a platform to strengthen military-to-military relationships.
Ex SAMPRITI-X	• As part of ongoing India Bangladesh bilateral defence cooperation, a joint military training exercise Ex SAMPRITI-X was conducted at Jashore Military Station in Bangladesh. • The aim of the exercise was to strengthen interoperability between the two armies and to understand each other's tactical drills and operational techniques.
Joint Border Operation	• The **8th meeting of the heads of border services** of the member states of Shanghai • Cooperation Organization (SCO) was held in New Delhi under chairmanship of India. • The Plan for the preparation and conduct of the Joint Border Operation Friendship Border 2022 was reviewed and approved. ◦ It is an initiative by China to conduct a "joint border operation" in 2023 of all member countries of SCO. • The border operation is called "Solidarity-2023" and will be organised by China.
RIMPAC	• Rim of the Pacific (RIMPAC) is one of the largest biennial multilateral Naval Exercises, which is led by US. • The RIMPAC started in 1971 as an annual exercise by the US, Australia, and Canada, but from 1974, maritime exercise became a biennial event. • India first participated in RIMPAC in 2014. 27 countries participated in RIMAP 2022.
Operation NARCOS	• Railway Protection Force (RPF) had launched **Operation "NARCOS"** – a drive against smuggling of narcotics through rail.

Operation NARCOS	• RPF has been empowered to conduct search, seizure & arrest under Narcotic Drugs & Psychotropic Substances (NDPS) Act since April 2019.
	• Recent initiatives of RPF include:
	  ◦ **Operation AAHT** – to rescue victims especially women and children, from traffickers.
	  ◦ **Operation Yatri Surakhsha** – RPF supports state police to fight against passenger crime.
	  ◦ **Meri Saheli Initiative** – To focus on safety of women passengers.
	  ◦ **Operation Nanhe Farishte -** To save children who are abandoned and found alone at railway stations.

Skylight Exercise	Indian Army has conducted a major pan-India exercise codenamed 'Skylight'.
	Rationale behind this exercise
	• The idea was to **validate and showcase the resilience** of its communication capabilities in case **terrestrial connectivity** is disrupted in future conflicts.
	• Space-based communications will then prove to be decisive. Hence, it is important to build and refine technical competence in this field. This exercise also assumes significance against the backdrop of China's long-standing thrust on "informative" and "intelligentsia" warfare.
	  ◦ Keeping this in mind, **Indian Army is also pursuing 'Quantum Computing and Communications' for much better and secure C4I2SR systems** for wars of future.
	  ◦ C4I2SR stands for command, control, communication, computers, intelligence, information, surveillance and reconnaissance.
	
	Space communication by Indian Army
	– The Indian Army **uses the services of a number of ISRO satellites that connect hundreds of communication terminals** of various types.
	– These include static terminals, transportable vehicle mounted terminals, man-portable and small form factor man-pack terminals.
	– Unlike the Indian Air Force and the navy, the army currently does not have a dedicated satellite.
	Indian Army satellite by 2025
	– The army is on course to get its own satellite by December 2025.
	– The Defence Acquisition Council, the government's top weapons procurement body, gave the go ahead for the **Indian Army's Satellite GSAT-7B in March 2022.**
	  ⇨ GSAT-7 series of advanced satellites built by ISRO is designed to provide communication capabilities to users over vast expanses including oceans.
	– The satellite has been designed as an **indigenous multiband** satellite with advanced security features.
	– It will support tactical communication requirements for not only troops deployed on the ground, but also for remotely piloted aircraft, air defence weapons and other mission critical and fire support platforms.

Exercise Pitch Black 2022	• The Indian Air Force (IAF) took part in multiple missions with the participating Air Forces in the 1st phase of Exercise Pitch Black 2022 in Australia. ◦ Exercise Pitch Black is a biennial three-week multi-national large force employment exercise hosted by the Royal Australian Air Force (RAAF).
AL NAJAH-IV	• India and Oman carried out a nearly two-week military exercise beginning August 1, with a focus on counter-terror cooperation. • This fourth edition, known as AL NAJAH -IV, was conducted in Rajasthan.
Vijay Prahar	• It is a combat exercise between the elite Special Forces of India and USA. • The 13th edition of the Vajra Prahar exercise was held recently in Himachal Pradesh.

Exercise Udarashakti	• It is a bilateral exercise between Indian Air Force and Royal Malaysian Air Force. ◦ Recently, this exercise was held in Malaysia.

INS Vikrant Commissioned	India's biggest ever indigenous military project – the aircraft carrier INS Vikrant – was commissioned by PM Modi at the Cochin Shipyard Limited (CSL) Kochi, Kerala.
	• On this occasion, PM Modi also unveiled the Indian Navy's new ensign.
	The Indian Navy's Ensign
	• The new ensign now features the national emblem (encircled by an octagonal shield and sitting atop an anchor) with the Tricolour on the upper canton (top left corner of the flag).
	  ◦ The Saint George's Cross has been removed from the Indian Navy's new flag in an **effort to distance itself from its "colonial past."**
	• Beneath the anchor is the Navy's motto '**Sam No Varunah**' (Oh Varuna, be auspicious to us).
	• The golden border surrounding the national emblem draws inspiration from the seal of Indian emperor **Chhatrapati Shivaji Maharaj** and depicts steadfastness.
	  ◦ Chhatrapati Shivaji Maharaj placed a high priority on maritime prowess, **laying the foundation for a modern naval force in the 17th century.**
	• Shivaji built ships in towns such as Kalyan, Bhivandi, and Goa, both for trade and to establish a fighting navy. He also built a number of sea forts and bases for repair, storage and shelter.
	• The fleet grew to reportedly 160 to 700 merchant, support and fighting vessels. He started trading with foreigners on his own after possession of eight or nine ports in the Deccan.
	  ◦ **Kanohji Angre** (the Maratha Navy commander) led the Maratha navy and is credited with creating a solid naval foundation that assured the Marathas were a maritime power to be reckoned with.
	• He ensured that the merchants plying their trade for the Maratha empire were protected on the seas. He set up a base in Colaba with more bases at Suvarndurg and Vijaydurg near Ratnagiri.
	  ◦ The Indian Navy has always recognized these facts, naming a training facility in Lonavla as INS Shivaji and a shore-based logistics and administrative centre of the Western Naval Command in Mumbai as INS Angre.
	• The octagonal shape of the national emblem has been designed to represent **eight directions,** symbolising the multi-directional reach and multi-dimensional operational capability of the Indian Navy.

Operation Megh Chakra	• As part of a pan-India drive against the circulation and sharing of Child Sexual Abuse Material, the Central Bureau of Investigation (CBI) conducted searches at different locations across the country. • The operation was code-named as **"Megh Chakra"**. It was carried out following the inputs received from **Interpol's Singapore special unit.** • In November 2021, the agency had launched a similar exercise code named **"Operation Carbon"**, in which the suspects in 13 States and one Union Territory were raided.
Garuda-VII air exercise	• It was held between Indian Air Force (IAF) and French Air and Space Force (FASF) at Jodhpur. • This exercise highlighted the growing interoperability between both air forces, which has been developing with each successive edition of the exercise, a regular bilateral exercise since 2003. • Ex Garuda VII It is also the first occasion for the LCA Tejas and the recently inducted LCH Prachand to participate in any international exercise.

Vostok-22	• Russia held its annual military exercises in its eastern region, with about **13 countries including India and China** sending contingents. This exercise is known as Vostok-22.
	• The exercises in Vostok-2022 were the first such multilateral exercises to be held since the Russian war in Ukraine began.
	• **India's participation –**
	  ◦ India only sent its army contingent. It did not take part in the maritime section of the two-part event.
	  ◦ This is because the maritime part of the exercises was to be held in the Sea of Okhotsk and the Sea of Japan, near the disputed South Kuril Islands
	  ◦ Both Russia and Japan claim their sovereignty on South Kuril Islands.
	  ◦ India's decision not to take part in the naval exercises is believed to be in deference (respect) to Tokyo's sensitivities.

IMT TRILAT	The first edition of India-Mozambique-Tanzania Trilateral Exercise (IMT TRILAT), a joint maritime exercise among the Indian, Mozambique and Tanzanian navies commenced at Dar Es Salaam, Tanzania on 27 in October 2022. **About:** • Indian Navy is represented by the guided missile frigate, INS Tarkash, a Chetak helicopter and MARCOS (Special Forces). • These exercises reflect India's and the Indian Navy's commitment to enhancing maritime security and cooperation with maritime neighbours in the Indian Ocean Region and promoting SAGAR, Safety and Growth for All in the Region.
Exercise Malabar 2022	• India, US, Japan and Australia kicked off the Malabar naval drills 2022. • The drills were aimed at strengthening the synergy and interoperability among the participating navies. • Malabar began as an annual bilateral naval exercise between India and the US in 1992, and it has increased in scope and complexity over the years. • In 2014, Japan became a permanent participant in the drills followed by Australia in 2020.

INDIA TO SET UP JOINT THEATRE COMMANDS OF TRI-SERVICES

- Defence Minister Rajnath Singh has said that a joint theatre commands of tri-services would be set up to enhance coordination among armed forces.

Theaterisation of Armed Forces

- Theaterisation is a concept which seeks to integrate the capabilities/assets of the three services - army, air force and navy – in order to optimally utilise their resources for wars and operations.
- Theatre commands will have units of the Army, the Navy and the Air Force. All of them will work as a single entity looking after security challenges in a specified geographical territory.
- It will create a military structure in which specific theatre commands/units will be placed under the Theatre Commander.
- The Theatre Commander will be a three-star general, drawn from any of the three services, depending on the function assigned.

Theaterisation Model Under Consideration: It talks about setting up of six theatre commands. These are:

- **Air Defence Theatre Command**
  - It will control air defence resources of all three services. It will be tasked with protecting military assets from airborne enemies.
  - It will be headed by a top three-star Indian Air Force officer based in Prayagraj.
- **Maritime Theatre Command**
  - This will be responsible for securing India from seaborne threats.
  - Headed by a top three-star Indian Navy officer and will be based in Karwar, Karnataka.
- **Other Commands** - Northern Command (Comprising Jammu & Kashmir and Ladakh); Western Command; Eastern Command; Logistics command.
- The 1st phase involves the creation of Air Defence Command and Maritime Theatre Command.

Present Model In India

- At present, India has **17 single service commands** and only **two tri-service commands.**
- The 17 single service commands are divided as:

ARMY – 7 COMMANDS	AIRFORCE – 7 COMMANDS	NAVY – 3 COMMANDS

- **Two tri-service commands are:** Andaman and Nicobar Command (ANC), and The Strategic Force Command (handles the nuclear weapons).
- Creating Theatres would involve merging existing commands. After restructuring, the ANC command will come under the proposed Maritime Theatre Command and SFC will be under **National Security Council.**

COCHIN SHIPYARD DELIVERS AIRCRAFT CARRIER TO NAVY

- Indian Navy took delivery of Indigenous Aircraft Carrier, IAC-1,nation's 1st indigenously built aircraft carrier from its manufacturer, Cochin Shipyard Ltd.
  - An aircraft carrier is a large ship that carries military aircraft and has a long, flat surface where they take off and land.
- The carrier, after commissioning, will be called 'Vikrant. It is named after India's first aircraft carrier – INS Vikrant. The original Vikrant, which was acquired from the UK in 1961, played a stellar role in the 1971 War with Pakistan.

Features

- The 262-metre-long carrier has a full displacement of close to 45,000 tonnes. The ship would be capable of operating an air wing consisting of **30 aircraft.**
- The aircraft carrier **will be initially with the western naval command.**
  - The Western Naval Command is one of the three command–level formations of the Indian Navy. It is headquartered in Mumbai, Maharashtra.

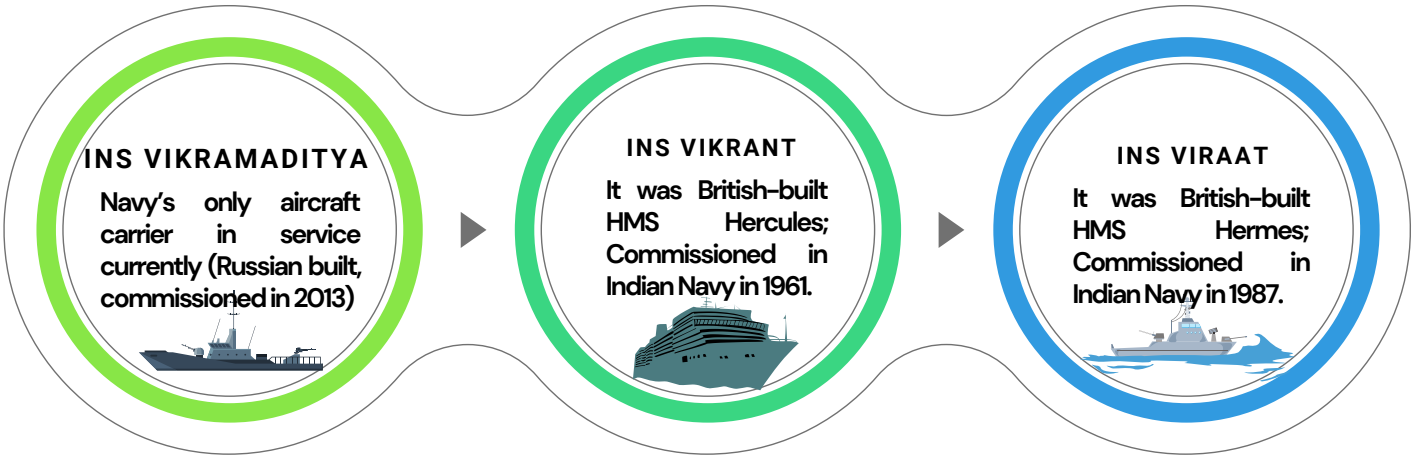
Ship - A Perfect Example Of Collaboration With Private Players

- The aircraft carrier has a large number of indigenous equipment and machinery from major private players such as Kirloskar, Larsen & Toubro, etc. Over 100 MSMEs were also involved in the production of this ship.

Significance of IAC for India

- **Enable Transition from Brown Water Navy to Blue Water Navy to carry out air operations**
  - A blue water navy is a navy that has the capacity to project a nation's strength and power across the high seas. A brown water navy is capable of military operations in littoral zone waters.
- **India Joined Elite Club**: So far, only 5 or 6 nations have the capability of manufacturing an aircraft carrier.
- **Aatma Nirbhar Bharat**
  - With an overall indigenous content of 76%, the aircraft carrier is a perfect example of the quest for Aatma Nirbhar Bharat.

India's Earlier Aircraft Carriers



UNSG'S REPORT ON CHILDREN AND ARMED CONFLICT

UN Secretary General's report on 'Children and Armed Conflict' was published recently.
The report highlighted that in 2021, children in armed conflict suffered a **high number of grave violations.**

India Specific Observation

- The report mentions the situation in India under the category "Situations not on the agenda of the Security Council or other situations".
- The report welcomed the **legal and administrative framework** for the protection of children and improved access to child protection services in several Indian states/UTs, including Assam and Jammu and Kashmir.
- But it expressed concern about the risk of child recruitment by armed groups in affected districts. It also expressed concern by the increased number of violations against children verified in J&K.

COMBINED MARITIME FORCES

- India formally commenced cooperation with the Bahrain-based multilateral partnership, Combined Maritime Forces (CMF).
- At the India-U.S. 2+2 in April 2022, India had announced that it would join the CMF as an **Associate Partner.**

Combined Military Forces-Bahrain (CMF-B)

- It is the US-backed counterterrorism coalition aimed at protecting international waters. It was established in 2001 with only 12 members.
  - The United States Naval Forces Central Command (NAVCENT) was tasked with leading the then CMF in 2001.
- The coalition was formed with like-minded partners to counter the threat of international terrorism and uphold the international rules-based order.
- The coalition is headquartered in Bahrain.

Role

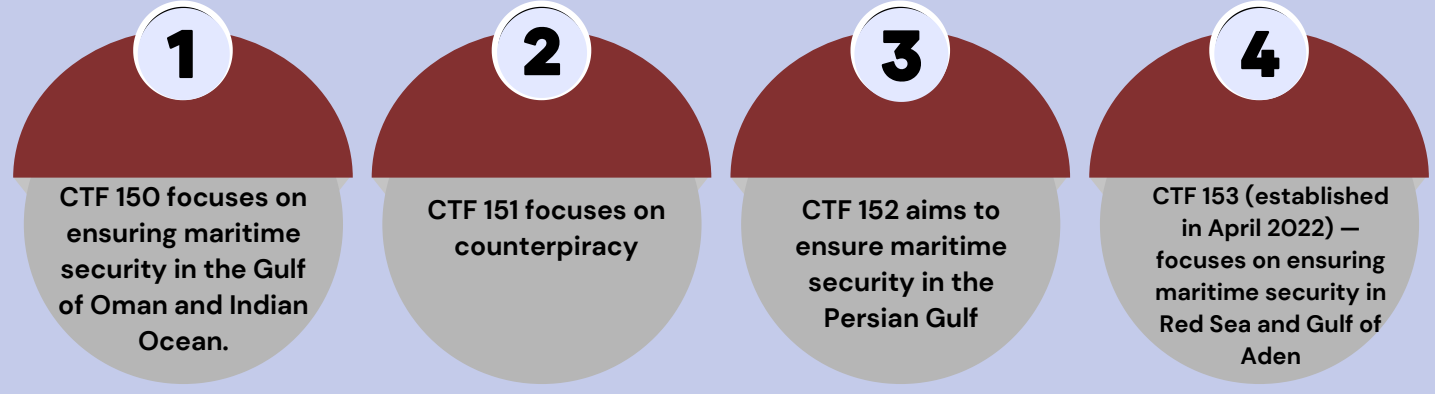
- The CMF-B is primarily tasked with ensuring stability and security across 3.2 million square miles of international waters.
- It acts against **illegal non-state actors** operating in vital sea lines of communication.
- Its scope has expanded from just counterterrorism to counter-narcotics, counter-smuggling operations, and suppressing piracy.

Membership

- Participation in the CMF-B is voluntary — it's mandated **neither by a political agreement nor a military**
- **one.**
  The coalition has 34 members from all across the world. **Recently, India became the associate member of the maritime partnership.**
  - Other Asian members (full members) include Pakistan, Philippines, Seychelles, Singapore and Malaysia.

Working

- The work of the CMF-B is divided into 4 combined task forces (CTF) — CTF 150, CTF 151, CTF 152, and CTF 153.



India and CMF-B

- Recently, India joined the coalition as an associate member. So far, India was conducting similar anti-piracy missions on its own.
  - India has two ships deployed round the clock between the Gulf of Aden and the Persian Gulf for anti-piracy and anti-smuggling operations.
- With India now joining this grouping, it will operate in coordination with the CMF-B members.
- As an associate member, India will reportedly not get command of the task forces' and will also have a limited say in planning operations.

ARMY GETS SEVERAL MADE-IN-INDIA DEFENCE EQUIPMENT

- Defence Minister handed over several new indigenously-developed defence systems, including the F-INSAS, the Nipun mines, the Landing Craft Assault (LCA), to the Army.

F-INSAS system	• F-INSAS stands for Future Infantry Soldier As A System, a programme for infantry modernisation aimed at increasing the operational capability of the soldier. • As part of the project, soldiers are being equipped with modern systems that are lightweight, all-weather-all-terrain, cost-effective and low maintenance. • **Weaponry system** • Full-gear of F-INSAS system includes an AK-203 assault rifle, multi-mode hand grenade.
Nipun mines	• These are indigenously designed and developed anti-personnel mines, termed by the DRDO as 'soft target blast munition'. ◦ They have been developed with the efforts of Armament Research and Development Establishment, a Pune-based DRDO facility, and Indian industry. • These mines are meant to act as the first line of defence against infiltrators and enemy infantry. **Anti-personnel mines** are meant to be used against humans as against anti-tank mines that are aimed at heavy vehicles.
Landing Craft Assault	• It is meant to serve as a replacement for the boats with limited capabilities currently in use in the Pangong Tso lake. The LCA has been indigenously developed by Goa-based Aquarius ShipYard Limited. • It is said to have better launch, speed and capacity to operate across water obstacles in eastern Ladakh.

FIRST MEETING OF MULTI-AGENCY MARITIME SECURITY GROUP

- National Security Adviser (NSA) Ajit Doval participated in the **first meeting of the Multi-Agency Maritime Security Group (MAMSG).** The meeting was chaired by Vice Admiral G Ashok Kumar (retd), the country's first National Maritime Security Coordinator.

Multi-Agency Maritime Security Group (MAMSG)

- MAMSG was formed in November 2021 with an aim to **develop better coordination between different maritime security agencies and ministries of the country**.
- It works directly under the **National Security Council secretariat (NSCS)**.

The **National Security Council (NSC)** is a **three-tiered organization** consisting of Strategic Policy Group (SPG); the National Security Advisory Board (NSAB) and the National Security Council Secretariat.

The council oversees political, economic, energy and security issues of strategic concern.

NSA is the Chairperson of NSC.

- In February 2022, G Ashok Kumar was appointed as India's first Coordinator of MAMSG – also known as national maritime security coordinator.

He will have the responsibility of coordinating between all the agencies involved in maritime security and maritime civil issues as well.

He will be the principal advisor to the government on maritime security domain and will act as a nodal point for all issues related to maritime security.

Role

- The MAMSG is envisaged to.

Provide a standing and effective mechanism to ensure coordination of all aspects of maritime security including coastal and offshore security

Fill the institutional, policy, technological and operational gaps in meeting present and future security challenges.

- The group will also address maritime contingencies requiring an urgent and coordinated response

UNSC adopted the first-ever presidential statement on maritime security in August 2021.

Key Highlights Of Open Debate On Maritime Security Held By UNSC

A. **Five-point Agenda** forwarded by PM to enhance maritime cooperation are -

a. **Removal of barriers to legitimate maritime TRADE**
b. **Promoting responsible maritime CONNECTIVITY**
c. **Conservation of marine RESOURCES**
d. **Fight THREATS from natural disasters, non-state actors**
e. **Resolution of maritime DISPUTES peacefully in accordance with international law**

B. **Primacy of the UNCLOS (United Nations Convention on the Law of the Sea)**

- An outcome document, in this regard, was adopted.

C. **India's Role as the Net Security Provider for the Indian Ocean region.**

- He referred to Indian Navy's anti-piracy patrolling, India's support to other nations under SAGAR Doctrine, hydrographic survey conducted by India & enhancing maritime domain awareness.

United Nations Convention on the Law of the Sea

- It establishes rules governing all uses of the oceans and their resources. It was adopted in December 1982 and came into force in1994. India became a signatory to the UNCLOS in 1982.
- It divided marine areas into five main zones - **Internal Waters, Territorial Sea, Contiguous Zone, Exclusive Economic Zone (EEZ)&High Seas**.
- It created three new institutions - The International Tribunal for the Law of the Sea, The International Seabed Authority,The Commission on the Limits of the Continental Shelf.

TOUR OF DUTY SCHEME

- The Defence Ministry is starting a new recruitment process for the armed forces that will be for a short span of three-years.
- It will allow civilians of the country to join the Indian Army for three years and serve the country as an army soldier.
- The Indian Army will be the first of the three-armed forces to recruit some soldiers for a fixed period of three years.

Key Features

A. Selection

- The selected candidates will get a chance to serve the nation as officers and/or other ranks in Army.
- Initially, the number of vacancies in Indian Army would be around 100 which could be expanded later.
- The draft of the scheme states that all soldiers in Army would eventually be recruited under the model.

B. Time Period

- While initially planned as a three-year Tour of Duty, the final structure could make it for 4-5 years.
- One-year training and two-year service after that was too short a time period.
- At the moment jawans retire after 17 years of service.
- As per the reports, around 25% of them would serve in the Army for three years and 25% troops would serve for five years.
- The remaining 50% would continue to serve in the Army for the full term till they reach their retirement age.

C. Perks & Benefits

- Proposal states that 50% of soldiers released at the end of three and five years will be included in National Pension Scheme.
- Such soldiers will be given certain medical benefits, applicable to Armed Forces veterans, for a fixed period.
- A Tour of Duty Army officer will be earning somewhere around Rs 80,000 to Rs 90,000 per month salary.

D. Current Structure Overhauled

- Under the current structure, soldiers are inducted into the regiments based on their caste and the region where they come from.
- This structure is an inheritance of the days of the British empire.
- However, the new structure will make it pan-India and independent of the caste.

Significance

- Reduction in Defence Expenditure: For the current fiscal, the government has allocated nearly Rs 1.2 lakh crore for pensions for the Defence Ministry and the armed forces. This is about a quarter of the total defence budget and larger than the capital acquisition allocation.
- Address The Issue Of Shortage In Army: There is a vacancy of more than 1 lakh Junior Commissioned Officers of Other Ranks in the Army at the moment. It will make up for the shortage of officers in the Army.
- Increased Nationalism and Patriotism: At a time, when India is grappling with various secessionist tendencies, this scheme will imbibe a nationalistic feeling among youths.

ARMY'S FIRST WOMAN COMBAT PILOT

- **Captain Abhilasha Barak** became the **first woman combat aviator** in the Indian Army.
- Captain Barak has been assigned to the second flight of the 2072 Army Aviation Squadron that operates the Dhruv Advanced Light Helicopter.
- Women officers in the Indian Air Force and the Indian Navy have been flying helicopters for long.
- However, the **Indian Army paved the way for women pilots in 2021** by starting the 'Army Aviation course'. Till recently, women were only part of ground duty in the Indian Army.
  - The Supreme Court opened the doors of the academy to women in an order in October 2021 along with making them eligible for permanent commission too.

STRATEGIC PARTNERSHIP (SP) MODEL

- The **P-75I phase** envisages the construction of six conventional submarines with better sensors and weapons and the Air Independent Propulsion System (AIP).
- India has **16 conventional diesel-electric submarines.** After the last two Kalvari Class subs are commissioned under P-75, this number will go up to 18.
- India also has two nuclear ballistic submarines.
- Defence Acquisition Council cleared the project in 2019 **under the strategic partnership model.**
  - As per the plan, an Indian shipyard was selected by the government, which would nominate the foreign original equipment manufacturer (OEM).
  - After much deliberation, it was decided that state-run Mazgaon Dockyard Limited and Larsen and Toubro would be the chosen **'Selected Partner'.**

Strategic Partnership (SP) Model

- The model seeks to identify a few Indian private companies as Strategic Partners who would initially tie up with a few shortlisted foreign OEMs to manufacture big-ticket military platforms.
- In the initial phase, the selection of Strategic Partners would be confined to four segments - Fighter Aircraft, Helicopters, Submarines, and Armoured Fighting Vehicles/Main Battle Tanks.
- In each segment, only one Strategic Partner would generally be selected.

Background

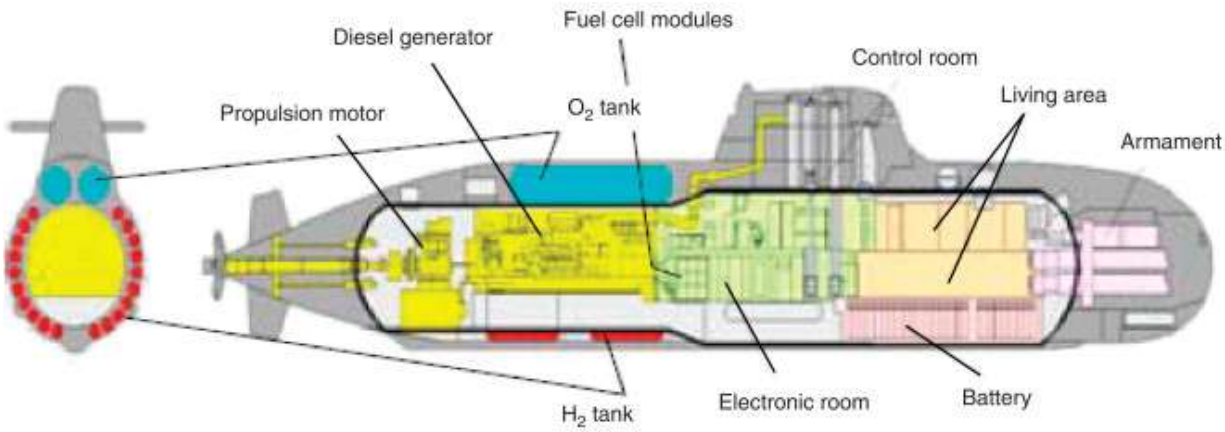
- The Ministry of Defence (MoD) announced in 2017 the much-anticipated SP model for the Indian private sector. This was announced to promote Make in India in defence manufacturing.
- The model, which was first **proposed by the Dhirendra Singh Committee** (in its 2015 report), was included in the Defence Procurement Procedure 2016 (DPP 2016).

ADVANCED TOWED ARTILLERY GUN SYSTEM (ATAGS)

- The **Advanced Towed Artillery Gun System (ATAGS)** successfully completed the validation trials towards meeting the specifications of the Army. It is a 155 mm, 52-calibre heavy artillery gun.
- **Indigenously developed by the DRDO jointly with the private industry.**
- It set a world record (for 155mm family) for the longest unassisted projectile range of 48 kilometres.
- It is capable of the shortest minimum range at high angle and fast mobility in desert and mountain terrain in addition to autonomous mode firing capability and wireless communication.

AIP TECHNOLOGY

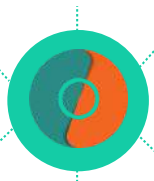
- The French company Naval Group announced that it is unable to participate in India's **P-75I project** due to conditions mentioned in the request for proposal (RFP) related to **Air Independent Propulsion (AIP) system**.



About AIP Technology

- Submarines are essential of two types: Conventional and Nuclear.

Conventional submarine: Uses a diesel-electric engine and must surface almost daily for oxygen for fuel combustion



Nuclear submarine: It is powered by a nuclear reactor. This make it completely independent of air, frees the submarine from the need to surface frequently.

- AIP is any marine propulsion technology that allows a non-nuclear submarine to operate without access to atmospheric oxygen. Thus, it can augment or replace the diesel-electric propulsion system of non-nuclear vessels.

About Project 75 (I) India

- It is follow-on of the Project 75 Kalvari-class submarine for the Indian Navy.
  - In June 1999, the Cabinet Committee on Security approved a 30-year plan for the Navy to indigenously build and induct 24 submarines by 2030.
  - In the first phase, two lines of production were to be established — the first, P-75; the second, P-75I. Each line was to produce six submarines.
  - While six P-75 submarines are diesel-electric, they can be fitted with AIP technology later in their lives.
- Under Project 75 (I), the Indian Navy intends to acquire six diesel-electric submarines, which will also feature air-independent propulsion systems.

India's Fuel Cell-Based AIP

- India uses a fuel-based AIP system which is unique as hydrogen is generated onboard from this type of system.
- In a fuel cell-based AIP, an electrolytic fuel cell releases energy by combining hydrogen and oxygen, with only water as the waste product ensuring less marine pollution.
- The cells are highly efficient, and do not have moving parts, thus ensuring that the submarine has a low acoustic emission of sound.
- This technology is being successfully developed with the support of industry partners L&T and Thermax.

CENTRE SIGNS PACT WITH 8 ARMED TRIBAL GROUPS IN ASSAM

- The Centre, Assam government and 8 armed adivasi groups signed a tripartite agreement to end the decades-old crisis of adivasis and tea garden workers.
- The eight adivasi groups together comprised 1,182 cadres. These groups are: All Adivasi National Liberation Army (AANLA), AANLA (FG), Birsa Commando Force (BCF), BCF (BT), Santhal Tiger Force, Adivasi Cobra Militant of Assam (ACMA), ACMA (FG) and Adivasi People's Army (APA).
- These groups have been on a ceasefire pact with the government of India since 2016.

Key Highlights Of The Settlement Agreement

- An Adivasi Welfare and Development Council would be established by Government of Assam.
- Necessary measures would be taken for the rehabilitation of cadres of armed groups and for the welfare of tea garden workers.
- A special development package of ₹1,000 crore would be provided over a period of 5 years for infrastructure development in Adivasi-populated villages and areas.

Why This Community Chose Violent Path?

Historical Injustice

- These Adivasis, who settled in the Assam tea gardens, were subjected to various forms of torture (slave like conditions) and sufferings under the colonial regime.

Identity Politics

- The tea tribes form a distinct population of Assam and are demanding Scheduled Tribe status from the state to counter the unequal distribution of power and resources in present-day Assam.

Persecution Faced

- The violence upon the community had increased following the rise of ethnic nationalism and related militancy in Assam.

EASTERN COMMAND'S EX-CHIEF IS NEW CDS

- The Union Government has appointed former Eastern Army Commander Lt. General Anil Chauhan as the next Chief of Defence Staff (CDS).
- The post has been vacant since the death of the country's first CDS Gen. Bipin Rawat in a helicopter crash in December 2021.

About Chief of Defence Staff (CDS)

- It is the highest-ranking uniformed officer on active duty in the Indian military. The first Chief of Defence Staff, **General Bipin Rawat,** took office on 1 January 2020.
- The position was created with the aim of –Improving coordination, Tri-service effectiveness and Overall integration (army, air force and the navy) of the combat capabilities of the Indian armed forces..
- Age limit: The retired officer should not have attained 62 years on the date of appointment.

Roles & Powers of the CDS

- The CDS is a **four-star General/Officer** who acts as the Principal Military Advisor to the Defence Minister on all tri-services (Army, Navy and Indian Air Force) matters.
- Earlier, the Government of India has notified new rules to appoint the CDS who could be anyone from the three serving chiefs, any serving three-star officer, any retired chief who is below 62 or any retired three-star officer also below the same age
- He also acts as the military advisor to the Nuclear Command Authority.

The CDS is the –

- Permanent Chairman of the existing Chiefs of Staff Committee,
- Member of the Defence Acquisition Council and

Member of the Defence Planning Committee.

- The CDS has a responsibility for coordination among the three services in equipment and arms procurement, training and staffing.
- The **CDS assigns inter-services prioritisation** to capital acquisition proposals based on the anticipated budget.
- The CDS is also charged with bringing about reforms in the functioning of the three services with the aim to augment combat capabilities of the Armed Forces by reducing wasteful expenditure.

Department of Military Affairs (DoMA)

- The CDS heads the Department of Military Affairs within the Ministry of Defence and acts as its secretary.
- The mandate of the Department of Military Affairs includes, among other things, facilitation of restructuring of military commands for optimal utilisation of resources by bringing about jointness in operations, including through establishment of joint/theatre commands.

AGNI PRIME

- The Agni Prime new generation ballistic missile was successfully test fired off the coast of Odisha.
- The **'Agni Prime' is a two-stage canisterised solid-propellant missile** with dual redundant navigation and guidance system.
- The nuclear-capable missile has been designed and developed by the **Defence Research and Development Organisation (DRDO).**
- The **surface-to-surface ballistic missile** has a range of 1000 to 2000 km.
- The Agni Prime missile is the smallest and lightest among the entire Agni series of ballistic missiles.
- It is the latest and **sixth variant of the Agni** series missiles (under IGMDP - Integrated Guided Missile Development Program).

List of Agni missiles:

- The **Agni-I** is a short to medium-range ballistic missile **(Range: 700-800 Km)**
- The **Agni-II** is a medium-range ballistic missile equipped with two solid fuel stages. **(Range: 2000 Km)**
- The **Agni-III** is an intermediate-range ballistic missile equipped with two solid fuel stages.**(Range: 3000 Km)**
- The **Agni-IV** is an intermediate-range ballistic missile equipped with two solid fuel stages. **(Range: 4000 Km)**
- The **Agni-V** is an intercontinental range ballistic missile with three solid fuel stages. **(Range: 5000 Km)**

NUCLEAR-POWERED INS ARIHANT CARRIES OUT SUCCESSFUL LAUNCH OF SLBM

India's Strategic Strike Nuclear Submarine INS Arihant carried out a successful launch of a **Submarine Launched Ballistic Missile (SLBM).** This trial was significant to prove crew competency and validate the **SSBN (Ship Submersible Ballistic Nuclear Submarine) program.**

INS Arihant

- INS Arihant, a 6,000-tonne submarine is the lead ship of India's Arihant class of nuclear-powered ballistic missile submarines built under the **Advanced Technology Vessel (ATV) project.**
  - Under the Rs 90,000 crore top secret ATV project, India is currently building three more SSBNs to follow INS Arihant.
  - The second such submarine, **INS Arighat**, is slated to become fully operational next year.
- It is India's first indigenous nuclear submarine that has been inducted in the Indian Navy. Launched in 2009, INS Arihant was commissioned in 2016.
- With INS Arihant, India completed its 'nuclear triad'. INS Arihant places India in the league of select group of **five Countries — US, Russia, France, UK and China** — which can design, construct and operate Strategic Strike Nuclear Submarines.

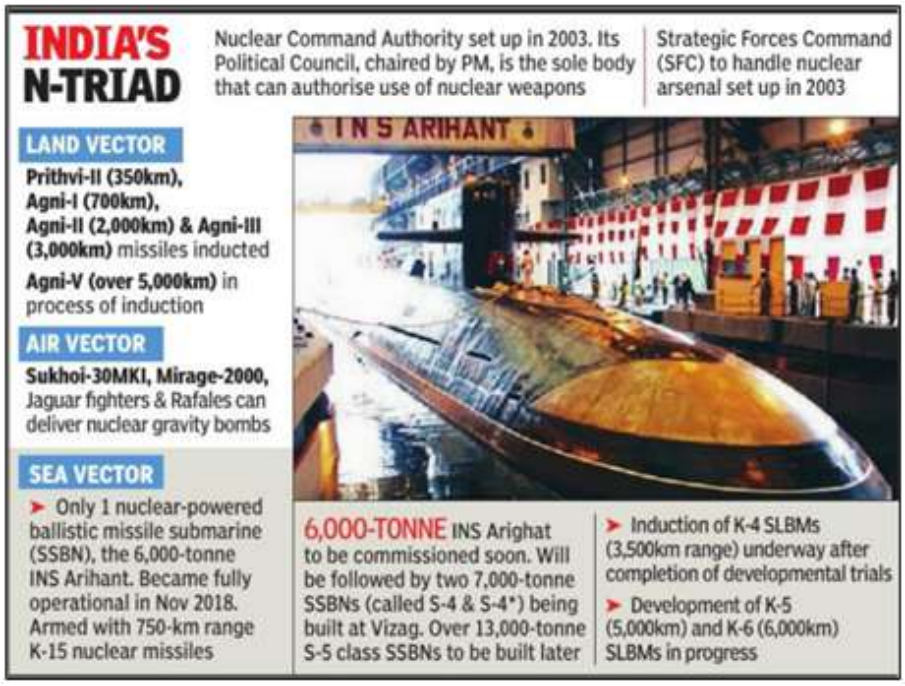
Features

- **Power source**: It is propelled by an 83 MW pressurised light-water reactor at its core with enriched uranium fuel.
- **SSBN (Ship Submersible Ballistic Nuclear Submarine):** SSBN's are that class of submarines which can go deep beneath the ocean making them virtually undetectable for months.

Armament

- It is capable of carrying ballistic missiles with nuclear warheads.

- It is armed with the **K-15 Sagarika missiles** with a range of 750 km.
- Later, it will also be armed with K-4 missiles, being developed by the DRDO, which are capable of striking targets at a distance of up to 3,500 km.
- These **'K' series of missiles** are named after former **President APJ Abdul Kalam.**



EU'S NEW LAWS TO REGULATE CONTENT ONLINE

- The European Union (EU) has given final approval to **online safety-focused legislation**, known as the **Digital Services Act (DSA).**
- The law tightly regulates the way intermediaries, especially large platforms such as Google, Meta, Twitter, and YouTube, function in terms of **moderating user content.**
  - Instead of letting platforms decide how to deal with **abusive or illegal content**, the DSA lays down **specific rules and obligations for these companies to follow.**

'UN PEACEKEEPERS NEED 'ROBUST' MANDATES

- This Mandate is required to deal with deteriorating conditions in countries where UN Peacekeepers (often referred to as Blue Berets or Blue Helmets) are posted.

UN Peacekeeping

- The UN Charter gives the Security Council primary responsibility for the maintenance of international peace and security.
- In fulfilling this responsibility, the Council can establish a UN peace operation.
- UN peace operations are deployed on the basis of mandates from the United Nations Security Council.

UN Peacekeeping Operations & India

- **Contribution with troops:**
  - India has been a pioneer in UN Peacekeeping, deploying more than a quarter of a million troops over the years in as many as 49 of 71 UN Peacekeeping Missions.
    - Currently, India is Fifth largest troop contributor with around 5,500 personnel across 9 missions. India's contribution to the peacekeeping budget stands at 0.16%.
    - India has a long tradition of sending women on UN peacekeeping missions. In 2007, India became the first country to deploy an all-women contingent to a UN peacekeeping mission.
  - **Raising the issue of safety & security of peacekeepers at multilateral institutions**
    - In August 2021, the United Nations Security Council (UNSC) organised a high-level open debate **(theme – "Protecting the protectors")** on United Nations Peacekeeping Operations under the Indian Presidency.
      - During this, India, in collaboration with the UN launched **UNITE AWARE platform**.
      - It is a technology platform to ensure the safety and security of peacekeepers.
    - India has also proposed a 10-point plan, including making those targeting UN peacekeepers more accountable.
    - India has also suggested building a memorial wall to honour peacekeepers.
  - **Training and Capacity Development**
    - **Centre for United Nations Peacekeeping (CUNPK)** was set up in September 2000 in New Delhi, to oversee the training of contingents earmarked for peacekeeping operations.
    - These courses have now been formally **endorsed by the Department of Peacekeeping Operations at UN HQ.**
    - In 2016, India and the USA began a joint annual initiative **"UN Peacekeeping Course for African Partners".**
    - In August 2021, an MOU was signed between CUNPK (India) and C4ISR Academy for Peace Operations (UN) for new training modules for UN peacekeepers.
      - **C4ISR:** Command, Control, Communications, Computers (C4) Intelligence, Surveillance and Reconnaissance (ISR).
  - **Other Contributions**
    - India **provided 2,00,000 doses of COVID-19 vaccines** for UN Peacekeeping personnel worldwide in March 2021.
    - During the pandemic, **India upgraded its hospitals in United Nations Mission in South Sudan (UNMISS) and United Nations Organization Stabilization Mission** in the Democratic Republic of the Congo (MONUSCO).

CHINTAN SHIVIR

- The Chintan Shivir of Home Ministers is an endeavour to provide a national perspective to policy formulation on internal security-related matters.
- The aim of the 'Chintan shivir' is to prepare an action plan to implement 'Vision 2047' and 'panch pran' (5 pledges). Panch pran was announced by PM Modi during his Independence Day speech this year. It includes the resolve of developed India by 2047; erase all traces of servitude; take pride in our legacy; Ek Bharat Shrestha Bharat; fulfil all duties of a responsible citizen
- The Shivir, in the spirit of cooperative federalism, will bring more synergy in planning and coordination between various stakeholders at the Centre and state levels.

Chintan Shivir 2022

- The first-ever Chintan Shivir was held at Surajkund, Haryana in October 2022. It was presided by Union Home Minister. Key focus areas of the event were:

Development of eco-system for cyber-crime management

modernizing police forces

Increasing usage of IT in the criminal justice system, land-border management and coastal security

- The aim of the conference was to facilitate national policy-making and better planning and coordination in the above-mentioned areas.

SCO ANTI-TERROR EXERCISE

- Pakistan was invited to the closing ceremony of the Joint Anti-Terror Exercise (JATE).
  - In September 2021, India had participated in the closing ceremony of the two-week-long JATE-2021.
- It was hosted by Pakistan at the National Counter Terrorism Centre, Pabbi, in Khyber Pukhtunkhwa.
- **Hosted by India**, JATE is being conducted under the ambit of the Shanghai Cooperation Organisation Regional Anti-Terrorist Structure (SCO - RATS).
  - **India assumed its role as Chairperson** of the SCO-RATS mechanism in October 2021.
- The National Security Guard (NSG) hosted this exercise. It was named as "Manesar Anti-Terror 2022".

SCO Regional Anti-Terrorist Structure (SCO – RATS)

- RATS as a permanent body was instituted during the meeting of the Council of Heads of SCO member states in June 2002 in St. Petersburg.
- Since its establishment, RATS has become the pillar of coordination for **combatting separatism, terrorism, and extremism regionally as well as globally.**
- RATS also maintains a database of terrorists and terror organisations from across its member countries.
- Through joint counterterrorism exercises under RATS, member countries train armed personnel for strengthening their counterinsurgency grid and coordination amongst the group.
  - Joint Anti-Terror Exercise (JATE) is an annual counter-terrorist exercise held within the framework of the SCO RATS.
- The exercise is aimed at exchanging expertise and best practices, and build synergy between the Counter Terrorism Forces of the SCO RATS member countries.

INDIA'S NEW WEAPON SYSTEMS BRANCH OF IAF

- The Government has approved the creation of a **Weapon System branch** for officers in the Indian Air Force (IAF). This step will bring all weapon systems operators of the force under one roof.
- This is the first time **since Independence** that a new operational branch of IAF is being created.

Key Highlights

- **A separate specialized cadre of officers will be raised by IAF**
  - With rapid technological advances in stand-off weapons and armed drones, these officers will handle advance missiles, space-based systems, surveillance and combat unmanned aerial vehicles (UAVs).

- New cadre will be inducted by the **end of 2023**
  - The first lot of new officers for this new Weapon Systems Branch (WSB) in the IAF will be headed by an Air Marshal rank (equivalent to Lt-General) Director General of weapon systems.
- Four sub-branches
  - The WSB will have the four sub-branches:
    - flying (weapon systems operators in twin-seat fighters like Sukhoi-30MKI fighters),
    - remote (operational crews for **Remotely piloted aircraft system (RPAS)** and drones),
    - intelligence (information warfare, image and signals intelligence specialists)
    - surface (mission commanders and operators for missiles, guided and close-in weapons).
  - At present, units of different kinds of air defense and precision-strike missiles as well as UAVs in the IAF are largely commanded and staffed by officers (pilots and navigators) from the flying branch.

90TH GENERAL ASSEMBLY OF INTERPOL

- The 90th General Assembly of Interpol was inaugurated by PM Modi in New Delhi. This assembly was held in India after 25 years. This is the second time since 1997 the 195 member-strong body is holding such a conference in India.

Key Highlights

- **India urged the Interpol to speed up the process of issuing Red Notice against fugitive offenders**
  - This assumes significance as Interpol recently declined to issue a Red Notice against Khalistani separatist Gurpatwant Singh Pannun.
- **Suggestions Given By Indian PM:** PM Modi suggested the establishment of early detection and warning systems, protecting transportation services, security for communication infrastructure, intelligence exchange, and various other things be taken to a new level.
- **Interpol launches first-ever metaverse for law enforcement worldwide**
  - A metaverse is a shared, online 3D space where users can interact with each other and with computer-generated objects and avatars.
  - It is a virtual world that uses the Internet as its underlying network. Metaverses are used for various purposes, including social networking, online gaming, education, training etc.

About Interpol:

- Interpol was set up in 1923, as **a secure information-sharing platform** that facilitates criminal investigation of police forces **across the globe** through collection and dissemination of information received from various police forces.
- The head of Interpol is the **President** who is elected by the **General Assembly**. He comes from one of the member-nations and holds office for four years.
- The General Assembly lays down the policy **for execution by its Secretariat** which has several **specialised directorates for cybercrime, terrorism, drug trafficking, financial crime, environmental crime, human trafficking, etc.** Every member-country is the Interpol's face in that country.
- Its notices are **international requests for cooperation or alerts** allowing police in member countries to share critical crime-related information. Notices are issued by the **General Secretariat**.

DEFEXPO 2022

- The **12th edition of DefExpo 2022** was hosted at Gandhinagar, Gujrat with a theme of - **'Path to Pride'**. This is the first defence expo where only Indian companies are participating and it features only Made in India equipment.
- This is a biennial exhibition organised to support, showcase and forge partnerships for the Indian aerospace and defence manufacturing sectors with Indian as well as global customers.
- It aims to achieve the overall objective of catering to domestic defence equipment requirements while fulfilling the needs of friendly foreign countries.

Key Highlights

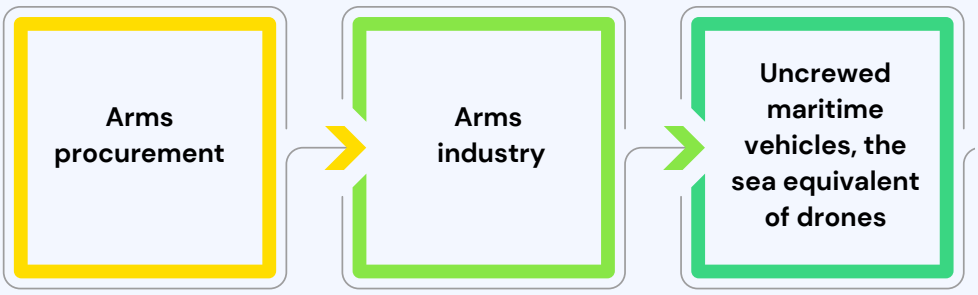
- **Mission Def Space launched:**
  - PM Modi, while formally inaugurating the Expo, launched the 'Mission DefSpace' at the ongoing DefExpo.
- **Importance of this mission:**
  - Space technology assumes significance as it is shaping new definitions of India's generous space diplomacy, giving rise to new possibilities.
  - There are more than 60 developing countries with whom India is sharing its space science. SAARC satellite is an example of this.
  - By next year, **10 ASEAN countries** will also get real-time access to India's satellite data.
  - Space technology is also necessary for supporting maritime trade and activities.
  - this mission assumes significance as it provides an opportunity for the private sector to forecast and produce for the future in Space for the Armed Forces.
- **Fourth Defence Indigenisation List**
- At the Expo, PM Modi also released the fourth defence indigenisation list which bars import of 101 items after certain timelines.
- Indian Government has, from time to time, r**eleased negative import list/positive indigenisation list.**
  - The items on the lists cannot be imported by the Services and should be sourced from within the country.
  - So far, first, second and third Positive Indigenisation Lists, comprising 310 items have been released.
- The **HTT-40 indigenous trainer aircraft** unveiled
- **Laid the foundation stone for the Deesa airfield in Gujarat** which will be a forward Air Force base.
  - It is close to the border from Pakistan and will respond to any misadventure on the Western border.

India As A Defence Exporter

- India's defence exports have grown eight times in the last 5 years. It is exporting defence materials and equipment to more than 75 countries of the world.
  - In the coming time, India has set a target to reach $5 billion i.e., Rs 40,000 crore.
- India has earmarked 68% of its defence budget for Indian companies (i.e. military's capital acquisition budget)

Aatmanirbhar In Defence Production: Where India Stands Among Indo-Pacific Nations

- According to a study by the Stockholm International Peace Research Institute (SIPRI), India ranks fourth among 12 Indo-Pacific nations in self-reliant arms production capabilities. The study, which measures self-reliance until 2020, is based on three indicators of self-reliance in each country:



- India is ranked as the second largest importer of arms for its armed forces in 2016-20.
  - Of India's total volume of procurement in 2016–20, 84% was of foreign origin.

ECONOMY AND INFRASTRUCTURE

FINANCIAL INCLUSION INDEX

- India's financial inclusion index (FI-Index) for the year ended March 31, 2022 has improved to 56.4 from 53.9 in the previous year.
- Conceptualized and constructed by RBI in 2021 (published annually), the index helps to determine and assess the extent of financial inclusion in India.
- It is a comprehensive measure that incorporates details of banking, investments, insurance, postal as well as the pension sector.

Parameters

- There are three broad parameters with certain assigned weights:
  - **Access (35%)**
  - **Usage (45%)**
  - **Quality (20%)**
- Each parameter consists of various dimensions computed based on 97 indicators.
- Access stands for access to bank branches, number of ATMs, banking correspondents and point-of-sales terminals per 1 lakh adults.
- Quality parameter includes aspects such as financial literacy, consumer protection, and inequalities and deficiencies in services.
- A score of 100 would mean that all customers are fully aware of all kinds of financial services, have access to all products and do not feel constrained to make transactions.

Various government measures for financial inclusion

- **Pradhan Mantri Jan Dhan Yojana (PMJDY):** To ensure financial inclusion of all the households in the country by providing universal access to banking facilities. Under this, a person not having a savings account can open an account without the requirement of any minimum balance.
- **Integration of Financial Services:** Convergence of Jan Dhan-Aadhar-Mobile (JAM) trinity with the Direct Benefit Transfer (DBT) for targeted and accurate payments.
- **Swabhiman Campaign:** Aimed at giving more self-respect and confidence to people by making them aware of the financial sector of their country and banking services.
- Insurance & Pension schemes: Atal Pension Yojana, Pradhan Mantri Suraksha Bima Yojana and Jan Suraksha Yojana.
- **Pradhan Mantri Mudra Yojna:** Provides formal access of financial facilities to Non Corporate Small Business Sector thereby promoting bank finance to the unfunded segment of the economy.
- **RBI initiatives:** This includes Priority Sector Lending (for providing a specified portion of the bank lending to few specific sectors), Opening of no-frills accounts (account with nil or very low minimum balance), Relaxation on know-your-customer (KYC) norms, Business correspondents (BCs) as intermediaries for providing financial services, Issuing Kisan Credit Cards (KCC) with NABARD, Project Financial Literacy
- **Digital initiatives:** Initiatives like Digital India, payments banks and small finance banks have helped to improve the reach of formal financial services to economically disadvantaged sections thus providing financial services to both unbanked and underbanked population, especially in rural/remote regions.

INDIA BECOMES 5TH LARGEST ECONOMY

- Recently India became world's fifth largest economy, after it overtook the United Kingdom. The other economies making the top five are the US, China, Japan and Germany.
- The result is based on the calculations by Bloomberg using the IMF database and historic exchange rates.
- India's GDP in the quarter ending March 2022 was $854.7 billion, while UK's GDP was $816 billion.

Population Size

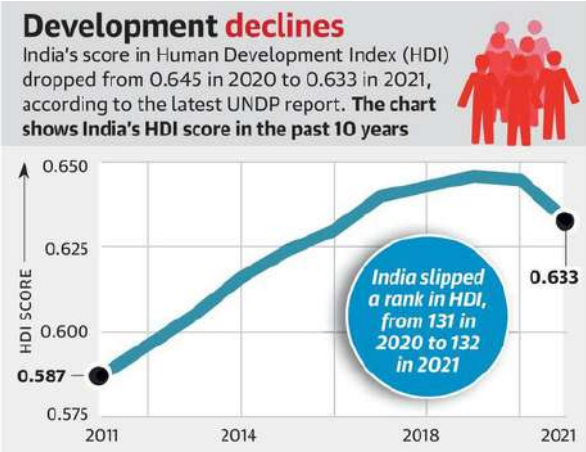
- As of 2022, India has a population of 1.41 billion while the UK's population is 68.5 million. In other words, India's population is 20 times that of the UK's.

GDP Per Capita

- In 2021, India's per capita income was ranked 145th in a list of 193 countries for which data was available. India was placed above Kenya and below the Solomon Islands. The UK was ranked 22nd.

Poverty Levels

- At the start of 19th century, the UK's share in extreme poverty was considerably higher than India's. However, now the relative positions have reversed even though India has made significant strides in curbing poverty.



Human Development Index

- Performance of UK in HDI 2022 – 0.93 (score), very high category (HDI tier)
- ·India's performance in HDI 2022 – 0.633 (score), medium category (HDI tier).

Universal Healthcare Coverage

- The Universal Health Coverage (UHC) Index is measured on a scale from 0 (worst) to 100 (best).
- The chart shows that faster economic growth and the government's policy focus on healthcare schemes since 2005 have made a distinct improvement for India, there is still a long way to go.

MSME SUSTAINABLE (ZED) CERTIFICATION SCHEME

- The Ministry of Micro, Small and Medium Enterprises (MoMSME) recently launched the MSME Sustainable (ZED) Certification Scheme for Udyam-registered MSMEs. The scheme is a revamped version of the Zero Defect, Zero Effect (ZED) scheme, launched in 2016.
- It aims to enable and facilitate MSMEs adopt Zero Defect Zero Effect (ZED) practices and motivate and incentivize them for ZED Certification while also encouraging them to become MSME Champions.

Zero defect

- Practice of manufacturing goods in such a way that they carry zero defects, and India's exported goods are never returned to the country.

Zero effect

- Practice of manufacturing goods with the view that they should not have a negative impact on the environment.

Details Of The Scheme

- The number of certification levels has been reduced in the new scheme from the earlier five including bronze, silver, gold, diamond, and platinum. The new scheme comprises three certification levels including bronze, silver and gold.
- The number of parameters for the certification has also been reduced to a total of 20 from 50 in the erstwhile scheme.
- While bronze certification marks MSMEs on five parameters including workplace safety, quality management etc., silver certification has 14 parameters.
- The gold certification involves 20 parameters such as supply chain management, corporate social responsibility etc.

Components Of The Scheme

- Industry awareness programmes/Workshops
- Training programmes
- Assessment and certification
- PR campaign, advertising and brand promotion
- Digital platform
- Fiscal Incentives

Fiscal Incentives Under The Scheme

- MSMEs will get subsidy on the cost of ZED certification as follows:
  - Micro Enterprises: 80%
  - Small Enterprises: 60%
  - Medium Enterprises: 50%

- There will be an additional subsidy of 10% for MSMEs owned by Women/SC/ST entrepreneurs or MSMEs in North Eastern Region/Himalayan/Left Wing Extremism affected/island territories/aspirational districts.
- In addition to above, there will be an additional subsidy of 5% for MSMEs which are also a part of the SFURTI or Micro & Small Enterprises - Cluster Development Programme (MSE-CDP).
- Further, a limited purpose joining reward of Rs. 10,000/- will be offered to each MSME once they take the ZED pledge.
- A provision of up to Rs. 5 lakhs (per MSME) will be made available for handholding and consultancy support for assisting them to move towards Zero Defect Zero Effect solutions.
- MSMEs can also avail a number of other incentives offered for ZED Certification by States & UTs, financial Institutions etc. and can also apply for free certification under the MSME KAWACH (COVID-19 Support) initiative.

Phases

- The new scheme will be implemented in two phases. Currently, the certification will be provided to manufacturing enterprises under phase.

- Later, phase 2 will focus on inclusion of services sector MSMEs and also work to integrate manufacturing and services sector MSMEs that are registered under a state government system but not on Udyam.

Scheme of Fund for Regeneration of Traditional Industries (SFURTI)

- SFURTI organizes traditional industries and artisans into clusters in order to make them competitive and provide support for their long-term sustainability.
- It provides support up to Rs. 2.5 crore for clusters with 500 artisans (Regular clusters) and up to Rs. 5 crore for clusters with more than 500 artisans (Major clusters).

MSE-CDP

- MSE-CDP addresses common issues of MSMEs such as improvement of technology, skills & quality, market access, etc.
- The scheme creates or upgrades infrastructural facilities in new or existing industrial areas or clusters of MSMEs.

Udyam

- Udyam is a government portal for registration of MSMEs. Maintained by the MoMSME, it provides for free of cost, and paperless registration.

EMERGENCY CREDIT LINE GUARANTEE SCHEME (ECLG)

- ECLGS was launched as part of the Covid-19 relief package in May 2020. Loans under the first component (ECLGS 1.0) of ECLGS allowed a two-year moratorium.
- ECLGS was launched in different phases - ECLGS 1.0, ECLGS 2.0, ECLGS 3.0, ECLGS 4.0. In different phases, the scope of this scheme was increased to include multiple sectors. Recently, in August 2022, the govt. increased the ceiling of the scheme to 5 lakh crore.
- MSMEs were provided additional loans up to a maximum of 20% of their outstanding debt. The maximum loan provided was Rs 50 crore.
- These loans were to be categorised as Non-Performing Assets (NPAs) when they remained unpaid even three months after the two-year moratorium.

National Credit Guarantee Trustee Company

- NCGTC is a private limited company incorporated under the Companies Act 1956 in 2014.
- It is established by the Department of Financial Services, Ministry of Finance, as a wholly owned company of the Government of India, to act as a common trustee company for multiple credit guarantee funds.
- Credit guarantee programmes are designed to share the lending risk of the lenders and in turn, facilitate access to finance for the prospective borrowers.
- Thus, NCGTC acts as a part of a larger financial inclusion programme of the government, which covers different cross-sections and segments of the economy like students, micro entrepreneurs, women entrepreneurs, SMEs, skill and vocational training needs, etc.

DIRECT TAX COLLECTIONS GROW BY 45%

- The figures of Direct Tax collections for the Financial Year 2022-23, show that net collections are at Rs 3,39,225 crore, compared to Rs 2,33,651 crore in FY 2021-22 – an increase of 45%.
- The Net Direct Tax collection mainly includes Corporation Tax (CIT) at Rs. 1,70,583 crores and Personal Income Tax (PIT) including Security Transaction Tax (STT) at Rs. 1,67,960 crores.

Direct Tax

- Direct tax is a type of tax that is **levied directly on taxpayers**. Thus, it is a tax paid directly by an individual to the government.
- Examples of direct tax are: **personal income tax, corporation tax, security transaction tax.**
- Direct taxes in India are **overseen by the Central Board of Direct Taxes (CBDT).**

Indirect Tax

- In contrast, indirect tax is **not paid directly by a person to the government** but collected by an intermediary and passed on to the government.
- For example, the **tax paid on the purchase of a toothpaste is actually paid by the consumer but it is collected by the shopkeeper from the consumer.**
- The shopkeeper pays the tax collected from consumer to the government. Indirect taxes are **imposed on goods and services on the basis of production**, supply, sale or purchase of products or provision of services, in the form of goods and services tax (GST).

Virtual Digital Assets: Norms Laid Out For Tax Deduction

- The Central Board of Direct Taxes (CBDT) has recently issued detailed guidelines on the tax deducted at source (TDS) rule for virtual digital assets (VDAs) such as crypto-currencies.
- With the addition of Section 194S to the Income-tax Act via the Finance Act of 2022, 1% TDS will be levied on transfers of VDAs beginning July 1, if the value of transactions exceeds Rs 10,000 in a year.

NATIONAL ANTI-PROFITEERING AUTHORITY

- The National Anti-profiteering Authority (NAA) has held global cosmetics giant L'Oreal guilty of not passing the benefit of reduction in tax rate to consumers of Rs 186 crore.
- NAA has ordered the company to deposit the sum with 18% interest in Consumer Welfare Fund.
- (NAA) is the statutory mechanism under GST law to check the unfair profiteering activities by the registered suppliers under GST law.
- Its core function is to ensure that the benefits of reduction in GST rates done by the GST Council and of the Input tax credit (ITC) are passed on to the recipients, by appropriate reduction in the prices by the suppliers.
- The central government, on the recommendations of the GST Council, has transferred the functions of NAA to the Competition Commission of India (CCI).

FTA PROVISIONS TO PREVAIL IN RULES OF ORIGIN DISPUTES

- Recently, the **Central Board of Indirect Taxes and Customs (CBIC)** asked its field officers to be sensitive in applying CAROTAR. **Customs (Administration of Rules of Origin under Trade Agreements) or CAROTAR Rules**, came into effect from September, 2020.
- Thus, exemptions specified in **Free Trade Agreement (FTA)** with regard to country of origin will prevail in case of conflict between revenue department and importer.
- Currently, the CAROTAR rules require extensive submission of data and facts where, in certain cases, the requirement even goes beyond the stipulated conditions under the bilateral/multilateral FTAs.
- It empowers the customs officers to ask the importer to share further information, in case the officer has reasons to believe that the country-of-origin criteria have not been met.
- Where the importer fails to provide the requisite information, the officer can make further verification consistent with the trade agreement.

Rules of Origin norms

- Rules of origin norms **help contain dumping of goods**. The provision prescribes for minimal processing that should happen in the FTA country so that the final manufactured product may be called originating goods in that country.
- Under this provision, a **country that has inked an FTA with India cannot dump goods from some third country in the Indian market by just putting a label on it.**
- It has to undertake a **prescribed value addition** in that product to export to India.

BUSINESS REFORMS ACTION PLAN 2020

- The assessment of States/UTs under Business Reforms Action Plan (BRAP) 2020, was recently released.
- It shows how various Indian states/UT have performed in improving Ease of Doing Business.
- Conducted by the Department for Promotion of Industry and Internal Trade (DPIIT), this is the 5th edition of the BRAP exercise, which was first released in 2015.
- The aim is to **boost investor confidence, encourage business friendly climate and augment Ease of Doing Business across the country.**

Methodology

- BRAP 2020 includes 301 reform points covering **15 business regulatory areas**, such as access to information, single window system, labour and land administration.
- **Sectoral reforms with 72 action points** spread across 9 sectors like trade license, healthcare, legal metrology, cinema halls, hospitality, fire NOC, telecom, movie shooting and tourism were introduced for the first time to expand the scope of the reform agenda.
- In a departure from the previous years, **where States/UTs were ranked, this year they have been placed under the four categories** viz. Top Achievers, Achievers, Aspirers and Emerging Business Ecosystems.
- The idea is **not to create a hierarchy amongst States/UTs but to create an enabling framework,** under which learnings can be shared amongst States/UTs which in turn will lead to a nationwide spillover of good practices.

Key Findings:

Top Achievers	Andhra Pradesh, Gujarat, Haryana, Karnataka, Punjab, Tamil Nadu and Telangana
Achievers	Himachal Pradesh, MP, Maharashtra, Odisha, Uttarakhand and UP
Aspirers	7 states, including Assam, Kerala and Goa.
Emerging Business Ecosystems	11 states and UTs, including Delhi, Puducherry and Tripura

OPEN ACREAGE LICENSING PROGRAMME

- The Ministry of Petroleum and Natural Gas recently launched the eighth round of bids under the Open Acreage Licensing Programme (OALP), offering 10 blocks for international competitive bidding.
- Till now, 134 Exploration & Production blocks have been awarded comprising 2,07,691 sq.km. of area spread across 19 sedimentary basins.
- Bid Round-VIII would add a further 36,316 sq. km of Exploration Acreage and cumulative exploration acreage under OALP regime will increase to 2,44,007 sq. km.

Hydrocarbon Exploration and Licensing Policy (HELP)

- India imports more than 80% of its crude oil requirements, which makes the country heavily dependent on foreign sources of supply.
- To address huge financial burden, the HELP was launched in 2016. HELP replaced the New Exploration Licensing Policy (NELP) of 1997-1998. HELP had 2 key drivers, both were launched in 2017:
  - Open Acreage Licensing Programme (OALP)
  - National Data Repository (NDR)
- HELP's objective is to increase India's indigenous oil and gas production by maximising the potential of hydrocarbon resources in India by increasing the investment in the energy and petroleum sector and provide operational flexibility to the investors.

Provisions under HELP

- Single license that covers exploration and production of all types of hydrocarbon viz. conventional & unconventional resources eg oil and gas, coal-bed methane, shale oil, gas hydrates, etc.
- **Open Acreage Licensing Programme (OALP)**
  - Under NELP, the bidders could choose only from the blocks offered by the government and had to wait for the government to undertake bidding for blocks which were of interest to the bidders.
  - To address this issue, the government introduced OALP under HELP.
  - OALP gives investors the freedom to carve out blocks of their choice after assessing Exploration & Production data available at National Data Repository and submit an Expression of Interest (EoI). EoI can be submitted thrice a year without waiting for a formal bid round from the government.
  - These blocks are later offered through a biannual (twice a year) formal bidding process. The entity offering the maximum share of oil and gas to the government is awarded the block.

Benefits of OALP

- Removing red-tapism: It has reduced multiple licences for extracting different hydrocarbons even from the same well.
- Brought in a quantum jump in the Exploration & Production sector by the successful roll-out of the HELP regime, followed by OALP Bid Rounds
- **Revenue Sharing Model**
  - Under NELP, contracts were based on the concept of profit sharing where profits are shared between the Government and the contractor after recovery of cost.
  - Under the profit-sharing methodology, it became necessary for the Government to examine cost details of private participants and this led to many delays and disputes.
- **Financial Incentives under HELP**
  - To encourage exploration in deep water and ultra-deep water areas, royalty rates have been reduced and a graded system of royalty has been introduced, in which royalty rates decrease from shallow water to deep water and ultra-deep water.

- **Exemptions:** The royalty is exempted for the first seven years and subsequently royalty of 5% and 2% is applicable in deep water and ultra-deep water areas.

National Data Repository (NDR)

- NDR is the backbone of HELP. It provides data to contractors that they can analyse & bid for particular blocks in which they are interested.
- The data presented through NDR is obtained through advanced technology simulations which makes it more reliable.

LEGAL METROLOGY (PACKAGED COMMODITIES) (SECOND AMENDMENT) RULES 2022

- The Department of Consumer Affairs recently released **the Legal Metrology (Packaged Commodities), (Second Amendment) Rules 2022.**
- The amendment has allowed the electronic industry to declare some mandatory details on the label through QR (Quick Response) code, for a period of one year, if not declared in the package itself.
- Earlier, all the pre-packaged commodities including the electronic products were required to declare all the mandatory declarations as per the Legal Metrology (Packaged Commodities), Rules 2011 on the package.
- The option is given for one year because the government is trying to use the technology for the first time on a **pilot basis** and will decide to extend it based on the feedback.
- It will allow important declarations to be declared effectively on the label in the package while the other descriptive information can be conveyed to the consumer through the QR Code.
- Information that can be displayed through QR codes include details such as address of the manufacturer or packer or importer, the common or generic name of the commodity, the size and dimension of the commodity and customer care details.

Previous Amendment In November 2021

- The Department of Consumer Affairs has omitted **Rule 5** of the Legal Metrology (Packaged Commodities), Rules 2011 to safeguard interest of consumers.
  - Rule 5 defines the **Schedule II prescribing the pack sizes of various types of commodities.**
- Companies selling packaged commodities with a quantity of more than one kilogram are required to print 'unit sale price' per kg along with its maximum retail price (MRP).
- Rule regarding mentioning of quantity on a packaged commodity was amended.
  - Now the quantities can be expressed in terms of number or unit or piece or pair or set or such other word which represents the quantity in the package.
  - Earlier Quantity should either be in 'number' or 'unit'
- **Date Declaration** has now been required to month & year in which pre-packed commodity is manufactured.
- **Declarations of MRP** has been simplified by removing illustration and providing for making the mandatory declaration of MRP in Indian currency inclusive of all taxes.

BENAMI LAW

- Supreme Court Bench led by N. V Ramana had delivered a Judgment on Benami Transactions (Prohibition) Amendment Act, 2016 in an appeal filed by the central government against the Calcutta High Court Judgment holding that the 2016 Amendment act was prospective in nature.
- Supreme Court struck down one of the provisions of the Benami Transactions (Prohibition) Act of 1988 which provides for the punishment of a maximum jail term of 3 years or a fine or both for those indulging in Benami transactions. Also, Supreme Court declared retrospective use of Benami law unconstitutional

What is a Benami Transaction?

- Benami is a Hindi word which literally means 'without a name'.
- Under the act, Benami transaction refers to a transaction or an arrangement:
  - Where a property is transferred to, or is held by, a person and the consideration for such property has been provided, or paid by, another person; and
  - the property is held for the immediate or future benefit, direct or indirect, of the person who has provided the consideration
  - But there are exemptions in the act:
  - when the property is held by a member of a Hindu Undivided Family (HUF) or on behalf of HUF or behalf of his spouse or children then it can't be considered Benami
  - Also, if the property is held in a fiduciary (guardian/trustee) capacity it doesn't come under the ambit of the law

Benami transaction (Prohibition) Act, 1988: It was enacted in 1998 with following objectives:

  - Prevent and restrict Benami transactions
  - Give power to the state to acquire Benami property
  - Prosecute persons who enters into Benami transactions
- However, from 1988 till 2016 the act has not been put into effect as the rules, regulations and procedures for its implementation were never framed as a result of which it remained a 'toothless tiger'. In particular there were no regulations relating to the confiscation of property

Benami transaction (Prohibition) Act, 2016

- The Amended act increased the no of sections from 9 to 72. The Objectives of the act:
  - To curb black money, money laundering, tax evasion, etc.
  - Strengthen the Benami Act, of 1988
  - Increase tax revenue by bringing down corruption and false trade practices
- The Benamidar is a person or fictitious person under whose name the Benami property is transferred or held & is not the beneficial owner of the transaction under consideration.
- **Criminal prosecution Sec 3(2):** It extended the three-year imprisonment to seven years and fine of up to 25% of the fair market value of the property, if a person enters into any Benami transactions.
- **Confiscation of Benami property:** Sec 5 of the act empowers the Centre to confiscate any property that has been tagged as a Benami property

Changes brought by SC Judgment to Benami Transactions (Prohibition) Act, 2016:

- The SC ruled that Benami Transactions (Prohibition) Amendment Act, 2016 does not have retrospective application and will apply prospectively
  - Authorities concerned therefore cannot initiate or continue criminal prosecution on confiscation proceedings (sec 5) for transactions entered into prior to the coming into force of the 2016 act
- Court termed Section 3(2) of the Benami Property Act, 1988 as unconstitutional as it is violative of Article 20(1) of the constitution. As an effect Section 3(2) of the 2016 Act also becomes unconstitutional
- It will not affect the civil consequences contemplated under the Act

Article 20: makes up of 3 clauses:

- **Article 20(1):** Provision against Ex post facto law: No one should be convicted for any offence other than those violating the law in force at the time of the commission of the offence
- **Article 20(2):** No Double Jeopardy: no one could be convicted and punished more than once for the same offence involving the same set of facts
- **Article 20(3):** Prohibition against self-incrimination: No person accused of any offence shall be compelled to be a witness against himself.

JAGRITI MASCOT

- The Department of Consumer Affairs (DoCA) has launched a mascot, 'Jagriti', to empower consumers and generate awareness of their rights. The mascot will be shown along with tagline "Jago Grahak Jago" in all the media campaigns.

Awareness Themes

- The mascot would generate consumer awareness on the following themes:
  - **Consumer Protection Act, 2019**
  - **National Consumer Helpline toll free number 1915**
  - **Hallmarking**
  - **Decisions of the Central Consumer Protection Authority**
  - **Provisions of Weights and Measures Act**
  - **Testimonials by consumers on grievance redressal**
- **Hallmark:** A hallmark is an official mark or series of marks struck on items made of metal, mostly to certify the content of metals—such as platinum, gold, silver.

HERSTART PLATFORM

- The President recently launched herStart, a start-up platform of Gujarat University for women entrepreneurs.
- The initiative aims to boost the innovation & startup efforts of women entrepreneurs
- Through the digital platform, women entrepreneurs can easily connect with various private and government enterprises that will support their startup venture.
- It is also designed to provide resources and training modules to women entrepreneurs free of cost.

SCHEME FOR SPECIAL ASSISTANCE TO STATES FOR CAPITAL INVESTMENT FOR 2022-23

- Recently the government has launched a Scheme for Special Assistance to States for Capital Investment for 2022-23. Under the Scheme, financial assistance will be provided to the States Governments in the form of 50-year interest free loan for capital investment projects.

Background

- The scheme for Special Assistance to States for Capital Expenditure was announced in the financial year 2020-21, as part of AatmaNirbhar Bharat package
- The loans provided under the scheme will be above the normal borrowing ceiling allowed to the States for FY 2022-23 and should be spent in the same year.

Eligibility of the Scheme

- New or ongoing projects or for settling pending bills in ongoing capital projects.
- States may submit projects of higher value than the funds allocated, indicating their preference/priority
- **Exclusion:** Projects with capital outlay of less than 5 crore (2 crore for North East) and repair and maintenance projects irrespective of capital outlay

Parts of the Scheme:

The **Scheme for Special Assistance to States for Capital Investment** for **2022-23 has 7 parts.**

- **Part-I:** An amount of Rs 80,000 crore has been allocated amongst States in proportion to their share of central taxes and duties, as per the award of the 15th Finance Commission.
- **Part-II:** It is aimed at facilitating PM Gati Shakti related investment in the States.
- **Part-III:** It is meant for supplemental funding for priority segments of PM Gram Sadak Yojana (PMGSY), including support for the States' share.

- **Part-IV:** States will be given incentives for achieving several targets of digitization.
- **Part V:** The amount under this will be available to States for capital projects on Optical Fibre Cable (OFC) network.
- **Part-VI:** This amount will be available to States as incentive for undertaking reforms related to building bye-laws, town planning schemes, transit-oriented development, and transferable development rights.
- **Part-VII:** It aims at providing incentives to States for privatization/disinvestment of the State Public Sector Enterprises (SPSEs) and monetisation/recycling of assets.

CREDIT GUARANTEE SCHEME FOR STARTUPS

- The Department for Promotion of Industry and Internal Trade (DPIIT), Ministry of Commerce and Industry recently notified the **Credit Guarantee Scheme for Startups (CGSS).**
- It will **provide credit guarantees** to loans extended by member institutions (MIs) to finance eligible borrowers (startups).Thus, it will help to provide the much-needed **collateral-free loans** to startups.
- MIs include financial intermediaries [banks, financial institutions, Non-Banking Finance Companies, Alternative Investment Funds (AIFs)] engaged in lending/investing.

Credit Guarantee Provisions

The credit guarantee under the scheme will be transaction based and umbrella based.

Transaction-based Guarantees	Umbrella-based Guarantee Cover

• It will promote lending by banks/ NBFCs to eligible startups.
• In respect of a transaction-based guarantee cover, the guarantee cover is obtained by the MIs on a single eligible borrower basis.
• The exposure to individual cases would be capped at Rs. 10 crore per case or the actual outstanding credit amount, whichever is less.
• The extent of transaction-based cover will be:
  ◦ 80% of the amount in default if the original loan sanction amount is up to Rs 3 crore;
  ◦ 75% of the amount in default if the original loan sanction amount is above Rs 3 crore; and Up to Rs 5 crore,
• 65% of the amount in default if the original loan sanction amount is above Rs 5 crore (up to Rs 10 crore per borrower).
	• The umbrella-based guarantee cover will provide guarantee to venture debt funds (VDFs) registered under AIF regulations of Sebi.
	• The extent of umbrella-based cover will be the actual losses or up to a maximum of 5% of pooled investment on which cover is being taken, whichever is lower, subject to a maximum of Rs 10 crore per borrower.

Eligibility

- Recognized startups that have reached the stage of stable revenue stream, as assessed from audited monthly statements over a 12-month period; and
- Startups that are not in default to any lending/investing institution and not classified as non-performing asset (NPA).

Institutional Setup

- National Credit Guarantee Trustee Company Limited (NCGTC) will operate the scheme.
- DPIIT will be constituting a Management committee (MC) and a risk evaluation committee (REC) for reviewing, supervising and operational oversight of the scheme.
- It will address the issue of unavailability of collateral-free loan and enable flow of financial assistance to innovative startups through their journey to becoming full-fledged business entities.

INDIA INNOVATION INDEX 2021

The 3rd edition of India Innovation Index was released recently by NITI Aayog.

- It is an assessment framework which ranks states and UTs on their innovation performance.
- The index also contributes to the government's effort to monitor select global indices through the Global Indices to drive Reform and Growth (GIRG) mechanism, for which the NITI Aayog is the nodal organization.

Methodology

- The current edition highlights the scope of innovation analysis in the country by drawing on the framework of the Global Innovation Index.
- The new framework presents a more detailed outlook with 66 unique indicators compared to 36 indicators used in the previous index for 2020. The indicators are now distributed across 16 sub-pillars, which, in turn, form seven key pillars.

- Similar to the previous edition, the five Enabler pillars measure inputs and the two Performance pillars measure output.
- All the indicators in the Enabler pillars cover features crucial for "promoting innovation" within a state/UT.
- Indicators in the Performance pillars represent a nation's output in "knowledge creation and competitiveness".
- The index ranks States and UTs into three categories:
  - Major States
  - North East and Hill States
  - UTs and City States

- Karnataka has topped again in the Major States category, followed by Telangana and Haryana.
- Manipur is leading the North East and Hill States category, followed by Uttarakhand and Meghalaya.
- Chandigarh is the top performer in the UTs and City States category,

NATIONAL STARTUP ADVISORY COUNCIL

- The Ministry of Commerce and Industry recently launched the **NavIC Grand Challenge** at a meeting of **National Startup Advisory Council (NSAC).**
- The NavIC Grand Challenge is aimed at promoting adoption of NavIC as a geo-positioning solution. It aims to identify and handhold solutions of startups which are engaged in developing NavIC enabled drones.

STATES' STARTUP RANKING 2021

- The 2021 Ranking of States on Support to Startup Ecosystems was released by Ministry of Commerce. This is the 3rd edition. Department for Promotion of Industry and Internal Trade (DPIIT) has been conducting the States' Start-up Ranking Exercise since 2018. The exercise has grown in its impact over the last three editions, with 31 participating states and UTs this edition, the highest till date

Objective

- It aims to support states and UTs in developing their start-up ecosystem and learn from their best practices.
- It also plays a crucial role in easing the business environment for start-ups in the country.
- **Ranking Categories**: States and UTs are classified into 5 Categories:
  - Best Performers
  - Top Performers
  - Leaders
  - Aspiring Leaders
  - Emerging Start-up Ecosystems
- **Evaluation Criteria**
  - The participants were evaluated across the 7 Broad Reform Areas which further consist of 26 Action Points.

- India has become the third-largest start-up ecosystem in the world. Over the past five years the number of recognized startups has risen from just 726 in FY17 to 70,809 startups now.
- **Best Performers:**
  - **States**: Gujarat and Karnataka
  - **UTs and North-eastern (NE) States:** Meghalaya
- **Top Performers:**
  - **States:** Kerala, Maharashtra, Orissa and Telangana
  - **UTs and North-eastern (NE) States:** Jammu & Kashmir
- **Leaders**
  - **States:** Assam, Punjab, Tamil Nādu, Uttarakhand and UP
  - **UTs and North-eastern (NE) States:** Andaman & Nicobar Islands, Arunachal Pradesh and Goa
- **Emerging Start-up Ecosystem**
  - **States:** Andhra Pradesh and Bihar
  - **UTs and North-eastern (NE) States:** Mizoram and Ladakh

- **Institutional Support**
- **Fostering Innovation and Entrepreneurship**
- **Access to Market**
- **Incubation support**
- **Funding Support**
- **Mentorship Support**
- **Capacity Building of Enablers**

Department for Promotion of Industry and Internal Trade (DPIIT)

- DPIIT is a central government department under Ministry of Commerce and Industry.
- It is responsible for formulation and implementation of promotional and developmental measures for growth of the industrial sector.
- Individual administrative ministries look after the production, distribution, development and planning apects of specific industries allocated to them. However, DPIIT is responsible for the overall industrial policy.
- It is also responsible for facilitating and increasing the FDI flows to the country.

COMMON REPORTING STANDARD (CRS)

- CRS is a global reporting standard for the automatic exchange of information (AEoI) developed by the Organization for Economic Cooperation and Development (OECD).
- Under CRS, jurisdictions have to obtain information from their financial institutions and automatically exchange that information with other jurisdictions on an annual basis.
- It sets out the financial institutions required to report, the different types of accounts and taxpayers covered, as well as common due diligence procedures to be followed by financial institutions.

RATION CARD NOW USABLE PAN-INDIA

Assam has become the last and the 36th State/UT to implement One Nation One Ration Card (ONORC) scheme. With this, the scheme now covers all the states and UTs, making distribution of subsidised and free foodgrain security portable throughout the country.

One Nation One Ration Card (ONORC)

- It is aimed at enabling migrant workers and their family members to buy subsidised ration from any fair price shop (FPS) anywhere in the country.
- All eligible ration cardholders or beneficiaries covered under the National Food Security Act (NFSA), 2013 can access their entitlements from anywhere in India.
- The facility was started as inter-State portability of ration cards in 4 States w.e.f. August 2019.
  - These four states were Andhra Pradesh-Telangana and Gujarat-Maharashtra.
- Department of Food and Public Distribution is the nodal agency responsible for implementation of this scheme.

Key Features:

- The beneficiaries under the system are ration cardholders (10 digit number) who are eligible to get food grains from FPS. Any citizen, who is declared under BPL category is eligible to get the benefit of this scheme across the country.
  - Ration cardholders can buy up to 5 kg of rice at Rs 3/kg, wheat at Rs 2/kg, and coarse grains at Rs 1/kg per month.
  - This was mandated under the NFSA passed in 2013.
- These beneficiaries can claim either full or part food-grains from any FPS in the country.
  - This can be done through existing ration card with biometric/Aadhaar authentication in a seamless manner.
- The scheme also allows their family members back home, if any, to claim the balance food-grains on same the ration card.

How Does ONORC Work?

- ONORC is based on technology that involves details of beneficiaries' ration card, Aadhaar number, and electronic Points of Sale (ePoS).
- The system identifies a beneficiary through biometric authentication on ePoS devices at FPS.
- The system runs with the support of two portals which host all the relevant data.
  - Integrated Management of Public Distribution System (IM-PDS) (impds.nic.in)
  - Annavitran (annavitran.nic.in)

About e-Shram Portal

Shramev Jayate

NATIONAL DATABASE OF UNORGANISED WORKERS

- In August 2021, the Union Ministry of Labour & Employment launched a **national database to register unorganised workers**, called the **e-Shram portal.**
- The portal came into being after the Supreme Court directed the Government to complete the registration process of unorganised workers.
- The government aims to register **38 crore unorganised workers**, such as construction labourers, migrant workforce, street vendors and domestic workers, among others.
  - The target group for the registration process is those aged between 16 and 59.
- A worker can register on the portal using his/her **Aadhaar card number** and **bank account details,** apart from filling other necessary details like **date of birth, home town, mobile number and social category.**
  The registrations can be done through **Common Service Centres** (CSC), Self, or through **State Seva Kendras.**

- Each registered worker will be issued an identity card (**with a 12-digit unique number**), which can be used across the country to avail any benefits announced by the Government.
- The data on portal will be used for optimum realization of workers' employability and extend the benefits of social security schemes to them.
- The Union Government has already announced **linking accidental insurance** with registration on the e-Shram portal.
  - If a registered worker meets with an accident, he/she will be eligible for Rs 2 lakh on death or permanent disability and Rs 1 lakh on partial disability.
  - The benefits include those offered during natural calamities.
- As announced in Budget 2022-2023, work is also **underway to link four portals** - the National Career Service, e-Shram, UDYAM (for individuals interested in beginning MSMEs) and ASEEM (Atmanirbhar Skilled Employee Employer Mapping)..
- The **social category analysis** of the data shows that 74.44% of registered workers are socially backward classes, including 45.32% OBC, 20.95% SC and 8.17% ST. General Category workers form the remaining 25.56%.
- **Occupation wise,** agriculture is at the top with 52.11% of enrolments done by those related to the farm sector followed by domestic and household workers at 9.93% and constructions workers at 9.13%.
- **Top-5 states** in terms of registrations are Uttar Pradesh, Bihar, West Bengal, Madhya Pradesh and Odisha.

SMALL SAVINGS SCHEMES RATES UNCHANGED

- The Central government recently announced that the interest rates on small savings schemes will remain unchanged for the July-September quarter.
- The rates have now been kept unchanged for nine consecutive quarters. The interest rates on the various instruments range from 4-7.6%.

Small Savings Scheme

- Small saving schemes are **backed by the government and inculcate the saving habit among individuals** for retirement or emergencies.
- These schemes, which are **launched by the government, banks, and public sector financial institutions**, offer attractive rates of interest and tax exemptions on investment.
- Small Saving Schemes can be grouped under **three heads**:
  - **Post office Deposits**: Post Office Savings Account, Post Office Time Deposits (1,2,3 and 5 years), Post Office Recurring Deposits and Post Office Monthly Account.
  - **Savings Certificates**: National Savings Certificate (NSC) and KisanVikasPatra (KVP).
  - **Social Security Schemes**: Public Provident Fund, Senior Citizens Savings Scheme (SCSS) and Sukanya Samriddhi Account.

Rates on Small Savings Schemes

- The interest rates for small saving schemes are announced by the Finance Ministry on a quarterly basis.
- Typically, small savings rates are linked to yields on benchmark government bonds, but despite the rise in G-Sec (government securities) yields in recent months, the government has not changed the interest rates on small savings schemes.
- It is, however, important to note that if small savings rate are not raised, banks would not be forced to raise deposit rates, unless they need to mobilise funds for credit demand.
- If the government had raised small savings rates, banks would have been forced to raise fixed deposit rates.
- Shyamala Gopinath panel (2010) constituted on the Small Saving Scheme suggested a market-linked interest rate system.

Kisan Vikas Patra (KVP)

- It can be purchased from any post office. The minimum deposit is Rs. 1000 and in multiple of Rs. 100 with no maximum limit.
- The deposit shall mature on the maturity period prescribed by the Ministry of Finance from time to time as applicable on the date of deposit.
- Certificates are easily transferable

National Savings Certificate (NSC)

- The NSC has a maturity period of 5 years.
- The minimum deposit is Rs. 1000 and in multiple of Rs. 100. There is no maximum limit.

Senior Citizen's Savings Scheme

- An individual above 60 years of age can open an account.
- Retired Civilian Employees above 55 years of age and below 60 years of age, subject to the condition that investment is made within 1 month of receipt of retirement benefits.
- The maximum limit of investment allowed per individual (combined balances in all accounts) is Rs. 15 lakhs. The minimum deposit shall be Rs. 1000

Sukanya Samriddhi Scheme

- Introduced for the benefit of the girl child.
- The minimum deposit is Rs. 250 and the maximum deposit up to Rs. 1.50 lakh in a financial year.
- The investment will mature after the completion of 21 years from the date of opening the account, or upon the marriage of the girl child after attaining the age of 18.
- The account will also have to be closed if the girl child becomes an NRI or loses her Indian citizenship.

National Small Savings Fund (NSSF)

- Established in 1999 within the **Public Account of India**, the NSSF is a fund body, which pools money from various small saving schemes
- It is administered by the Ministry of Finance, under the **National Small Savings Fund (Custody and Investment)** Rules, 2001, derived from Article 283(1) of the Constitution.
- The pool from all the schemes is credited to the NSSF and withdrawals under small saving schemes by depositors are made from this Fund.
- Further, the money parked in the NSSF is **used by the Centre and states to finance their fiscal deficit**, while the balance is invested in central and state government securities.
- It, therefore, helps the government to channelize the money towards itself for fulfilling its financing requirements.

BUILD AHEAD COALITION

- Recently, the Build Ahead Coalition was launched. It is a business-led alliance bringing together key industry majors - JLL, Godrej Construction, Lodha, JSW Cement, SED Fund and Shell India.
- It aims to bring together multiple stakeholders from the construction value chain in India.
- Partners include producers, consumers, financiers and technology providers who can accelerate the use of low carbon building materials to support India in achieving its net-zero targets by 2070.
- The **coalition will pursue three key goals:**
  - Enhance the adoption of low-carbon building materials through **increased awareness, defining application-based standards and developing common definitions** of low-carbon materials.
  - Improving **access to new de-carbonisation technologies and finance** needed to enable manufacturers of building materials to reduce emissions from the production of these building materials.
  - **Advocating policies** to support increased procurement and production of low carbon building materials.

NATIONAL LOGISTICS POLICY

- The Union Cabinet has approved the National Logistics Policy, which aims at cutting transportation cost and improve global performance of the sector.
- It lays down an interdisciplinary, cross-sectoral, multi-jurisdictional and comprehensive policy framework for the logistics sector.
- **Logistics:** It broadly includes facilities crucial to trade:
  - **Transport services** for the movement of goods, **storage facilities** that are particularly essential for trade in perishable goods such as food items, fruits, and vegetables
  - Smooth functioning of **government services** that facilitate trade such as licensing and customs.

Targets	• Reduce cost of logistics in India to be comparable to global benchmarks by 2030. • Improve the Logistics Performance Index ranking, to be among top 25 countries by 2030. • Create data driven decision support mechanism for an efficient logistics ecosystem.
Monitoring	• The framework comprising Empowered Group of Secretaries (EGoS), under PM Gati Shakti national master plan, will monitor the implementation of the policy. • A Services Improvement Group will also be set up for monitoring of parameters of processes, regulatory and digital improvements in logistics sector.

Features:

Unified Logistics Interface Platform (ULIP)	• It will bring all the digital services related to the transportation sector into a **single portal**, freeing the exporters from long and cumbersome processes.
Ease of Logistics Services (E-Logs)	• It is a new digital platform. It will allow industry associations to directly take up **operational issues with government agencies** for speedy resolution.
Integration of Digital System (IDS)	• Under IDS, 30 different systems of **7 departments** are integrated for smooth cargo movement. These include data from the road transport, railways, customs, aviation and commerce departments.
System Improvement Group (SIG)	• Officers from ministries will monitor all logistics projects regularly to remove bottlenecks in a time-bond manner.

LEADS REPORT 2022

- The Ministry of Commerce and Industry released the fourth edition of Logistics Ease Across Different States (LEADS) 2022 survey report. Launched in 2018, it is an indigenous data-driven index to assess logistics infrastructure, services, and human resources across all 36 States and UTs.
- It is an indicator of the efficiency of logistical services necessary for promoting exports and economic growth.

Methodology

- Unlike the previous versions of LEADS which were based on ranking systems for all states, LEADS 2022 has adopted a **classification-based grading.**
- States have been now classified under four categories viz coastal states, hinterland/landlocked states, north-eastern states, and Union Territories.
- It includes three performance categories viz
  - **Achievers:** States/UTs achieving 90% or more percentage;
  - **Fast Movers:** States/UTs achieving percentage scores between 80% to 90%; and
  - **Aspirers:** States/UTs achieving percentage scores below 80% have been made.

TELECOM TECHNOLOGY DEVELOPMENT FUND

- The Universal Service Obligation Fund (USOF) recently launched Telecom Technology Development Fund (TTDF) scheme.
- TTDF aims to fund R&D in rural-specific communication technology applications. (academia, start-ups, research institutes, and the industry)
- Additionally, the scheme aims to promote technology ownership and indigenous manufacturing, create a culture of technology co-innovation, reduce imports, boost export opportunities and creation of Intellectual Property.

Universal Service Obligation Fund

- Established in 2002, USOF is a body under the Department of Telecommunications.
- It was established under the **Indian Telegraph (Amendment) Act, 2003,** giving it a **statutory status,** with the fundamental objective of providing access to 'basic' (landline) telecom services to people in the rural and remote areas at affordable and reasonable prices.
- Subsequently, the Indian Telegraph Act was amended in 2006 to repeal the term 'basic'.
- The amendment widened its **scope to provide subsidy support for enabling access to all types of telecom services, including mobile services, broadband connectivity and creation of infrastructure like optical fiber cable (OFC) in rural and remote areas.**
- The resources for implementation of USO are raised by collecting a universal service levy (USL), which is 5% of the **Adjusted gross revenue (AGR)** of telecom operators.
- It is a **non-lapsable fund** and the levy amount is credited to the **Consolidated Fund of India.**

ESSENTIAL COMMODITIES ACT INVOKED

- The Essential Commodities Act (ECA), 1955 was enacted at a time when India was facing food scarcity due to low levels of food grains production.
- There is no specific definition of essential commodities in ECA, 1955. It states that an "essential commodity" means a commodity specified in the Schedule of the Act.
- The Act gives powers to the central government to add or remove a commodity in the Schedule.

Essential Commodities included under the Act

- The Schedule at present contains the following seven commodities:
  - Drugs
  - Fertilisers
  - Foodstuffs including edible oils
  - Petroleum and petroleum products
  - Hank yarn made wholly from cotton
  - Raw jute and jute textiles
  - Seeds of food-crops and seeds of fruits and vegetables, seeds of cattle fodder, jute seed, cotton seed

WORLD COMPETITIVENESS INDEX 2022

- The Institute for Management Development has released the World Competitiveness Index 2022.
- The IMD's World Competitiveness Yearbook (WCY), first published in 1989, is a comprehensive annual report and worldwide reference point on the competitiveness of countries.
- It analyzes and ranks 63 countries according to how they manage their competencies to achieve long-term value creation. The ranking is based on four factors:
  - Economic Performance
  - Government Efficiency
  - Business Efficiency
  - Infrastructure
- Each of these factors is divided into 5 sub-factors, which are further divided into 333 criteria.

Key Findings

- Denmark has moved to the top of the list from the third position last year, while Switzerland slipped from the top ranking to the second position.

- Top 5 attractive factors of India's economy for business are –
  - skilled workforce
  - cost competitiveness
  - dynamism of the economy
  - high educational level
  - open & positive attitudes

RBI'S SEVEN SURVEYS

Speaking about the state of the Indian economy, the RBI recently released the results of seven surveys that it conducts

- **Confidence Survey (CCS)**
  - The CCS asks people across 19 cities about their current perceptions (vis-à-vis a year ago) and one-year ahead expectations on the general economic situation, employment scenario, overall price situation and own income and spending.
  - Based on the responses, the RBI comes up with two indices: the Current Situation Index (CSI) and the Future Expectations Index (FEI).
  - The CSI has been recovering since falling to a historic low in July last year. However, despite the improvement, the CSI stays firmly in the negative territory — suggesting consumer confidence is still considerably away from the neutral territory.
  - The FEI is in the positive territory but even now it stays below the pre-pandemic levels.
- **Inflation Expectations Survey (IES)**
  - IES tracks people's expectations of inflation.
- **OBICUS Survey**
  - OBICUS stands for "Order Books, Inventories and Capacity Utilization Survey". This survey covered 765 manufacturing companies in an attempt to provide a snapshot of demand conditions in India's manufacturing sector from January to March 2022.
  - The key variable is Capacity Utilisation (CU). A low level of CU implies that manufacturing firms can meet the existing demand without boosting production.
  - That, in turn, has negative implications for job creation and the chances for private sector investments in the economy.
- **Industrial Outlook Survey (IOS)**
  - Just like the CCS tries to find consumer confidence, this survey tries to track the sentiments of the businessmen and businesswomen.
  - The survey encapsulates qualitative assessment of the business climate by Indian manufacturing companies for various quarters.
- **Services and Infrastructure Outlook Survey (SIOS)**
  - Like CCS and IOS, SIOS does a qualitative assessment of how Indian companies in the services and infrastructure sectors view the current situation and the future prospects.
- **Bank Lending Survey (BLS)**
  - BLS captures the mood — qualitative assessment and expectations — of major scheduled commercial banks (SCBs) on credit parameters (viz., loan demand and terms & conditions of loans) for major economic sectors.
- **Survey of Professional Forecasters (SPF)**
  - SPF is a survey of 42 professional forecasters (outside the RBI) on key macroeconomic indicators such as GDP growth rate and inflation rate in the current year and the next financial year.
  - India's real GDP is expected to grow by 7.1% in 2022-23, and it is expected to grow by 6.3% in 2023-24.

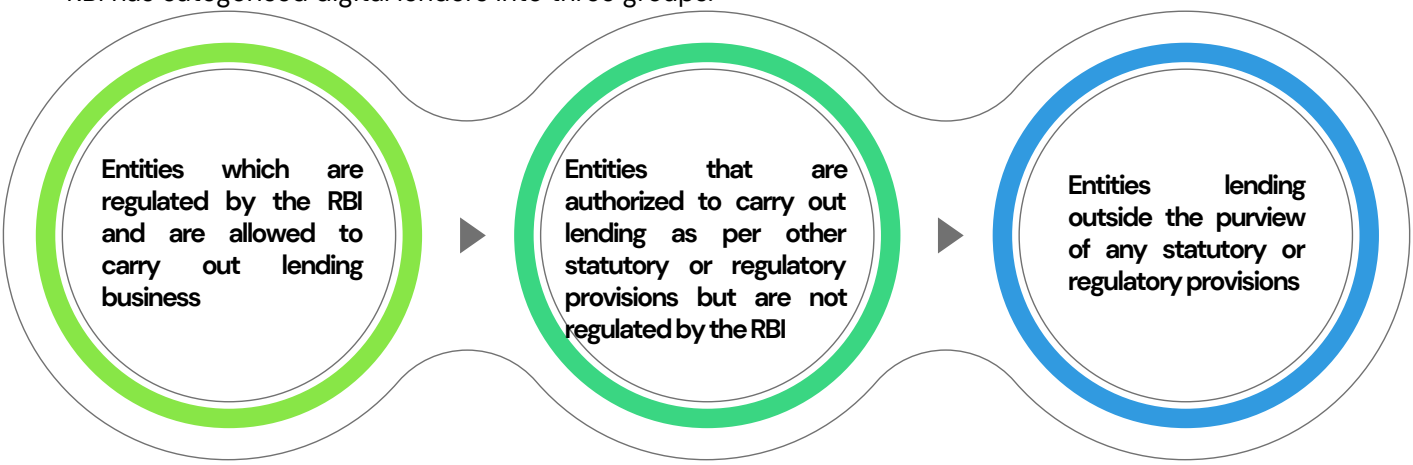
DIGITAL LENDING REGULATION

- RBI recently instituted a framework for regulating the digital lending landscape in the country.
- The regulations are based on recommendations received from its Working Group on 'Digital Lending including lending through online platforms and mobile apps' (WGDL) which was constituted in January 2021.

Digital Lending landscape in India

- Digital lending involves giving and recovering loans through web platforms or mobile apps.

- It utilises automated technologies and algorithms for decision making, customer acquisition, disbursements and recovery. Not only does it lower costs but also ensures speedy disbursal.
- It includes products like Buy Now, Pay Later (BNPL), which is a financing option (or simply a short-term loan product).
- RBI has categorised digital lenders into three groups:



Lending Service Providers (LSPs) act in partnership with Non-Banking Financial Companies (NBFCs) who give credit to the customer using the former's platform, making it a multi-sided platform.

New Regulations

- The latest regulatory framework is focused on the digital lending ecosystem of RBI's regulated entities (REs) and LSPs **engaged by them** to extend credit facilitation services.
  - REs are entities regulated by RBI, such as a bank or a NBFC.
  - LSP is an agent of a balance sheet lender who carries out one or more of the lender's functions in customer acquisition, pricing support, etc.
    - Balance sheet lender undertakes balance sheet lending/portfolio lending - where **the platform entity provides a loan directly to a consumer/business borrower** thereby assuming the risk itself.
    - It is different from peer-to-peer (P2P) lending in which the **platform does not lend** to the borrower. The platform links borrowers with investors.
  - The majority of LSPs **are non-recognized** and thus unregulated by the RBI or others, resulting in the majority of digital loans emanating from them.
- However, the lenders in the other categories **do not come under the new guidelines** and can consider formulating appropriate rules and regulations on digital lending based on the recommendations of the working group.
- All loan disbursals and repayments are to be executed **directly between the bank accounts of the borrower and the entity (banks/NBFC).** Thus, it eliminates the presence of a nodal pass-through or pool account of the LSP.
- Lenders must inform the borrower about all the fees, charges, and the annual percentage rate (APR) in a standardized format. This would also help borrowers make better comparisons with industry peers.
- Charges payable to LSPs in the credit intermediation process will be paid directly by the bank and not the borrower. Further, LSPs cannot raise the credit limit of their customers without prior consent of the customer.
- A cooling-off period shall be provided within the loan contract during which the borrower shall have the option to exit the digital loans by paying the principal and proportionate APR without any penalty.
- Regulated Entities are required to ensure that any lending carried out through digital lending apps has to be reported to Credit Information Companies (CICs).

Grievance Redressal

- To address the need for a dedicated resolution framework, **entities** would have to appoint a grievance redressal officer.
- The ecosystem would also fall under the purview of the **RBI's Integrated Ombudsman Scheme (RB-IOS)** if the complaint is not resolved **within 30 days of receipt.**

BANKING AS A SERVICE

- Banking as a Service (BaaS) is a fintech innovation that is enabling bank and fintech collaborations.

- It is an end-to-end approach that facilitates fintech companies and other third-party organizations to connect with a bank's system employing APIs.
- This helps organizations build innovative financial services, upon the provider bank's regulated infrastructure while enabling open banking services.

Application Programming Interface (API)

- It is a software intermediary that allows two applications to talk to each other.
- Whenever someone uses an app like Facebook, sends an instant message, or checks the weather on the phone, they are using an API.
- When someone uses an application on their mobile phone, the application connects to the Internet and sends data to a server.
- The server then retrieves that data, interprets it, performs the necessary actions and sends it back to the phone. The application then interprets that data and presents the required information in a readable way. All of this happens via API.

CREDIT LINES STOPPED ON NON-BANK PREPAID INSTRUMENTS

- RBI recently issued a notification **disallowing non-bank prepaid wallets and prepaid cards from loading credit lines** into these platforms.
- This comes after a boom in credit instruments such as fintech-driven credit cards and buy-now-pay-later (BNPL) wallets.
- Companies like Slice, Uni, OneCard, typically tie up with banks or NBFCs and offer credit lines into their prepaid wallets.

Prepaid Payment Instruments (PPIs)	• RBI defines PPIs as payment instruments that facilitate the buying of goods and services, including the transfer of funds, financial services, and remittances, for the value stored within or on the instrument. • PPIs are in the form of payment wallets, smart cards, mobile wallets, magnetic chips, vouchers, etc. As per the regulations, banks and NBFCs can issue PPIs.
Credit Line	• A credit line is a preset borrowing limit that allows an individual or a business, access to credit at any time, as per need. • It can be utilised by the customer till the limit offered does not exceed. It is like a flexible loan instead of a lump-sum loan where a fixed amount is borrowed.

RUPEE DEPRECIATION

- **Currency depreciation** is a fall in the value of a currency in a floating exchange rate system.
- India used to follow the administered or fixed rate of exchange until 1993, when it moved to a market-determined process or floating exchange rate.
- However, in India, the exchange rate is not fully determined by the market.
- From time to time, the RBI intervenes in the foreign exchange (forex) market to ensure that the rupee "price" does not fluctuate too much or that it doesn't rise or fall too much all at once. This is called **Managed floating exchange rate.**
    - For example, the RBI sells dollars when Indian rupee depreciates too much, while it purchases dollars when the Indian rupee appreciates beyond a certain level.

Factors Affecting Rupee's Value

- The value of any currency is determined by demand and supply of the currency. When the supply of a currency increases, its value drops. On the other hand, when the demand for a currency increases, its value rises.
- In the wider economy, central banks determine the supply of currencies, while the demand for currencies depends on the amount of goods and services produced in the economy.
- In the forex market, the supply of rupees is determined by the demand for imports and various foreign assets. So, if there is high demand to import oil, it can lead to an increase in the supply of rupees (decrease in supply of dollars) in the forex market and cause the rupee's value to drop.

- On the other hand, the demand for rupees in the forex market depends on foreign demand for Indian exports and other domestic assets.
- So, for instance, when foreign investors are positive about investing in India, it can lead to an increase in the supply of dollars in the forex market which in turn causes the rupee's value to rise against the dollar.

RBI Intervention

- RBI's policy is to allow the rupee to find its **natural value** in the market but without causing significant **volatility or unnecessary panic** among investors.
- Thus, the RBI has **usually tried to slow down or smoothen, rather than reverse or prevent, the fall in exchange value** of the rupee against the U.S. dollar.
- State-run banks are usually instructed by the **RBI to sell dollars** in order to offer some support to the rupee. Thus, by selling dollars in the open market in exchange for rupees, the RBI can improve demand for the rupee and support its fall.
- For example, recently, **India's forex reserves have also dropped below $600 billion,** dropping by about $45 billion since September, 2021, when forex reserves were at an all-time high of $642 billion.
- This drop is believed to be largely due to steps taken by the RBI to support the rupee.

DECLINE IN COUNTERFEIT CURRENCY

- The Ministry of Finance recently informed that the counterfeit currency in the banking system reduced from ₹43.47 crore in 2016-17 to about ₹8.26 crore in 2021-22. This amounts to a sharp decline of 80%.

Counterfeit currency

- Counterfeit currency *is currency produced without the legal sanction of a state or government, usually in a deliberate attempt to imitate that currency and deceive its recipient.*
- Producing or using counterfeit money is a form of fraud or forgery, and is illegal. In India, it is punishable under **section 498A of the IPC**

Steps taken by the government against counterfeit currency

- **Demonetisation:** On 8th November 2016, Rs. 500 and Rs. 1,000 notes were withdrawn from the system, to discourage their use for illegal transactions and to curb Counterfeiting.
- The provisions in the Unlawful Activities (Prevention) Act, 1967 have been strengthened to combat terror financing by criminalizing the production, smuggling or circulation of high quality counterfeit Indian currency as a terrorist act.
- **A Terror Funding and Fake Currency (TFFC) Cel**l has been constituted in National Investigation Agency (NIA) to conduct focused investigation.
- **Fake Indian Currency Notes (FICN) Coordination Group (FCORD)** has been set up to share intelligence and information with the security agencies in the States and the Centre. The government conducts capacity-building programmes for various law enforcement agencies at the Centre/State level.
- **Bi-Luminescent Security Ink:** Council of Scientific and Industrial Research (CSIR)-National Physical Laboratory has developed a bi-luminescent security ink which **glows in red and green colors** when illuminated by two different excitation sources.
  - Security at the international borders has been strengthened by using new surveillance technology, deploying additional manpower for round the clock surveillance.
- Further, a Joint Task Force is functioning between India and Bangladesh for building trust and cooperation for exchange of information and analysis of smugglers of FICN.

BLACK SWAN EVENT

- Recently, a RBI study shared the possibility of capital outflows of around $100 billion from India in case of a major global risk scenario or a black swan event. A black swan is a rare, unpredictable event that comes as a surprise and has a significant impact on society or the world.
- These events have three distinguishing characteristics:
  - They are extremely rare and outside the possibility of regular expectations
  - They have a severe impact after they hit
  - They seem probable in hindsight when possible explanations appear

- The theory was first proposed by author and investor Nassim Nicholas Taleb in 2001, and later popularised in his 2007 book – The Black Swan: The Impact of the Highly Improbable.

DEFICIT IN BANKING SYSTEM LIQUIDITY

- Liquidity in the banking system has swung into deficit mode after remaining in surplus mode for almost 40 months.

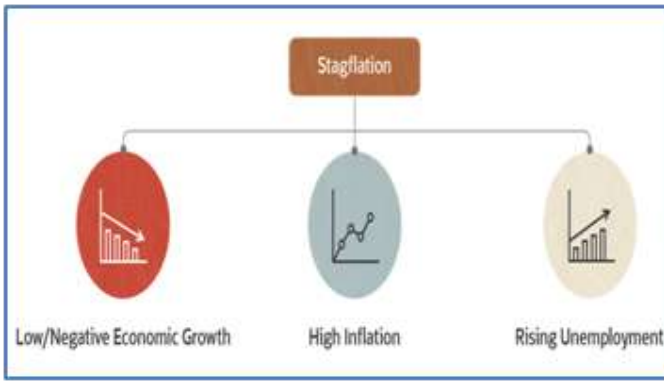
Banking System Liquidity

- Liquidity in the banking system refers to readily available cash that banks need to meet short-term business and financial needs.
- On a given day, **if the banking system is a net borrower from the RBI under Liquidity Adjustment Facility (LAF)**, the system liquidity is said to **be in deficit.**
- If the banking system is a **net lender to the RBI**, the system liquidity is said to be in surplus.
- LAF refers to the **RBI's operations through which it injects or absorbs liquidity into or from the banking system.**

Factors Causing The Current Deficit	Impact Of Tight Liquidity On Consumers
• The change in the liquidity situation has come due to advance tax outflows for the second quarter. This also pushed the call money rate temporarily above the repo rate. • The repo rate is the interest rate at which central bank of the country lends money to recognized commercial bank • There is an improvement in the credit demand and at the same time, the incremental deposit growth has not kept pace with the credit demand. • Besides, there is continuous intervention of RBI in the forex market, to prevent the fall in the rupee against the US dollar. • In order to prevent the fall in rupee's value, RBI purchases rupees by selling dollars, which reduces the supply of rupee in the market	• A tight liquidity condition could lead to a rise in the government securities yields. • Short-term rates would increase at a faster pace as the direct reflection of tighter liquidity and lead to a hike in repo rate by the RBI. • Banks will increase their repo-linked lending rates and the marginal cost of funds-based lending rate (MCLR), to which all loans are linked to. This rise will result in higher interest rates for consumers.

STAGFLATION

- Financial experts across the world fear that the persistent high inflation over the past few months globally may eventually lead to stagflation. Stagflation is a combination of stagnant growth and rising inflation.
- Most economists typically focus on the three key macroeconomic indicators to assess the health of an economy - Economic output measured by GDP, the level of unemployment and inflation
- The challenge for policymakers is to facilitate conditions in which output grows at a healthy pace, helping businesses in the economy to create jobs and thus keeping unemployment low.



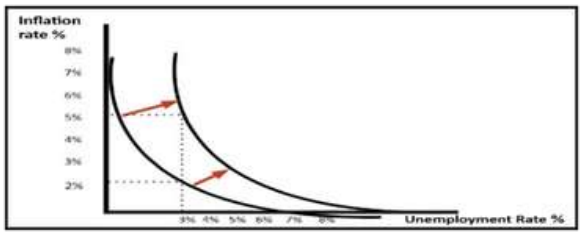
- Most crucially, all this must happen in an atmosphere when prices remain relatively stable (stable inflation). However, in the real world, high economic growth generally leads to higher inflation.
- The most difficult problem for policymakers is when inflation runs high even as economic output either stagnates or, worse, shrinks. The slowdown in economic activity, in turn, leads businesses to reduce jobs and the resultant situation is termed as stagflation.

Factors For Current Concerns Of Stagflation

- The pandemic had caused the first major recent economic slowdown worldwide.
- The measures taken to address the slowdown, including substantial increase in liquidity in most of the advanced economies, led to a sharp rise in inflation.
- While the Fed (in US) and the Bank of England are among central banks that have started raising interest rates to reduce the inflation, the ongoing war in Ukraine has caused a fresh supply shock.
- It has become difficult to contain inflation, because the current inflation is not linked to demand factors (which can be controlled by regulating credit).
- In fact, it is almost entirely caused by supply factors that are far harder to manage.

Stagflation and Phillips Curve

- The traditional Phillips curve suggests there is a trade-off between inflation and unemployment.
- A period of stagflation will shift the Phillips curve to the right, giving a worse trade-off, which indicates stagflation (higher inflation and higher unemployment.



WORLD ECONOMIC OUTLOOK

- The IMF recently released the World Economic Outlook report. The WEO is **released twice every year** — April and October.
- It presents an analysis of global economic developments during the near and medium term.
- It gives an overview as well as detailed analysis of the world economy, by considering issues affecting industrial countries and developing economies.

Highlights Of The Report

- The central message of the WEO, is that "the worst is yet to come" for the world economy. Global growth is forecast to **slow from 6.0% in 2021 to 3.2%** in 2022 and 2.7% in 2023.
- The global economy continues to **face steep challenges,** shaped by cost-of-living crisis, tightening financial conditions in most regions, Russia's invasion of Ukraine and the persisting Covid-19 pandemic.

Indian Scenario

- India is projected to **grow at 6.8%** in the current fiscal year, following 8.7% growth in the fiscal year that ended March 31. The forecast for the next fiscal year remains unaltered at ~6.1%.
- Inflation in India was above the RBI's target and the report has projected 6.9% consumer price inflation this year and 5.1% next year.
- The threat to India comes from at least four sources:
  - **Higher crude oil and fertiliser prices** will push domestic inflation higher;
  - **Global slowdown** will hurt exports, dragging down domestic growth and worsening the trade deficit;
  - **A strong dollar** will put pressure on the rupee's exchange rate, which will likely result in reducing India's forex reserves and reducing the capacity to import goods.
- Also, given the low demand among most Indians, the government might be forced to spend more towards providing basic relief in the form of food and fertiliser subsidies. This will worsen the government's financial health.

URBAN VS RURAL INFLATION

- A deeper look into the inflation numbers this year reveals another trend — **higher inflation in rural areas than in the urban areas.**
- **Consumer Price Index (CPI) in rural areas** — 7.15% — was higher compared to 6.72% in urban markets.
- Cereals, milk, fruits and spices showed higher inflation rates in rural markets, compared to urban ones.
- **Consumer Food Price Index (CFPI) for rural areas** — 7.60% — was also higher than 7.55% for urban ones.
- The key difference between rural and urban inflation rate calculations lies in the weightage attached to certain groups of commodities.
- In rural areas, the food and beverage sector alone makes up about 54.18% of the CPI basket. The same sector carries a weight of 36.29% for urban areas.

COMMITTEE ON HYBRID SECURITIES

- Recently, Securities and Exchange Board of India (SEBI) has set up an advisory committee on hybrid securities, chaired by K V Kamath.

Hybrid Security

- A hybrid security is a **single financial product that combines different types of financial securities**, or has features of multiple kinds of securities.
- Typically, this means that the security has **aspects of both debts (bonds) and equity (stocks).**
- Thus, the security will have the *guaranteed payment nature of a bond* while also having the potential for *capital appreciation of a stock*.
- They are **bought and sold** on an exchange or through a brokerage
- The most common type of hybrid security is a **convertible bond** that has features of an ordinary bond but is heavily influenced by the price movements of the stock into which it is convertible.
- **Real Estate Investment Trusts (REITs) and Infrastructure Investment Trusts (InvITs)** are also classified as hybrid securities.
  - **REIT** comprises a portfolio of **commercial real assets,** a major portion of which is already leased out. It **allows individual investors to invest using this platform**. The money collected from individual investors is invested in income-generating real estate.
    InvITs comprise a portfolio of **infrastructure assets**, such as highways and power transmission assets.
- It enables direct investment of money from individual and institutional investors in infrastructure projects to earn a small portion of the income as return.

BOND	DEBENTURE
• **Meaning:** It is a financial instrument showing the indebtedness of issuing body towards its holders. • **Collateral**: It is generally secured by collateral • **Interest Rates:** Low • **Issued by:** Government Agencies, financial institutions, corporations, etc. • **Risk Factor**: Low • **Priority in repayment at the time of liquidation**: First	• **Meaning:** A debt instrument used to raise long term finance. • **Collateral:** It may be secured or unsecured. • **Interest Rates:** High • **Issued by:** Companies • **Risk Factor:** High • **Priority in repayment at the time of liquidation:** Second

NEW ACCOUNT SETTLEMENT SYSTEM

- Under the guidelines issued by the Securities and Exchange Board of India (SEBI) in July, the trading members will have to settle the accounts on a monthly or quarterly basis on the first Friday of the month or quarter

Settlement of Accounts

- SEBI mandates stockbrokers to settle i.e., transfer the available credit balance from trading account to bank account, at least once in a quarter (90 days) or 30 days.
- The process of transferring the unutilised **funds primary** back into the bank account is called **Running Account Settlement or Quarterly Settlement of Funds.**
- If the first Friday of the quarter is a trading holiday, then such settlement shall happen on the previous trading day.

MICROFINANCE INSTITUTIONS (MFIS)

- Microfinance companies are expecting greater growth in rural markets than urban, following new guidelines issued by the RBI in March, 2022.
- The central bank has allowed households earning up to ₹3 lakh annually to be classified as eligible for microloans, expanding the market for MFIs.

- The cap earlier was ₹1.25 lakh in rural areas and ₹2 lakh in other areas.
- It also removed the cap on pricing loans, aiding deeper penetration into existing markets and entry into new ones. These regulations can improve credit culture.

Delivery Channels

- In India microcredit is delivered through a variety of institutional channels like:
  - Scheduled commercial banks (SCBs) (including small finance banks (SFBs) and regional rural banks (RRBs)) lending both directly as well as through business correspondents (BCs) and self-help groups (SHGs).
  - Cooperative banks
  - Non-banking financial companies (NBFCs)
  - Microfinance institutions (MFIs)

Pradhan Mantri Mudra Yojana (PMMY)

- Launched in 2015, MUDRA stands for Micro Units Development & Refinance Agency Ltd.
- It is a financial institution set up by the Government. Under the PMMY, banks provide collateral-free loans up to Rs 10 lakh.
- These loans are given to non-farm small/micro enterprises for income generating activities through various last-mile financial institutions like Banks, NBFCs and MFIs.
- **Aim:** To provide funding support to micro-entrepreneurs, with the government providing annual loan sanction targets to banks.
- There are three categories:
  - Shishu loan up to Rs 50,000
  - Kishor loan of Rs 50,000-Rs 5 lakh
  - Tarun loan accounts of Rs 5-10 lakh

ZERO COUPON ZERO PRINCIPAL INSTRUMENTS

- The Finance Ministry has declared zero coupon zero principal (ZCZP) instruments as securities for the purposes of the Securities Contracts (Regulation) Act, 1956.
- ZCZP is an instrument issued by a not-for-profit organisation - that will be registered with the social stock exchange - to raise funds.

ZCZP Structuring

- With its zero-coupon, zero-principal structure, it resembles a debt security like a bond. When an entity takes a loan by issuing regular debt security like a bond, it has to make interest payments and the principal when the bond matures.
- But with ZCZP, when an entity issues these securities and raises money, it is not a loan but a donation.
- So, the borrowing entity does not have to pay interest—therefore zero coupon—and it does not have to pay the principal (zero principal) either.
- Like any other debt instrument, it will come with a time duration, and will carry a tenure equal to the duration of a given project.

- **Zero-coupon bond:** It is a debt security that does not pay interest but instead trades at a deep discount, rendering a profit at maturity, when the bond is redeemed for its full face value.

LIBOR

- Recently, LIBOR rose roughly by 2.5 basis points to 2.83%, the highest since November 2008.
- London Interbank Offered Rate (LIBOR), is the benchmark interest rate at which major global banks lend to one another.
- It is an indicator of the health of the financial system and provides an idea of the trajectory of impending (forthcoming) policy rates of central banks.
- LIBOR is also the basis for consumer loans in countries around the world, so it impacts consumers just as much as it does financial institutions.
- It is administered by the Intercontinental Exchange (ICE), which asks major global banks how much they would charge other banks for short-term loans.
- It is computed for five different currencies - Swiss franc, Euro, Pound sterling, Japanese yen and US dollar.

OUTFLOW FROM GOLD ETFS

- **Gold Exchange Traded Funds (ETFs)** witnessed a net outflow of Rs 457 crore in July as investors parked their money in other asset classes as part of their portfolio rebalancing strategy.

Gold ETFs

- Gold ETF, which aims to track the domestic physical gold price, are passive investment instruments that are based on gold prices and invest in gold bullion.
  - **Bullion** is the general name for pure gold or silver (at least 99.5%) which have been transformed into bars or minted into coins for investment purposes.
- In short, gold ETFs are units representing physical gold which may be in **paper or dematerialized form.**
- Regulated by SEBI, one gold ETF unit is equal to 1 gram of gold and is backed by physical gold of very high purity.

Benefits of Gold ETFs

- An investor can buy or sell gold ETF units just like an equity share on the exchanges during market hours through a trading account. Thus, they **combine the flexibility of stock investment and the simplicity of gold investments.**
- It is a tax-efficient way of owning gold as income earned from Gold ETF is treated as capital gains, short-term or long-term, depending on the holding period.
- There is no wealth tax, no security transaction tax, no VAT and no sales tax on them. They are also accepted as collateral for loans.

Exchange Traded Fund (ETFs)

- It is a marketable security that **tracks an index, a commodity, bonds, or a basket of assets like an index fund.** In simple terms, ETFs are funds that track indexes such as Nifty or BSE Sensex, etc.
- Unlike regular mutual funds, an **ETF trades like a common stock on a stock exchange.**
  - The traded price of an ETF changes throughout the day like any other stock, as it is bought and sold on the stock exchange. This is different from mutual funds, which only trade once a day after the market closes.
- The trading value of an ETF is based on the **net asset value (NAV)** of the underlying stocks that an ETF represents.
  - Net asset value (NAV) is the value of a fund's asset minus the value of its liabilities, per unit. **In simple terms it is the market value of the securities held by the scheme.**
- ETFs typically have **higher daily liquidity and lower fees** than mutual fund schemes, making them an attractive alternative for individual investors.
- **Passive management** is the chief distinguishing feature of ETFs. Essentially, passive management means the fund manager makes only minor, periodic adjustments to keep the fund in line with its index.

FINANCIAL STABILITY AND DEVELOPMENT COUNCIL

A meeting of the Financial Stability and Development Council (FSDC) was held, and chaired by the Union Finance Minister.

- **Formation:** It is a **non-statutory apex council formed under the Ministry of Finance** in 2010 based on the recommendations given by the **Raghuram Rajan committee (2008) on financial sector reforms.**
- **Composition:** It is **chaired by the Finance Minister** and its members include the heads of all **Financial Sector Regulators (RBI, SEBI, PFRDA & IRDA), Finance Secretary, Secretary of Department of Economic Affairs (DEA), Secretary of Department of Financial Services (DFS), and Chief Economic Adviser.**

The Council, discussed:

- The **Early Warning Indicators** for the economy and the preparedness to deal with them.
- **Improving the efficiency** of the existing financial/credit information systems.
- Issues of **governance and management in Systemically Important Financial Institutions (SIFI)** including financial market infrastructures.

INDIA 7TH IN FDI INFLOWS: UNCTAD

- India's rank jumped one notch to 7th position among top recipients of foreign direct investment (FDI) in 2021.
- This was revealed by latest World Investment Report, released by United Nations Conference on Trade and Development (UNCTAD).

India's Scenario

- Among the top 10 host economies for FDI, only India saw a decline in its FDI inflows to $45 billion in 2021 from $64 billion in 2020.
- India's FDI inflows in 2021 were the lowest since 2018, while outflows were up by 43% at around $16 billion.

Foreign Investment (FI)

- Foreign investment is of two types viz., Foreign Direct Investment and Foreign Portfolio Investment.
- The former comprises investment by foreign companies (generally MNCs) in manufacturing goods (consumer goods and capital goods), construction, infrastructure, services like banking, insurance, aviation, shipping and a host of others.
- Portfolio Investment comes mainly by way of investment in a country's stock market by foreign investors who invest in shares, bonds, debentures, including govt bonds and mutual funds to make capital gains.
- In a major policy change, the government laid down that in accordance with global practice if an investor has a stake of 10% or less in a company, it will be treated as FII, while a stake of more than 10%, will be treated as FDI.

How Does FDI Enter In India?

- In India, it is governed by the FDI Policy announced by the Government of India and the provisions of the Foreign Exchange Management Act (FEMA), 1999.
- FDI enters in India through either of the two routes:
  - Automatic route - The non-resident or Indian company does not require prior nod of the RBI or government of India for FDI.
  - Government-approval route-The government's approval is mandatory. The company will have to file an application through Foreign Investment Facilitation Portal, which facilitates single-window clearance.

Sectors In Which FDI Is Prohibited

- There are a few industries where FDI is strictly prohibited under any route. These industries are:
  - Atomic Energy Generation
  - Any Gambling or Betting businesses or Lotteries (online, private, government, etc.)
  - Investment in Chit Funds
  - Nidhi Company
  - Agricultural or Plantation Activities (although there are many exceptions like horticulture, fisheries, tea plantations, Pisci-culture, animal husbandry, etc.)
  - Housing and Real Estate (except townships, commercial projects, etc.)

- Trading in transferable development rights (TDR's)
- Cigars, Cigarettes, or any related tobacco industry

'GOLD IMPORTER AND EXPORTER COUNTRIES

Importer Country	Exporter Country
The world's 5 biggest importers of gold are Switzerland, India, United Kingdom, China and Hong Kong	The world's 5 biggest exporters of gold are Switzerland, United Kingdom, Hong Kong, United Arab Emirates and the United States of America.

Gold Reserves In India

- According to National Mineral Inventory data, India has 501.83 million tonnes of gold ore reserves.
- The largest reserves of gold ores are located in Bihar (44%), followed by Rajasthan (25%), Karnataka (21%), West Bengal (3%), Andhra Pradesh (3%), Jharkhand (2%).
- At present, the Hatti gold mine in Karnataka is the largest gold mine in India. Gold in Kolar Gold Fields is almost exhausted or undegraded.

About World Gold Council (WGC)

- It is a non-profit association of the world's leading gold producers.
- Headquartered in London, it was established to promote the use of and demand for gold through marketing, research and lobbying.

INDIA'S INTERNATIONAL BULLION EXCHANGE (IIBX)

Gujarat International Finance Tech-City (GIFT City) has emerged as the country's first Greenfield integrated city.

Services Offered in GIFT City

- GIFT IFSC (International Financial Services Centre) provides services related to capital markets, offshore insurance, offshore banking and asset management, aircraft and ship leasing, and ancillary services.
- It also does merger and acquisition activities among trans-national corporations, risk management operations such as insurance and reinsurance, Global tax management and cross-border tax liability optimization etc.
- It houses 2 international stock exchanges with average daily trading volume of over $11 billion. An international bullion exchange was also launched on 29th July 2022.

About India's International Bullion Exchange (IIBX)

- **About bullion exchange**: It allows buyers and sellers to trade gold and silver as well as associated derivatives.
- IIBX description: IIBX will provide for efficient price discovery with assurance of responsible sourcing and quality. It has not only enrolled jewellers to trade on the exchange, but has also set up necessary infrastructure to store physical gold and silver. The IIBX shall be the Gateway for Bullion Imports into India
- **Regulator:** International Financial Services Centres Authority (IFSCA) is the regulator of IIBX.
- **Significance of IIBX:** It offers a diversified portfolio of products and technology services at a cost which is far more competitive than the Indian exchanges as well as other global exchanges in Hong Kong Singapore, Dubai, London and New York.

REGULATORY FRAMEWORK FOR ANGEL INVESTORS IN INDIA

- The International Financial Services Centres Authority (IFSCA) has issued a regulatory framework for Angel funds under the IFSCA (Fund Management) Regulations, 2022.
- The move intends to implement the IFSCA mandate to develop and regulate financial products, financial services, and financial institutions in the International Financial Services Centres (IFSC)
  - Angel Funds bridge the gap between start-ups and angel investors, who are instrumental in providing mentoring, and resources to the start-ups.

Features Of The Framework

- A Fund Management Entity (FME) in IFSC will be able to launch Angel Funds by filing a placement memorandum with the Authority under a Green Channel.

- This means the schemes can open for subscription by investors immediately upon filing the placement memorandum with the IFSCA.
- Angel Funds shall accept investments from accredited investors or investors who are willing to commit at least $40,000 over a period of 5 years.
- Angel Funds are permitted to invest in start-ups as well as other regulated angel schemes in IFSC, India, and foreign jurisdictions upon receiving consent from the desirous investors.
- Although investments by an Angel Fund in a start-up is capped at $1,500,000, the Angel fund will be permitted to invest in subsequent rounds of fundraising by the start-up in order to protect its shareholding from dilution.

MEASURES TO BOOST FOREIGN EXCHANGE INFLOWS

The RBI recently announced a series of steps to prevent the rupee's slide against the dollar and boost foreign exchange inflows.

Measures

- Exemption from CRR & SLR on Incremental Foreign Currency Non-Resident (Bank) FCNR(B) and Non-Resident (External) Rupee (NRE) Term Deposits
- Currently, banks are required to include all FCNR (B) and NRE deposit liabilities to calculate the Net Demand and Time Liabilities (NDTL) for maintenance of statutory requirements such as cash reserve ratio (CRR) and statutory liquidity ratio (SLR).
  - FCNR(B) are foreign currency non-resident deposits (denominated in foreign currency), while NRE deposits are non-resident external deposits (rupee denominated)
- Incremental FCNR(B) and NRE deposits raised between 1 July and 4 November 2022, will be exempt from the maintenance of CRR and SLR.

Interest Rates on FCNR(B) and NRE Deposits

- RBI also **removed the ceiling on interest rates on FCNR(B) & NRE Deposits** between 7 July -31 October.
- These relaxations will allow non-residents to get better returns, attracting foreign funds to the domestic banking system.

External Commercial Borrowings (ECBs)

- The RBI has decided to temporarily increase the limit under the automatic route **for external commercial borrowing (ECB)** from US$ 750 million per financial year to US$ 1.5 billion.

FPI Investment In Debt

- Currently, all central **government securities (G-Secs) with 5-year, 10-year and 30-year tenors** are categorized as **"specified securities"** under the **Fully Accessible Route (FAR).**
- To increase the choice of G-Secs available for investment by non-resident investors under the FAR, the RBI has been decided that all new issuances of G-Secs of 7-year and 14-year tenors, will be designated as specified securities under the FAR.
- At present, FPI investment in government and corporate debt under the MTF (Medium Term Framework) is subject to a **macro prudential short-term limi**t.
  - That is, not more than 30% of investments each in government securities and corporate bonds can have a maturity of less than one year.
- It has been decided that investments by FPIs in government securities and corporate debt made till October 31, 2022 will be exempted from this short-term limit.

Foreign Currency Lending

- Further, **category-1 banks can utilise overseas foreign currency borrowing (OFCBs) for lending in foreign currency** to entities for a wider set of end-use purposes, except the negative list set out for ECBs.
- The measure is expected to facilitate foreign currency borrowing by a larger set of borrowers who may find it difficult to directly access overseas markets.

INDIA TOPS IN REMITTANCE

The first WHO "World report on the health of refugees and migrants" was released.

Key Findings

- In 2021, India was the top remittance recipient ($87 billion nearly 2. 75% of GDP) among low- and middle-income countries.
  - It recorded a marginal decline of 0.2% in 2020 and a growth of 8% in 2021.
  - For India, remittances peaked at 4% of GDP in 2009.
- Remittances in India were way ahead of China and Mexico's 53 billion$, the Philippines (36 billion$) and Egypt (33 billion$) - the other four countries in top five.
- The **United States** was the largest source country for remittances, followed by the United Arab Emirates, Saudi Arabia and Switzerland.
- As per an RBI article remittances from the US (23% of total inward remittances in 2020-21) have surpassed that of UAE (17-18%)

State-wise share

- The share of the **traditional remittance** recipient states of **Kerala, Tamil Nadu and Karnataka,** has almost halved in 2020-21. These states had strong dominance in the Gulf countries.
- These states accounted for only 25% of total remittances in 2020-21compared to over 42% in 2016-17.
- Now, **Maharashtra has emerged as the top recipient state surpassing Kerala.**

Total Outward Remittances

- Total outward remittances under the **RBI's Liberalised Remittance Scheme (LRS)** shot up to an all-time high of $19.610 billion in the year ended March 2022 due to more spending on international travel and overseas education and gifts .

Investments In Overseas Equity And Debt By Indians Also Shot

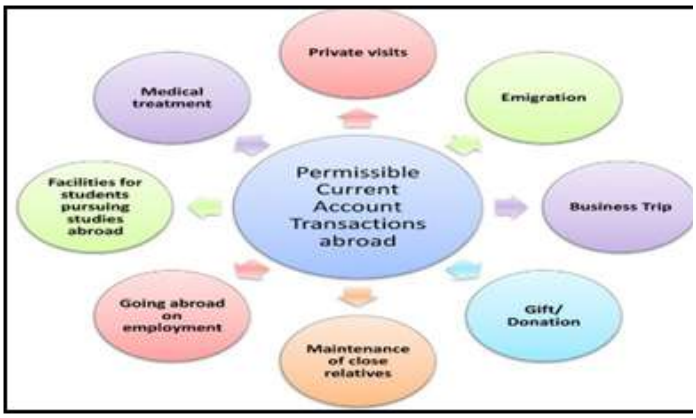
- Investments in overseas equity and debt by Indians also shot up to $746.5 million in FY22 as against $471.80 million in the previous year.

Liberalized Remittance Scheme (LRS)

- Brought out by the RBI in 2004, it allows resident individuals to remit a certain amount of money during a financial year to another country for investment and expenditure.
- According to the prevailing regulations, resident individuals may remit up to $250,000 per financial year.

Allowed Transactions Under LRS

- Apart from the areas highlighted in the diagram, the remitted amount can also be invested in shares, debt instruments, and be used to buy immovable properties in overseas market
- Individuals can also open, maintain and hold foreign currency accounts with banks outside India for carrying out transactions permitted under the scheme.



Restrictions Under LRS

- Buying and selling of foreign exchange abroad, or purchase of lottery tickets or sweep stakes, proscribed magazines and so on,
  - Any items that is restricted under Schedule II of Foreign Exchange Management (Current Account Transactions) Rules, 2000.
- Also, one cannot make remittances directly or indirectly to countries identified by the Financial Action Task Force as non-co-operative countries and territories.

WINDFALL TAX

The government slapped an **export tax on petrol, diesel and jet fuel (ATF) shipped overseas,** and imposed a windfall tax on crude oil produced locally.

- **A windfall tax is a tax levied by governments against certain industries** when economic conditions allow those industries to experience above-average profits.
- The idea is to target firms that were lucky enough to benefit from something they were not responsible for - in other words, a windfall.
- In other words, windfall tax is imposed on companies **that have seen their profits extraordinarily** not because of any clever investment decision or an increase in efficiency or innovation, but simply because of favourable market conditions.

TRADE SETTLEMENT IN RUPEE

- The RBI, recently, announced its decision to allow trade settlements between India and other countries in rupees, with immediate effect.

Current System

- Till now, if a company exports or imports, transactions are always in a foreign currency - excluding with countries like Nepal and Bhutan.
- So, in case of imports, the Indian company has to pay in a foreign currency - mainly dollars and could also include currencies like pounds, Euro, yen etc.
- The Indian company gets paid in foreign currency in case of exports and the company converts that foreign currency to rupee since it needs rupee for its needs, in most of the cases.

New Mechanism

- Under this mechanism, Indian exporters and importers can use a Special Vostro account linked to the foreign correspondent bank of the partner country for receipts and payments denominated in INR.
  - A ***Vostro account*** *is one opened by a bank in its home country on behalf of a foreign bank*.
- **Indian Importers** via this mechanism will make payment in INR which will be *credited into the Special Vostro account of the correspondent bank of the partner country*, against the invoices for the supply of goods or services from the overseas seller.
- **Indian Exporters** via this mechanism will be paid in INR from the balances in the designated Special Vostro account of the correspondent bank of the partner country.
  - Indian exporters may also receive advance payment against exports from overseas importers in INR through the mechanism.
  - Moreover, before allowing any such receipt of advance payment against exports, Indian banks need to ensure that *available funds in these accounts are first used towards payment obligations arising out of already executed export orders/export payments in the pipeline*.
- However, banks acting as authorized dealers for such transactions would have to take approval from the Foreign Exchange Department of RBI on doing such transactions.

Countries Expected To Use The New Model

- While the RBI order has not clearly said so, this arrangement is likely to be used only with Russia for the time being.
- There are sanctions on Russia post the Ukraine war and the country is off the SWIFT system (system used by banks for payments in foreign currency).

Vostro vs Nostro account

- Vostro is a Latin word that translates to "your," as in "your account."
- A vostro account is an account a correspondent bank holds on behalf of another bank.
- For example, if a *Spanish life insurance company* approaches a **U.S. bank** to manage funds on the Spanish life insurer's behalf, the account is deemed by the holding bank as a vostro account of the insurance company.
- From the foreign correspondent bank's point of view, funds held on behalf of other banks are referred to as vostro accounts and are denominated in the **local currency.**
- From the perspective of domestic banks, the funds deposited at correspondent banks are referred to as **nostro accounts**. Nostro accounts are denominated in the **foreign currency** of the correspondent bank.

GLOBAL FOOD SECURITY PLATFORM

- International Finance Corp. (IFC) recently launched the Global Food Security Platform (GFSP).
- GFSP is a $6 billion financing facility to strengthen private sector's ability to respond to the crisis and help support food production. It will supplement the World Bank's commitment of US$30 billion in response to the food crisis.

Application Of The Fund

- The fund will be used to support private sector companies along the food value chain by leveraging IFC's sectoral expertise in agribusiness, manufacturing, infrastructure, and technology, as well as the financial sector and trade finance.

- It will also focus on long-term actions to improve the resilience of the global food system and lessen its climate and ecological footprint.
- This includes investing in increasing efficient crop production, improving access to fertilizers, greening fertilizer production and use, reducing crop loss and food waste, improving supply chain efficiency, and mitigating infrastructure bottlenecks.

International Finance Corporation (IFC)

- Established in 1956, IFC is the **private-sector arm of the World Bank Group** and is headquartered in **Washington, D.C., United States.**
- It is an **international finance institution** that aims to advance economic development by investing in for-profit and commercial projects for poverty reduction.
- It is a corporation whose **shareholders are member governments** that provide paid-in capital and have the right to vote on its matters
- It advises governments on building infrastructure and partnerships to further support private sector development.
- It also offers advice to companies on making decisions, evaluating their impact on the environment and society, and being responsible

ASIAN PALM OIL ALLIANCE

- The Asian Palm Oil Alliance (APOA) was launched during the Globoil Summit at Agra. Global Summit is one of the World's Leading Edible Oils and Agri Trade Conference, Exhibitions & Awards. 2022 marks the 25th year celebration of Globoil India.
- It includes edible oil trade associations from five palm oil importing countries in South Asia – India, Pakistan, Sri Lanka, Bangladesh and Nepal. The idea is to gain collecting bargaining power and make imports sustainable.

- APOA
  - Unlike their counterparts in the EU, the industry associations of Asian palm oil importing countries are not involved in shaping the global discourse on sustainable palm oil in a collective way.
  - Instead, Asian stakeholders, in the last two decades were forced to follow sustainability standards that do not reflect Asian market realities.
  - The formation of APOA will empower several Asian countries, for whom palm oil is a source of affordable food and nutrition.
- Palm Oil
  - Palm oil is an edible vegetable oil derived from the fruit of the oil palm. **Asian markets** are responsible for about **40% of the demand.** Europe accounts for about 12% and the US for 2%.
  - Global palm oil production is dominated by **Indonesia and Malaysia.** These two countries, together, account for around **85% to 90% of total global palm oil production.** Indonesia and Malaysia are also the biggest palm oil exporters in the world.
  - **India is the largest importer of palm oil in Asian region** and accounts for 15% of global imports. **India's annual imports of edible oil** is around 13-14 million tonne (MT). Around 8 MT of palm oil is imported from Indonesia and Malaysia, while other oils, such as soya and sunflower, come from Argentina, Brazil, Ukraine and Russia.

STABLECOIN REGULATION

- Recently, the Financial Stability Board (FSB), a body which advises major economies on international finance, promised to push for stablecoin regulation.

Utility of stabelcoins

- **Minimize volatility:** The value of cryptocurrencies like Bitcoin fluctuates a lot. An asset that's pegged to a more stable currency can give buyers and sellers certainty that the value of their tokens won't rise or crash unpredictably in the near future.
- **Gauge the market:** For a cryptocurrency trader, tracking stablecoin flows can help them gauge the state of the market, or even make educated guesses about future cryptocurrency price movements.
- **International transfers:** One doesn't need a bank account to hold stablecoins, and they're easy to transfer. Thus, stablecoins' value can be sent easily around the globe, including to places where the U.S. dollar may be hard to obtain or where the local currency is unstable.
- **Safeguard assets:** In countries such as Turkey, Nigeria, and Argentina where the local currency is rapidly losing value, converting funds to stablecoins is one way for residents to try and safeguard their earnings.
- **Low transfer fees**: People have sent as much as a million dollars' worth of stablecoins with transfer fees of less than a dollar.
- **Earn interest:** Stablecoins can also be used to earn interest (typically higher than what a bank would offer) on a stablecoin investment.

BBPS TO ACCEPT CROSS-BORDER INWARD PAYMENTS

RBI recently allowed the Bharat Bill Payment System (BBPS) to accept cross-border inward payments with an aim to ease the transaction process for non-resident Indians (NRIs).

BBPS

- BBPS is an RBI conceptualised system **owned and operated by the National Payments Corporation of India (NPCI).**It was launched in August 2016 under the recommendation of G. Padmanabhan committee
- It offers interoperable and accessible bill payment services to consumers via digital channels along with a **network of agents & bank branches.**
- BBPS also provides a standardised bill payment experience, centralised customer grievance redress mechanism and uniform customer convenience fee, etc.
- These bills can be for electricity, telecom, DTH, gas, water bills, insurance, loan repayments, education fees, FasTag Recharge, municipal taxes, subscription fees, etc. in one single window.
- The **payment mode options at BBPS are Cash, Cards (Credit, Debit & Prepaid), IMPS, UPI, Aadhaar Enabled Payment System (AePS), Internet Banking and wallets.**
- More than 20,000 billers have been onboarded on the system and more than eight crore transactions are processed on a monthly basis.

Extension of BBPS to NRIs

- However, this system was till now available to only residents in India. Due to this, NRIs have been facing challenges in paying utility bills for their family and friends in India.
- Thus, to address this issue, RBI has allowed BBPS to accept **cross-border inward payments**.
- Apart from easing bill payments for NRIs in India, the development is also expected to **increase forex inflow** in India and **fee income of banks** and financial institutions.

FOREIGN DIRECT PRODUCT RULE

- The US Department of Commerce has imposed export controls under the Foreign Direct Product Rule (FDPR) to restrict China's ability to make high-end semiconductors.
- These restrictions are aimed at the Chinese manufacturing of advanced computing chips, supercomputers, and advanced semiconductors.
- The US administration has claimed that China is using high-end chips for military systems and AI for surveillance on the United States and therefore these export controls are a national security priority.
  - US regulators used it on Russia and Belarus after the invasion of Ukraine to cut off chips.

Background

- FDPR, was first introduced in 1959 to control trading of US technologies. It essentially says that if a product was made using American technology, the US government has the power to stop it from being sold – including products made in a foreign country.
- In 2020 American officials had tried to cut off Huawei's supply (China Telecom Company) of semiconductors but found that companies were still shipping to Huawei, chips made in factories outside the United States.

Impact

- It would lead to **global supply chain disruptions** related to ***RAM modules, components of modems, mobile phones, and laptops.***
- Indian imports of electronic sub-assemblies and modules from China will run into trouble in the short run. However, in the long run, it could help India with companies looking for alternate manufacturing destinations.

PRIME MINISTER'S EMPLOYMENT GENERATION PROGRAMME

The government has extended the Prime Minister's Employment Generation Programme (PMEGP) for five years from 2021-22 to 2025-26. In addition, multiple modifications have also been made to the scheme.

Background

- Launched in 2008, PMEGP is a **credit linked subsidy programme**, in which the **beneficiaries can get subsidy on the total project cost.**
- The objective was to **generate employment opportunities** through establishment of micro enterprises in **rural as well as urban areas.**
- PMEGP was formed by **merging two schemes** - Prime Minister's Rojgar Yojana (PMRY) and Rural Employment Generation Programme (REGP) which were in operation till 2008.
- Since its launch, about **7.8 lakh micro enterprises** have been assisted with a **subsidy of Rs 19,995 crore** generating estimated sustainable **employment for 64 lakh persons.**
- About **80% of the units assisted are in rural areas** and about **50% of units are owned by the Scheduled Caste (SC), Scheduled Tribe (ST) and women categories.**

Details of the scheme

- It is a **central sector scheme** administered by Ministry of Micro, Small and Medium Enterprises (MoMSME).
- It allows entrepreneurs to set up factories or units by depositing a small part (margin money) of the total project cost with banks, which would fund the units. After a factory runs successfully for three years, the banks return the margin money.
- It is implemented by the **Khadi and Village Industries Commission (KVIC)** functioning as the **nodal agency** at the **national level**.
- At the **state level**, it is implemented through State KVIC Directorates, State Khadi and Village Industries Boards (KVIBs), District Industries Centres (DICs) and banks.
- In such cases KVIC routes government subsidy through designated banks for giving money to the beneficiaries/ entrepreneurs directly into their bank accounts.
- **Eligibility: Any individual above 18 years of age, who has passed class 8, can apply** for the scheme and **only new projects are considered** for sanction under the PMEGP.
  - Self-help groups that have not availed benefits under any other public scheme, societies, production co-operative societies, and charitable trusts are also eligibile

Modifications In The Scheme

- The **maximum project cost** has been increased from the existing Rs 25 lakh to Rs 50 lakh for manufacturing units and from the existing Rs 10 lakh to Rs 20 lakh for service units.
- The **definition of village industry and rural area for PMEGP** has been modified — areas falling under Panchayati Raj institutions to be accounted under rural area, whereas areas under municipality to be treated as urban areas.
- All implementing agencies have been allowed to receive and process applications in all areas irrespective of the rural or urban category.
- PMEGP applicants under aspirational districts and transgender will be treated as special category applicants and entitled to a higher subsidy.
- **Higher Rate Of Margin Money Subsidy —**
  - For general category applicants, subsidy is 15% of the project cost in urban areas and 25% of the project cost in rural areas.
  - For special category applicants: 25% of the project cost in urban area and 35% of the project cost in rural areas, for special category applicants including, SC, ST, OBC, women, transgender, physically disabled, North Eastern Region (NER), aspirational and border district applicants.
- **Margin money** refers to the subsidy under the scheme. It is the amount that the government contributes to the business under the scheme.

NABARD'S ACHIEVEMENTS

- National Bank for Agriculture and Rural Development (NABARD) has managed to achieve new milestones in 2021-22 through its focused and initiative-driven approach.
- Expanding the lending, the bank's loan portfolio increased to Rs 6,80,731 crore as of March 31. The total disbursement stood at Rs 3,77,086 crore.

- NABARD reported an all-time-high refinance disbursement of Rs 2.68 lakh crore during 2021-22.

NABARD

- Established in 1982, it is an apex regulatory body for overall regulation of regional rural banks (RRBs) and cooperative banks in India. It is under the jurisdiction of Ministry of Finance.
- It has been entrusted with policy, planning, and operations related matters in the field of credit for agriculture and other economic activities in rural areas in India.
- It is the most important institution in the country which looks after the development of the cottage industry, small scale industry and village industry, and other rural industries.

Rural Infrastructure Development Fund (RIDF)

- The government created RIDF in NABARD in 1995 for financing rural infrastructure projects.
- RIDF was set up to fund infrastructure projects in States, which are incomplete due to lack of financial resources.

QUARTERLY EMPLOYMENT SURVEY

- The Ministry of Labour and Employment recently released the report of the fourth round (January-March, 2022) of Quarterly Employment Survey (QES), which is a part of the All India Quarterly Establishment based Employment Survey (AQEES).
- The AQEES launched in April, 2021, has been taken up by the Labour Bureau to provide quarterly estimates about the employment and related variables of establishments in both organized and unorganized segments.

- It takes into account 9 selected sectors of Manufacturing, Construction, Trade, Transport, Education, Health, Accommodation& Restaurant, IT / BPO and Financial Services.
- AQEES has two components:

Quarterly Employment Survey (QES)

It relates to the establishments employing 10 or more workers.

Area Frame Establishment Survey (AFES):

It relates to the establishments employing 9 or less workers.

- Education, manufacturing, trade and financial services together accounted for 84% of the total estimated units.
- Manufacturing sector accounts for the largest percentage (38.5%) of the total number of workers, followed by education sector with 21.7%, IT/BPO sector with 12% and Health sector 10.6%.

GLOBAL EMPLOYMENT TRENDS FOR YOUTH 2022

- International Labour Organization (ILO) released the Global Employment Trends for Youth 2022.

Initiatives By The Government

- **UNICEF's Initiative (YuWaah):** The India chapter of **Generation Unlimited (GenU)** – YuWaah aims to ensure, the following by 2030:
  - Build pathways for 100 million young people to aspirational economic opportunities.

- Facilitate 200 million young people to gain relevant skills for productive lives and the future of work.
- Partner with 300 million young people as changemakers and create spaces for developing their leadership

- **National Youth Policy-2014** provides a holistic Vision for the youth of India which is "to empower the youth to achieve their full potential
- **Prime Minister's Employment Generation Programme (PMEGP), 2008**: For generation of employment opportunities through establishment of micro enterprises in rural & urban areas.
- **Pradhan Mantri Mudra Yojana (PMMY):** Launched in 2015 for providing loans up to Rs. 10 lakh to the non-corporate, non-farm small/micro-enterprises.
- **Pradhan Mantri Rojgar ProtsahanYojana (PMRPY):** It has been launched by the Ministry of Labour and Employment for incentivising employers for promoting employment generation. The Government is paying the entire employer's contribution towards EPF and EPS for all eligible new employees for all sectors for 3 years.
- Increased public expenditure on schemes like MGNREGA, Pt. Deen Dayal Upadhyaya Grameen Kaushalya Yojana (DDU-GKY) and Deendayal Antyodaya Yojana- National Urban Livelihoods Mission (DAY-NULM)

EPR	Gender Gap in India	Domestic work
• In India, the youth employment participation rate (EPR)declined by 0.9 percentage points over the first nine months of 2021 relative to its value in 2020, while it increased by 2 percentage points for adults over the same time period. • The situation is particularly severe for very young people aged 15-20 years.	• India has a very low youth female labour market participation, and they country's young women experienced larger relative employment losses than young men in 2021 and 2022. • Earlier, Centre for Monitoring Indian Economy (CMIE) had noted that the lower EPR is due to the low female labour participation, which was just 9.2% in 2021-22, compared to 15% in 2016-17. • Young Indian men account for 16% of young men in the global labour market, while the corresponding share for young Indian women is just 5%.	• Domestic work is a highly informal sector in India, and wages are extremely low. • Reports of abuse suffered by young domestic workers are common, including verbal and physical abuse, and sexual exploitation.

NIPUN

- Recently, an innovative project for **skill training of construction workers called NIPUN** i.e. National Initiative for Promoting Upskilling of Nirman workers was launched.
- It is an initiative of the **Ministry of Housing & Urban Affairs (MoHUA)** under its flagship scheme - **Deendayal Antyodaya Yojana-National Urban Livelihoods Mission (DAY-NULM)**
- It aims to train over 1 lakh construction workers, through fresh skilling and upskilling programmes.
- The **National Skill Development Corporation (NSDC),** the nodal agency under the Ministry of Skill Development & Entrepreneurship (MSDE), will be the implementation partner for NIPUN.
- NSDC will be responsible for the overall execution of training, monitoring and candidate tracking.

Implementation Details

- The project implementation is divided into three parts:
  - Training through Recognition of Prior Learning (RPL) at construction sites.
- Approximately 80,000 construction workers will be trained through industry associations under the RPL certification, co-branded with MoHUA.
  - Training through fresh skilling by Plumbing and Infrastructure Sector Skill Council (SSC).
    - About 14,000 candidates will receive fresh skilling
    - The courses are aligned with National Skills Qualifications Framework (NSQF) and will be imparted at accredited and affiliated training centres.
  - International placement through industries/ builders/ contractors.
- NSDC will place approximately 12,000 people in foreign countries such as the Kingdom of Saudi Arabia, UAE and other GCC countries.

DAY-NULM

- It is a Centrally Sponsored Scheme, being implemented since 2014-15, with the aim to reduce poverty and vulnerability of urban poor households.
- It enables them to access self-employment and skilled wage employment opportunities, leading to significant improvement in their livelihoods on a sustainable basis.

NIPUN Bharat Mission

- The Ministry of Education has launched a National Initiative for Proficiency in Reading with Understanding and Numeracy (NIPUN Bharat), for ensuring that every child in the country necessarily attains foundational literacy and numeracy (FLN) by the end of Grade 3, by 2026-27. It was launched in 2021 as part of the National Education Policy (NEP) 2020.

AGRICULTURE CENSUS

- The Ministry of Agriculture recently launched the **11th agricultural census** to collect data on various parameters. It is organized by **Department of Agriculture and Farmers Welfare, Ministry of Agriculture.**
- The ministry is implementing an agriculture census scheme **every 5 years from 1970-71.** The present census with reference year **2020-21 will be 11th in the series.** (Tenth: year 2015-16)
- It is the main source of information on a variety of parameters, such as the number and area of operational holdings, their size, class-wise distribution, land use, tenancy and cropping pattern, etc.
  - The **concept of agricultural operational holdings adopted in India** differs to some extent with that ofFood and Agriculture Organization (FAO), as it does not include those holdings which are not operating any agricultural land and are engaged exclusively in the poultry, livestock & fishing etc. FAO has been preparing the decennial World Programme for the Census of Agriculture (WCA) since 1950.
- This is the first time that data collection for the agricultural census will be conducted on smartphones and tablets so that data is available in time

REPORT ON COUNTRY'S LIVESTOCK

- The report, which is based on 20th Livestock Census conducted during 2018-19, was released by the government.

Major Highlight of This Report

- **Indigenous cattle:** The total number of indigenous cattle declined by 6% to 14.21 crore in 2019 from 15.12 crore in 2012. The origins of over half of India's cattle, sheep, goats, horses, ponies, mules, donkeys and pigs are not known.
- **Exotic/Crossbred cattle:** The number of Exotic/Crossbred cattle grew from 3.9 crore in 2012 to 5 crore in 2019.

About 20th Livestock Census

- It was released by the Department of Animal Husbandry & Dairying, Ministry of Fisheries, Animal Husbandry and Dairying.
- In the 20th Livestock Census, animals which belong to Descript (identified)/non-descript (non-identified) breeds of indigenous origin are considered as indigenous animals.

Key Findings of 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.
- Total Bovine population (Cattle, Buffalo, Mithun, and Yak) is 302.79 million in 2019 which shows an increase of 1.0% over the previous census.
- Total number of cattle in the country is 192.49 million in 2019 showing an increase of 0.8 %.
- The Female Cattle (Cows population) is 145.12 million, increased by 18.0%.
- The Exotic/Crossbred and Indigenous/Non-descript Cattle population in the country is 50.42 million and 142.11 million, respectively.
  - Indigenous/Non-descript female cattle population has increased by 10% in 2019.
  - The population of the total Exotic/Crossbred Cattle has increased by 26.9 % in 2019.

- There is a decline of 6 % in the total Indigenous (both descript and non-descript) Cattle population over the previous census. However, the pace of decline of Indigenous Cattle population during 2012-2019 is much lesser as compared to 2007-12 which was about 9%.
- The total milch animals in cows and buffaloes is 125.34 million, an increase of 6.0 %.
- The total Poultry in the country is 851.81 million in 2019, increased by 16.8%.

About Livestock Census

- The Livestock Census has been conducted in the country periodically since 1919-20.
- It takes place once every five years.
- The census provides some key results reflecting the aggregate counts of various species as well as its comparison with previous census.

Some Government Schemes for Livestock

- **Animal Husbandry Infrastructure Development Fund (AHIDF):** This is the first major fund (outlay of Rs.15,000 crore) launched in June 2020 by the government that includes a diverse set of stakeholders such as Farmer Producer Organizations (FPO), private dairy players, individual entrepreneurs, and non-profits within its ambit.
- **Rashtriya Kamdhenu Aayog -** It has been constituted for the conservation, preservation, protection and development of cows and their progenies and for giving directions for the cattle development programmes.
- **National Livestock Mission –** The mission aims to achieve the employment generation through entrepreneurship development in small ruminant, poultry and piggery sector & fodder sector and increase of per animal productivity through breed improvement.
- **Rashtriya Gokul Mission –** It is an initiative to develop and conserve the indigenous bovine breeds for improving the milk production and productivity in a scientific manner which includes superior nutrition and farm management.
- **National Artificial Insemination Programme -** It aims to suggest novel methods of bringing about impregnation in female breeds and also to prevent the spread of certain diseases which are genital in nature, thereby enhancing the efficiency of the breed.

PM KISAN SAMMAN SAMMELAN 2022

- The Prime Minister recently inaugurated the **PM Kisan Samman Sammelan 2022**. The event brought together more than **1 crore farmers from across the country and around 1500 Agri Startups.**
- It also witnessed the participation of researchers, policy makers and other stakeholders.

Key Developments At The Event

- A total of 600 **Pradhan Mantri Kisan Samruddhi Kendras (PMKSK) under the Ministry of Chemicals and Fertiliser**s were inaugurated.
  - PMKSK will address a wide variety of farmer needs and provide **agri-inputs like fertilizers, seeds, implements; testing facilities for soil, seeds, fertilisers.**
  - More than 3.3 lakh retail fertiliser shops in the country are planned to be **converted into PMKSK in a phased manner.**
- The **Bhartiya Jan Urvarak Pariyojana – One Nation One Fertiliser** was also launched at the event.
  - Under the scheme, Bharat Urea Bags were launched, which will help companies to market fertilizers under the single brand name Bharat.

PM KISAN

- PM Kisan is a **central sector scheme**, with 100% funding from the Union Government.
- It is implemented by the Ministry of Agriculture and Farmers Welfare
- The scheme was started to **increase the income of the farmers by providing income support** to eligible landholding farmers' families across the country.
- It aims to supplement the financial needs of the farmers in procuring various inputs to ensure proper crop health, appropriate yields as well as to meet domestic needs.
- Under the scheme, which became effective from December 2018, the Centre provides Rs 6,000 per year to eligible farmers in **three equal instalments of Rs 2,000.**
- The **state governments and UT administration identify the farmers** who are eligible for the scheme and share the list with the Centre. The central government then directly transfers the fund to the bank accounts of the beneficiaries.

Eligible Farmers

- The Scheme initially provided income support to all Small and Marginal Farmers' families across the country, holding cultivable land up to 2 hectares.
- In June, 2019, the scheme was extended to cover all farmer families in the country irrespective of the size of their land holdings.

Exclusion Criteria

- However, the following categories of people holding cultivable land have been excluded from the scheme:
- Institutional landholders.
- Present or retired officers and employees of state/central government as well as PSUs and government autonomous bodies.
- Income Tax payers in last assessment year.
- Farmer families holding constitutional posts.
- Professionals like doctors, engineers and lawyers.
- Retired pensioners with a monthly pension of over Rs 10,000.
- Former and present Ministers/ State Ministers, MPs, MLAs, MLCs, Mayors of Municipal Corporations, Chairpersons of District Panchayats.

POKKALI RICE

- This year's Pokkali rice cultivation cycle concluded with a harvest festival.
- Pokkali is a heritage heirloom (belonging to several generations) rice crop cultivated in the coastal regions of Kerala, including Ezhikkara, Ernakulam, and supported by **Palliyakal Cooperative Service Bank (PCSB).**
- In Malayalam Pokkali translates as the one who grows above all. As the name suggests, Pokkali grass grows up to 6 feet in height.
- The prawn seedlings, which swim in from the sea and the backwaters after the rice harvest, feed on the leftovers of the harvested crop.
- The rice crop, which gets no other fertiliser or manure, draws nutrients from the prawns' excrement and other remnants. Thus, rice farming and prawn farming are mutually complementary.
- This farming system withstands climate change with efficient carbon sequestration and decreasing methane production.
- Pokkali has medicinal properties and its higher value of antioxidants and low carbohydrate content makes it preferable to those on a low sugar diet.
- The uniqueness of the rice has brought it the Geographical Indication (GI) tag and is the subject of continuing research.

KALANAMAK RICE

- Indian Agriculture Research Institute has successfully tested two new dwarf varieties in Uttar Pradesh that give double the yield of traditional variety of Kalanamak rice.
- Kalanamak is a traditional variety of paddy **with black husk and strong fragrance.**
- Grown in 11 districts of the **Terai region of north-eastern Uttar Pradesh and in Nepal,** the traditional variety has been prone to 'lodging', a reason for its low yield.
- The traditional Kalanamak rice is protected under the Geographical Indication (GI) tag system.
- Addressing the problem, the Indian Agriculture Research Institute (IARI) has successfully developed two dwarf varieties of Kalanamak rice. They have been named
- Pusa Narendra Kalanamak 1638 and Pusa Narendra Kalanamak 1652.

BAN ON EXPORT OF BROKEN RICE

- The government recently imposed a complete ban on export of broken rice. Initially, it imposed a 20% export duty on all non-basmati rice except parboiled rice (ie raw (white) and broken rice). Later, in another notification, the Ministry of Commerce and Industry imposed a blanket ban on broken rice exports as well.

Parboiled and Broken Rice

- Rice is derived from milling of paddy grain produced by farmers. Paddy typically has 20-21% husk (the inedible covering of the grain) and 10-11% bran (the brown outer layer of the edible kernel).
- What remains after removal of the husk and bran is the white raw rice that constitutes 68-69% of paddy. The milled rice, in turn, has both whole and broken grains.

- What remains after removal of the husk and bran is the white raw rice that constitutes 68-69% of paddy. The milled rice, in turn, has both whole and broken grains.
- Parboiling is a process where the paddy is soaked in water, steamed and dried while retaining its outer husk. It results in the rice becoming harder with less breakage on milling.
- The parboiled rice exported from India contains 5-15% broken grains. In raw rice, the brokens are normally up to 25%. It is the rice having 100% brokens whose exports have been prohibited.

India's Rice Exports

- India accounts for a 40% share in the global rice trade of around 50 million tonnes.
- There are 4 categories of rice exports.
  - basmati rice
  - parboiled non-basmati
  - broken non-basmati
  - raw (white) non-basmati
- Out of these, exports in the case of two – basmati rice and parboiled non-basmati rice –are still freely allowed. The curbs are only for the other two: raw (white) and broken non-basmati rice.
- Together, basmati (4 million tonnes) and parboiled rice (7.4 million tonnes) accounted for 54% of India's total rice exports of 21.2 million tonnes in 2021-22.
- The restrictions apply only in respect of the balance 9.83 mt (3.89 mt of broken non-basmati + 5.94 mt of raw non-basmati rice).
- Shipments of non-parboiled non-basmati rice will henceforth attract 20% duty.

Paddy Dwarfing in Punjab, Haryana

- Many farmers in Punjab and Haryana have been complaining about stunted rice plants over the past month.
- In the beginning, it was related to mineral deficiency, weather conditions and/or may be caused by typical rice viruses.
- However, Indian Agriculture Research Institute (IARI) has stated that the disease-causing 'dwarfing' in rice plants is due to the **Southern Rice Black-Streaked Dwarf Virus (SRBSDV)**, named after Southern China where it was first reported in 2001.

Paddy Dwarfing

- The **main symptoms** of a plant suffering from the rice dwarf disease are stunting and the appearance of white chlorotic specks on its foliage.
- Chlorosis is the loss of green colour of the plants, due to lack of chlorophyl.
- The height of the stunted plants showed a reduction from 1/2 to 1/3rd of the normal plants.

Southern Rice Black-Streaked Dwarf Virus (SRBSDV)

- SRBSDV is a virus with 10 double-stranded RNA segments. It is transmitted by a **white-backed plant hopper (WBPH).**
- Apart from rice, it can also be found in several weed species.
- Long-distance transmission of this virus may occur through WBPH migrating with the typhoons and strong convection winds.

MAHARASHTRA BECOMES TOP SUGAR PRODUCER

- After a five-year gap, Maharashtra has overtaken Uttar Pradesh (UP) to regain its position as India's top sugar producer. Maharashtra's output for the 2021-22 crushing year (October-September) is 138 lakh tonnes (lt). This is an all-time-high, beating the previous 107.21 lt (2018-19).
- Output in Maharashtra, Karnataka and Gujarat have shown a remarkable improvement from the drought-affected levels of 2019-20, a year that actually saw UP's output touching a high of 126.37 lt.

Sugarcane Cultivation

- Sugarcane is a member of the **grass family** with a hard, thick stem.
- It is a tropical and sub-tropical plant, therefore, requires warm weather to reach maturity. Areas having **temperature of 20° to 26°C and an average rainfall of 150 cm** are suitable for its cultivation.
- **Moist clay-loam** with good drainage is the best soil for cane, but it also grows well in alluvium & light-clay soil.
- Sugarcane cultivation also needs sufficient capital and labour.

LIQUID NANO UREA

The Prime Minister has recently inaugurated the country's first liquid nano urea plant at Kalol in Gujarat.

Urea Usage in India

- Urea is a **chemical nitrogen fertiliser**, white in colour, which artificially provides nitrogen, a major nutrient required by plants.
- Urea forms around 80% of the total nitrogenous fertilisers consumed in India and is used excessively leading to imbalance in fertiliser usage.
- **India is the second biggest consumer of Urea globally** but it is dependent on imports to meet its requirement.
  - In FY22, India imported 10.16 MT of urea, mainly from China, Oman, UAE, Egypt and Ukraine, priced at $6.52 billion.
  - India imports over 25% of urea, 95% of phosphates, and 100% of potash.

Liquid Nano Urea (LNU)

- LNU is essentially **urea in the form of a nanoparticle.** The size of a nano nitrogen particle varies from 20-50 nm. (A nanometre is equal to a billionth of a metre).
- The product has been developed at Indian Farmers Fertiliser Cooperative's (IFFCO) Nano Biotechnology Research Centre (NBRC) at Kalol.
- LNU is packaged in a half-litre bottle priced at Rs 240, and carries no burden of subsidy currently.

FERTILISER DISRUPTION

India faces the challenge of meeting its requirement of fertilisers, due to the disruption caused by the war in Ukraine.

- A fertiliser is any material that is applied to soil or to plant tissues to supply one or more plant nutrients essential to the growth of plants.
- Fourteen essential plant nutrients are known. Based on the amounts of nutrients that are required by plants, they are distinguished as macronutrients and micronutrients.
- Macronutrients are taken up in relatively large amounts (10 -100 kg or more per hectare), while the amount of micronutrients that is taken up by plants is mostly limited to several grams per hectare.
  a. **Macronutrients** : Nitrogen (N), phosphorus (P), potassium (K), calcium (Ca), magnesium (Mg) and sulfur (S).
  b. **Micronutrients** : Manganese (Mn), Boron (B), Copper (Cu), Iron (Fe), Zinc (Zn), Nickel (Ni), Molybdenum (Mo) and Chlorine (Cl).

NPK Fertilisers

- NPK stands for the initials of the essential chemical elements (N – Nitrogen, P – Phosphorous, K – Potassium). They are vital for healthy plant growth, but not always available in the soil.
- Currently, **there is excessive use of urea—**a dominant source of N—compared to other fertilisers such as diammonium phosphate (DAP), the main source of P, and muriate of potash (MOP), the main source of K.
- This has led to **increasing imbalance in the NPK-use ratio,** with adverse consequences on crop yield, soil and human health. On an all-India basis, currently, this ratio is 6.7: 2.4: 1 against the ideal of 4:2:1 (N:P:K).

Fertiliser Subsidy

- Farmers buy fertilisers at MRPs (maximum retail price) below their normal market rates or what it costs to produce/import them.
  - **For urea based fertilisers:** The difference, which varies according to plant-wise production cost and import price, is paid by the Centre as subsidy. And the fertiliser is sold at MRP set by the government.
  - The MRPs of non-urea fertilisers are decontrolled and are fixed by companies. The Centre, however, pays **a flat per-tonne subsidy** on these nutrients to ensure they are priced at reasonable levels.
- Decontrolled fertilisers, are thus, costlier than urea and also get lower subsidy.
- Also, non-urea based fertilisers are regulated under **Nutrient Based Subsidy scheme** since 2010.

Functioning Of The Fertiliser Subsidy

- Even though the ultimate beneficiary of the subsidy is the farmer who pays an amount less than the market rates, the subsidy is actually paid to fertiliser companies.
- Till 2018, companies, were paid after their material was sent and received at the approved godown.
- From March 2018, a new **direct benefit transfer (DBT) system** was introduced. Under this, subsidy payment to the companies is done only after fertiliser is actually sold to farmers by retailers.

- The quantities of the individual fertilisers purchased, along with the buyer's name and biometric authentication, have to be captured on the PoS device. Only after the sale gets registered on the e-Urvarak platform can a company claim subsidy.

Government Schemes/Initiatives

- **Nutrient Based Subsidy Scheme, 2010**
  - Under the scheme, a fixed rate of subsidy based on the weight (Rs per kg basis) is announced for nutrients namely Nitrogen (N), Phosphate (P), Potash (K) and Sulphur (S) by the government on an annual basis.
  - It aims at ensuring the balanced use of fertilizers, improving agricultural productivity, promoting the growth of the indigenous fertilizers industry and also reducing the burden of Subsidy.
  - Urea is not covered under the scheme and due to delay in NBS subsidy payments,
- **New Investment Policy 2012**
  - The Government had notified New Investment Policy – 2012 in January, 2013 with the main objective to facilitate fresh investment, make India self-reliant and reduce import dependency in urea sector.
- **Neem-coated Urea**
  - The government introduced neem-coated urea to reduce illegal diversion of urea for non-agricultural uses. It also stepped up the promotion of organic and zero-budget farming.
  - Urea that is coated with neem tree seed oil is called neem-coated urea.
  - The Department of Fertilizers has made it mandatory for all the domestic producers to produce 100% urea as Neem Coated Urea (NCU). Benefits of NCU include:
    - Slow down the process of nitrification of urea
    - Enhance the yield
    - Decrease urea requirement, hence save money
- **New Urea Policy 2015: The Policy seeks to:**
  - Increase indigenous urea production,
  - Promote energy efficiency in urea production, and
  - Reduce subsidy burden on the Central government.

ONE NATION ONE FERTILISER

- The Ministry of Chemicals and Fertilisers announced that it will implement One Nation One Fertiliser (ONOF), under which a **single brand and logo** for fertilisers will have to be used by all manufacturers.
- This will be done under the Centre's fertiliser subsidy scheme newly renamed as **Pradhanmantri Bhartiya Janurvarak Pariyojna (PMBJP).**
- As a result, from October, all subsidised fertilisers will be sold across the country under a single brand name — 'Bharat'.

Details of ONOF

- Under the scheme, all fertiliser companies (public & private sector), State Trading Entities (STEs) and Fertiliser Marketing Entities (FMEs) will be required to use a **single Bharat brand** for fertilisers and logo under PMBJP.
- The single brand name for urea or di-ammonium phosphate (DAP) or muriate of potash (MOP) or NPK (Nitrogen, Phosphorus and Potassium) will be Bharat Urea, Bharat DAP, Bharat MOP and Bharat NPK, irrespective of the manufacturer.
- The manufacturing brands can only display their name, logo, and other information on the remaining one-third space.

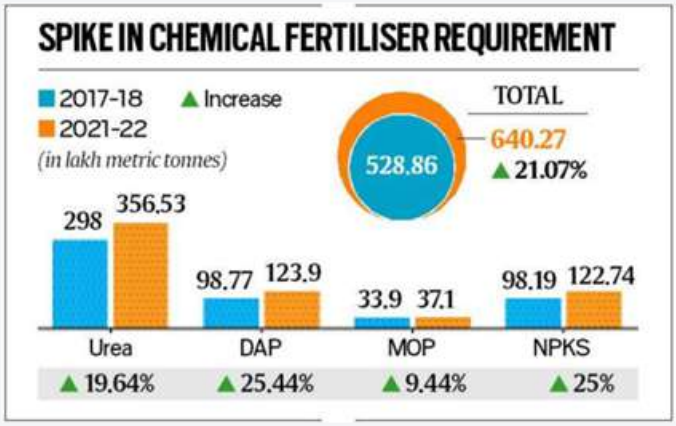
Freight Subsidy

- Moreover, the government also pays manufacturers, freight subsidies- or the cost of ferrying their products to the end-user, which is estimated to be **Rs. 6,000 crore per year.**
- While the government decides where manufacturers can sell their products under the **Fertiliser (Movement) Control Order, 1973,** due to the freight subsidy provided, manufacturers tend to sell across longer distances.
- For instance, the indigenous urea produced by a plant in Uttar Pradesh moves to Rajasthan and the urea produced by a plant in Rajasthan moves to Uttar Pradesh. ***Brand-wise demand*** for fertilisers in specific areas is one of the reasons for this movement.

PM PRANAM

- **Aim:** The proposed scheme, short for PM Promotion of Alternate Nutrients for Agriculture Management Yojana, also aims to bring down the subsidy burden on chemical fertilisers.

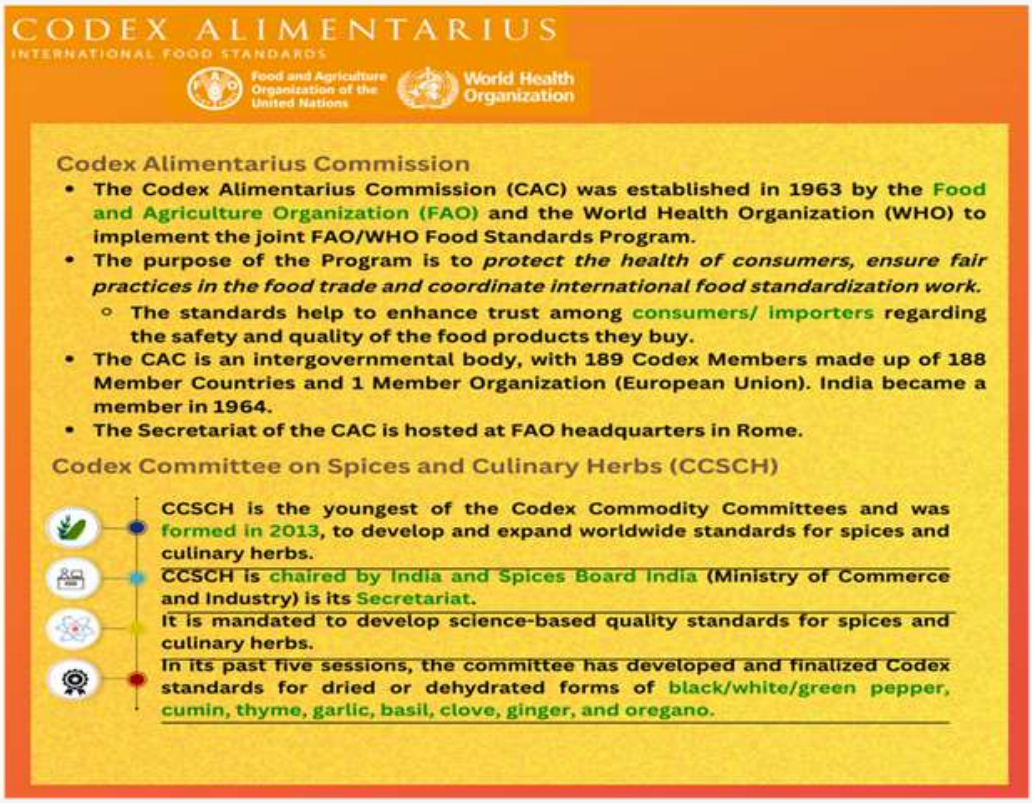
Details of PRANAM



- The scheme will not have a separate budget and 50% of subsidy savings will be passed on as a grant to the state that saves the money.
  - 70% of the grant provided can be used for asset creation related to technological adoption of alternate fertilisers and alternate fertiliser production units at village, block and district levels.
  - The remaining 30% grant money can be used for rewarding and encouraging farmers, panchayats, farmer producer organisations (FPOs) and self-help groups (SHGs) that are involved in the reduction of fertiliser use and awareness generation.
- The government will compare a state's increase or reduction in urea in a year, to its average consumption of urea during the last 3 years.
- Data available on a fertiliser Ministry dashboard, iFMS (Integrated fertilisers Management System), will be used for this purpose.

CODEX COMMITTEE ON SPICES AND CULINARY HERBS

- The Codex Committee on Spices and Culinary Herbs (CCSCH) recently held its 6th session.
- In the session, CCSCH has finalized and recommended quality standards for nutmeg, saffron, chilli-peppers and paprika.
- The recommendations for these four spices will be forwarded to Codex Alimentarius Commission for final adoption as Codex standards.
- These standards will join the earlier adopted spices and herbs, to form a body of reference for world spice trade and for member countries to align their national regulations.

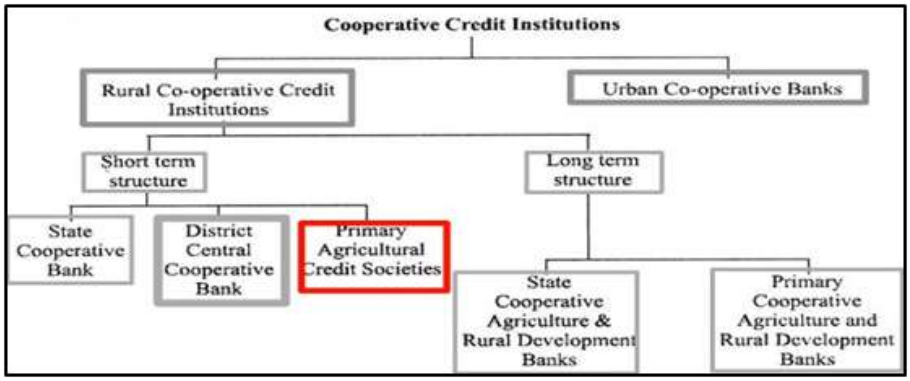


Codex Standards

- The collection of food standards adopted by the Codex Alimentarius Commission is known as the Codex Alimentarius.
- Codex standards are **international food texts** i.e. standards, codes of practice, guidelines and other recommendations.
- Codex Standards cover all the main foods, whether processed, semi-processed or raw.
- They include provisions covering food hygiene, food additives, residues of pesticides and veterinary drugs, contaminants, labelling and presentation, methods of analysis and sampling, and import and export inspection and certification.
- They are **not a substitute for, or alternative to national laws.** Every country's laws and administrative procedures contain provisions with which it is essential to comply.

DIGITIZATION OF PRIMARY AGRICULTURAL CREDIT SOCIETIES

- Cabinet Committee on Economic Affairs (CCEA) recently approved a proposal to digitize around 63,000 Primary Agricultural Credit Societies (PACS).
- This software will be in vernacular language having flexibility of customisation as per the needs of the states.



Need for Digitization of PACS

- The other two tiers -- StCBs and DCCBs have already been automated by the NABARD and brought on Common Banking Software (CBS).
- However, majority of PACS have not been computerized and still function manually resulting in inefficiency and trust deficit.
- In some of the states, standalone and partial computerization of PACS has been done. There is no uniformity in the software being used by them and they are not interconnected with the DCCBs and StCBs.

PACS

- PACS are the smallest unit in the cooperative sector and constitute the **lowest tier (village level) of the three-tier short-term cooperative credit (STCC)** in the country comprising of around **13 crore farmers as its members.**
- The other two tiers are - State Cooperative Banks (StCBs) at state level and District Central Cooperative Banks (DCCBs) at district level.
- **PACS account for 41% (3.01 crore farmers) of the kisan credit card (KCC)** loans given by all entities in the country and 95% of these KCC loans (2.95 crore farmers) through PACS are to the small and marginal farmers.
- PACS are outside the purview of the Banking Regulation Act, 1949 and hence not regulated by the RBI.

Functions of PACS

- The main function of the PACS is to **provide short and medium-term purpose loans** to its members.
- Borrowing an adequate amount of funds from central financial agencies in order to help its members in a timely manner.
- It also **supplies agricultural inputs** like seeds, fertilizers etc. to members.
- It helps its members by **providing marketing facilities** that could enhance the sale of their agricultural products in the market at proper prices.

GI TAG FOR MITHILA MAKHANA

- Recently, the government awarded the Geographical Indication (GI) tag to Mithila Makhana.
- This is the 5th product from Bihar which has received the GI tag. Prior to this, given products have been recognised from Bihar.
  - **Bhagalpur's Jardalu Mango**
  - **Katarni Dhaan (rice)**
  - **Nawada's Maghai Paan**
  - **Muzaffarpur's Shahi Litchi**
- Bihar harvests 80% of India's total Makhana. It is cultivated in adjoining areas of Nepal also.

GI tag

- The World Intellectual Property Organisation **(WIPO)** defines a GI as a sign that can be used on products that have a specific geographical origin and possess qualities or a reputation that are due to that origin.
- GIs are typically used for agricultural products, **natural or a manufactured** product (handicrafts and industrial goods) like, Basmati rice, Darjeeling Tea, Chanderi Fabric, Mysore Silk, Kullu Shawl, Kangra Tea, Thanjavur Paintings.
- The tag conveys an **assurance of quality and distinctiveness**, which is essentially attributable to the place of its origin.
- This tag is valid for a period of 10 years following which it can be renewed.
- In India, Geographical Indications registration is administered by the **Geographical Indications of Goods (Registration and Protection) Act of 1999.**
- Internationally, GIs are covered as an element of intellectual property rights under the **Paris Convention** for the Protection of Industrial Property. They are also covered under the **Trade Related Aspects of Intellectual Property Rights (TRIPS) Agreement.**
- Getting a GI tag can provide a better market for the products and also helps to prevent misuse of the product names. Once a product gets this tag, **any unauthorized person or company cannot sell a similar item under that name.**
- A GI registration is given to an area, **not a trader**, but once a product gets the registration, traders dealing in the product can apply for selling it with the GI logo. Authorised traders are given a unique GI number.

NATIONAL TECHNICAL TEXTILES MISSION

- The Ministry of Textiles cleared 23 strategic research projects worth Rs 60 crores, in the areas of Specialty fibres, Sustainable Textiles, Geotextiles, Mobiltech and Sports textiles.
- These projects fall under the flagship programme National Technical Textiles Mission.

Technical Textiles

- These are textile materials and products manufactured primarily for technical performance and functional properties rather than aesthetic characteristics.
- Till now, India has primarily focused on cotton textiles. However, two-thirds of the international trade market is of man-made and technical textiles.
- To address this, the government had launched the National Technical Textiles Mission for promoting R&D efforts in the sector.

National Technical Textiles Mission (NTTM)

- NTTM was approved in 2020, with an implementation period from FY 2020-21 to 2023-24.
- Its aim is to position India as a global leader in Technical Textiles. It has a target to take domestic market size of the technical textile sector to $ 40-50 billion by the year 2024 with an average growth rate of 15-20% per annum. The mission includes the following four components:
  - Research, Innovation and Development
  - Promotion and Market Development
  - Export Promotion
  - Education, Training, Skill Development

PLI Scheme for Textiles

- In addition to NTTM, the government has also launched a Production Linked Incentive (PLI) scheme for textiles, to boost the textile industry.
- It is specifically aimed at boosting the production of **man-made fibre (MMF) fabric, MMF apparel and technical textiles.**
- MMFs are made from various chemicals, or are regenerated from plant fibres. Examples include viscose, polyester, acrylics etc.
- The domestic MMF industry mainly comprises of two components i.e., polyester and viscose, which together account for about 94% volume.

ANNUAL SURVEY OF INDUSTRIES

- The provisional Annual Survey of Industries (ASI) was recently released by the Ministry of Statistics and Programme Implementation (MoSPI) for FY20.
- ASI, the principal source of industrial statistics in India, is the **most comprehensive data on organised manufacturing.**
- It covers all factories employing 10 or more workers using power and those employing 20 or more workers without using power.
- The survey was conducted during April 2021 to January 2022 through ASI Web Portal.

Findings

- Manufacturing sector investments grew 20% in 2019-20 over the previous fiscal even as the rent payout, interest paid and profits fell.
- **Gross fixed capital formation (GFCF),** an indicator of investment, was Rs 4.15 lakh crore compared to Rs 3.44 lakh crore in FY19. Furthermore, there was a 1.7% increase in the number of factories in the country.
- **Employment in the corporate sector,** which includes public and private government and non-government companies, increased 5.5% to 97.03 lakh in 2019-20.
- Among states, the **highest number of employment of workers in factories** was in Tamil Nadu, followed by Maharashtra and Gujarat.

CONFEDERATION OF INDIAN INDUSTRY (CII)

- It is a **non-government, not-for-profit, industry-led and industry-managed organization.**
- It works to create and sustain an environment conducive to the development of India, partnering industry, Government and civil society, through advisory and consultative processes.
- It was founded in 1895, it is headquartered in New Delhi.
- It is registered under Societies Registration Act, 1860 of India.

MAHARATNA STATUS FOR REC

- Rural Electrification Corporation (REC) Ltd. was recently accorded the status of a **Maharatna Central Public Sector Enterprise (CPSE).** REC achieved this status due to its adaptability, resilience, and consistent performance even during the global Covid-19 pandemic.

REC

- Incorporated in 1969, REC is a Non-Banking Financial Company (NBFC) focusing on power sector financing and development across India.
- It provides financial assistance to state electricity boards, state governments, central/state power utilities, independent power producers, rural electric cooperatives and private sector utilities.
- REC has played a key role in the success of the flagship schemes such as Deen Dayal Upadhyaya Gram Jyoti Yojana and SAUBHAGYA.
- It is currently playing the role of nodal agency for Revamped Distribution Sector Scheme (RDSS), for revamping the distribution sector to reduce the financial & operational issues.

Criteria For Grant Of Maharatna Status

- CPSEs fulfilling the following criteria are eligible for the grant of Maharatna status:
  - Should have Navratna status & be listed on Indian stock exchange with minimum prescribed public shareholding
  - Average annual turnover of more than Rs 25,000 crore during the last 3 years.
  - Average annual net profit after tax of more than Rs. 5,000 crore, during the last 3 years
  - Average annual net worth of more than Rs. 15,000 crore, during the last 3 years
  - It should also have significant global presence/international operations.

CORE SECTOR OUTPUT

- India's eight core sectors' output growth moderated to 12.7% in June from 18.1% in May, with all sectors except crude oil registering an uptick in production.

INDEX OF EIGHT CORE INDUSTRIES (ICI)

- ICI gives an indication of the production performance of the industries which are of a 'core' nature. These industries **have a major impact on the Indian economy and significantly affect most other industries** as well.
- It measures combined and individual performance of production in **eight core industries.** The eight core industries in the **decreasing order of their weight** are **Refinery Products, Electricity, Steel, Coal, Crude Oil, Natural Gas, Cement, Fertilizers.**
- The eight core industries comprise **40.27%** of the weight of items included in the Index of Industrial Production (**IIP**).
- The **base year** of ICI is **2011-12** and it is prepared every month and released by the **Office of the Economic Adviser**, Department for Promotion of Industry and Internal Trade (DPIIT).

Index of Industrial Production (IIP)

- IIP is a composite indicator that measures changes in the volume of production of a basket of industrial products over a period of time
- It measures the growth rate of industry groups classified under:
  - Broad sectors: Mining (14.4%), Manufacturing (77.6%) and Electricity (8%)
  - Use-based sectors: Basic Goods, Capital Goods and Intermediate Goods.
- It is computed and published by the **National Statistical Office (NSO)** Ministry of Statistics and Programme Implementation, with a time lag of six weeks from the reference month. National Sample Survey Office (NSSO) merged with the Central Statistical Office (CSO) to form NSO
- The **base year** for the calculation is **2011-12.** The index value is compared to the value it had in the same month last year to figure out the economy's industrial health.

Department for Promotion of Industry and Internal Trade (DPIIT)

- DPIIT is a department under the Ministry of Commerce and Industry. It is responsible for formulation and implementation of promotional and developmental measures for growth of the industrial sector.
- Individual administrative ministries look after the production, distribution, development and planning aspects of specific industries allocated to them. However, **DPIIT is responsible for the overall industrial policy.**
- It is also responsible for facilitating and increasing the **foreign direct investment (FDI)** flows to the country

Purchasing Managers' Index (PMI)

- It is derived after monthly surveys of different companies. It measures activity at the purchasing or input stage. In this sense, it is very different from industrial production which is indicative of actual production. E.g., IIP measures output.
- There are two types of PMI — **Manufacturing PMI and Services PMI.**
- PMI does not capture informal sector activity. PMI data for India is released by S&P Global - a global major in financial information and analytics.
  - Earlier PMI data is India was released by IHS Markit before its merger with S&P.

Reading of the PMI

- A PMI number **greater than 50 indicates expansion** in business activity.
  - A number **less than 50 shows contraction.**
- The rate of expansion can also be judged by comparing the PMI with that of the previous month data.

DUTCH DISEASE

- Recently, a research paper titled **"40 years of Dutch Disease literature:** lessons for developing countries" was published.
- Dutch Disease in economics refers to a phenomenon in which country witnesses uneven growth across sectors due to the discovery of natural resources, especially large oil reserves.
- When a country discovers natural resources and starts exporting them to the rest of the world, it causes the exchange rate of the currency to appreciate significantly.
- Currency appreciation, in turn, discourages exports from other sectors while encouraging the import of cheaper alternatives.

Origin Of The Term

- While the idea was first proposed by economists Peter Neary and Max Corden in 1982, the term 'Dutch disease' was first used by The Economist in 1977 to describe the decline of the manufacturing industry in the Netherlands.
- In the 1960s, the Netherlands discovered gas reserves in the North Sea. The subsequent export of oil and the appreciation of the Dutch currency made Dutch exports of all non-oil products less competitive on the world market.
- Unemployment rose from 1.1% to 5.1% and capital investment in the country dropped. Following this, over the years, the country witnessed a downfall in the industrial sector.

SCHEMES ON STRENGTHENING PHARMACEUTICALS INDUSTRY

- The **Ministry of Chemicals & Fertilizers recently** launched three schemes to strengthen Micro, Small and Medium Enterprises (MSMEs) in the pharmaceutical sector.
- The schemes have been rolled out under the Scheme of 'Strengthening Pharmaceuticals Industry' (SPI).
- **Objective:** The aim is to further enhance India's capabilities in the pharmaceuticals sector with an objective to make it more competitive in terms of both quality and cost and also make Indian pharma MSMEs, a part of global supply chain.
- The schemes envisage technology upgradation, setting up of common research centres and effluent treatment plants (ETPs) in clusters for the pharma MSMEs.
- **SIDBI** will be the project management consultant for implementing the scheme.

Pharmaceutical Technology Upgradation Assistance Scheme (PTUAS)

- It would facilitate pharmaceutical MSMEs with proven track record to upgrade their technology.
- It has provisions for a capital subsidy of 10% on loans up to a maximum limit of Rs 10 crore with a minimum repayment period of 3 years; or
- Interest subvention of up to 5% (6% in case of units owned by SC/ST) on reducing balance basis.

Assistance to Pharma Industries for Common Facilities Scheme (API-CF)

- It would strengthen the existing pharmaceutical clusters' capacity for sustained growth, with the focus on R&D labs, testing laboratories, ETPs, logistic centres and training centres.
- It provides for an assistance of up to 70% of the approved project cost or Rs 20 crore, whichever is less.
- In case of Himalayan and north-east region, the grant-in-aid would be Rs 20 crore per cluster or 90% of the project cost, whichever is less.

Pharmaceutical and Medical Devices Promotion and Development Scheme (PMPDS)

- Under PMPDS, knowledge and awareness about the pharma and medical device industry will be promoted.
- It would involve undertaking studies, building databases and bringing industry leaders, academia and policy makers together to share their knowledge and experience for overall development of the sector.

GATISHAKTI SANCHAR PORTAL

- In line with the PM GatiShakti National Master Plan, the govt recently launched the "GatiShakti Sanchar" portal. The portal has been built by the Madhya Pradesh State Electronics Development Corporation.
- The portal will enable centralised Right of Way (RoW) approvals for telecom infrastructure projects and can be used by industry players to apply for RoW approvals, including for 5G services.
- RoW rules on setting up of telecom towers and cable laying offer a framework for giving approvals, settling of disputes, and facilitates coordination between industry and various agencies.

Reasons For Launching The Portal

- Currently, the application process for the installation of digital infrastructure gets delayed due to inconsistency and uncertainty of policy and processes adopted at various levels.
- So, there is a need for fast-tracking the application process to overcome the challenges of implementation of RoW Rules.
- The portal has been developed keeping in view the vision areas of the National Broadband Mission. These are, providing broadband infrastructure to every citizen, governance and services on demand and digital empowerment of the citizens.

Features Of The Portal

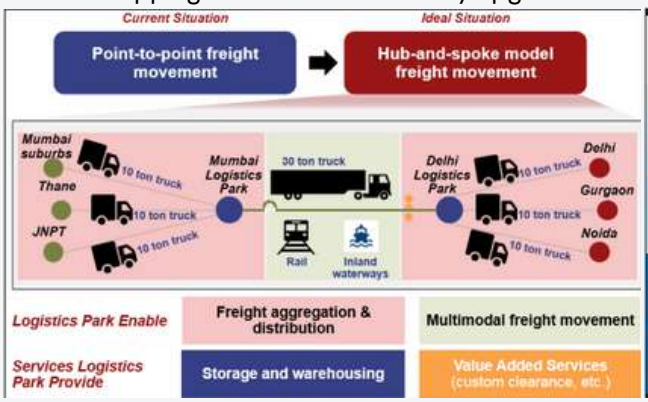
- It will provide a collaborative institutional mechanism between all stakeholders including Central and State Governments, central land-owning authorities (Railways, Defence, Ports), local bodies, and service providers to facilitate the RoW permissions.
- Thus, it will enable applicants form various Telecom Service providers (TSPs) as well as Infrastructure providers (IPs) to apply at a common single portal for RoW permissions to lay down optical fibre cable and for erecting mobile towers.
- For effective monitoring of RoW applications across the country, the portal comes with a dashboard showing State and District wise pendency status of applications.

MULTI MODAL LOGISTICS PARKS (MMLP)

- A tripartite agreement was signed for swift development of modern Multi Modal Logistics Parks (MMLP) under Bharatmala Pariyojna across the country.
- The tripartite agreement was signed by National Highways Logistics Management Limited (NHLML), Inland Waterways Authority of India (IWAI) and Rail Vikas Nigam Limited (RVNL).
  - NHLML is a Special Purpose Vehicle (SPV) of National Highway Authority (NHAI) of Ministry of Road Transport & Highways
  - IWAI is a statutory authority under Ministry of Ports, Shipping & Waterways
  - RVNL is a wholly owned Public Sector Enterprise under Ministry of Railways
- The objective of the agreement is to centralize freight consolidation and reduce logistics costs from 14% to less than 10% of GDP at par with international standards.

Bharatmala Pariyojana

- It is a centrally-sponsored and funded umbrella program for the highways sector. The duration of the 1st phase of the project is from 2017 to 2022 (development of about 34,800 km including 10,000 Km residual NHDP stretches).
- **Phase 2:** Envisaged around 48,000 km of road network across India by 2024. Under it, states will be given requisite funds for acquiring the land and constructing the roads.
- It is both an enabler and beneficiary of other key schemes, such as Sagarmala, Dedicated Freight Corridors, Industrial corridors, UDAN-RCS (Regional Connectivity Scheme), BharatNet, Digital India, Make in India and Gati Shakti.
- Satellite mapping of corridors to identify upgradation requirements.



SCHEME FOR PROMOTION OF BULK DRUG PARKS

- The Department of Pharmaceuticals has granted in-principle approval for setting up three bulk drug parks, one each in Himachal Pradesh, Gujarat and Andhra Pradesh.
- The scheme reflects the spirit of co-operative federalism where the Central Government and State Governments will partner to develop the Bulk Drug parks for better performance of the sector.

Objective Of The Scheme

- To set up bulk drug parks in the country to reduce the manufacturing cost of bulk drugs.
- It intends to increase the competitiveness of the domestic bulk drug industry and make India self-reliant (reduce import dependence) in bulk drugs, by exploiting the benefits arising due to optimization of resources and economies of scale.
- Help the industry meet the standards of the environment at a reduced cost through innovative methods of common waste management systems.

Details Of The Scheme

- Notified in 2020, with a total financial outlay of Rs 3000 crore, the scheme will provide financial assistance to support 3 bulk drug parks.
- The parks will provide common infrastructure facilities & common waste management system in one place by creating a robust ecosystem for Bulk Drug manufacturing.
- The financial assistance to the proposed park in Gujarat and Andhra Pradesh would be 70% of the project cost of common infrastructure facilities.
- In case of Himachal Pradesh (being a hilly state), financial assistance would be 90% of the project cost.
- Maximum assistance under the scheme for one Bulk Drug Park would be limited to Rs 1,000 crore.

PLATFORM ECONOMY

- Platform economy is the tendency for commerce to increasingly move towards and favour digital platform business models.
- It is any type of digital platform that uses the internet to connect dispersed networks of individuals to facilitate digital interactions between people.
- Within the platform economy there is a triangular relationship between three parties – the platform, the worker and the customer. It is the job of the platform to connect people with demand (the customer) to people that provides supply (the worker). The platform economy is also known as the creative economy, sharing economy, gig economy, or the peer economy.

UDAN COMPLETES 5 YEARS SINCE THE LAUNCH OF ITS 1ST FLIGHT

- Regional Connectivity Scheme UDAN (Ude Desh ka Aam Nagrik), the flagship program of Ministry of Civil Aviation (MCA) recently completed 5 years since the launch of it first flight in 2017.

Ude Desh ka Aam Naagrik (UDAN)

- UDAN was launched by MCA in 2016, as a **Regional Connectivity Scheme (RCS).** It is a key component of the **National Civil Aviation Policy (NCAP).**
- Its **objective** is to make air travel affordable and widespread, boost inclusive national economic development, job growth and air transport infrastructure development of all regions and states of India.
- It is jointly **funded** by the central government and state governments. Under the scheme, financial subsidies are given to airlines, from airport operators, Central and State government to reduce fares.
- Progress of UDAN has taken place in four phases, with several incremental developments in each phase. The scheme will run for 10 years and can also be extended further.

Components: The scheme has **two components.**

- **1st component** is to develop **new airports** and **enhance the existing regional airports** to increase the number of operational airports for scheduled civilian flights.
- **2nd component** is to add several hundred financially-viable, capped-airfare, new regional flight routes to conect **underserved and unserved airports** in smaller towns by using "Viability Gap Funding" (VGF) where needed.
  - **VGF** is a grant to support projects that are economically justified but not financially viable.
- UDAN has a self-financing mechanism with the development of **Regional Connectivity Fund(RCF)**. RCF was created, to fund the VGF requirements of the scheme through a levy on certain domestic flights.
- This way, funds generated from the sector themselves stimulate the growth and development of the sector.

- **Lifeline UDAN** : for transportation of medical cargo during pandemic
- **Krishi UDAN :** Value realization of agriculture products especially in Northeastern Region {NER} and tribal districts.
- **International UDAN routes** : for NER to explore International Connectivity from / to Guwahati and Imphal

Future targets

- 220 destinations (airports/heliports/water aerodromes) under UDAN are targeted to be completed by 2026 with 1000 routes to provide air connectivity to unconnected destinations in the country.
- Under UDAN, 954 routes have already been awarded to connect 156 airports.

NHAI TO OFFER PROJECTS ON BOT MODEL

- The National Highways Authority of India (NHAI) is in the process of offering at least two highway upgradation projects to private players, using the build-operate-transfer (BOT) model.

Background

- The current decision comes after funding highway projects through public money for a good part of the last decade.
- The BOT (toll) model was the preferred model for road projects, accounting for 96% of all projects awarded in 2011-12, but this progressively reduced to zero.
- When the interest in BOT projects started to reduce, road construction shifted to the traditional engineering, procurement and construction (EPC) mode.
- Over the last few years, especially since the onset of the pandemic, the NHAI resorted to offering projects under the Hybrid Annuity Model (HAM).

Public-Private partnership (PPP) Model

- These are agreements between public and private entities (for a 20-30 years term), in which the private entity is hired by the public body and is remunerated on a performance basis.
- Some of the important types of PPP contracts are **BOT**, Build-Own-Operate (BOO), Build-Operate-Own-Transfer (BOOT), Buy-Build-Operate (BBO).

Build-Operate-Transfer (BOT) Model

- A BOT contract is a model used to finance large projects, typically infrastructure projects developed through **public-private partnerships (PPP).**
- Under it, a private player is granted a contract to finance, build and operate a project for a specified period of time (20 or 30 year concession period).
- During this period, the developer can recover its investments through user charges or tolls charged from customers using the facility.
- After the said period, the project is returned to the government or the relevant authority. Thus, there is an element of financial risk on the part of the developer to invest through the BOT model.
- As part of the incentives, the government decided to assess the revenue potential of a project every five years during the concession period as against every 10 years earlier.
- This would mean that the concession period (or period till which road developers can collect toll) is extended early in the tenure of the contract, ensuring surety of revenue for the private company.

Engineering, Procurement and Construction (EPC) Model

- EPC is a PPP model for the development of infrastructure projects especially highways. Under EPC, the government bears the entire cost of the project.
- Government invites bids for engineering knowledge from the private players. The private sector's participation is minimum and is limited to the provision of engineering expertise.
- Procurement of raw material and construction costs are met by the government.
- Although, the contractor is completely insulated from the financial risk, the difficulty of the model is the high financial burden for the government.

Hybrid Annuity Model (HAM)

- The Hybrid Annuity Model is a **mix of BOT and EPC models.**
- The government contributes 40% of the project cost in the first five years through annual payments (annuity). The remaining payment is made on the basis of the assets created and the performance of the developer.
- As the government pays only 40%, during the construction stage, the developer has to find money for the remaining amount in the form of equity or loans.
- There is no toll right for the developer. Under HAM, revenue collection is the responsibility of the NHAI.
- As per the government's policy HAM is used in stalled projects where other models are not applicable.

NHAI INVIT BONDS

- The Ministry of Road and Transport shared that it is planning to issue its Infrastructure Investment Trusts (InvIT) bonds.
- These InvIT bonds will be listed on Bombay Stock Exchange (BSE) and National Stock Exchange (NSE) and will offer an effective return of 8.05% per annum.
- NHAI InvIT support the government's National Monetisation Pipeline (NMP).

Infrastructure Investment Trusts

- Infrastructure investment trusts are institutions similar to mutual funds. Its objective is to facilitate investment into the infrastructure sector in India.
- InvITs pools investment from various categories of investors and invest them into completed and revenue-generating infrastructure projects.
- InvITs help infrastructure developers to free-up capital by monetizing completed assets.
- It enables investment of money from individual and institutional investors in infrastructure projects to earn a small portion of the income as return.
- InvITs are regulated by SEBI. SEBI had notified the SEBI (Infrastructure Investment Trusts) Regulations, 2014 for registration and regulation of InvITs in India.
- NHAI's InvIT will be a Trust established by NHAI under the Indian Trust Act, 1882 and SEBI regulations.

Reasons For The Launch of NHAI's InvIT

- In 2017, the Centre had launched Bharatmala Pariyojana, its flagship highway development programme, for development of 24,800 km of roads at a total investment of Rs 5,35,000 crore.
- In order to complete the projects, NHAI needs adequate funds and one of the options is to monetise the completed and operational National Highway assets.

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- Satellite mapping of corridors to identify upgradation requirements.

ELECTRONIC-NEGOTIABLE WAREHOUSE RECEIPT

The Warehousing Development and Regulatory Authority (WDRA) under the Department of Food and Public Distribution (DFPD) conducted a seminar on "e-NWR – An Effective Tool for Promoting Pledge Financing".

NWR

- The negotiable warehouse receipt (NWR) system was launched in 2011 allowing the transfer of ownership of a commodity stored in a warehouse without delivering it physically.
- These receipts are issued in negotiable form, making them eligible as collateral.
- This has been enabled by enabling the financing of warehouse receipts through the Warehouse (Development and Regulation) Act, 2007.

e-NWR

- An e-NWR is available only in electronic form. It has a time validity that is co-terminus with the shelf-life of the commodity or withdrawal of the commodity fully from the warehouse, after which it expires.
- The single source of information for the e-NWR is the repository system where e-NWR is issued by registered warehouses.
- Confidentiality, integrity and availability of the e-NWR information is provided by the repository system.
- All e-NWRS can be traded through off-market or on-market in Commodity Exchanges platforms. It can also be **transferred fully or in part.**
- An **e-NWR can be auctioned under certain conditions** such as loan not repaid, on expiry and delivery not taken, and on likely damage or spoilage of the commodity in the warehouse.

Pledge financing

- Pledging is a process in which holder of the eNWR will get a loan from the financial institution using the underlying commodity of eNWR as collateral.
- When a pledge is marked, the eNWR balances will remain in the client's account (borrower) only but the control on the balance will be with the financial institution.
- Thus, the client will not be able to use the eNWR balances until the pledge in favour of the financial institution is active.

BHARAT GAURAV SCHEME

- The Indian Railways recently began India's first privately-run train under Bharat Gaurav scheme, from Coimbatore in Tamil Nadu to Shirdi in Maharashtra.

Scheme Details

- Under Bharat Gaurav, trains can be procured from railways on lease and operated on any circuit of their choice.
- From individuals to societies, trusts, groups, tour operators and even state governments can apply to take these trains and run them on special tourism circuits based on a theme.
- The IRCTC runs such theme-based tourist trains, for instance, the Ramayana Express, which goes on a tour of several places connected to Lord Ram.
- In fact, if the operator finds it feasible, then it can even purchase rakes from Indian Railway production units and run them.
- The tenure of the arrangement is a minimum of two years and maximum of the life of the coach.
- The operator has the **freedom to decide the route, the halts, the services provided, and, most importantly, the tariff**.
- The operator can name the circuit, the train and sell advertisement space. It can carry out branding on the exterior and interior of the train.
- However, it has to be ensured that things that are not allowed by railway laws are also not carried out on these trains. For instance, the operator cannot serve alcohol.
- Moreover, these trains cannot be used as ordinary transport trains between an origin and destination.

Indian Railways' Role

- It will provide staff to drive the trains, guards and also maintenance staff on board for the coaches. Other staff like housekeeping and catering etc, will be deployed by the operator.
- It will also ensure that its entire infrastructure is in place to safely and efficiently host the train in its network.
- It will also give these trains priority in its paths, like the Rajdhani's and premium trains, so that these trains are not held up or sidelined to make way for regular trains.

INDIAN RAILWAY INNOVATION POLICY

- The Indian Railways recently announced an innovation policy - "StartUps for Railways" to utilise technologies developed by Indian start-ups to improve its operational efficiency and safety.

Background

- In the month of May, field units were asked to provide problem areas. In response, about 160 problem statements were received.
- To start with, 11 problems statements like rail fracture, headway reduction, automation of track inspection activities, use of remote sensing, geomatics and GIS for bridge inspection etc. have been taken up for phase 1 of this program.
- These will be presented before the start ups to find innovative solutions. About ₹50 crore has been earmarked to fund such start-ups annually.

Details Of The Policy

- Startups will get support from Railways in the form of 50% capital grant, assured market, scale and ecosystem.
- A grant up to Rs. 1.5 Crore to the innovator on equal sharing basis with provision of milestone-wise payment.
- Complete process from floating of problem statement to development of prototype is online, to make it transparent and objective.
- Enhanced funding will be provided to scale up deployment on successful performance of prototypes.
- Developed Intellectual property rights (IPR) will remain only with the innovator.
- De-centralization of complete product development process at divisional level to avoid delays.

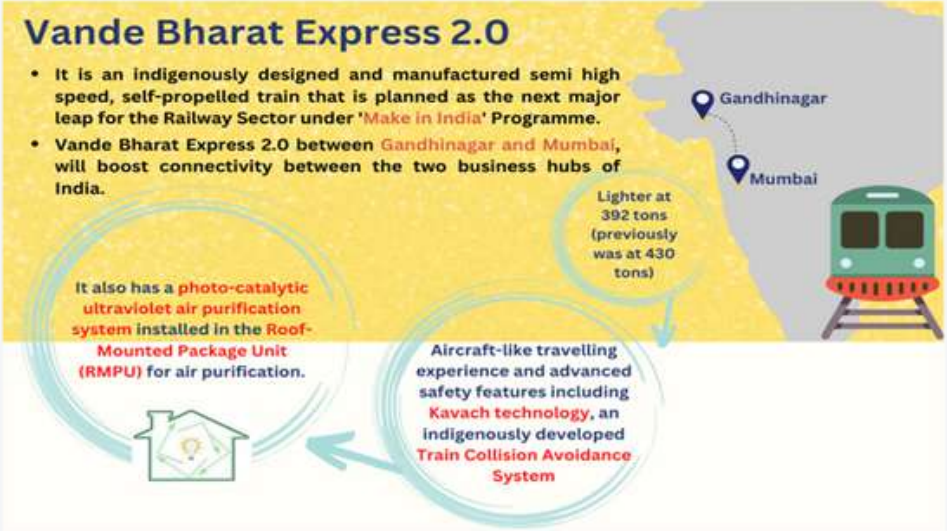
VANDE BHARAT EXPRESS 2.0

- The Prime Minister recently flagged off the new and upgraded version of the Vande Bharat Express which will run from Gandhinagar to Mumbai.
- This is the 3rd Vande Bharat Express in the country and comes with several additional features to enhance passenger comfort as well as safety.
- In Budget 2022-23, the Finance Ministry had announced the manufacture of 400 Vande Bharat train sets in the next 3 years.

Vande Bharat trains

- It is an indigenously designed and manufactured semi high speed, self-propelled train set that does not require an engine.
- They are based on a propulsion system called **distributed traction power technology**, by which each car of the train set is powered. This technology is increasingly becoming the norm around the world for passenger operations.
- Distributed power gives the train **higher acceleration and deceleration** compared to locomotive hauled trains, which take a much longer time to reach top speed or to gradually come to a halt.
- Due to faster acceleration and deceleration, it can achieve a maximum speed of 160 kmph, reducing journey time by 25% to 45%.
- It also has an **intelligent braking system** with power regeneration for better energy efficiency thereby making it cost, energy and environment efficient.
- The trains have fully sealed gangways for a dust-free environment, modular bio-vacuum toilets, rotating seats in Executive Class, personalized reading lights, automatic entry/exit doors with sliding footsteps, diffused LED lighting, mini pantry and sensor-based interconnecting doors in each coach.

FIRST ALUMINIUM FREIGHT RAKE



- The **Ministry of Railways** recently inaugurated India's first aluminium freight rake – **61 BOBRNALHSM1.**
- The aluminium rake has been developed to modernise freight transportation and enable significant carbon savings for Indian Railways.
- This is a dedicated effort for **Make in India program** as it has been fully designed and developed indigenously in collaboration with RDSO, HINDALCO and Besco Wagon.

Significance Of Aluminium Rakes

- The aluminium-made rakes are **180 tonnes lighter** than existing steel rakes. They can carry 5-10% **more load, while consuming less energy.**
- This will have a transformative impact on the Railways' **logistics and operational efficiency.**
- Moreover, they are **corrosion resistant,** with relatively negligible wear and tear to rolling stock and rails. They are **100% recyclable** and even after 30 years, they will be as good as new.
- Indian Railways have already announced their plans to make aluminium-bodied Vande Bharat train sets.

KERALA OPPOSES CHANGES TO MMDR ACT

The Kerala government has expressed its opposition to a new set of proposed amendments to the Mines and Minerals (Development and Regulation) Act.

The Mines and Minerals (Development and Regulation) Act (MMDR Act), 1957:

- It forms the basic framework of regulating mining sector in India and mandates the requirement for granting leases for mining operations. The Ministry of Mines is responsible for the administration of the Act.
- It describes the procedure and terms for obtaining a mining or prospecting licence in India.
  - Prior approval from the Ministry of Environment, Forest and Climate Change (MoEFCC) is required for mining on forest land.
- This act is applicable to all minerals except minor minerals (such as river sand, which is under the purview of state governments) and atomic minerals.

Recent Amendments In Past Few Years

- Prior to 2015, mineral resources were granted on a "first-come, first-served" basis, which was discretionary and decision making was opaque. The process of renewing mining leases was proving to be an impediment to attracting large-scale investment in the mining sector.
- **The MMDR Amendment Act, 2015:** The Act was comprehensively amended in 2015 to bring several reforms in the mineral sector, notably:
  - Mandating auction of mineral concessions to improve transparency.
  - Establishing District Mineral Foundation and National Mineral Exploration Trust.
  - Stringent penalty for illegal mining.
- The Act was further amended in 2016 and 2020 to allow lease transfers for non-auctioned captive mines and to address the emerging issue of lease expiry. Furthermore, the MMDR Amendment Act, 2021, has been adopted for
  - Revitalising the mineral sector and by giving immediate boost to mineral production.
  - Promoting ease of doing business.
  - Other structural reforms.

Proposed Amendment

- **To Separate 8 Groups Of Minerals**
  - As per the proposal, 8 out of 12 groups of minerals will be removed from Part B of the 1st Schedule (critical & strategic minerals) of MMDR Act.
  - They include lithium-bearing minerals, minerals of the 'rare earths' group containing uranium and thorium, beach sand minerals, etc.
  - It has been proposed **to create a new part (part D) in the 1st Schedule and place the 8 minerals** along with others like indium, gallium, graphite, nickel, cobalt and tin.
- **Concurrent Powers To Union Government:** The amendments will empower the Union government, along with the State governments, to sanction mining rights of minerals listed under Part D of the 1st schedule.

Coal Supply and Demand

- The government recently shared the details of domestic supply & demand of coal during the last 5 years.
- The government has taken several steps to ramp up domestic coal production and achieve self-reliance in coal Industry. Some of the Major initiatives taken to increase domestic production of coal are as follows:
  - **100% Foreign Direct Investment (FDI)** is allowed for commercial mining.
  - **Single Window Clearance portal** has been launched for the coal sector to speed up the operationalization of coal mines.
  - **Mines and Minerals (Development and Regulation) Act, 1957** amended to allow sale up to 50% of their annual production after meeting the requirement of the end use plant.
- Commercial auction of coal blocks on revenue sharing basis and allotment of specific coal blocks for captive end use. Captive mines are the mines that are owned by companies.
- A Monitoring Committee has been constituted under the Chairmanship of Secretary (Coal) to conduct regular reviews and to expedite the development of blocks.
- For capacity addition, 52 new & expansion projects have been approved with additional capacity of 250 Million Tonne per year (MTY) and projected to contribute additional production of about 102 Mt by FY 25.
- To improve evacuation efficiency, 44 First Mile Connectivity (FMC) projects are being implemented to consolidate Coal India Limited (CIL) effort towards upgradation and expansion of coal evacuation infrastructure and minimize transportation of coal through road mode in the first mile.

SFIO CRACKDOWN ON SHELL COMPANIES

- The Serious Fraud Investigation Office (SFIO) has arrested a man who had masterminded the incorporation of a large number of shell companies linked to China and provided dummy directors on their boards to run the fraudulent businesses.

Shell Companies

- Shell Company is **a corporate entity without active business operations or significant assets.** In India, shell companies haven't been defined in law.
- They are used regularly for tax evasion, tax avoidance, money laundering, promote startups or to achieve a specific goal such as anonymity.
- Anonymity may be sought to shield personal assets from others, such as a spouse when a marriage is breaking down, from creditors, or from government authorities.
- Shell companies can have legitimate business purposes. They may, for example, act as trustee for a trust, and not engage in any other activity on their own account. This structure creates limited liability for the trustee.

GLOBAL INNOVATION INDEX 2022

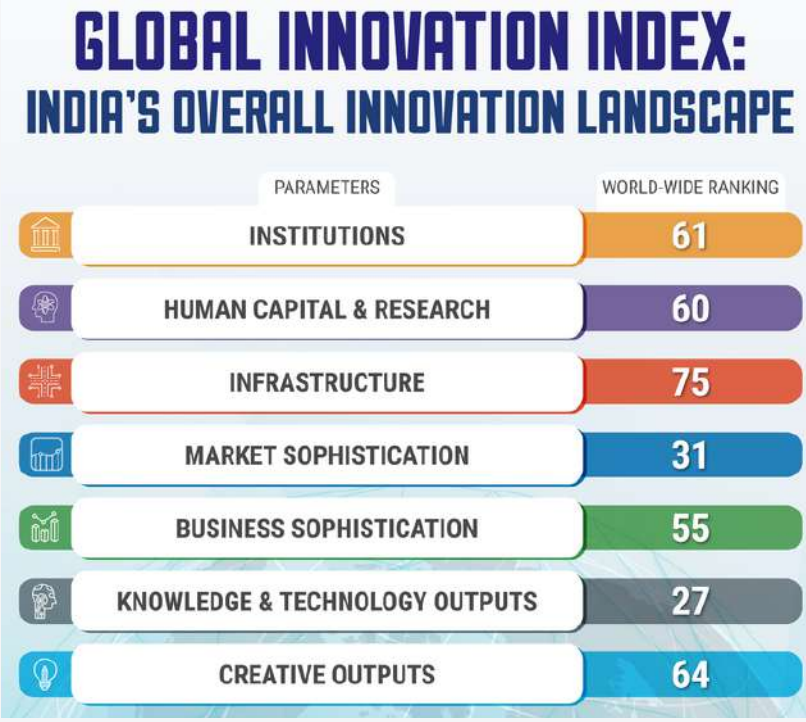
- World Intellectual Property Organization (WIPO) released the Global Innovation Index (GII) 2022.
- GII was launched in 2007 to find and determine methods that could capture a picture of innovation in society. WIPO started its association with the GII in 2011.
- This year the index includes 132 economies, which represent 94.3% of the world's population and 99 % of the world's GDP in purchasing power parity (PPP).

Evaluation Framework

- GII is computed by taking an average of the scores in two sub-indices:
  - Innovation Input Index
  - Innovation Output Index.
- Innovation Input Sub-Index considers elements of the national economy that enable innovative activities. It includes **5 pillars: Institutions; Human capital and research; Infrastructure; Market sophistication; and Business sophistication**.
- Innovation Output Sub-Index provides information about outputs that are the result of the innovative activities of economies. There are **two output pillars:** Knowledge and technology outputs; and Creative outputs.

Findings From India

- India secured the **40th position out of 132 countries** in the Index. This is the first time the country entered the top 40. Last year, India was at the 46th position. India's rank has risen by 41 places since 2015, when it was at the 81st spot.
- India is the **innovation leader in the lower middle-income group**, and continues to lead the world in ICT (information and communications technology) services exports.



Rise In IP Filings

- There has been a steady rise in intellectual property (IP) filings in India as the number of patents applications went up from 15,914 in 2011 to 37,880 in 2020.

World Intellectual Property Organization (WIPO)

- WIPO is one of the 15 specialized agencies of the United Nations (UN). It acts as the global forum for intellectual property (IP) services, policy, information and cooperation.
- It was created in 1967 with a mission to lead the development of a balanced and effective international IP system that enables innovation and creativity for the benefit of all.
- WIPO currently has 193 member states and is headquartered in Geneva, Switzerland.
- The predecessor to WIPO was the United International Bureaux for the Protection of Intellectual Property (BIRPI), which had been established in 1893.

SVERIGES RIKSBANK PRIZE IN ECONOMIC SCIENCES

- The Royal Swedish Academy of Sciences recently awarded the 2022 Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel to **Ben S Bernanke, Douglas W Diamond and Philip H Dybvig.**
- The award is popularly (although incorrectly) referred to as the Nobel Prize for Economics.
- Unlike the other Nobel prizes, the economics award wasn't established in Alfred Nobel's will of 1895 but by the **Swedish Central Bank** in his memory. The first winner was selected in 1969.
- The trio's main work focused on **understanding the role of banks** in the economy, particularly during financial crises and how banking failures can amplify and self-perpetuate a crisis.
- Their work has been crucial to subsequent research that has led to **enhanced understanding of banks, bank regulation, banking crises and how financial crises should be managed.**

Ben Bernanke's contribution

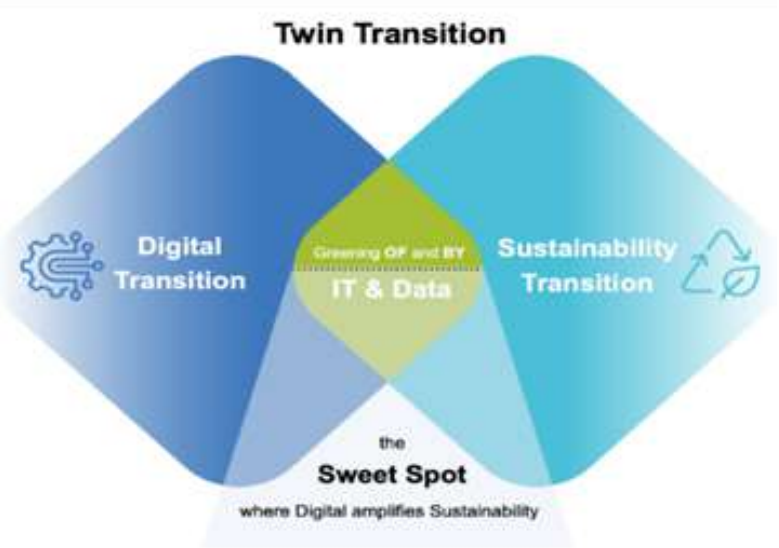
- Former Federal Reserve chairman Ben Bernanke, analysed the Great Depression of the 1930s, the worst economic crisis in modern history.
- Among other things, he showed how **bank runs** were a decisive factor in the crisis becoming so deep and prolonged.
  - A **bank run** may happen where many savers try to withdraw their money at once, which can lead to a bank's collapse.
- He found factors that were directly linked to failing banks accounting for the lion's share of the downturn.

Diamond and Dybvig's contribution

- Diamond and Dybvig developed theoretical models that explain why banks exist, how their role in society makes them vulnerable to rumours about their impending collapse and how society can lessen this vulnerability.
- According to the Royal Swedish Academy of Sciences, these insights "form the foundation of modern bank regulation."
- The duo presented a solution to bank vulnerability, in the form of deposit insurance from the government.

TWIN TRANSITION

- The World Economic Forum (WEF)shared that the twin transition approach can bring the digital and sustainability agendas together to improve digital function, drive sustainability goals and future-proof organizations.
- Rather than treating digital and sustainability in isolation, a twin transition strategy combines these critical functions to extract huge benefits in terms of efficiency and productivity.
- Although digitization has brought significant benefits, it continues to carry a significant carbon cost.
- Twin transition can make a positive impact by 'greening' technology, data assets and infrastructures while accelerating sustainability across the organization.



NIVESHAK DIDI

- India Post Payments Bank (IPPB) recently conducted India's first floating financial literacy camp with an initiative called Niveshak Didi, under 'By the women, for the women' concept.
- The floating camp was conducted among the local residents around the Dal Lake of Srinagar.
- Implementing agency: Niveshak Didi is launched by IPPB in collaboration with Investor Education and Protection Fund Authority (IEPFA) under the aegis of Ministry of Corporate Affairs (MCA).
- It is based on the ideology of, women for women as rural area women feel more comfortable to share their queries with a female itself.
- Niveshak Didi - a female postwoman, having deep social connect to rural masses, will be able to collaborate and resolve their queries in a comfortable environment.

- The initiative will help to overcome the challenges faced by rural masses (especially women) in terms of language and their basic understanding of financial products and services.

IPPB

- Launched in 2018, IPPB has been established under the **Department of Posts, Ministry of Communication** with 100% equity owned by the Union Government.
- The bank has been set up with the vision to build the **most accessible, affordable and trusted bank for the common man** in India.
- Its fundamental mandate is to remove barriers for the **unbanked and under-banked** and reach the last mile by utilising a network comprising 160,000 post offices (145,000 in rural areas) and 400,000 postal employees.
- IPPB's operating model is built on the key pillars of India Stack - Enabling paperless, cashless and presence-less banking in a simple and secure manner at the customers' doorstep, through a Core Banking Solution (CBS) - integrated smartphone and biometric device.

DECLINE IN FOOD PRICE INDEX

- The UN Food and Agricultural Organisation's(FAO's) Food Price Index (FPI) averaged 135.9 points in October, marginally lower compared to the previous month's 136 points.
- This marks the seventh successive month of decline in the index, which means that international food prices have eased for seven consecutive months.
- The FPI reached an all-time high of 159.7 points in March 2022, the month that followed Russia's invasion of Ukraine.
- The latest index value of 135.9 is the lowest since the 135.6 level of January, which was before the war. On a cumulative basis, the index has fallen by 14.9% between March and October.

FAO Food Price Index

- FAO FPI was introduced in 1996, to help in monitoring developments in the global agricultural commodity markets.
- It is a measure of the monthly change in international prices of a basket of food commodities.
- It measures changes for a basket of 5 commodity groups:
  - cereals
  - oilseeds
  - dairy products
  - meat
  - sugar

Food and Agriculture Organization of the United Nations

17-21 OCTOBER 2022 WORLD FOOD FORUM

- Founded in **1945**, FAO is a specialized agency of the United Nations, that leads international efforts to defeat hunger, and improve nutrition and food security.
- **Headquartered in Rome**, it helps governments and development agencies coordinate their activities to improve and develop agriculture, forestry, fisheries, and land and water resources.
- It also conducts research, provides technical assistance to projects, operates educational and training programs, and collects data on agricultural output, production and development.

Major Publications:

- The State of World Fisheries and Aquaculture (SOFIA).
- The State of the World's Forests (SOFO).
- The State of Food Security and Nutrition in the World (SOFI).

- The base period for calculation is: 2014-16 (value 100)

SARAS FOOD FESTIVAL

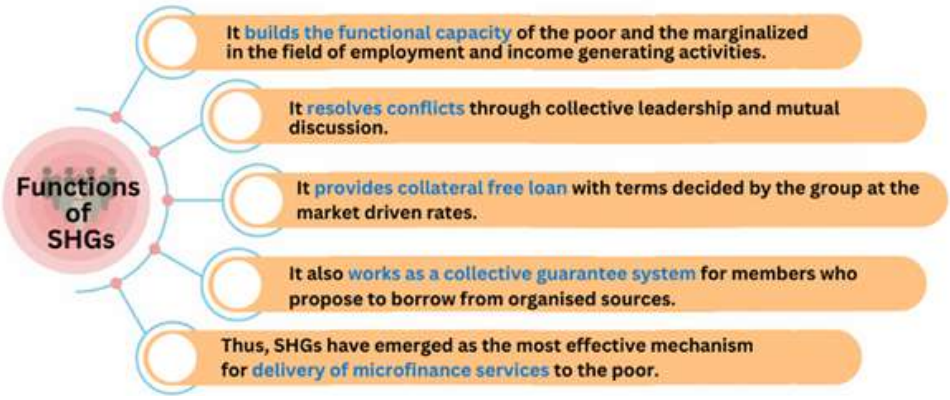
- The Saras Food Festival-2022 was recently organized in New Delhi. It is an initiative of the **Ministry of Rural Development (MoRD)** to empower women on a large scale.
- Women from self-help groups (SHGs), formed under the flagship program **National Rural Livelihoods Mission** of the MoRD participated in the festival.
- This event will give women SHGs an opportunity to showcase their skills in the field of food making and introduce people to the food culture of our country.
- This SHG relies on the notion of **"Self Help" to encourage self-employment** and poverty alleviation.

Distribution and Promotion

- MoRD has launched the e-commerce portal for better and effective marketing of Saras products.
- MoRD will also take steps to establish Saras stalls by women SHGs in all State capitals, major cities and metros, airports and railway stations for widening the reach of marketing.

Self Help Groups

- Self-help groups are informal groups of people who come together to ***address their common problems.***
- It can be defined as self-governed, peer-controlled information group of people with similar socio-economic background.



REPORT OF EXPERT COMMITTEE ON SVAMITVA SCHEME

- The Report of Expert Committee on SVAMITVA Scheme was recently released during the National Conference on SVAMITVA Scheme and Rural Planning in Bhopal (Madhya Pradesh).
- The Expert Committee was formed in February, 2022 under the Chairmanship of B. K. Agarwal.
- It provides the guiding principles that States may adopt in order to realize the objectives of the scheme holistically.

Survey of Villages and Mapping with Improvised Technology in Village Areas (SVAMITVA) scheme

- Launched on 24th April 2021(Panchayati Raj Day)2020, it is a **Central Sector Scheme of the Ministry of Panchayati Raj.**
- Technology Implementing agency: Survey of India
- It aims to provide the 'Record of rights' to village household owners in rural inhabited areas and issue property cards.

- These cards are physical copies of **property titles of the villagers' homes** and the area surrounding their respective houses (as opposed to cultivated land).
- **Mapping of all 6.62 lakh villages in the country**, will be done by the Survey of India, using **CORS (Continuously Operating Reference Stations)** that provides very low estimated error margin of plus-minus five centimetres.
- It will cover around 6.62 Lakh villages of the entire country during 2021-2025.

UNITED STATES' CURRENCY MONITORING LIST

- India was recently removed from the United States' Currency Monitoring List (CML). Italy, Mexico, Vietnam and Thailand were also removed from the list.
- The Currency Monitoring List is released twice a year by the US Department of Treasury.
- It reviews the currency practices and policies of the trading partners of the US during the last four quarters.
- It is a monitoring list of countries with potentially "questionable foreign exchange policies" and "currency manipulation".
  - Currency manipulator label is given by US government to countries it feels are engaging in unfair currency practices by deliberately devaluing their currency against the dollar

Criteria for inclusion in the list

- The Treasury Department has to assess the macroeconomic and exchange rate policies of the US' trading partners for 3 specific criteria:

A **significant bilateral trade surplus** with US	That is a goods and services trade surplus of **at least $15 billion**
A material current account surplus	That is **at least 3% of GDP**, or a surplus for which Treasury estimates there is a material current account "gap" using Treasury's Global Exchange Rate Assessment Framework (GERAF).
Persistent, one-sided intervention	Which occurs when **net purchases of foreign currency** are conducted repeatedly, **in at least 8 out of 12 months**, and these net purchases total at least **2%** of an economy's GDP over a 12-month period.

- Economies that **meet two or three criteria are placed on the watch list.**
- Countries that meet all 3 criteria are labelled as currency manipulators by the Treasury.
- India and four other countries were removed from the Monitoring List as they now only met one of the three criteria **for two consecutive reports**
  - Once on the list, an economy **remains on it for at least two consecutive reports** so that the Treasury can assess whether any improvements in performance is durable and not due to temporary factors. India had been on the list for about two years.
- Countries currently on the Currency Monitoring List are: China, Japan, Korea, Germany, Malaysia, Singapore and Taiwan.

NATIONAL INVESTMENT AND INFRASTRUCTURE FUND

- The 5th meeting of Governing Council (GC) of National Investment and Infrastructure Fund (NIIF) was held in New Delhi.

Highlights of the meeting

- NIIF's first bilateral fund - an "India Japan Fund" with contribution from Union Government has been proposed through an MoU between National Investment and Infrastructure Fund Limited (NIIFL) and Japan Bank for International Development (JBIC).
- The GC was informed that the two infrastructure Non-Banking Financial Companies (NBFCs), where NIIF has majority stakes, have increased their combined loan book from ₹4,200 crore to ₹26,000 crore in 3 years without experiencing any non-performing loans.
- The GC guided NIIF to undertake advisory activities pro-actively to support central and state governments to create a pipeline of investible PPP projects.
- The finance minister urged the NIIF to expand its operations and explore ways to attract private capital for projects under the **National Infrastructure Pipeline, PM Gati Shakti and National Infrastructure Corridor.**

Funds under NIIF

- Across its three funds NIIF manages $3 billion of capital. The three funds under NIIF are:

Master Fund	It is an infrastructure fund with the objective of primarily investing in operating assets in the core infrastructure sectors such as roads, ports, airports, power etc.

Fund of Funds (FoF)	• FoF invests in funds managed by fund managers who have good track records in infrastructure and associated sectors in India. • Some of the sectors of focus include green infrastructure, mid-income & affordable housing, infrastructure services and allied sectors.
Strategic Opportunities Fund (SoF)	• Its objective is to invest largely in **equity and equity-linked instruments** and is one of the largest India-focused growth equity fund. • It has been established to provide long-term capital to high-growth future-ready businesses in India. • The fund's strategy is to build a portfolio of **large entrepreneur-led or professionally managed domestic champions and unicorns**

ALTERNATIVE INVESTMENT FUND (AIF)

- As per, Regulation Act, 2012 of Securities and Exchange Board of India (SEBI), AIF is any fund incorporated in India which is a privately pooled investment vehicle.
- It collects funds from both Indian and foreign investors. Generally, high net worth individuals and institutions invest in AIFs as it requires a high investment amount, unlike Mutual Funds.
- It can be established in the form of a company or a corporate body or a trust or a Limited Liability Partnership (LLP).
- AIFs are divided into 3 unique categories – Category I, Category II and Category III.

NATIONAL CENTRE OF EXCELLENCE FOR GREEN PORT & SHIPPING

- The Ministry of Ports, Shipping and Waterways (MoPSW) announced India's first National Centre of Excellence for Green Port & Shipping (NCoEGPS).
- The announcement was made at the recently concluded **"INMARCO 2022"** in Mumbai.
  - INMARCO is a quadrennial International Maritime Conference and Exhibition, hosted by the Institute of Marine Engineers (India), to showcase the expertise of Maritime India to the global maritime fraternity.
- NCoEGPS will be working under the framework of the Sagarmala programme of the MoPSW
- The Energy and Resources Institute (TERI) is the knowledge and implementation partner for this project.

Need for NCoEGPS

- The centre aims to develop a regulatory framework and alternate technology adoption road map for Green Shipping to promote carbon neutrality and circular economy (CE) in shipping sector in India.
- Green shipping refers to minimum use of resources and energy in transporting people or goods, to protect the environment from the pollutants generated by the ships.
- It promotes cleaner practices to enforce emission control, efficient port management, and equipment management.
- India intends to increase the share of renewable energy to 60% of the total power demand of each of its major ports from a present share of less than 10%. This will be through solar and wind-generated power.
- The ports have also aimed to reduce carbon emissions per ton of cargo handled by 30% by 2030.
- The government has also launched Mission LiFE movement, which will be an India led global movement for collective action to protect & preserve environment.
- India has been selected as the first country under the IMO Green Voyage 2050 project to conduct a pilot project related to Green Shipping.

Objectives of NCoEGPS

- Empower 'Make in India' in Port, Coastal and Inland water transport, and Engineering by developing state of art technologies and application products.
- Enable fast-track innovations in order to provide most appropriate solutions to various challenges in these sectors.

Green Voyage 2050

- Launched in 2019, it is a partnership project between **Norway and International Maritime Organization, (IMO) to transform the shipping industry** towards a lower carbon future.
- The global partnership is supporting developing countries, including Small Islands Developing States (SIDS) and Least Developed Countries (LDCs).
- It supports them in meeting their commitment towards relevant climate change and energy efficiency goals, for international shipping, through supporting the Initial **IMO Green House Gas (GHG) Strategy.**

PROJECT UNNATI

- The **Ministry of Rural Development** is planning to link performances of the States under Project Unnati with its labour budget for the upcoming financial year. This is due to the **subpar response** to the project.

About the Project

- Project Unnati was launched in 2020 with the intention of **upgrading the skill base of the MGNREGS workers** to help them transition from partial employment to full employment, thereby reducing their dependence on the employment guarantee scheme.
- The aim of the project is to **train one adult member (18-45 years) of a household** that has completed 100 days of work under MGNREGS.
  - If a household is working for 100 days under MGNREGS that shows that they are completely dependent on it for their livelihood and are the poorest of the lot. Thus, this criterion was used as the baseline.
- The selected candidate is **eligible for wages on par with that given under the MGNREGS** during the period of the training, for a maximum period of 100 days and for one program per household.
- **Full expenditures** towards a stipend, against wage loss compensation, are entirely borne by Central Government.

Training Programmes

- Under the project, the selected candidates are skilled using **3 established training programmes:**

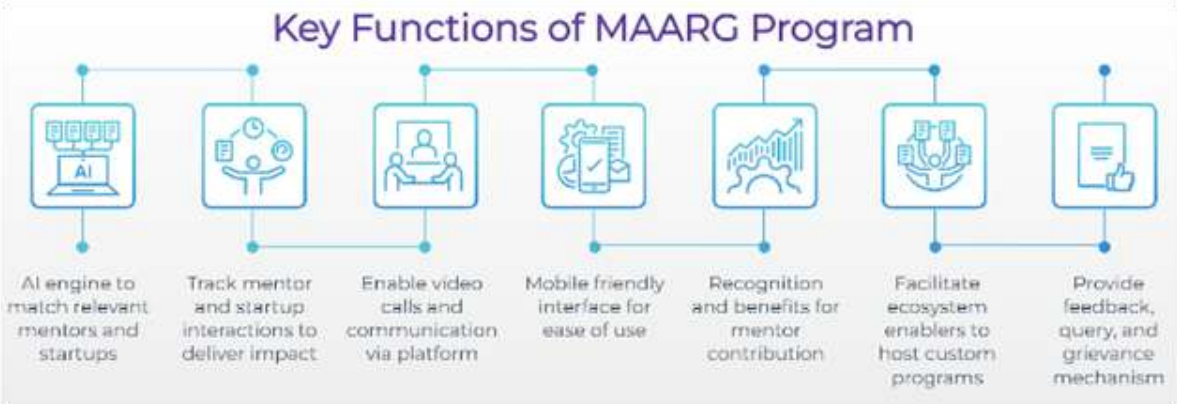
Deen Dayal Upadhyay Grameen Kaushal Yojana (DDU-GKY)	It is a placement-linked programme, in which 70% of the trained candidates have to be compulsorily employed with a minimum salary of ₹6,000 per month.
Rural Self Training Institute (RSETI)	It is for entrepreneurial skills where persons in the age group of 18-45 get short-term residential training with long-term hand-holding support for up to two years.
Krishi Vigyan Kendra	It trains candidates in trades related to the agricultural sectors.

MAARG PORTAL

- Department for Promotion of Industry and Internal Trade (DPIIT), launched a call for startup applications for registration on the MAARG portal, the National Mentorship Platform by Startup India.
- MAARG portal - Mentorship, Advisory, Assistance, Resilience and Growth, is a one stop platform to facilitate mentorship for startups across diverse sectors, functions, stages, geographies, and backgrounds.

Objectives of MAARG

- Provide sector focused guidance, handholding, and support to startups throughout their lifecycle.
- Establish a formalized and structured platform that facilitates intelligent matchmaking between the mentors and their respective mentees.
- Facilitate efficient and expert mentorship for startups and build an outcome-oriented mechanism that allows timely tracking of the mentor-mentee engagements.

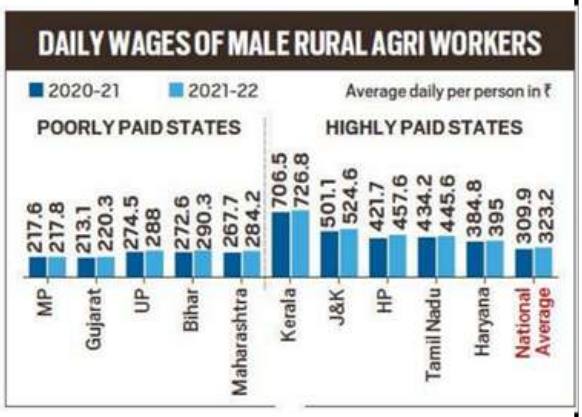


Operationalization Phases: The MAARG portal is being operationalised in 3 phases:

Phase I: Mentor Onboarding	Successfully launched and executed, 400+ expert mentors are onboarded across sectors.
Phase II: Startup Onboarding	DPIIT has recently launched the onboarding of startups on the portal with effect from November 2022.
Phase III: MAARG Portal Launch and Mentor Matchmaking	Final launch where the mentors will be matched to the startups

RURAL DAILY WAGES

- RBI released data on rural daily wage payments in India during FY 2021-22.



Agricultural workers

- Male agricultural workers in Madhya Pradesh and Gujarat get only Rs 217.8 and Rs 220.3 per day, respectively. These states are followed by Odisha, Tripura, Uttar Pradesh, Maharashtra and Bihar.
- The national average for agricultural daily wage rate was Rs 323.32. Of the 20 states and Union territories assessed only 10 pay above the national average.
- Kerala leads in highly paid agricultural workers with an average wage of Rs 726.8 per worker.
- The high wages in Kerala have attracted farm workers from other poorly paid states with around 25 lakh migrant workers reportedly living in the state.
- Kerala is followed by Jammu and Kashmir at Rs 524.6, Himachal Pradesh at Rs 457.6 and Tamil Nadu at Rs 445.6.

Non-Agricultural workers

- In the case of **male non-agricultural workers,** the lowest wage was in MP with an average wage of Rs 230.3 while Gujarat workers got a daily wage of Rs 252.5 and Tripura Rs 250 — all below the national average of Rs 326.6. On the other hand, **Kerala** again leads in non-agricultural workers' wages with Rs 681.8 wage per person.
- Kerala was followed by J&K with Rs 500.8, Tamil Nadu Rs 462.3 and Haryana Rs 409.3.

Construction Workers

- The trend is similar for wages of **rural male construction workers**. Workers in Tripura, Madhya Pradesh and Gujarat get a meagre Rs 250, Rs 266.7 and Rs 295.9 as daily wages.
- But their counterparts in Kerala get Rs 837.7. Kerala is followed by J&K (Rs. 519.8), Tamil Nadu (Rs 478.6) and Himachal Pradesh (Rs 462.7).
- Rural jobs are dependent on agriculture which in turn is influenced by monsoon and rabi and kharif production.

GRID CONTROLLER OF INDIA LIMITED

India's **National Grid Operator Power System Operation Corporation Limited (POSOCO)** announced a change in its name. Henceforth, it will be known as the Grid Controller of India Limited.

- The change in name has been made to reflect the critical role of Grid Operators in ensuring integrity, reliability, economy, resilience and sustainable operation of the Indian Electricity Grid.
- Grid Controller of India Limited (Grid-India) **operates the National Load Despatch Centre (NLDC) and 5 Regional Load Despatch Centres (RLDCs).**
- Grid-India is also designated as the **nodal agency for major reforms in the power sector such as**:
  - Implementation and operation of Green Energy Open Access Portal
  - Renewable Energy Certificate (REC) mechanism
  - Transmission pricing
  - Short term open access in transmission
  - Deviation Settlement Mechanism
  - Power System Development Fund (PSDF)

CENTRAL COUNTERPARTY DE-RECOGNITION

- The European Union's financial markets regulator **European Securities and Markets Authority (ESMA)** said that it will withdraw recognition of 6 Indian clearing bodies or central counterparties (CCPs).
- These six CCPs are *Clearing Corporation of India (CCIL), Indian Clearing Corporation Ltd (ICCL), NSE Clearing Ltd (NSCCL), Multi Commodity Exchange Clearing (MCXCCL), India International Clearing Corporation (IFSC) Ltd (IICC) and NSE IFSC Clearing Corporation Ltd (NICCL).*
- As per the European Market Infrastructure Regulations (EMIR), a CCP in a third country can provide clearing services to European banks only if it is recognized by the ESMA.

COMPULSORY CONVERTIBLE PREFERRED SHARES

- Insurance regulator IRDAI has rejected proposal of Fairfax to **convert** the company's holdings in **compulsory convertible preferred shares (CCPS)** issued by Go Digit Infoworks **into equity shares.**
- CCPS are shares that are issued with the terms that it can be converted into n number of equity shares after a period of time (that is mentioned in the contract or as discussed earlier).
- They are a **key element of start-up financing**. If an early investor has CCPS, he can have more rights than other investors who come in later at a higher valuation.
- It also helps investors maintain their stake and have a say even if their stake gets diluted later.
- However, these shares get converted to ordinary equity shares after 10-15 years.
- That is more than sufficient time for most startups to give their investors an exit.
- CCPS also helps founders keep control of a company even if their stake is lower than that of investors.

INDIA INFRASTRUCTURE PROJECT DEVELOPMENT FUND (IIPDF)

- The Department of Economic Affairs (DEA), Ministry of Finance, notified the India Infrastructure Project Development Fund (IIPDF) Scheme.
- IIPDF is a **Central Sector Scheme**, will aid development of quality PPP projects by providing necessary funding support to the Project sponsoring authorities (PSAs), both in the Central and State Governments.
- It will extend financial assistance in meeting the cost of transaction advisors and consultants engaged in the development of PPP projects.
- IIPDF will contribute upto 75% of the **project development expenses** to the Sponsoring Authority as an interest free loan. The balance 25% will be co-funded by the Sponsoring Authority.
  - On successful completion of the bidding process, the project development expenditure would be recovered from the successful bidder. However, in the case of failure of the bid, the loan would be converted into grant.
  - In case the Sponsoring Authority does not conclude the bidding process for some reason, the entire amount contributed would be refunded to the IIPDF.
- Funding under IIPDF Scheme is in addition to the already operational **Scheme for Financial Support to PPPs in Infrastructure (VGF Scheme) notified in 2020.**
- Under this infrastructure projects undertaken through PPP mode that are economically justified but commercially unviable are supported

SCIENCE AND TECHNOLOGY

SOFIA

NASA announced the end of operations of its observatory Stratospheric Observatory for Infrared Astronomy (SOFIA) mission.

About SOFIA

- It is a 2.7-meter infrared telescope sitting inside a **Boeing 747SP airplane,** flying at an altitude of 38,000-45,000 feet above the surface.
- It is a joint program between **NASA and the German Aerospace Centre (DLR).**
- SOFIA had started its operation in 2014.
- It was designed to observe **cosmic objects in far-infrared wavelengths.**

Achievements of SOFIA

- It discovered **helium hydride** the first molecule formed in the Universe almost 14 billion years ago in 2019.
- It discovered water molecules (H2O) on the sun-facing side of the **Moon in 2020**.
- It identified atmospheric circulation patterns in Jupiter.
- It also mapped the magnetic field within G47, one of the Milky Way's spiral arms.

Another Project with name SOPHIA

- **Sophia is a social humanoid robot developed by the Hong Kong-based company Hanson Robotics.**
- **Sophia was also given citizenship status by Saudi Arabia.**

PORTABLE DEVICE THAT TURNS SEAWATER INTO DRINKING WATER

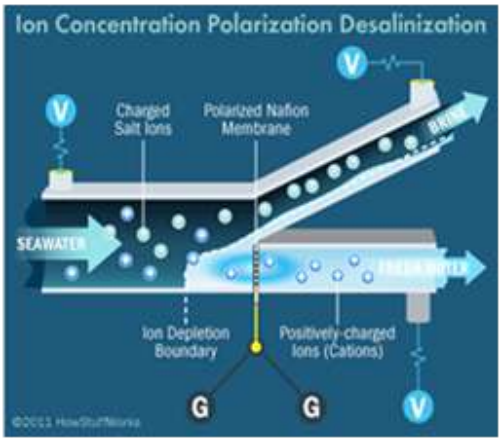
Massachusetts Institute of Technology (MIT) researchers have developed a portable desalination unit, that can remove particles and salts to generate drinking water.

About PFAs

- The suitcase-sized device requires less power to operate than a cell phone charger.
- It can also be driven by a small, portable solar panel.
- The device automatically generates drinking water that exceeds WHO quality standards.

How It Works?

- The unit relies on a technique called **ion concentration polarisation.**
- Rather than filtering water, the process applies an electrical field that causes **positively or negatively charged particles** including salt molecules, bacteria, viruses to be repelled as they flow past.
- The charged particles are funnelled into a second stream of water that is eventually discharged.
- The process removes solids, allowing clean water to pass through the channel.



SHUKRAYAAN MISSION

ISRO plans to launch India's first Venus Mission 'Shukrayaan-I' in December 2024.

About The Mission

- The mission is a planned orbiter to Venus to study the planet's surface and atmosphere.
- The satellite is planned to be launched onboard the GSLV Mk II rocket.
- Objective of this mission is to investigation of the surface processes and shallow subsurface stratigraphy; solar wind interaction with Venusian Ionosphere, and studying the structure, composition & dynamics of the atmosphere.

Significance Of This Mission

- By studying Venus, scientists learn how Earth-like planets evolved and what conditions exist on Earth-sized exoplanets.
- It also helps scientists model Earth's climate, and serves as a cautionary tale about how dramatically a planet's climate can change.

Other Upcoming Venus Missions

- NASA's DAVINCI mission will launch between 2028 and 2030. It consists of an orbiter and an atmospheric descent probe.
- NASA's VERITAS orbiter will launch between 2028 and 2030.
- The European Space Agency's EnVision mission will launch no earlier than 2031. The orbiter will provide a comprehensive view of Venus, from the core all the way to its upper atmosphere.

About Venus

- It is the 2nd planet from the Sun and is the closest planetary neighbour to the Earth. It is one of the four inner, terrestrial (or rocky) planets
- It is often called as Earth's twin as it is similar in size and density.
- It has no moons.
- It is the hottest planet in our solar system, even though Mercury is closer to the Sun.
- It rotates on its axis backward, compared to most of the other planets in the solar system.

LUPUS

- It is a long-term **autoimmune disease** in which the body's immune system becomes **hyperactive and attacks healthy tissue.**
- The symptoms can range from mild to severe which include inflammation in the joints, skin, kidneys, blood cells, brain, heart, and lungs.
- The **exact cause of this disease's occurrence** is yet unknown but it has been suspected that it is due to certain factors like genes, hormones, and the environment.
- It can be difficult to diagnose because its signs and symptoms often mimic those of other ailments.
- The **World Lupus Day is observed on 10th May** with the aim of generating awareness about this disease.

TOMATO FLU

Tamil Nadu has ramped up surveillance at its borders in the wake of tomato flu cases being detected in Kerala.

About Tomato Flu

- The flu gets its name because of the red blister it causes. It affects children below five years of age.
- On catching the flu, children experience undiagnosed and unidentified fever.
- There is no confirmation yet on whether it is a viral fever or is an after-effect of chikungunya or dengue fever.
- Children might also experience fever, abdominal cramps, body aches, fatigue, nausea, vomiting, or diarrhoea. In certain cases, discolouration of hands and knees has also been observed.

Treatment

- This flu is a self-limiting one and there is no specific drug for this. This means that the symptoms will resolve overtime on their own if supportive care is given.
- Children are advised to be kept hydrated.

SUDDEN INFANT DEATH SYNDROME (SIDS)

- According to recent study, **infants who die from SIDS have significantly less amount of BChE** (butyrylcholinesterase) shortly after birth than those that survive.
- **BChE is an enzyme responsible for waking** or arousing the brain from sleep in case there is a threat to life, like obstructed breathing.
- The enzyme is an important part of the **autonomic nervous system** of the body and controls unconscious and involuntary functions.

About SIDS

- It is the unexplained **death of a healthy infant less than one year of age**, during a period of sleep.
- It is also known as **'cot death'**.

- Babies who die of SIDS seem to be healthy before being put to sleep. These **babies do not show any signs of struggle.**
- Babies between 1 and 4 months of age are at higher risk of dying due to SIDS.
- As per reports, over 80% SIDS related deaths occur before the babies reach six months of age.
- The **infant mortality rate for India in 2021 was 28.7 deaths per 1000 live births, a 3.61% decline from 2020.**

ENDOSULFAN

- The Supreme Court has slammed the Kerala government for doing virtually nothing for endosulfan pesticide exposure victims. The apex court in its 2017 order in a PIL had directed that Rs 5 lakh be paid to all victims for Rehabilitation of Endosulfan Victims.

About Endosulfan

- It is an **off-patent organochlorine pesticide** developed in **1954.** It was used widely on crops like cashew, cotton, tea, paddy, fruits and others until 2011.
  - In 2011, the Supreme Court banned its production and distribution.
- This pesticide is a known carcinogen, neurotoxin and genotoxin (damages DNA).
- The health effects of the chemical include late sexual maturity, physical deformities, poisoning etc.
- People, especially new-borns, have suffered deformities, health complications and loss of family members due to exposure to the agrochemical.
- It became a highly **controversial agrichemical due to its acute toxicity,** potential for bioaccumulation, and role as an endocrine disruptor.
- A **global ban on the manufacture and use of endosulfan** was negotiated under the Stockholm Convention in April 2011.
- It is **still used extensively in India** and China despite laws against its use.

BIOMATERIAL FROM FUNGAL EXTRACT HELPS HEAL WOUNDS

Scientists have developed a new biomaterial that can be used to disinfect wounds and hasten the process of healing.

About the New Biomaterial

- It is **derived from the polymer pullulan** which is secreted by the fungus Aureobasidium pullulans.
- It is **an exopolysaccharide, that is, this polymer is secreted by the fungus itself** into the medium in which it is growing.
- Pullulan as a biomaterial is already successful and widely used commercially.
- It is exploited in the food, cosmetics, and pharmaceutical industry because of its non-toxic, non-mutagenic, and non-immunogenic properties.

Efficacy of the Biomaterial

- The efficacy of the material was tested by applying it directly to a full-thickness wound on mice.
- The wounds got disinfected and the healing was faster.
- The **material could cause a 100% closure of wounds within 12 days**, while in the absence of application of the material, closure was only 60%.

RESPIRATORY SYNCYTIAL VIRUS (RSV)

According to a new estimate published in the Lancet, **Respiratory Syncytial Virus (RSV)** was responsible for more than 1,00,000 deaths in children under five worldwide in 2019

About RSV

- It is a common **respiratory virus** that usually causes acute lower respiratory infection.
- It is also called human respiratory syncytial virus (hRSV) and human orthopneumovirus.
- Most people recover in a week or two, but it can be serious, especially for infants and older adults.
- Globally, only 26% RSV-associated deaths occur in a hospital. This is particularly apparent in low- and middle-income countries.
- The annual incidence rate in India is 53 per 1,000 children (5.3%), with an estimated 61,86,500 cases of RSV in children under the age of five.
- It is spread through contaminated air droplets and can cause outbreaks.

RETINOBLASTOMA

- It is the **most common cancer in the eye (malignant tumor) in small children.**
- It can occur in one or both eyes and may be hereditary or sporadic.
- It can be **life-threatening** as well as take away vision if not treated timely.
- It is **detected by seeing White Reflex (WR) in the eyes.** Pupil that looks white or yellow instead of red when light hits it.
- Nearly 1,500-2,000 children are diagnosed with retinoblastoma every year in India.
- For **treatment chemotherapy** can be delivered intravenously or intra-arterial.

POLIOVIRUS

Mozambique has confirmed the 1st wild poliovirus case in 30 years.

About Poliovirus

- It is a crippling and potentially deadly viral infectious disease that affects the nervous system.
- The virus lives in the faeces of an infected person. People infected with the disease can spread it to others when they do not wash their hands well after defecating.
- People can also be infected if they drink water or eat food contaminated with infected faeces.
- There is no cure for this virus, but it is easily preventable by a vaccine.

Polio in India

- India launched the Pulse Polio immunisation programme in 1995, after a resolution for a global initiative of polio eradication was adopted by the World Health Assembly in 1988.
- India was declared polio-free in January 2014, after three years of zero cases.
- India reported its last polio case from district Howrah, West Bengal in January, 2011.

BIORRAP PORTAL

- Recently a Single National Portal named Biological Research Regulatory Approval Portal (BioRRAP) for Biotech researchers and Start-Ups was launched.

About BioRRAP Portal

- It is developed by the **Department of Biotechnology, Ministry of Science and Technology.**
- This portal **provides a single route to direct the applicant to regulatory agencies providing requisite approval relevant to the biological research.**
- This portal is **dedicated only for research related activities and not for product development.**
- The Portal will **also allow stakeholders to see the approvals accorded against a particular application** through a unique **BioRRAP ID.**

Why We Need This Portal?

- Over **2,700 biotech start-ups and more than 2,500 biotech companies** working at present in the country.
- Further, Indian regulators such as the Department of Biotechnology, Indian Council of Medical Research or Central Drugs Standard Control Organization worked tirelessly to streamline the regulatory processes and reduce the timelines for approvals.
- India is among **the top 12 destinations for biotechnology globally and the 3rd largest biotechnology destination in the Asia Pacific region.**
- **By 2025,** the contribution of the Indian biotechnology industry in the global biotechnology **market is expected to grow to 19% from a mere 3% in 2017.**
- **Bio Economy's contribution to the national GDP** has also grown steadily in the past years to 2.7% in 2020 from 1.7% in 2017.

ARTIFICIAL INTELLIGENCE (AI) CHIPS

Nvidia's rival Intel launched new AI chips to provide customers with deep learning compute choices for training and inferencing in data centres.

About AI Chips

- It is **built with specific architecture and have integrated AI acceleration to support deep learning-based applications.**
- These chips, with their hardware architectures and complementary packaging, memory, storage and interconnect technologies, **make it possible to pour AI into a broad spectrum of applications, helping to convert data into information and then into knowledge.**

- There are different types of AI chips such as application-specific integrated circuits (ASICs), field-programmable gate arrays (FPGAs), central processing units (CPUs) and graphics processing unit (GPUs).
- The Worldwide **AI chip industry accounted for $8.02 billion in 2020** and is expected to reach **$194.9 billion by 2030.**

What Are Their Applications?

- Semiconductor firms have developed various specialised AI chips **for a multitude of smart machines and devices, including ones that are said to deliver the performance of a data centre-class computer to edge devices.**
- Some of these chips **support in-vehicle computers** to run state-of-the-art AI applications more efficiently.
- It is **also powering applications of computational imaging in wearable electronics, drones, and robots.**
- The **use of AI chips for natural language processing (NLP) applications has increased** due to the rise in demand for chatbots and online channels such as Messenger, Slack, and others.

Deep Learning

- More commonly known as active neural network (ANN) or deep neural network (DNN).
- It is a subset of machine learning and comes under the broader umbrella of AI.
- It combines a series of computer commands or algorithms that stimulate activity and brain structure.

NEAR FIELD COMMUNICATION (NFC)

- It the technology that **enables communication and data-sharing between wireless-enabled devices in close proximity.**
- It **powers contactless payments via mobile wallets** like Apple Pay, Google Pay, as well as contactless cards.
- It is similar to radio-frequency identification (RFID) technology, but is limited to sharing data with other devices that are within about four inches.
- It is also similar to Bluetooth technology, but differs in that it doesn't require device discovery or manual syncing like Bluetooth.

How Do NFC Mobile Payments Work?

- It uses an NFC-enabled reader.
- When this reader is initiated through a point-of-sale (POS) system, it sends out a signal that searches for an NFC-enabled payment device.
- When the reader detects the antenna of an NFC-enabled device, such as a phone or NFC-enabled credit card, the payment device communicates the payment info to the reader, and the payment is processed.

Advantage of NFC

- Convenient for businesses and customers - Customers can use many different devices for payment, and employees don't have to handle the device.
- Appropriate for a wide range of businesses - It can be used across a range of applications by businesses in many different industries.
- Facilitate seamless payments - Payment's fund within 24 hours and often transfer to your business's checking account the following day.

TRUE RANDOM NUMBER GENERATOR (TRNG) DEVICE

- Researchers at Indian Institute of Science (IISc) have developed a True Random Number Generator (TRNG) Device.

About TRNG Device

- Everything a person does on the internet is encrypted for security. The **strength of this encryption depends on the quality of random number generation.**
- **Encrypted information can be decoded only by authorised users** who have access to a cryptographic key. But **the key needs to be unpredictable** and, therefore, randomly generated to resist hacking.
- **Cryptographic keys are usually generated in computers using pseudo-random number generators**, which rely on mathematical formulas or pre-programmed tables that appear random but are not.
- In contrast, a **TRNG device naturally extracts random numbers from random physical processes.**
- It **improves data encryption and provide improved security** for sensitive digital data such as credit card details, passwords, and other personal information.

PARAM PORUL SUPERCOMPUTER

- **PARAM PORUL is a state-of-the-art supercomputer** set up at NIT Tiruchirappalli.
- It is **established under Phase 2 of the National Supercomputing Mission (NSM).**
- Majority of the components have been manufactured and assembled within the country.

- The **system is based on Direct Contact Liquid Cooling technology to obtain a high-power usage effectiveness** and thereby reducing the operational cost.
- The system is equipped with a mix of CPU nodes, GPU nodes, high memory nodes, high throughput storage and high-performance InfiniBand interconnect.

MARSQUAKE

- NASA's InSight Mars lander has detected the largest quake on Mars ever observed on another planet.

About Marsquakes

- On Earth, quakes are caused by shifts in tectonic plates.
- **Mars, however, does not have tectonic plates**, and its crust is a giant plate.
- Therefore, **in Mars marsquakes are caused due to stresses that cause rock fractures or faults in its crust.**
- The InSight rover first landed on Mars in November 2018, and has since heard 1,313 quakes. The largest previously recorded "marsquake" was detected in August 2021. This Marsquake is estimated to have hit magnitude 5 on the scale used on Earth.

Significance of Marsquakes

- The detection & analysis of marsquakes could be informative for investigating internal structure of Mars.
- It may also be helpful in identifying whether any of the many volcanoes on Mars are volcanically active.

InSight Mission

- It is part of NASA's Discovery Program.
- It is the 1st mission to study deep beneath the surface of Mars, measuring its heat production and listening for marsquakes to study the planet's interior.
- With InSight, scientists hope to compare Earth and Mars, and better understand how a planet's starting material makes it more or less likely to support life.

Present Status

- Insight has now run into some technical difficulties. With the onset of Martian winter & increased levels of dust in air, the lander is struggling to get enough sunlight on the solar panels.
- As a result, the machine has put itself into safe mode (hibernation) for the time being.
- Other missions to Mars: UAE's Hope; China's Tianwen-1; NASA's Perseverance

SGRA BLACK HOLE IN MILKY WAY

Scientists from the Event Horizon Telescope (EHT) facility revealed the first image of the black hole at the centre of the Milky Way. This image of the black hole is referred to as Sagittarius A* (SgrA*).

About SgrA

- It is 27,000 light years from us.
- It has a mass equal to about 4 million suns.

Significance Of This Image

- The image provides overwhelming evidence that the object is indeed a black hole and yields valuable clues about the workings of such giants, which are thought to reside at the centre of most galaxies.

About Black Hole

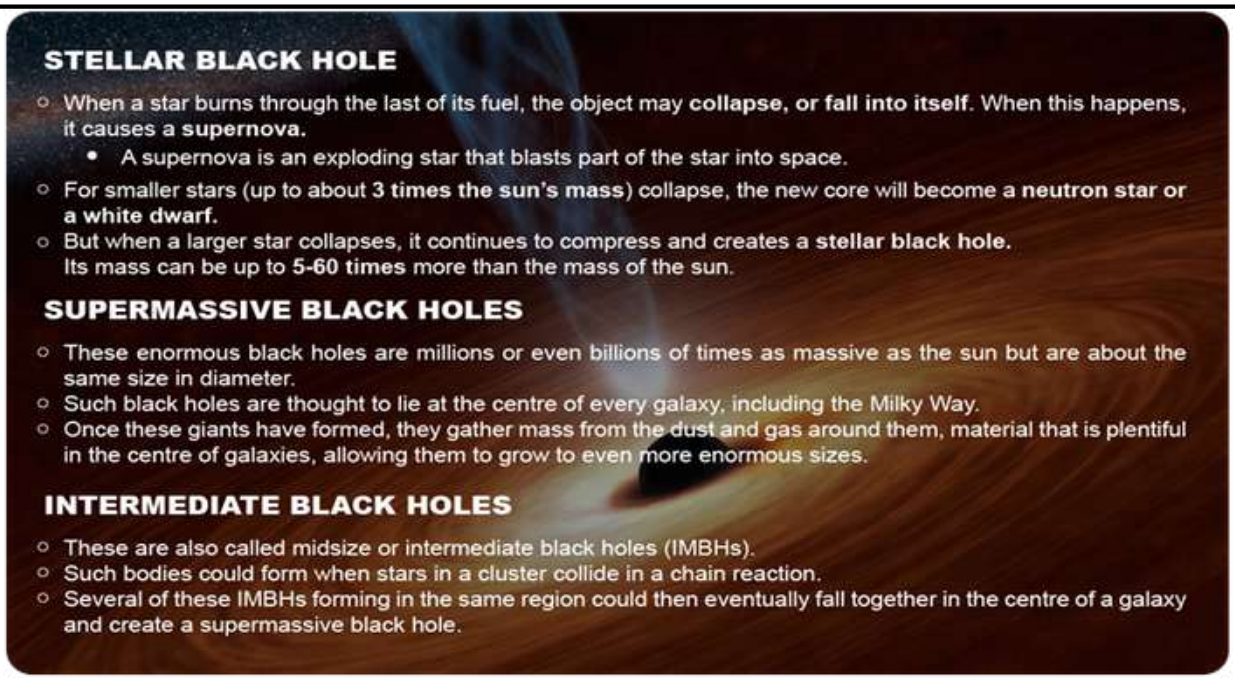
- It is a place in space where gravitational force is so high that even light cannot get out.
- Because no light can get out, they are invisible.
- High configuration space telescopes can help find black holes.
- The gasses swirling around actually help in getting their images.
- Black holes have three layers, the outer and inner event horizon, and the core singularity.

How Do Black Holes Form?

- Stars with a mass at least three times greater than that of our Sun can undergo extreme gravitational collapse once their fuel depletes.
- With so much mass in a confined volume, the collective force of gravity overcomes the rule that usually keeps the building blocks of atoms from occupying the same space. All this density creates a black hole.

Types of Black Hole

- There three types of black holes: stellar black holes, supermassive black holes, and intermediate black holes.



Event Horizon Telescope

- **It is a large telescope array consisting of a global network of radio telescopes.**
- It has been designed for imaging of black holes. It offers scientists to research new frontiers of the Universe.
- It uses a technique called **very-long-baseline interferometry (VLBI)** to capture the images of black holes.
- **In 2019, the EHT had made history by releasing the first ever image of a black hole M87*** – the black hole at the centre of a galaxy Messier 87.

COSMIC CANNIBALISM

- It is a cosmic phenomenon where a star is ending its life so violently that the dead star is left behind, called a white dwarf. A white dwarf is formed when a **low-mass star** like our sun exhausts most of its nuclear fuel.
- This white dwarf is disrupting an entire planetary system by sucking in debris from both its inner and outer reaches. It is consuming the rock-metallic and icy material, both of which are **"planetary components".**

INTERNATIONAL LIQUID-MIRROR TELESCOPE (ILMT)

It is the **world's first Liquid-Mirror Telescope (LMT)** to be commissioned for astronomy.

About ILMT

- It has been **set up at the Devasthal Observatory campus owned by Aryabhatta Research Institute of Observational Sciences (ARIES), Nainital (Uttarakhand).**
  - ARIES is an autonomous institute under the Department of Science & Technology.
- **India, Belgium, Canada, Poland and Uzbekistan** are the main countries who have collaborated to set up this telescope.
- The operations and up-keep of this telescope is to be done by **India.**
- A liquid mirror telescope, as its name suggests, **uses a liquid, not aluminized glass**, as its primary mirror. The liquid, usually mercury, is poured into a rotating dish.
- The rotation creates two fundamental forces that act on the mercury -- **gravity and inertia**.
- Gravity pulls down on the liquid surface, while inertia pulls the liquid sideways at the edge of the dish.
- As a result, the liquid forms a uniform and perfect parabola, the ideal reflecting surface for a telescope.
- It will keep a close watch on the skies to identify transient or variable objects such as asteroids, space debris, supernovae, and gravitational lenses.

Significance of ILMT

- This will be significant for the scientific communities because it **will generate enormous amount of data (10-15 GB/night).**
- The **data will be open only for researchers from participating institutes for an initial stipulated period. At a later stage, the data will be accessible to all global scientific communities.**

Why India's Majority Telescopes Are Stationed At Devasthal Observatory

- ILMT will be the third telescope to be operating from Devasthal after the –
  - 3.6-metre **Devasthal Optical Telescope (DOT)** — the largest in India **commissioned in 2016** and
  - 1.3-metre **Devasthal Fast Optical Telescope (DFOT)** inaugurated in **2010.**

- This site was **chosen after an extensive site characterization conducted during 1980 - 2001 in the central Himalayan range.**
- The main **advantages of Devasthal site are in its dark skies, sub-arcsec seeing, low extinction and at the same time being easily assessable and manageable.**
- In total, 41,692 square meter of land has been transferred to ARIES from Uttarakhand Government which includes roads, base camp area and telescope site.

GAIA SPACE MISSION

- It is an astronomical observatory mission launched in December 2013 by the European Space Agency (ESA).
- Its objective is to create the most accurate 3D map of the Milky Way by surveying 1% or one billion of the galaxy's 100 billion stars.
- Mission found that some stars in Milky Way galaxy are composed of primordial material (existing from beginning of time) while others are composed of matter enriched by previous generations of stars.
- It spotted large scale tsunami, called starquakes, which changes the shape of stars.

RFID TECHNOLOGY

- Baggage tags equipped with Radio-Frequency Identification (RFID) will soon be available at Delhi's Indira Gandhi International Airport.

About RFID Technology

- It uses radio waves to automatically identify various tagged objects.
- Transponder, receiver, and transmitter are the three components of an RFID system.

There Are Three Types Of RFID Tags

- **Passive Tags:** There is no power supply for passive tags. They acquire their power from the readers' incoming radio waves. Passive RFID tags do not have a battery and are powered by the reader.
- **Semi-passive Tags:** Semi-passive tags comprise an internal circuit with a power source, but rely on the radio waves received from the reader to transmit the response.
- **Active Tags:** The internal circuit of active tags is powered by a power source. Batteries are used to power active RFID tags. It also utilises its own power supply to send the response to the reader.

Significance of RFID Technology wrt Barcodes

- An RFID reader can scan a tag as long as it is within frequency range. It **does not have any line-of-sight limitations.**
  - Barcodes use light to read the black-and-white pattern printed on the tag.
  - Barcodes are simple and easy to copy or counterfeit, whereas **RFID is more complicated and difficult to replicate** or counterfeit.
  - RFID tags are expensive compared to barcodes.
- Other ID systems typically have a single or limited identifier for each object but RFID tags can contain more information, some are also read-write, allowing you to add or change data.
- It **can scan multiple items simultaneously.**

Drawback of RFID Technology

- Its **initial high costs** restricted usage to larger businesses.
- RFID readers can scan through most non-metallic materials; they have **problems with metal and water.**
- **Tag collision may occur** if a reader picks up signals from multiple tags at the same time.
- **Unauthorized devices may be able to read and even change data on tags** without the knowledge of the person who owns the object.

QR CODES

- India's drug pricing authority has shortlisted the top 300 brands of drugs, which will have to put QR codes to their packages, in a bid to ensure authenticity and enable tracing.

About QR Codes

- It is a two-dimensional version of the barcode, which stands for Quick Response.
- It consists of black squares arranged in a square grid on a white background.
- The data stored in a QR code can include website URLs, phone numbers, or up to 4,000 characters of text.

Are QR Codes Safe?

- Attackers can embed malicious URLs containing custom malware into a QR code which could then exfiltrate data from a mobile device when scanned.

- It is also possible to embed a malicious URL into a QR code that directs to a phishing site, where unsuspecting users could disclose personal or financial information.
- Because humans cannot read QR codes, it is easy for attackers to alter a QR code to point to an alternative resource without being detected.
- Sometimes malicious QR code replaced in public by covering legitimate QR code.

Difference Between Barcode and QR code

- A bar code is one dimensional whereas QR codes are two dimensional.
- A barcode only holds information nicely in the horizontal direction, a QR can do so vertically as well.

D2M TECHNOLOGY

The Department of Telecommunications (DoT) and India's public service broadcaster Prasar Bharati are exploring the feasibility of a Direct-To-Mobile' (D2M) technology.

About D2M Technology

The **technology based on the convergence of broadband and broadcast,** using which **mobile phones can receive terrestrial digital TV.**

Significance of D2M Technology

- It can possibly be used to directly broadcast content related to citizen-centric information.
- It can be further **used to counter fake news, issue emergency alerts and offer assistance in disaster management**, among other things.
- The technology will allow people from rural areas, with limited or no internet access, to watch video content. They would be able to access multimedia content from **Video on Demand (VoD)** or **Over The Top (OTT)** content platforms without having to exhaust their mobile data, and more importantly, at a nominal rate.
- It can enable telecom service providers to offload video traffic from their mobile network onto the broadcast network. Thus, helping them to decongest valuable mobile spectrum. This will **also improve usage of mobile spectrum and free up bandwidth which will help reduce call drops, increase data speeds etc.**

Government's Initiatives to Facilitate D2M Technology

- The DoT has set up **a committee to study the feasibility of a spectrum band** for offering broadcast services directly to users' smartphones.
- **Band 526-582 MHz is envisaged to work in coordination** with both mobile and broadcast services.
- Public service broadcaster **Prasar Bharati had last year announced collaboration with IIT Kanpur to test the feasibility of the technology.**

CRYSXPP

- Researchers from **IIT Kharagpur** in collaboration with the **Indo-Korea Science and Technology Center (IKST)** have developed a method called **CrysXPP.**
- It is a **machine learning (ML) system** that enables rapid prediction of various **material properties** with high precision.
  - ML is a type of artificial intelligence (AI) that allows software applications to become more accurate at predicting outcomes without being explicitly programmed to do so.
  - Machine learning algorithms use historical data as input to predict new output values.
  - Applications of ML: Recommendation engines, fraud detection, spam filtering, malware threat detection, business process automation (BPA) and Predictive maintenance.
- **CrysXPP made large-scale testing easier,** because until now, it has been difficult to test crystalline materials on a large scale.
- It also helps determine the electronic, **magnetic and elastic properties of crystals**, which are often time-consuming, expensive and computation-intensive.

PARAM ANANTA

- The Centre for Development of Advanced Computing **(C-DAC) and the IIT, Gandhinagar** have jointly unveiled a **new supercomputer called Param Ananta.**
- It is **unveiled in phase II of the central government's National Supercomputing Mission (NSM).**
- It is capable of offering peak performance of **838 teraflops.**
- It will offer IIT Gandhinagar with increased capacity for research projects in various fields, including machine learning, data science, computational fluid dynamics, bioengineering and more.

About Supercomputer

- It is a computer that performs at or near the highest operational rate for computers.
- It is used for scientific and engineering applications that handle large scale databases, perform large amounts of computation.
- Supercomputer processing speed is measured in quadrillion floating point operations per second, also known as petaflops or PFLOPS.
- Processing power is the main difference between supercomputers and general-purpose computer systems.

- USA's **Frontier supercomputer (1.1 exaFLOPS)** was officially ranked as the most powerful supercomputer in the world. It outperformed **Fugaku**, the second most powerful supercomputer.
- Japanese supercomputer Fugaku (442 petaflops), IBM's Summit (148.8 petaflops), Chinese Sunway TaihuLight (93 petaflops)

Supercomputer In India

- Recently, IISc Bengaluru installed the supercomputer **'Param Pravega'**. It has a supercomputing capacity of 3.3 petaflops.
- **Mihir (Ranked 146th):** Mihir clubs with Pratyush to generate enough computing power to match PARAM-Siddhi.
- **Pratyush (Ranked 78th)**: It is a supercomputer used for weather forecasting at the Indian Institute of Tropical Meteorology.
- **PARAM-Siddhi (6.5 petaflops):** It is the second Indian supercomputer to be entered in the top 100 on the Top500 list. In 2020, PARAM Siddhi, the High-Performance Computing-Artificial Intelligence (HPC-AI) supercomputer, achieved global ranking of 62nd in Top 500 most powerful supercomputers

India's first supercomputer was PARAM 8000.

- **PARAM Shivay**: It is the first supercomputer assembled indigenously, was installed in IIT (BHU), followed by PARAM Shakti, PARAM Brahma, PARAM Yukti, PARAM Sanganak at IIT-Kharagpur IISER, Pune, JNCASR, Bengaluru and IIT Kanpur respectively

About National Supercomputing Mission (NSM)

- Government of India **launched NSM in 2015.**
- Under NSM, **the plan was to connect R&D institutions and academic institutions in the country using a supercomputing grid** with National Knowledge Network (NKN) as the backbone.
- The mission was planned in three phases:
  - **Phase I:** Assembling supercomputers,
  - **Phase II:** Manufacturing certain components within the country.
  - **Phase III:** Where a supercomputer is designed by India.
- An indigenously developed server platform called 'Rudra' is being tried out in a pilot system, with an interconnect for inter node communication called Trinetra also having been developed.
- Department of Science and Technology (DST) and Department of Electronics and Information Technology (DeitY) jointly guides the mission.
- C-DAC is entrusted with overall design, development, deployment, and commissioning of computers build under this mission.
- It aims to deploy 24 facilities with a combined computing power of more than **64 peta FLOPS.**
  - One petaFLOP is equal to one quadrillion FLOPS, or one thousand **tera FLOPS.**

About C-DAC

- It is an Indian autonomous scientific society, operating under the Ministry of Electronics and Information Technology.
- PARAM 8000, the first supercomputer of India, was built by CDAC.

ANCOVAX

- The **Minister of Agriculture & Farmers Welfare** has unveiled a vaccine, called Ancovax.
- It is **the 1st Covid-19 vaccine for animals developed in India.**
- It is developed by Hisar-based National Research Centre on Equines to protect animals against the Delta and Omicron variants of SARS-CoV-2.
- It can be **used in dogs, lions, leopards, mice, and rabbits.**
- It is an inactivated vaccine developed using an infectious part of the Delta variant.

Need of The Vaccine

- There have been reports of Covid-19 infection in several animals, including dogs and cats.
- The vaccine can **protect animals in the zoo.**
- It can also **prevent transmission from companion animals to humans**.

RAMSAY HUNT SYNDROME

Recently, Pop singer Justin Bieber has been diagnosed with Ramsay Hunt Syndrome.

- It is **also known as Herpes Zoster Oticus.**
- It is a **virus infection of the geniculate ganglion (7th cranial nerve) of the facial nerve that occurs when a shingles infection affects the facial nerve.**
  - There are 12 cranial nerves in the body.
  - These 12 pairs pass from the brain, through openings in the skull, to different areas of the head, neck, chest, and abdomen. The cranial nerves send information between the brain and the sense organs
  - They also help you make facial expressions, blink your eyes and move your tongue.
- It is **caused by reactivation of varicella zoster virus** that has previously caused chickenpox and shingles in the patient. This virus belongs to the **herpes-virus** group.

WEB 5.0

- Former Twitter CEO recently announced his vision for a new decentralized web platform that is being called Web 5.0. It is being built with an aim to return "ownership of data and identity to individuals".

About Web 5.0

- It is a Decentralized Web Platform that enables developers to leverage Decentralized Identifiers, Verifiable Credentials, and Decentralized Web Nodes to write Decentralized Web Apps.
- Simply put, Web 5.0 is Web 2.0 plus Web 3.0 that will allow users to own their identity on the Internet and control their data.
- It is being developed by former Twitter CEO Jack Dorsey's Bitcoin business unit, The Block Head.
- It aimed at building an extra decentralized web that puts one in control of your data and identity.

World Wide Web (WWW)

- It is an interconnected framework in which Uniform Resource Locators (URLs) define documentation and other web resources.
- All of which can be associated with hyperlinks, and accessed via the internet.
- Anyone who has internet connection can see web pages which involve multimedia tools such as text, images or videos.

About different Web Versions

Web 1.0	It is often referred to as the **read-only Internet** made of static web-pages that only allowed for passive engagement.
Web 2.0 (Social Web)	It is **read and write internet** which made the internet a lot more interactive. Users were now able to communicate with servers and other users leading to the creation of the social web
Web 3.0 (Semantic Web)	• It is **read-write-execute"** web, built leveraging the blockchain technology. It will be driven by Artificial Intelligence (AI) and machine learning where machines will be able to interpret information like humans. • It aims to provide a single, consistent, platform-agnostic way to manage data across systems, without requiring a corporation to contain its own interests and agendas and where users control their own data
Web 4.0 (Mobile Web)	It is already a work in progress, with no clear understanding of what it would entail. It is often referred to as the symbiotic web. The symbiotic web's fantasy is a contact between humans and computers in symbiosis.

LUMPY SKIN DISEASE

Some 1,229 cattle across five districts of Gujarat have been infected with Lumpy Skin Disease (LSD).

About LSD

- It is a **viral disease** that is caused by **capripox virus.**
- Its only affects cattle, water buffalo and closely related wildlife.
  - The other two species of virus being Sheeppox virus and Goatpox virus.

- The disease does not affect humans.
- It easily spreads through direct contact of infected animal, contaminated feed and water, blood-sucking insects like mosquitoes, flies and ticks.
- Lumpy skin disease was first seen as an epidemic in Zambia in 1929.
- **Effect on animals:** The animal stops eating and faces problems while chewing or eating, resulting in reduced milk production. If an animal is pregnant, the calf dies.
- **Treatment of LSD:** No treatment is available for the disease so **prevention by vaccination is the most effective means of control.**

Symptoms of LSD

- Symptoms primarily consist of fever, fluid excretion from eyes and nose, dribbling of saliva from the mouth.
- Nodules of two to five-centimetre diameter appears all over the body, particularly around the head, neck, limbs, udder and genitals.

ULTRA-THIN HETEROPROTEIN FILMS

- It has been **developed by Institute of Advanced Study in Science and Technology (IASST)**, Guwahati, an autonomous institute under the Department of Science and Technology.
- These films **have excellent thermal, mechanical and pH stability. It can pave the way for expanding applications of thin films in biomedical and food packaging industries.**
- It **consists of two globular proteins: Bovine Serum Albumin (BSA) and Lysozyme (Lys).**
  - Globular proteins are spherical proteins and are one of the common protein types. They are somewhat water-soluble, unlike the fibrous or membrane proteins.
- They used the technique called **Langmuir-Blodgett (LB) technique** which gives the films thickness in the order of nanometre. They are **soft and thin and have the advantage of being more flexible** than the other films.

GSAT-24

1. New Space India Limited (NSIL) launched GSAT-24 satellite.
2. It is a communication satellite with Pan India coverage for meeting DTH application needs.
3. It is 1st demand-driven satellite mission post space sector reforms.
   - Demand-driven means that when a satellite is launched, someone will know who is going to be the end customer and what kind of usage and commitment is there.
4. It is built by ISRO for NSIL.
5. NSIL has leased the entire satellite capacity to Tata Play.
6. It is successfully placed into geostationary orbit by the Ariane 5 rocket, operated by French company Arianespace.

LAMDA

A senior engineer at Google claimed that the company's artificial intelligence-based chatbot **Language Model for Dialogue Applications (LaMDA)** had become "sentient"(able to perceive or feel things)

- It is **modern conversational agent enabled with a neural network capable of deep learning.**
- The **chatbot model is built on Transformer, a neural network architecture that Google invented in 2017.**
- It is **designed to improve the automated chat experiences of the machine and the human end-user.**
- In 2022 Google announced LaMDA 2.0 which further builds on LaMDA.
  - LaMDA was introduced on the first day of Google I/O (Input/Output) in 2021.

About Chatbot

- It is also known as chatterbot.
- It is a software application used to conduct on-line chat conversations via text or text-to-speech in Exchange for providing direct contact with a live human agent.
- Key examples are used by businesses in Facebook Messenger, or as virtual assistants, such as Amazon's Alexa.
- Chatbots tend to operate in one of two ways—either via machine learning or with set guidelines.

BLACK DEATH

- It is also **known as bubonic plague**. It is **caused by bacterium Yersinia pestis** and spread by fleas that were carried by rodent hosts. There are **no reports of human to human transmission** of bubonic plague.
- Symptoms include sudden high fever and chills, pains in the areas of the abdomen, arms and legs, large and swollen lumps in the lymph nodes that develop and leak pus.
- It is commonly believed that the term Black Death **gets its name from the black marks that appeared on some of the plague victims' bodies.**
- According to the WHO it can kill an adult in less than 24 hours, if not treated in time. It **can be treated and cured with antibiotics.**

CAPSTONE

- **NASA launched CAPSTONE,** a microwave oven-sized **CubeSat** weighing just 25 kg.
- CAPSTONE, short for Cis-lunar Autonomous Positioning System Technology Operations and Navigation Experiment.
- It is designed to test a **unique, elliptical lunar orbit. It aims to help reduce risk for future spacecraft** by validating innovative navigation technologies, and by verifying the dynamics of the halo-shaped orbit.
- It is **heading toward an orbit known as a near-rectilinear halo orbit (NRHO). The orbit is** intended in the future for Gateway, a Moon-orbiting outpost that is part of NASA's Artemis program.
- It will **fly within 1,600 km of the Moon's North Pole** on its near pass and 70,000 km from the South Pole at its farthest

ABHYAS

ABHYAS, a High-Speed Expendable Aerial Target (HEAT) was successfully flight-tested off the coast of Odisha from the Integrated Test Range (ITR), Chandipur.

About Abhyas

- It is a **drone (UAV)** that will be **used as a target for various missile systems.**
- It is **designed & developed by DRDO's Aeronautical Development Establishment (ADE)**, Bengaluru.
- It is **powered by a gas turbine engine** to sustain a long endurance flight at subsonic speed.
- The target aircraft is **equipped with MEMS (Micro-Electro-Mechanical Systems) based Inertial Navigation System (INS) for navigation** along with the Flight Control Computer (FCC) for guidance and control.
- The vehicle is programmed for fully autonomous flight.
- It can **also function as a decoy.**
- It is **very lightweight, reliable, consumes less power and is cost-effective**.

HETEROLOGOUS BOOSTER VACCINE

- Heterologous boosters use a different booster vaccine (platform) from the first couple of doses.
- It showed higher vaccine effectiveness than homologous boosters, which use the same type of vaccine as the first and second doses.

POEM PLATFORM

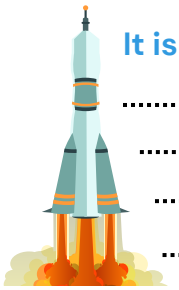
- ISRO successfully launched the PSLV Orbital Experimental Module or 'POEM'.
- Besides this achievement, ISRO also launched three satellites from Singapore on the PSLV-C53 (55th Flight).

About POEM

- It is a platform that will help perform in-orbit scientific experiments during the 4th stage of the Polar Satellite Launch Vehicle (PSLV).
- **The PSLV is a four-stage rocket** where the first three spent stages fall back into the ocean, and the final stage (PS4) after launching the satellite into orbit ends up as space junk.
- With the **help of the POEM,in PSLV-C53 mission, the PS4 stage would orbit the earth as a stabilized platform to perform** experiments. It will derive its power from solar panels mounted around the PS4 tank, and a Li-Ion battery.
- It **has a dedicated Navigation Guidance and Control (NGC) system** for attitude stabilization, which stands for controlling the orientation of any aerospace vehicle within permitted limits.
- 'POEM' is a technological advancement over what ISRO attempted in 2019, during the launch of the PSLV-C44 mission.

Polar Satellite Launch Vehicle (PSLV)

- It is the **3rd generation launch** vehicle of India.
- It is the **1st Indian launch vehicle** to be equipped with liquid stages.
- Notable launches are – **Chandrayaan-1 in 2008** and **Mars Orbiter Spacecraft in 2013.**



It is a four-stage launch vehicle -

- A large solid rocket motor forming the 1st stage
- An earth storable liquid stage as the 2nd stage
- A high-performance solid rocket motor as 3rd stage
- A liquid stage with engines as 4th stage

AUTONOMOUS FLYING WING TECHNOLOGY DEMONSTRATOR

- DRDO successfully carried out the maiden test flight of a new Unmanned Aerial Vehicle (UAV), an autonomous Flying Wing Technology Demonstrator

About Autonomous Flying Wing Technology

- It is an Unmanned Combat Aerial Vehicle (UCAV) or a **combat drone** that **is a flying wing type**.
- It is designed and developed by **Aeronautical Development Establishment (ADE)**, Bengaluru.
- It is a **tailless fixed-wing aircraft which houses its payload and fuel in its main wings** and does not have a defined fuselage-like structure found in conventional aircrafts.
- It has a key operational advantage **because it has low reflective cross sections resulting in low radar signature, making it a stealth machine.**
- Because of the shape, the aircraft **also has very low drag or air resistance.**

Other Related Developments

- Rustom-2, the indigenous **Medium Altitude Long Endurance (MALE) UAV** under development, has crossed a milestone by reaching an altitude of 25,000 feet and an endurance of 10 hours and is being designed to reach an altitude of 30,000 feet and 18 hours endurance.
- The DRDO has in the past developed various drones, like **Nishant, Rustom, Tapas and Lakshya** among others, which have different capabilities and operational roles.

ARYABHAT-1

- IISc researchers have built a prototype of **an analog chipset called ARYABHAT-1 (Analog Reconfigurable Technology and Bias-Scalable Hardware for AI Tasks).**
- It will allow Artificial Intelligence and Machine Learning apps to perform much better and faster. Especially helpful for AI-based applications which deal with object or speech recognition systems, like Alexa or Siri
- It is **capable of running robustly across a wide range of temperatures as well as supports programming of different machine learning architectures.**

JAMES WEBB SPACE TELESCOPE (JWST)

NASA's James Webb Space Telescope has **delivered the deepest and sharpest infrared image of the distant universe so far.**

About James Webb Space Telescope

- It **is a joint venture between the US (NASA), European space agencies (ESA) and Canadian space agencies (CSA).**
- It is an orbiting infrared observatory, with longer wavelength coverage. It is currently at a point in space known as the Sun-Earth L2 Lagrange point.
- It is **studying every phase in the history of our Universe,** ranging from the first luminous glows after the Big Bang, to the formation of solar systems.

LUX-ZEPLIN (LZ)

A highly sensitive experiment named LUX-ZEPLIN (LZ) has been used to detect dark matter in the universe in by the U.S.

About LUX-ZEPLIN (LZ)

- It is the **most sensitive dark matter detector of the world.**
- It has been **installed deep down the Black Hills in South Dakota in Sanford Underground Research Facility (SURF).**
- The experiment is led by DOE's Lawrence Berkeley National Laboratory (Berkeley Lab).

About Dark Matter

- It is made up of **particles that do not have a charge**.
- It is **invisible. It doesn't emit, reflect or absorb light or any type of electromagnetic radiation.**
- Only 5% of the entire visible universe is made up of all matter and the rest of 95% is dark matter and dark energy.

AZAADISAT

- ISRO undertook the maiden flight of its newly developed Small Satellite Launch Vehicle Developmental Flight 1 (SSLV-D1) carrying 'AzaadiSAT'.
- It is the part of the Azadi Ka Amrit Mahotsav celebrations, to mark the 75th anniversary of Independence.
- SSLV also carried one of India's Earth Observation Satellites (EOS-2) – that will have applications in mapping and developing various GIS applications.

About AzaadiSAT

- It comprises 75 **payloads. These payloads have been built by 750 young girl students from 75 rural government schools of India.** It has 75 Femto experiments, selfie cameras to click pictures of its own solar panels.
- It also comprises a solid-state PIN diode-based radiation counter that will measure the ionising radiation in its orbit, as well as a long-range transponder.

About SSLV

- It is a rocket that is **designed to orbit satellites weighing less than 500kg in Low Earth Orbit (LEO) and 300 kg to Sun Synchronous Orbit (SSO).**
- It is a **3 stage Launch Vehicle** configured with three Solid Propulsion Stages and liquid propulsion-based Velocity Trimming Module (VTM) as a terminal stage.
- The other features include: flexibility in accommodating multiple satellites, Launch on demand feasibility, minimal launch infrastructure requirements, etc.

DANURI – LUNAR ORBITER

- **South Korea launched the 1st lunar orbiter** named Danuri.
- It was **launched by the SpaceX Falcon 9 launch vehicle** from the US Space Force Station in Cape Canaveral, Florida. It carried a payload including a new interference-tolerant network. It will send data from space to see the Moon.
- Before coming back to its destination, it will fly towards sun. This route is generally considered a longer route, also known as a Ballistic lunar transfer which uses a gravity assist by the sun.
- If the **mission is successful, South Korea will become the world's 7th lunar explorer** after the United States, Russia, China, Japan, Israel and India.

HAYABUSA-2

Scientists are scrutinising the material that was brought to earth from an asteroid named Ryugu by Japanese space probe Hayabusa-2. Now scientists are saying water and organic materials might have been brought to our planet from the outer edges of the solar system.

About Hayabusa-2

- It was launched in December 2014 for a six-year voyage to study the asteroid Ryugu.
- It is an **asteroid sample-return mission operated by the Japanese state space agency JAXA**.
- It **landed on the diamond-shaped asteroid Ryugu** in July 2018.
- It is a successor to the Hayabusa mission, which returned asteroid samples for the 1st time in June 2010.

Hayabua-1

- Launched in 2003, It was a robotic spacecraft designed to collect & return asteroid samples back to Earth
- The **mission was performed on the asteroid named 25143 Itokawa.**
- The entire mission was completed in almost 7 years.

EXO-MOON

- Scientists have developed a model to trace the so far elusive exo-moons with the help of the James Webb Space Telescope (JWST).
- This may help detect habitable exo-moons in the future and understand new worlds beyond our own.

About Exo-moon

- It is a **natural satellite that orbits an exoplanet or other non-stellar extrasolar body.** A large number of exo-moons are expected to be present in the universe.
- They may play a crucial role in the habitability of rocky exoplanets in the habitable zone of their host stars.
- The solar system is made up of multiple naturally occurring satellites of various masses and sizes. A few of these satellites have an impact on the solar planet's surrounding environment.
- **Most exoplanets are detected through the photometric transit method. Signals from exo-moons are too weak to detect, mainly because of their extremely small size.**

About Exoplanets

- It is a **planet that orbits around other stars located outside our solar system.** It is also called an extrasolar planet.

- **Most of the exoplanets discovered so far are located in the Milky way galaxy.** More than 4,400 exoplanets have been discovered till now.

FORMATION OF MOON

- There are several theories related to the formation of the moon. It is the Earth's only natural satellite. In the Solar System it is the 5th largest satellite. It lacks atmosphere, hydrosphere, or magnetic field. Its surface gravity is about one-sixth of Earth's.
- **Capture theory** suggests that the Moon was a wandering body (like an asteroid) and was captured by Earth's gravity as it passed nearby.
- **Accretion theory** suggested that the Moon was created along with Earth. Earth had been spinning so fast that some material broke away and began to orbit the planet.
  - The most widely accepted theory is giant-impact theory, which suggest that the Moon is formed during a collision between the Earth and another small planet. The debris from this impact collected in an orbit around Earth to form the Moon.

SPACE SITUATIONAL AWARENESS (SSA) OBSERVATORY

India's 1st commercial space situational awareness observatory will be set up in the Garhwal region of Uttarakhand. It will be set up by Digantara, a Bengaluru-based space sector start-up.

Significance of SSA Observatory

- It will be able to **reduce the potential for collisions** between satellites and other spacecraft. It will track any activity in space including that of space debris and military satellites hovering over the region.
- Improve the effectiveness of tracking and identifying pre-existing resident space objects (RSO).
- It will result in the creation of a **hybrid data pool** that will serve both the commercial and the defence sectors of the space industry.

TIANGONG

- It is a space station being constructed by China in low Earth orbit (LEO). The country has previously launched two temporary trial space stations, named as Tiangong-1 and Tiangong-2.
- The station will have its **own power, propulsion, life support systems and living quarters.** It is also designed to provide refuelling power to China's new **space telescope, called Xuntian**, which will fly close to the space station.
- China hopes Tiangong will replace the International Space Station (ISS), which is due to be decommissioned in 2031. Tiangong will be much smaller than ISS, with only 3 modules compared with 16 modules on the ISS.

ARTEMIS-1 LUNAR MISSION

NASA is set to launch the Artemis-1 mission.

Significance of Artemis missions

- With these missions, NASA will land the first woman and first person of colour on the Moon.
- NASA will build an Artemis Base Camp on the surface and the Gateway in lunar orbit. These elements will allow robots and astronauts to explore more.

About Artemis-1 mission

1

- The mission was formerly known as Exploration Mission-1.
- It is a planned uncrewed Moon-orbiting mission. It will deploy 10 CubeSat satellites.
- It will test the agency's Space Launch System (SLS) rocket and Orion crew capsule.

ARTEMIS-1

2

- It is a crewed mission, scheduled for 2024, will orbit the Moon without making a surface landing

ARTEMIS-2

3

- Since NASA's Apollo 17 in December 1972, it will be the first to send astronauts to the Moon in 2025. The southern pole of the Moon, where water in the form of ice has been discovered, will be the site of NASA's first crewed spaceship landing.

ARTEMIS-3

CYTOCHROME COMPLEX (CYT C)

It is a small heme-protein found loosely associated with the inner membrane of the mitochondrion. They function as the electron carriers in respiration and photosynthesis.

GOOGLE'S STREET VIEW FEATURE

- Google announced the launch of its popular Street View feature in 10 Indian cities, which is also known as **Project Gullify.**

About Street View Feature

- It is an **immersive 360-degree view** of a location captured using cameras by data collectors moving around the city streets. Google has partnered with two Indian firms, mapping solutions provider Genesys International and Tech Mahindra.
  - Google has to partner with Indian firm because as per **National Geospatial Policy, 2021** foreign companies are prohibited from collecting and owning certain categories of data / maps.
  - **Local companies can collect such data and foreign firms can license the data** from Indian entities to serve their customers in the country.

ANEURYSM

- It is an **abnormal bulge or ballooning in the wall of a blood vessel** (arteries and vein)
- It occurs most commonly in the aorta, back of the knees, brain or intestines.
- If the *aneurysm gets ruptured, it can even cause internal bleeding and stroke*. Pregnancy can also increase risk of aneurysm of the spleen.

Treatment

- A device **called flow diversion stent is a new innovative intervention for treatment of aneurysm for the initial stages, when it has not ruptured.**
- A *cylindrical, metallic mesh stent* is placed inside the sac of the parent blood vessel to divert the blood flow from the aneurysm.

FIBERISATION

- The **process of connecting radio towers with each other via optical fibre cables is called fiberisation.**
- It **helps provide full utilisation of network capacity**, and carry large amounts of data once 5G services are rolled out.

Status Of Fiberisation In India

- **At present, in India, only 33% of the towers are fiberized.** It is very low compared to the 65%-70% in South Korea and 80%-90% in the U.S., Japan and China.
  - To transition into 5G, India needs at least 16 times more fibre
- **India's fibre kilometer (fkm) per capita is just 0.09** compared to 1.35 in Japan, 1.34 in the U.S. and 1.3 in China. Ideally, a country needs 1.3 km of fibre per capita to ensure good fiberisation.
- The tower sites which are connected via fibre are called fibre point of presence (POP). Currently, **India's fibre POP can just handle data at 1-5 Gbps speed.**

SEROTONIN

- New study suggests that depression is not caused by serotonin imbalance in brain.

About Serotonin

- Its **chemical name is 5-hydroxytryptamine (5-HT).**
- It **is a monoamine neurotransmitter** which means, it is a chemical that signals between neurons.
- It is believed to **help regulate mood and social behaviour, appetite, digestion, sleep, memory, and sexual desire.**
- At level of an organism, serotonin is known to be helpful in coping with stress. But, underlying mechanism of its neuro-protective role was unknown.

INS SINDHUDHVAJ

- It has been decommissioned after 35 years of glorious service to the nation. Navy has left with only 15 conventional submarines in service.
- It was **one of the 10, Kilo-class submarine acquired from Russia between 1986 -2000. It was commissioned into Indian Navy in June 1987.**
- It had many firsts to her credit including operationalization of the indigenized sonar USHUS, Indigenised Satellite Communication systems Rukmani and MSS, Inertial Navigation System, and Indigenised Torpedo Fire Control System.
- It was the only submarine awarded the CNS Rolling trophy for Innovation by the Prime Minister.

CHINOOK HELICOPTER

- The US Army has grounded its fleet of CH-47 Chinook helicopters after finding the helicopter to be at risk of engine fires.

About Chinook helicopter

- It is an **American twin-engine, tandem rotor, heavy-lift helicopter.**
- It can **carry goods and cargo** of around 10 tonnes. It is used for transporting troops, artillery, equipment etc.
- It can also offer support **during disaster relief, medical evacuation, search and rescue missions, aircraft recovery and parachute drops.**

Indian Air Force (IAF) and Chinook Helicopters

- **Inducted into the IAF in 2019, currently IAF operates a fleet of 15 Chinook helicopters** procured from Boeing through the Foreign Military Sales program of the U.S. government in 2015.
- One Helicopter Unit of Chinooks is based in Chandigarh while other is based at Mohanbari airbase in Assam.

INFLATED AERODYNAMIC DECELERATOR (IAD)

An IAD was successfully test flown in a Rohini sounding rocket (RH300 Mk II) **from Thumba Equatorial Rocket Launching Station (TERLS).** Rohini sounding rockets are routinely used for flight demonstration of new technologies being developed by ISRO.

About IAD

- It serves to decelerate an object plunging down through the atmosphere. It is a technique used for an atmospheric entry payload.
- It was designed and developed by ISRO's Vikram Sarabhai Space Centre (VSSC).
- At around 84 km altitude, it was inflated and it descended through the atmosphere with the payload part of a sounding rocket.
- It has huge potential like recovery of spent stages of rocket, for landing payloads on to Mars/ Venus and in making space habitat for human space flight missions.

ISRO is planning the 200th successful launch of the Rohini RH-200 sounding rocket in a row.

- RH-200 of the Rohini sounding rocket family has completed 198 consecutive successful flights.
- The 199th launch will happen in October 2022 during the World Space Week (4th-10th October) celebrations. The 200th will take place either towards the end of October or the beginning of Nov 2022.
- '200' in the name denotes the diameter of the rocket in mm. Other operational Rohini variants are RH-300 Mk-II and RH-560 Mk-III.

QIMINGXING-50

- China's large unmanned aerial vehicle Called Qimingxing-50 completed its maiden flight.

About Qimingxing-50

- It is the **high-altitude, long-endurance (HALE) UAV, also known as the Morning Star.**

- It is the country's 1st major unmanned aerial vehicle that is all-electric and solely powered by solar energy.
- It is designed to fly at altitudes of more than 20 km above the Earth's surface where there is stable airflow with no clouds. As a result, it can make the maximum use of solar equipment to stay functional for longer durations.
- It is **capable of conducting high-altitude reconnaissance, apart from monitoring forest fires, providing communication and environment relay.**
- It can keep flying even during periods of overnight darkness.

MINUTEMAN III

- The United State Air Force successfully launched a Minutemen III equipped with three test re-entry vehicles.
- It is a **land-based intercontinental ballistic missile (ICBM) having range of more than 10000 km.**
- Development of the Minuteman began in the mid-1950s.
- The Minuteman I entered service in 1962 and the Minuteman II entered service in 1965.
- In 1970, Minuteman III became the first deployed ICBM with multiple independently targetable re-entry vehicles (MIRV).
- MIRV is an exo-atmospheric ballistic missile payload containing several warheads, each capable of being aimed to hit a different target.

Atomic Clock

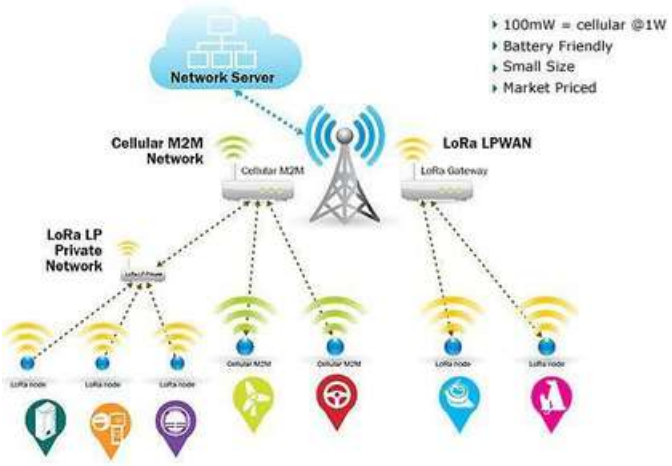
- It is a clock that is **designed to measure the precise length of a second,** the base unit of modern timekeeping. It uses atoms, more precisely the electronic transition from one state to another as their pendulum.
- With an error of only 1 second in up to 100 million years, atomic clocks are among the most accurate timekeeping devices in history.
- It is far more precise than conventional clocks because atomic oscillations have a **much higher frequency and are much more stable.**

Why Do We Need Atomic Clocks?

- It contributes to the calculation of International Atomic Time (TAI), one of the time standards used to determine Coordinated Universal Time and local times around the world.
- Satellite navigation systems also relied on precise time measurements to calculate positions accurately.

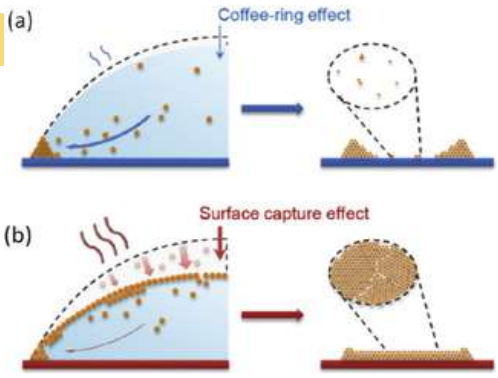
LONG RANGE RADIO (LORA)

- Institute for Development and Research in Banking Technology (IDRBT), an arm of RBI, has developed a low-cost financial network based on LoRa (Long Range Radio) technology.
- **About Long Range Radio (LoRa)**
  - It is a **wireless modulation technique** in the **physical layer,** allowing long-range communication using chirp spread spectrum.
  - It encodes information on **radio waves using chirp pulses** - similar to the way dolphins and bats communicate.
  - It uses **dedicated radios,** which are not usually present in end-user devices, limiting interferences from other devices.



COFFEE-RING EFFECT

- In physics, a coffee ring is a pattern left by a puddle of particle-laden liquid after it evaporates.
- The phenomenon is named for the characteristic ring-like deposit along the perimeter of a spill of coffee.
- It forms because the liquid evaporates faster at the edges, inducing a flow from the droplet interior towards the outside.
- The curious thing though is that this stain will always be a ring shape, not a solid circle.



Implications

- It has implications for the manufacture of high-tech materials such as fuel cells, displays, and sensors. That's because a lot of these devices are made by depositing a coating onto a surface and one of the most popular ways of depositing a coating is by drop-casting.
- It has applications in agriculture, forensic science and even disease diagnosis.

VERY SHORT-RANGE AIR DEFENSE SYSTEM (VSHORADS) MISSILE

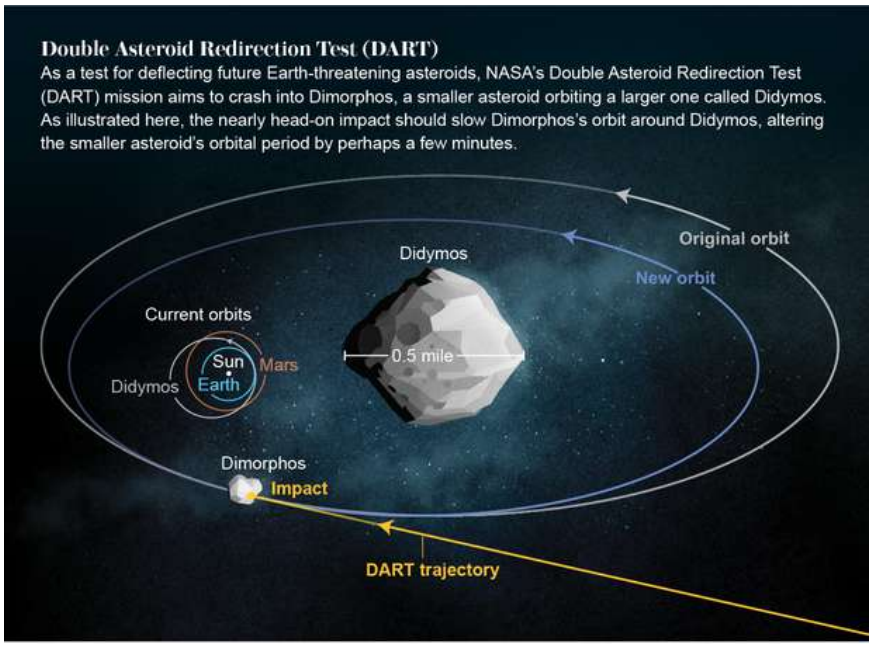
- DRDO conducted two successful test flights of the **Very Short-Range Air Defense System (VSHORADS) missile.**

About VSHORADS Missile

- It is a **Man Portable Air Defense System (MANPAD).**
- MANPAD are short-range, lightweight and portable surface-to-air missiles that can be fired by individuals or small groups to destroy aircraft.
- It is designed and developed indigenously by Hyderabad-based Research Centre Imarat of the DRDO.
- The missile is propelled by a **dual thrust solid motor,** which is meant for neutralizing low altitude aerial threats at short ranges.

DART MISSION

- **Double Asteroid Redirection Test (DART)** successfully crashed into Dimorphous.



About DART Mission

- It is a NASA space mission that aims to test a method of planetary defense against **Near-Earth objects (NEO).**
- It was designed to assess the ability of a spacecraft impact to **deflect an asteroid**, through the **transfer of momentum.**
- The probe, launched from Earth, **intentionally impacted Dimorphos**, that is the minor-planet moon of the **asteroid Didymos.**
- The European Space Agency is developing Hera, a spacecraft that will be launched to Didymos in 2024 to do a detailed assessment.
- **International partners** include the European Space Agency (ESA), the Italian Space Agency (ASI), and the Japan Aerospace Exploration Agency (JAXA), contributing to related or subsequent projects.

Significance Of This Mission

- It may one day **save humanity from a potentially catastrophic collision** by safely deflecting a deadly asteroid on its way to Earth.
  - **For example,** following NASA's lead, China plans to deflect 2020 PN1 in 2026 - a 40m diameter earth-crossing asteroid.
- It could also **fuel space mining technologies** and kickstart the space economy in the coming decades.
  - **Rare earth elements** such as yttrium, niobium, rhodium, palladium, osmium, iridium and scandium are critical for developing green energy technologies such as electric vehicles, solar panels, wind turbines, etc., ushering a low carbon economy in the future.
  - **NASA's Asteroid Redirect Mission (ARM)**, which has been axed, aimed at bringing a 20-tonne space rock close to Earth for study and mining. In some ways, the DART mission is also included in this frame.

RASHID ROVER

- It is the **1st mission (unmanned spacecraft) to Moon from the UAE**, which will be launched from Kennedy Space Centre in Florida in 2024.
- The rover will land in Lacus Somniorum, also known as the "Lake of Dreams", close to the lunar equator.

- It is designed to study **Moon's plasma and will attempt to explain why Moon dust is so sticky.** It will also study the lunar surface, mobility on the Moon's surface and how different surfaces interact with lunar particles.
- If it becomes successful, it will be the **smallest rover to land on Moon,** weighing approximately 10 kg with its payload.
- If successful in 2024, the UAE could become the **fourth nation** to land a spacecraft on the moon after the USA, the former Soviet Union and China.
- India, Israel and Japan have tried but failed in landing a spacecraft on the moon. Earlier, the UAE launched the Hope Mission to Mars, the Arab world's 1st interplanetary mission.

INDIA'S 1ST DARK SKY RESERVE (DSR)

The Department of Science & Technology (DST) has announced the setting up of India's 1st dark sky reserve at Hanle in Ladakh. World's 1st International Dark Sky Reserve is Mont-Megantic, located in Canada.

About Dark Sky Reserve

- **It is a public or private land** with a distinguished nocturnal environment and starry nights that has been developed responsibly to prevent light pollution.
- The **International Dark Sky Association (IDSA) is a U.S.-based non-profit organisation that designates sites as international dark sky places** (parks, sanctuaries, reserves, communities, and Urban Night Sky Places) depending on the criteria they meet.
- According to the IDSA, these reserves consist of a core area meeting minimum criteria for sky quality and natural darkness, and a peripheral area that supports dark sky preservation in the core.

About Hanle DSR

- Situated at a height of 4,500 metres above sea level **at Hanle,** it will come up **within the Changthang Wildlife Sanctuary.**
- The Department of Science and Technology and experts from the Indian Institute of Astrophysics (IIA), Bengaluru, are providing scientific and technological support.
- The primary objective is **to promote astronomy tourism in a sustainable and environment-friendly manner.**
- India is still in the process of filing its nomination to IDSA.
- **Long and harsh winters** with minimum temperatures dropping to minus 40°C make large parts of the UT highly inhabitable. This **aridity, limited vegetation, high elevation and large areas with sparse populations, all make it the perfect setting for long-term astronomical observatories** and dark sky places.

Process of Site Becoming a DSR

- Individuals or groups can nominate a site for certification to the IDSA.
- There are **5 designated categories, namely International Dark Sky parks, communities, reserves, sanctuaries and Urban Night Sky Places.**
- The IDSA considers a piece of land suitable for dark sky place only if:
  - it is either publicly or privately owned;
  - is accessible to the public partially or entirely during the year;
  - the land is legally protected for scientific, natural, educational, cultural, heritage and/or public enjoyment purposes;
  - the core area of the land provides an exceptional dark sky resource relative to the communities and cities that surround it,
  - the land offers prescribed night sky brightness either for a reserve, park or sanctuary.
- Between 2001 and January 2022, there have been 195 sites recognized as International Dark Sky Places globally.

Indian Astronomical Observatory (IAO)

- It is located in **Hanle near Leh in Ladakh.**
- It has one of the world's highest located sites **for optical, infrared and gamma-ray telescopes.**
- It is operated by the **Indian Institute of Astrophysics, Bangalore**.
- Telescopes located **at Hanle observatory- The Himalayan Chandra Telescope (HCT), High Energy Gamma Ray (HAGAR) Telescope, Major Atmospheric Cherenkov Experiment (MACE) Telescope and GROWTH-India.**

PARTNERSHIP BETWEEN ONEWEB AND NSIL

- The ISRO heaviest rocket Launch Vehicle Mark 3 (LVM3 or GSLV Mark 3) took off from the Satish Dhawan Space Centre, Sriharikota.
  - It successfully orbited 36 satellites of U.K. based OneWeb.
- This mission is being undertaken as part of the commercial arrangement between New Space India Limited (NSIL) and Network Access Associates Limited (m/s OneWeb Ltd).

About OneWeb Satellite Constellation

- It is a **London-based satellite communications company** with planned network of **648 low Earth orbit (LEO)** satellites.
- It aimed to deliver high data throughput, low latency, and true global coverage to the poles.
- They are mostly used for telecommunication and satellite imagery.

OneWeb-NSIL partnership

- In October 2021, OneWeb had signed a letter of intent (LoI) with NSIL as one of the potential platforms to launch its satellites.
- The satellites will be carried onboard GSLV-Mk III, ISRO's heaviest rocket.
- It aims to help in bridging the digital divide in India.
- The arrival of OneWeb satellites in India for launch can provide a huge impetus and even more global exposure to the country's space industry.

About LVM3-M2

- It is earlier called Geosynchronous Launch Vehicle Mark III or GSLV-MK3.
- It is the dedicated commercial satellite mission of NSIL.
- It is capable of launching a 4,000-kilogram class of satellites into Geosynchronous Transfer Orbit (GTO) and 8,000 kgs of payloads into Low Earth Orbit (LEO).
- It is a 3-stage launch vehicle consisting of two solid strap-on motors, Core Liquid Stage and Cryogenic Upper Stage.
- It is ISRO's 2nd rocket for global commercial market, after its Polar Satellite Launch vehicle (PSLV).

Characteristics of GSLV MKIII

- Cost effective, Improved reliability, operability and redundancy management
- Future growth potential of payload with minimal design changes
  - Later, the payload capability of GSLV MKIII will be increased upto 6 tons to GTO.
  - A satellite in the GTO, orbits (at an altitude of ~37,000 km) the Earth once per day, keeping the satellite in roughly the same area over the ground.
- To support manned missions (like Gaganyaan mission) of Indian Space Programme
  - Human rated GSLV MkIII is identified as the launch vehicle for Gaganyaan mission.
  - Gaganyaan programme aims at carrying three Crew to Low Earth Orbit (LEO) and bring them back safely to a predetermined location on Earth.

About NSIL

- It is a Central Public Sector Enterprise & is the **commercial arm** of the **Indian space agency ISRO.**
- It was incorporated in March 2019 and is under the administrative control of the Department of Space (DoS) of the Government of India.
- It operates to fulfil business demands in the space sector, including building launch vehicles, satellite building and technology transfer, and satellite-based services.
- Its mission is to enable Indian industries to develop a high-technology manufacturing base for space programmes.

LCH PRACHAND

- Indian Air Force (IAF) has formally inducted the **indigenously developed** multi-role Light Combat Helicopter (LCH), Prachand. 45% of the equipment and materials used to make it are indigenous.
- It is designed and manufactured by the Hindustan Aeronautics Limited (HAL).
- It is powered by **two French-origin Shakti engines** manufactured by the HAL.
- Due to its light weight, it is capable of flying at great heights.
- The IAF claims that it is the **only attack helicopter in the world,** which can easily **land and take-off** at altitudes up to **5,000 meters (16,400 ft).**

- It uses radar-absorbing material to lower radar signature
- A pressurized cabin offers protection from Nuclear, Biological and Chemical (NBC) contingencies.

Need of LCH

- The idea of making a Light Combat Helicopter first came after the Kargil War of 1999.
- In 2006 the project of Light Combat Helicopter was launched in India.
- HAL then announced that it would develop a helicopter that could easily operate in the harshest desert areas as well as in **high altitude areas** like Ladakh and Siachen Glacier.

VYOMMITRA

- Vyommitra is currently undergoing pre-flight ground tests.
- It is the female-looking spacefaring humanoid designed to fly abroad unmanned test missions ahead of the Gaganyaan human space-flight mission. (developed by ISRO)
- Over the past few months, ISRO Inertial Systems Unit (IISU) has successfully integrated it with a computer brain which enables it to read control panels aboard and communicate with the ISRO ground stations.

SUPER APP

- Elon Musk revealed the idea of creating an everything app, which is often referred to as a super app.

About Super App

- It is a mobile or web application that can provide multiple Products and services under one umbrella. It includes messaging, social networking, peer-to-peer payments and e-commerce.
- It is expected to bring together all the consumer-facing businesses. Examples of Super Apps: WeChat, Hugo, Grab, Tata Neu

KUAFU-1

- China launched its first space-based solar observatory- Advanced Space-based Solar Observatory (ASO-S), nicknamed Kuafu-1, to solve the mystery of the Sun's eruptions.
- It will provide insights into how the Sun's magnetic field causes coronal mass ejections (CMEs) and other eruptions.
- It has the unique ability to study the middle corona, an important region of the sun where solar storms brew.
- It will also conduct simultaneous observations of both solar flares and CMEs to understand their connections and formation mechanisms.
- This mission is similar to NASA's Parker Solar Probe and European Space Agency's Solar Orbiter.
- India is also planning to launch a solar mission named Aditya-L1 in 2023 to research the solar atmosphere.

CYBER-KNIFE SYSTEM

- The Prime Minister of India laid the foundation stone of healthcare facilities in Ahmedabad, Gujarat, which will be the country's 1st govt. hospital that'll offer modern facilities like Cyber-Knife.

About Cyber-Knife System

- It is a non-invasive alternative to surgery for the treatment of both ***cancerous and non-cancerous tumours anywhere in the body.***
  - It is used to treat conditions including the prostate, lung, brain, spine, head and neck, liver, pancreas and kidney.
- The treatment delivering beams of high-dose radiation to tumours with extreme accuracy offers new hope to patients worldwide.
- A robotic arm is used in this technology to engage the radiation rays with any part of the body.
- It can treat moving tumours with pinpoint accuracy, which is unmatched by other radio surgery systems.

NEXT-GEN LAUNCH VEHICLE (NGLV)

- ISRO is developing a Next-Gen Launch Vehicle (NGLV).

About Next-Gen Launch Vehicle

- In NGLV, ISRO is looking at a cost-efficient, three-stage to orbit, reusable heavy-lift vehicle with a payload capability of 10 tonnes to Geostationary Transfer Orbit (GTO).
- It will feature semi-cryogenic propulsion (**refined kerosene as fuel with liquid oxygen (LOX) as oxidiser)** for the booster stages which is cheaper and more efficient.
- Potential uses of NGLV will be in the areas of launching communication satellites, deep space missions, future human spaceflight and cargo missions.

Launch Vehicles Developed by ISRO

- **Satellite Launch Vehicle (SLV)**
  - It was a small-lift launch vehicle project started in the early 1970s.
  - It was intended to reach a height of 400 kilometers and carry a payload of 40 kg.
  - The 1st successful launch took place in July 1980.
  - It was a four-stage rocket with all solid-propellant motors.
- **Augmented Satellite Launch Vehicle (ASLV)**
  - It was a small-lift launch vehicle five-stage solid-fuel rocket developed to place 150 kg satellites into Low Earth Orbit (LEO).
  - ISRO did not have sufficient funds for both the PSLV programme and the ASLV programme at the same time.
  - The ASLV programme was terminated after the initial developmental flights.
- **Polar Satellite Launch Vehicle (PSLV)**
  - It is the 3rd generation four-stage launch vehicle of India. PSLV's first launch was in 1994.
  - It is the 1st Indian launch vehicle to be equipped with liquid stages.
  - It is the most reliable rocket used by ISRO to date, with 52 of its 54 flights being successful.
  - Notable launches are – Chandrayaan-1 in 2008 and Mars Orbiter Spacecraft in 2013.
- **Geosynchronous Satellite Launch Vehicle (GSLV)**
  - It is a three-stage vehicle, which can carry heavy satellites to greater depths in space.
  - It can place approximately 4,000-kilogram into GTO (Geosynchronous Transfer Orbit) and 8,000 kgs of payloads into LEO.
  - GSLV rockets have carried out 18 missions, of which four ended in failure.
  - Mission Chandrayan-2 was launched by GSLV Mk-III.
- **Small Satellite Launch Vehicle (SSLV)**
  - It is a rocket that is designed to orbit satellites weighing less than 500kg in LEO and 300 kg to Sun Synchronous Orbit (SSO).
  - It is a 3 stage Launch Vehicle configured with three Solid Propulsion Stages and liquid propulsion-based Velocity Trimming Module (VTM) as a terminal stage.

KAMIKAZE DRONE

- These are **made in Iran**, where they are known as Shahed-136
- It is small unmanned drones that are **loaded with explosives** and can be flown directly over a tank or group of soldiers. Unlike drones that return to base once missiles are launched, "kamikaze" or "suicide" drones are destroyed in an attack
- It is called Switchblade drones because their bladelike wings spring out on launch. Because of their small size they are difficult to detect on radar.
- Russia, China, Israel, Iran and Turkey all have some version of this drone.

RUSTOM-2

- DRDO is expected to complete all user trials of Rustom-2 by August 2023,. Parallelly, a separate project for the weaponisation of the Rustom UAV is also under way.
- It is an indigenous Medium altitude long endurance (MALE) unmanned aerial vehicle (UAV).
- It is also known as Tapas-BH (Tactical Airborne Platform for Aerial Surveillance-Beyond Horizon).
- It is part of the Rustom line of UAVs that includes Rustom-I, Rustom-H and Rustom-C.
- It is designed and developed by Aeronautical Development Establishment (ADE), a Bengaluru-based premier lab of DRDO, with HAL-BEL as the production partners.
- It can carry a variety of payloads like Medium and Long-Range Electro Optic, Synthetic Aperture Radar (SAR), Electronic Intelligence (EILNT) and Situational Awareness Payload (SAP).

PILLARS OF CREATION (POC)

- NASA's James Webb Space Telescope has captured the iconic Pillars of Creation (PoC).
- The pillars are composed of **cool molecular hydrogen and dust** that are being eroded by **photo evaporation from the ultraviolet light of relatively close and hot stars.**
- The large loops of gas and dust that have collapsed under their own gravity slowly heated up to give birth to new stellar bodies. The bright red spheres located outside the pillars are baby stars.

- They are located 6,500 light years from Earth, in the **Eagle Nebula of our Milky Way galaxy.**
- The three-dimensional pillars are appeared at times semi-transparent in near-infrared light.
- It will help researchers revamp their models of star formation by identifying far more precise counts of newly formed stars, along with the quantities of gas and dust in the region.

SAMPURNANAND TELESCOPE

- Sampurnanand Telescope completed 50 years of operations.

About Sampurnanand Telescope

- It is located at ARIES, Manora Peak, Nainital (Uttarakhand).
  - Aryabhatta Research Institute of Observational Sciences (ARIES) is an autonomous institute under the Department of Science & Technology, specializes in observational Astronomy & Astrophysics and Atmospheric Sciences.
- It has been extensively used for optical observations of comets, occultation by planets and asteroids, star-forming regions and star clusters, variable stars, transients, active galactic nuclei, etc.
- Some of the Breakthrough Science Results Contributed by the Telescope Include

Discovery of rings of Uranus.

- Two additional rings around Saturn were detected, out of these, one ring was detected for the 1st time.
- 1st detection of optical afterglows of Gamma-ray-bursts (GRBs) and micro-lensing event from Indian soil.
- The 1st photoelectric observations of stars from Indian soil were obtained at the institute.
- The discovery of quakes in a half dozen of stars under 'The Nainital-Cape Survey', the one of the longest and unique ground-based surveys initiated jointly at the northern and southern hemispheres.

HAWK AIR DEFENSE

- The United States (US) is considering retrieving older HAWK air defense equipment from storage to send to Ukraine.

About HAWK Air Defense

- It short for 'Homing All the Way Killer'.
- It is an American **medium-range surface-to-air missile.**
- It entered service with the US Army in 1959, during the Vietnam war.
- It underwent upgrades over the decades that followed, including a major one in 1971 that produced the so-called I-HAWK (or improved HAWK), with a kill probability of 85%.
- The HAWK system was the predecessor to the PATRIOT missile defense system.
  - Patriot is a long-range, all-altitude, all-weather air defense system to counter tactical ballistic missiles, cruise missiles and advanced aircraft.

DIRTY BOMB

- Russia has claimed that Ukraine is planning to use a dirty bomb.

About Dirty Bomb

- It is a bomb that contains radioactive material, such as uranium, which is scattered through the air when its conventional explosive detonates.
- It does not create city-flattening atomic explosion but are designed to spread toxic waste.
- It uses radioactive materials from hospitals, nuclear power stations or research laboratories.
  - This makes them much cheaper and quicker to make than nuclear weapons.

ANTI-RADIATION MISSILE

- It is used to detect an enemy's source of radio emission. These are mostly manufactured to be used against the enemy radar.
- These can play a key role in neutralising any jamming platforms of the enemy or take out radar stations thereby clearing a path for their own fighters to carry out.
- India's 1st indigenous anti-radiation missile, Rudram, developed for the Indian Air Force, was successfully flight-tested from a Sukhoi-30 MKI jet.

STANDALONE VS NON-STANDALONE MODE OF 5G TECHNOLOGY

- Standalone (SA) options include only one generation of radio access technology and Non-standalone (NSA) includes two generations of radio access technologies (Eg. 4G LTE and 5G).

- NSA connects the control signalling of 5G radio networks to the 4G core while SA connects the 5G radio networks directly to the 5G core network.
- NSA is a 5G service that is not stand-alone but built on existing 4G networks.

QUANTUM ENTANGLEMENT

- It is a counterintuitive phenomenon that explains how two subatomic particles can be intimately linked to each other even if separated by billions of light-years of space.
- Despite their vast separation, a change induced in one will affect the other, if both are quantum entangled.
- Entangled states are key resources to facilitate many quantum information processing tasks and quantum cryptographic protocols.

BECQUEREL, GRAY, SIEVERT

- **Becquerel (Bq)** - It is a unit of radioactivity and focuses on where radiation comes from. It is used to express the amount of radioactive materials contained in soil, foods, tap water, etc.
- **Gray (Gy)** - It is the unit for absorbed dose which measures the amount of ionizing radiation that has been absorbed by any material.
- **Sievert (Sv)** – It is the SI unit for ionizing radiation dose. It is a measure of external and internal biological exposure to radiation.

GAMMA RAY BURSTS (GRB)

- These are short-lived bursts of gamma-ray light, the most energetic form of light.
- It shines hundreds of times brighter than a typical supernova and about a million trillion times as bright as the Sun.
- **Two types of GRBs -**
  - Long-duration bursts last anywhere from 2 seconds to several minutes, with an average time of about 30 seconds.
  - Short duration bursts are those that last less than 2 seconds; lasting anywhere from a few milliseconds to 2 seconds with an average duration of about 0.3 seconds.

VERY LARGE-SCALE INTEGRATION (VLSI)

- It is the process of integrating or embedding hundreds of thousands of transistors on a single silicon semiconductor microchip.
- This technology was conceived in the late 1970s when advanced level computer processor microchips were under development.
- The microprocessor and memory chips are VLSI devices.

EMIT MISSION

- NASA's Earth Surface Mineral Dust Source Investigation (EMIT) mission detects more than 50 methane super-emitters

About EMIT Mission

- It is an **Earth Ventures-Instrument (EVI-4) Mission to map the mineral composition of arid dust source regions via imaging spectroscopy** in the visible and short-wave infrared range.
- It was originally designed to examine how dust impacts climate.
  - But it has demonstrated another crucial capability, detecting the presence of methane.
- It was developed at **NASA's Jet Propulsion Laboratory** and installed on the **International Space Station (ISS) in July 2022**
- **Since then, it has been mapping the chemical composition of dust throughout the Earth's deserts**
- It will help researchers better pinpoint methane leaks and provide insight on how they can be addressed quickly.

Findings of EMIT Mission

- It identified a plume in the Permian Basin, New Mexico. It was roughly 3.3 kilometers long.
- In Turkmenistan, it identified 12 plumes from oil and gas infrastructure in the Caspian Sea port of Hazar. Some plumes spanned more than 32 kilometers.

About Methane (couple it with MARS

- It is the simplest hydrocarbon, consisting of one carbon atom and four hydrogen atoms.
- It is the 2nd most abundant greenhouse gas (GHG) in the atmosphere, after carbon dioxide. But is 80 times more potent GHG than carbon dioxide.
- It stays in the atmosphere for only ten years, unlike CO_2, which persists for hundreds or thousands of years.

CORONAL HOLES

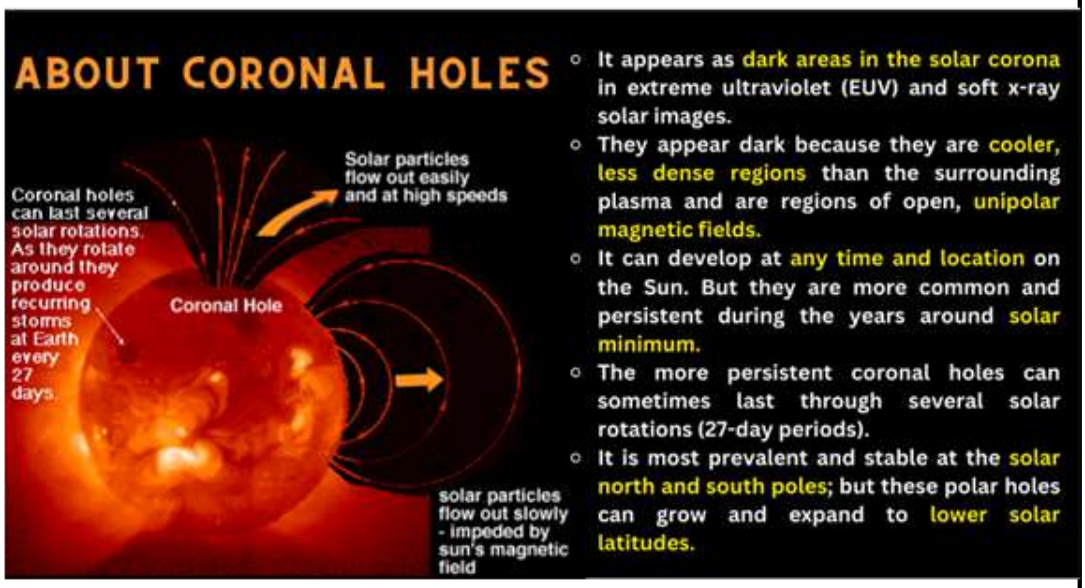
- NASA Solar Dynamics Observatory captured an image that has dark patches on the sun's surface resembling eyes and a smile. These patches are called Coronal holes.

Significance of Coronal Holes

- As per NASA, these are important to understanding the space environment around the earth through which our technology and astronauts travel.
- Persistent coronal holes are long-lasting sources for high-speed solar wind streams.
- Scientists study these fast solar wind streams because they sometimes interact with earth's magnetic field, creating what's called a geomagnetic storm.

About Geomagnetic Storm

- It is a major disturbance of Earth's magnetosphere that occurs when there is a very efficient exchange of energy from the solar wind into the space environment surrounding Earth.
- These storms result from variations in the solar wind that produce major changes in the currents, plasmas, and fields in Earth's magnetosphere.



Effect of Geomagnetic Storm

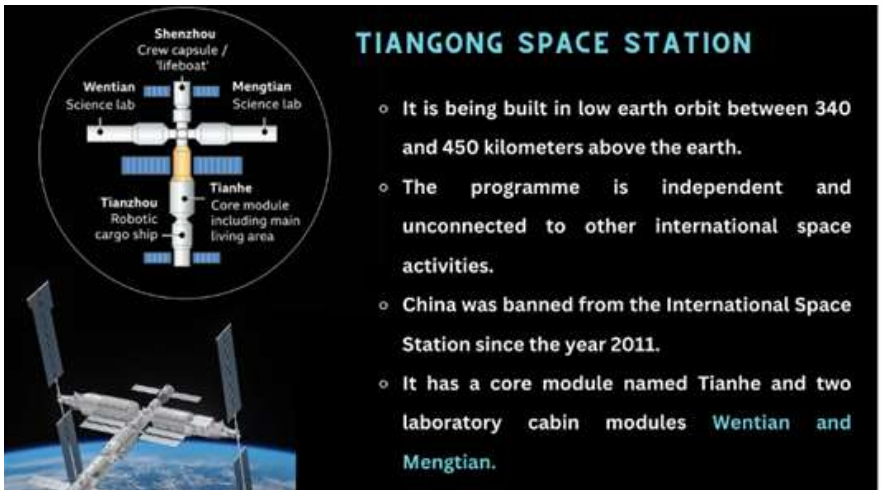
- It can hit operations of space-dependent services like global positioning systems (GPS), radio, and satellite communications.
- Astronauts on spacewalks face health risks from possible exposure to solar radiation outside the Earth's protective atmosphere.

LONG MARCH 5B ROCKET

- Large fragments of China's Long March 5B rocket plunged uncontrolled into the south-central Pacific Ocean.
  - The fragments were stages of the rocket used to deliver **the third and final module of the Tiangong space station of China.**

About Long March 5B rocket

- It is a Chinese heavy lift launch system developed by the China Academy of Launch Vehicle Technology (CALT).
- It is the 1st Chinese launch vehicle designed from the ground up to focus on **non-hypergolic liquid rocket propellants.**
- It is specially designed to carry the Tiangong space station modules.
- The maximum payload capacities of the base variant are 25,000 kilograms to Low Earth Orbit (LEO) and 14,000 kilograms to Geosynchronous Transfer Orbit (GTO).



FALCON HEAVY ROCKET

- SpaceX launched the Falcon Heavy rocket into a geosynchronous Earth orbit from the Launch Complex 39A at the Kennedy Space Center in Florida, U.S.
  - The rocket is carrying satellites to space for the U.S. military in a **mission named U.S. Space Force (USSF)-44.**

About Falcon Heavy Rocket

- It is a **partially reusable heavy** lift launch vehicle that is produced by SpaceX.
- SpaceX claims it to be the **most powerful rocket i**n the world today.
- It has 27 Merlin engines which together generate more than five million pounds of thrust at lift-off.
  - Merlin is a family of rocket engines developed by SpaceX for use on its Falcon 1, Falcon 9 and Falcon Heavy launch vehicles.
- It has a lifting capacity of around 64 metric tonnes in orbit.

VIKRAM-S

- India's 1st privately developed launch vehicle Vikram-S took off on its first flight from ISRO Sriharikota spaceport.
  - It is named after Vikram Sarabhai - the founder of India's space programme

About Vikram-S

- It is India's 1st Privately developed single-stage sub-orbital launch vehicle.
  - Suborbital flight travels slower than orbital velocity, meaning it is fast enough to reach outer space but not fast enough to stay in orbit around Earth.
- It is being developed by Hyderabad-based Skyroot Aerospace with support from ISRO and IN-SPACe. The skyroot has named the mission as **'Prarambh' (the beginning)** since it is the 1st mission for the company.
- The engine used in the launch vehicle - **Kalam-80, i**s named after former president Dr A P J Abdul Kalam.
- It will carry 3 payloads, including a 2.5-kilogram payload that has been developed by students from several countries, including India, under the aegis of **SpaceKidzIndia.**

Other variants of the Vikram rocket

- Skyroot has been developing 3 variants of the Vikram rocket that will use various solid and cryogenic fuels and have their core structure built using **carbon composites**. The thrusters used for spin stability in the vehicle have been **3D printed.**
  - Vikram-I can carry 480 kilograms of payload to Low Earth Orbit (LEO).
  - Vikram-II is equipped to lift off with 595 kilograms of cargo to 500 km Low Inclination Orbit (LIO), 400 kg to 500 km SSPO (sun-synchronous polar orbits)
  - Vikram-III can launch with **815 kg** to 500 km LIO; 560 kg to 500 km SSPO

CHALLENGER SPACESHIP DISASTER

- NASA has announced the recovery of debris from the Challenger spaceship that exploded 73 seconds after liftoff killing all seven astronauts aboard 37 years ago (January 28, 1986).

About the mission

- The mission designated STS-51-L.
- It was NASA's 10th flight for the orbiter and the 25th flight of the Space Shuttle fleet.
- It was supposed to be a six-day mission wherein, the crew was to deploy a large communications satellite, deploy and retrieve an astronomy payload to study Halley's Comet.
- The primary objective is was to launch the 2nd Tracking and Data Relay System (TDRS) satellite into orbit.

How this Mission Failed?

- The spacecraft broke apart after it suffered a major malfunction less than 2 minutes into its flight.
- The severe cold reduced the resiliency of two rubber O-rings that sealed the joint between the two lower segments of the solid rocket booster.
  - The O-ring seals are used to keep fluids from leaking and components sealed.
- The challenger broke up in the explosion, but the forward section with the crew cabin was severed in one piece.

Columbia Space Shuttle Accident

- It occurred in Feb, 2003, when NASA's space shuttle Columbia broke up as it returned to Earth, killing India-born Kalpana Chawla and six other astronauts were on board.
- An investigation board determined that a large piece of foam fell from the shuttle's external tank and breached the spacecraft wing.
- NASA suspended space shuttle flights for more than two years as it investigated the cause of the Columbia disaster.

POLLUTED WHITE DWARF STARS

- New research on polluted white dwarfs adds to evidence which suggests that the building blocks of planets like Jupiter and Saturn start forming when a young star is growing.
  - It was generally believed that stars formed millions of years before the planets that orbit them. The material leftover from star formation accumulates to form planets.
- The new study could potentially help solve a major puzzle in astronomy by changing scientific understanding of how planetary systems are formed.

About white dwarf

- It is a dim, dense, planet-sized star that marks the evolutionary endpoint for all but the most massive stars.
- The closest white dwarf to the Sun is Sirius B located at 8.6 light years.
- It forms from the collapse of stellar cores in which nuclear fusion has stopped and are exposed to space following the loss of the old star's bloated outer envelope.
- Approximately 97% of the stars in the Milky Way will eventually become white dwarfs.
- Eventually over hundreds of billions of years a white dwarf cools until it becomes a black dwarf, which emits no energy.
- Because the universe's oldest stars are only 10 billion to 20 billion years old there are no known black dwarfs.

About Polluted white dwarf stars

- These are white dwarf stars that have recently **consumed a planet or asteroid** that was orbiting around them.
- Usually, telescopes cannot learn much about the interior of planets but polluted white dwarf systems are an exception.
- Spectroscopic observations of such polluted stars can reveal the composition of the asteroids and planets that burned up in their atmosphere.

GOOGLE'S 1,000 LANGUAGE AI MODEL

- Google is developing a 1,000 Language AI Model that can support the 1,000 most spoken languages of the world.

About 1,000 Language AI Model

- The company claimed this model had the largest language coverage among existing speech models.
- Google's plan is to build one gigantic model for the 1,000 languages so that both widely used and rarer languages can co-exist, interact, and grow together
- It will be used to decode foreign languages instantly using massive amounts of user data and content on their servers.
- It will aim to reduce reliance on human labour for areas such as translation, customer service or computation.

Other language models

- Generative Pre-trained Transformer 3 (GPT-3)
- It was introduced by Open AI, an AI research firm.
- It is a language model that leverages deep learning to generate human-like text.
- Not only can it produce text, but it can also generate code, stories, poems, etc.

M2M-100 model

- Meta claims it to be the 1st multilingual translation model that does not use English as the default language when it translates directly between 100 languages.
- It is also open source.

OCEANSAT-3 EARTH OBSERVATION SATELLITE-6 (EOS-6)

- ISRO successfully launched the PSLV-C54/ EOS-06 mission with Oceansat-3 and eight nano satellites in partnership with the Ministry of Earth Sciences (MoES).

About Oceansat-3 (EOS-06)

- It is the 3rd-generation satellite in OceanSat series, designed and developed for ocean studies.
- It is a follow up to OceanSat-1 or IRS-P4 and OceanSat-2 launched in 1999 and 2009, respectively.

Objectives of EOS-06

- To ensure the data continuity of Ocean colour and wind vector data to sustain the operational applications.

- To improve the applications, some additional datasets such as Sea Surface Temperature (SST) and number of bands in Optical region for fluorescence and in Infrared region for atmospheric corrections are accommodated.
- To develop / improve related algorithms and data products to serve in well- established application areas and to enhance the mission utility.

Key Payloads Include

- **Ocean Color Monitor (OCM-3)** - Expected to provide improved accuracy in daily monitoring of phytoplankton.
- **Sea Surface Temperature Monitor (SSTM) -** Provide various forecasts ranging from fish aggregation to cyclone genesis and movement.
- **Ku-Band scatterometer (SCAT-3) -** Provide a high-resolution wind vector (speed and direction) at the ocean surface.
- **ARGOS –** A communication payload that is used for low-power communications including marine robotic floats, fish tags, drifters, and distress alert devices useful for conducting effective search and rescue operations.

Significance of EOS-6

- This is the 1st major ocean satellite launch coming from India since the initiation of the **UN Decade of Ocean Science for Sustainable Development (UNDOSSD, 2021-2030).**
- It will have the capability to make concurrent measurements of Ocean Colour, SST and Sea Surface Winds. Ocean observations will serve as a strong foundation for India's blue economy and polar region policies.

BLUEBUGGING

- It is a technique hackers employ to worm their way easily into a device when its Bluetooth is on discovery mode.
- Hackers use it to access calls, read and send text messages, steal sensitive information stored on the device, and even divert calls to their own numbers, among other things.
- Initially, it was used to target laptops, but hackers later developed methods to target all Bluetooth-enabled devices.

How to protect device from Bluebugging attacks?

- Update the phone and laptop to incorporate the latest software versions. This way, bugs in the existing version, if any, are removed.
- Turning off Bluetooth when not in use and disconnecting it from the paired devices

CPaaS

- CPaaS is an acronym for Communications Platform as a Service.
- It is a cloud-based delivery model that lets you add voice, video, and messaging features to your existing business software using application program interfaces (APIs).
- It allows you to cherry-pick real-time communications features and embed them into your apps and services.
- It can be used in multiple industries, like healthcare, education, FinTech and Entertainment.

WHY DOES THE MOON TURN RED DURING A LUNAR ECLIPSE?

- During a lunar eclipse, the Moon turns red because the only sunlight reaching the Moon passes through Earth's atmosphere.
- This phenomenon is called Rayleigh scattering.
- It is the same mechanism responsible for causing colorful sunrises and sunsets, and for the sky to look blue.
- The more dust or clouds in Earth's atmosphere during the eclipse, the redder the Moon will appear.

PHOTONIC CRYSTALS

- These are optical nanostructures in which the refractive index changes periodically.
- Refractive index is the measure of the bending of a ray of light when passing from one medium into another.
  - It occurs in nature in the form of structural coloration and animal reflectors.
  - Examples found in nature include opal, butterfly wings, peacock feathers, etc., exhibiting distinct iridescent colours (bright colours that seem to change in different lights).
  - It promises to be useful in a range of applications ranging from reflection coatings to optical computers when artificially produced or engineered in laboratories.

GRAM-NEGATIVE BACTERIA

- A multi-center survey was carried out by the ICMR to spot the trend in antibiotic resistance across the country.

About Gram-negative Bacteria

- It is a group of aerobic bacteria that do not retain the crystal violet dye during the procedure of Gram staining.
  - Gram staining is a common technique used to differentiate two large groups (Gram-positive and Gram-negative groups) of bacteria based on their different cell wall constituents.
- It appears pink in color when examined under the microscope.
- These bacteria are resistant to multiple drugs and are increasingly resistant to most available antibiotics.
- These are enclosed in a protective capsule. This capsule helps prevent white blood cells, which fight infection from ingesting the bacteria.
- It causes infections including pneumonia, bloodstream infections, wound or surgical site infections, and meningitis in healthcare settings.

Antimicrobial Resistance

- It occurs when *bacteria, viruses, fungi, and parasites change over time* and no longer respond to medicines making infections harder to treat.
- It increases the risk of disease spread, severe illness and death.
- WHO has declared that AMR is one of the top 10 global public health threats facing humanity.
- Misuse and overuse of antimicrobials are the main drivers in the development of drug-resistant pathogens.
- A new study by The Lancet shows that antimicrobial-resistant bacteria may be directly responsible for 1.27 million deaths in 2019, based on estimates from 204 countries and territories.

TZIELD

US Food and Drug Administration (FDA) approved a new drug called Tzield (teplizumab), to delay the onset of type 1 diabetes.

About Tzield

- It is a monoclonal antibody injection that can prevent the body's immune system from mistakenly attacking cells in the pancreas that make insulin.
- It could push back the onset of type 1 diabetes in adults at stage 3 and children aged eight years or more at stage 2.

Diabetes

- It is a disease that occurs when your blood glucose, also called blood sugar, is too high.
  - Blood glucose is your main source of energy and comes from the food you eat.

· Insulin, a hormone made by the pancreas, helps glucose from food get into your cells to be used for energy.

Types of Diabetes

- **Type 1 Diabetes:** It is also known as juvenile diabetes (**as it mostly affects** children of age 14-16 years), this type occurs when the body **fails to produce** sufficient insulin. It is predominantly diagnosed in children and adolescents. Although the prevalence is less, it is much **more severe than type 2.**
  - It is caused by an **autoimmune attack** on the insulin-producing cells within the pancreas.
  - People with type 1 diabetes need to take a diabetes medicine called insulin to control their blood sugar.
- **Type 2 diabetes –** In type 2 diabetes, the body does not make or use insulin well (while the body still makes insulin). It can happen at any age, even during childhood. It is the most common type of diabetes.
- **Gestational diabetes -** It develops in some women when they are pregnant. Most of the time, this type of diabetes goes away after the baby is born.

NARCO TEST

A Delhi Court recently ordered a narco test for Aftab Amin Poonawala in the Shradha Walkar killing case.

About Narco Test

- In a narco or narcoanalysis test, a drug called **sodium pentothal and sodium amytal** is injected into the body of the accused, which transports them to a hypnotic or sedated state.
  - A hypnotic or sedated state is a state in which their imagination is neutralised.
- In the hypnotic stage, the person becomes less inhibited and is more likely to divulge information, which would usually not be revealed in the conscious state.

Notable Example of Narco Test in India

- In the 2002 Gujarat riots case.
- Abdul Karim Telgi fake stamp paper scam.
- The Nithari killings case in 2007
- The 26/11 Mumbai terror attack case on captured terrorist Ajmal Kasab.

Rules Related to Narcos Test

- In the Selvi vs State of Karnataka & Anr case (2010), the Supreme Court ruled that no lie detector tests should be administered without the consent of the accused.
  - It includes narco tests, brain mapping and polygraph tests.
- However, statements made during narco analysis test are not admissible in the court except under certain circumstances when the court thinks that the facts & nature of the case permit it.

Polygraph Test

- This test is based on the assumption that physiological responses that are triggered when a person is lying are different from what they would be otherwise.
- It does not involve injecting drugs into the body like narco test.
- Instruments are attached to the suspect, and indicators such as blood pressure, pulse, respiration, respiration, change in sweat gland activity, blood flow, etc., are measured as questions are put to them.
- A numerical value is assigned to each response to conclude whether the person is telling the truth, is deceiving, or is uncertain.

Brain Mapping Test or P-300 test:

- In this test, the activity of the brain of a suspect is measured during interrogation to find out whether he is concealing any information.

MEASLES

The Ministry of Health and Family Welfare has deputed a high-level team to Mumbai to manage Measles cases.

About Measles

- It is a very contagious respiratory infection caused by the measles virus.
- It is transmitted via droplets from the nose, mouth or throat of infected persons.
- Initial symptoms usually occur 10–12 days after infection and comprise high fever, runny nose, bloodshot eyes and Koplik's spots (tiny white spots on the inside of the mouth).
- It spreads easily and can be serious and even fatal for small children.

Treatment of Measles

- There is no specific treatment for measles, so it is recommended that you take all necessary precautions to avoid contracting the disease.
  - Children should be immunised within 12 months of birth, with the 2nd dose administered between the ages of 4-6.
  - MMR (Mumps, Measles, and Rubella) is a vaccine that protects against 3 diseases:

India and Measles

- According to (WHO) India stood 4th among 194 countries in the number of measles cases registered between July 2018- June 2019.
- India has adopted the National Strategic Plan for Achieving and Sustaining Measles and Rubella Elimination.
  - India vaccinated over 324 mn children between 2017-2020 through the MR vaccination campaign.

CORDY GOLD NANOPARTICLES (COR-AUNPS)

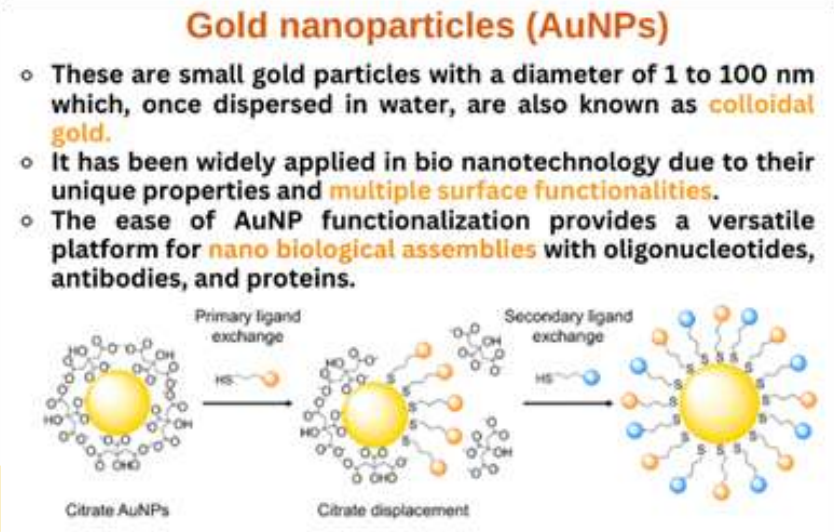
- A collaborative experiment by scientists from four Indian institutions has earned an international patent from Germany for developing Cordy Gold Nanoparticles (Cor-AuNPs)

About Cordy gold nanoparticles

- These nanoparticles are derived from the synthesis of the extracts of Cordyceps militaris and gold salts.
  - Gold salts are ionic chemical compounds of gold generally used in medicine.
  - Cordyceps militaris is a high-value lab-grown parasitic fungus. It is also called super mushroom because of its tremendous medicinal properties. Wild Cordyceps mushrooms are found in the eastern Himalayan belt.

Significance of Cordy gold nanoparticles

- It indicates a new application of nanoparticles in the development of therapeutic drugs which can be delivered as ointments, tablets, capsules, and in other forms.
- It is able to interact with the skin barrier, enhancing delivery and improving the skin permeability of high-molecular-weight active agents.



XENOTRANSPLANTATION

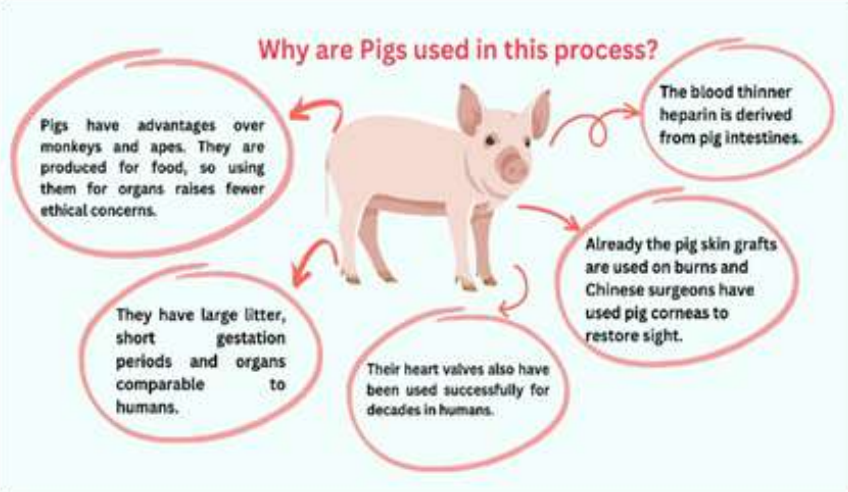
- Researchers have said that the genetically modified pig heart took longer to generate a heartbeat than hearts of pigs or humans usually do.
  - Genetically engineered hearts are transplanted into humans using the xenotransplantation process.

About Xenotransplantation

- It is a process that involves the transplantation (works on active tissue), implantation (mechanical support) or infusion into a human recipient of either:
  - live cells, tissues, or organs from a nonhuman animal source.
  - human body fluids, cells, tissues or organs that have had ex vivo contact with live nonhuman animal cells, tissues or organs.
- It could provide an alternative and additional supply of organs for people facing life-threatening diseases.

Concerns

- Animals, such as Pigs, have a shorter lifespan than humans, meaning that their tissues age at a quicker rate and due to this man may die prematurely.
- Disease transmission and permanent alteration to the genetic code of animals are also causes for concern.
- Animal rights activists have also objected to xenotransplantation on ethical grounds.



MYOSITIS

- It is a rare condition that causes muscles to become weak, painful and tired.
- It is usually caused by a problem with the **immune system, where it mistakenly attacks healthy tissue.**
- In most cases, the exact cause of myositis is unknown and (therefore considered idiopathic).
- It usually affects arms, shoulders, legs, hips, abdomen and spinal muscles. In advanced stages it may affect muscles of esophagus (food pipe), diaphragm and eyes.
- The general symptoms may include muscle pain and soreness, fatigue, trouble swallowing, and difficulty breathing.

Treatment

- It is usually treated with steroids and immunosuppressive drugs.
- There is no one medical treatment that fits all, so physical therapy along with the drug are recommended that can help keep muscles strong and prevent muscle atrophy(thinning).

CAR T CELLS

- Chimeric Antigen Receptor (CAR)-T Cells are a patient's own immune cells that are genetically engineered in the laboratory to fight cancer.
- It is used as 3rd or 2nd-line treatment for patients of specific types of cancers of blood and lymph nodes.

ORS

- Oral rehydration solution (ORS) is an oral powder–containing mixture of glucose, sodium chloride, potassium chloride, and sodium citrate.
- After being dissolved in the requisite volume of water they are intended for the prevention and treatment of dehydration due to diarrhea, including maintenance therapy.

TROPONIN

- It is a type of protein found in the muscles of your heart.
- It isn't normally found in the blood. When heart muscles become damaged, troponin is sent into the bloodstream.
- As heart damage increases, greater amounts of troponin are released in the blood.
- A troponin test measures the level of troponin in your blood.

GENE DRIVE

- It is a type of genetic engineering technique that modifies genes so that they don't follow the typical rules of heredity.
- It consists of 3 major components: the gene we want to spread; Cas9 enzyme that can cut DNA; and CRISPR, a permissible DNA sequence that identifies where the enzyme should cut.
- This technology could be an effective way to eradicate nuisance species, such as malaria-causing mosquitoes.

DIETHYLENE GLYCOL (DEG) AND ETHYLENE GLYCOL (EG)

- Many children have died in the Gambia after consuming cough syrup containing DEG and EG.
- Both are often found as contaminants in glycerin, which is used as a sweetener in the manufacture of pharmaceutical cough syrups.
- Both have similar physical properties like colourless, odorless and viscous.

LECANEMAB

- It is an experimental drug currently in clinical trials for the treatment of Alzheimer's disease.
- Alzheimer's disease is a form of dementia. The disease is not a part of normal aging, and likely caused by various processes that damage neurons of the brain.
- Amyloid hypothesis is a theory in which some researchers believe that flaws in the processes governing production, accumulation or disposal of beta-amyloid are the primary cause of Alzheimer's.

ADDERALL

The US Food and Drug and Drug Administration (FDA) recently announced a shortage of Adderall.

About Adderall

- It is a drug for the treatment of attention-deficit hyperactivity disorder (ADHD) and narcolepsy, a sleep condition that causes daytime sleepiness.
- It consists of a combination of dextro-amphetamine and amphetamine.
- It can help enhance sports performance, improve focus, concentration, impulse control, hyperactivity, because of its effects on the central nervous system.
- It is classified as a Schedule II drug in the US, which means the drug has a high potential for abuse.

PLANT BASED MEAT

Cricketer M S Dhoni picked up an undisclosed equity stake in plant-based meat start-up Shaka Harry.

About Plant Based Meat

- It refers to products that bio-mimic or replicate meat derived from animals, by looking, smelling, and tasting like them.
  - Other plant-based products are seafood, eggs, and milk that biomimic or replicate original products derived from animals.
- It is made from vegetarian or vegan ingredients such as soy, wheat gluten, pea protein or myco-protein.
- It found it to be a good source of fiber, folate, and iron while containing less saturated fat than ground beef.

STORING SPENT NUCLEAR FUEL

- The **Supreme Court (SC)** has said the problem of **storing spent nuclear fuel from the Kudankulam nuclear power plant (KKNPP)** has to be worked out.
  - The SC asked the Tamil Nadu government to file a schedule for the completion of public hearings on the issue of Away from Reactor (AFR).
  - The scheme for the storage of spent fuel in a nuclear power plant was two-fold-
- One facility is **located within the reactor building**, generally known as the **spent fuel storage pool/bay**
- The other is **located away from the reactor**, called the **Away from Reactor (AFR) Spent Fuel Storage Facility.**

Storage of Spent fuel

- It is thermally hot and very radioactive (radioactive waste, and also plutonium) so it is placed into water cooling pools at the reactor site for at least five years.
- These pools are at least 20 feet deep and provide shielding and a cooling mechanism.
- It is then moved to large storage casks where it passively cools and awaits final disposal.

Can Used Fuel can be Recycled?

- It contains large amounts of uranium, therefore, lots of usable fuel still remains which makes recycling possible. It can be recycled to make new fuel and by-products.
- To recycle the waste, it is chemically processed and used in fast reactors.
- Reprocessing is much more expensive and difficult than mining uranium and enriching it.
- Currently, France and Japan recycle fuel one time before it is disposed, and the US previously had a recycling program that was shut down.

PIVOT

- The researchers at the **IIT Madras have developed an Artificial Intelligence (AI)-based tool, 'PIVOT'.**
- It is **capable of predicting cancer-causing genes** in patients.
- It is a machine learning tool which uses different kinds of data, such as mutation and gene expression, to predict cancer-causing genes, called driver genes, in a patient.
- This tool is **also capable to foresee new cancer-related genes such as PRKCA, SOX9 and PSMD4.**

MARBURG VIRUS DISEASE

WHO declared an outbreak of the highly-infectious Marburg virus in Ghana.

About Marburg Virus

- It's a **highly infectious viral haemorrhagic fever** belongs to the **same family as Ebola.**
- It has a **fatality ratio of up to 88%**. Fruit bats are the **key carriers of the disease**.
- Human-to-human transmission occurs through direct contact with the blood, secretions, organs, or other bodily fluids of infected people and with surfaces contaminated with these fluids.
- There are **no specific vaccines or antiviral treatments** to treat the disease. While the Ebola vaccine may potentially protect against a Marburg virus infection.

WOLBACHIA

- The scientists have been cross-breeding local Aedes aegypti mosquitoes, which transmit dengue, chikungunya and zika virus, with mosquitoes that carry the **Wolbachia bacteria**. The Aedes aegypti mosquito cannot spread these when they are artificially infected with a bacterium, Wolbachia.

About Wolbachia

- It is an extremely **common bacteria that occur naturally in 50% of insect species, i**ncluding some mosquitoes, fruit flies, moths, dragonflies and butterflies. However, Wolbachia is not usually found in the Aedes aegypti mosquito
- It **lives inside insect cells & are passed from one generation to next** through an insect's eggs.

WORLD ZOONOSES DAY

It is celebrated on July 6, across the world annually. It is celebrated to spread awareness on infectious diseases, which are collectively called as zoonotic diseases.

About Zoonotic Diseases

- It is a disease or infection that can be transmitted naturally from vertebrate animals to humans or from humans to vertebrate animals.
- More than 60% of human pathogens are zoonotic in origin. This includes a wide variety of bacteria, viruses, fungi, protozoa, parasites, and other pathogens.
- Some of the common zoonotic diseases are Rabies, Ebola, Swine flu, Zika & Ebola viruses, plague, dengue, chikungunya, Japanese encephalitis and Covid-19.

Factors Influencing Relevance of Zoonoses

- **Ecological changes in man's environment** - With the expansion of human population, man exploits natural resources, all this will prompt humans to enter the unaccountable ecosystem in which potential pathogens exist.
- **Handling animal by-products and wastes** - There is significantly higher chance of attack while handling this waste.

- **Increased movements of man** - It expose the people to contaminated food and water leading to diseases like amoebiasis, salmonellosis, shigellosis, etc.
  - Salmonella live in the intestinal tracts of animals, including birds.
  - Shigella bacteria are usually found in stool of people who are infected.
- **Increased trade in animal products** - Countries which import from an area where some of the zoonoses are endemic, are likely to introduce the disease into their territories.

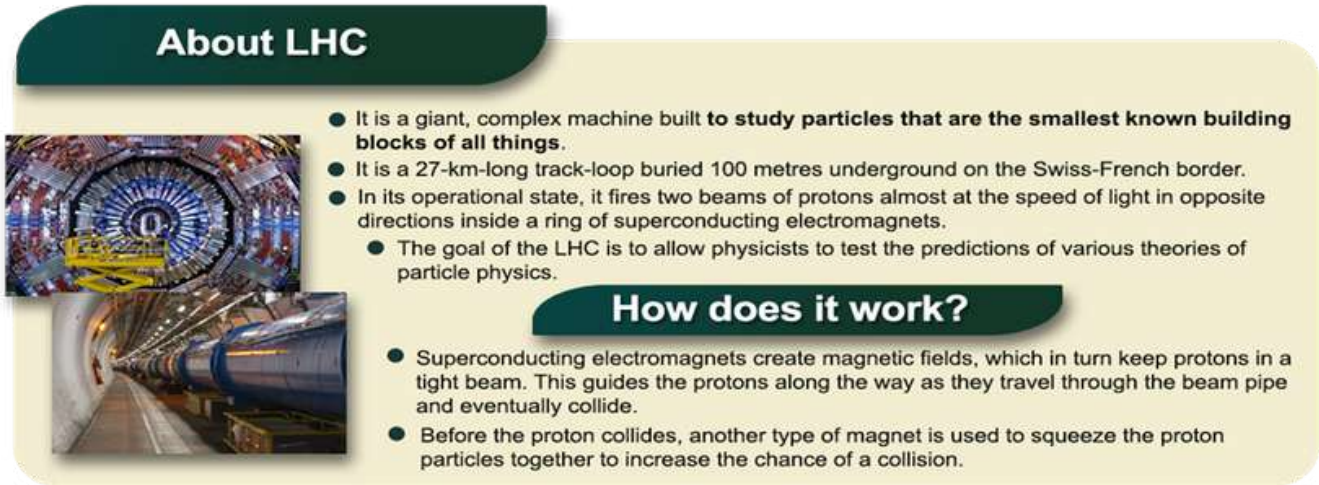
How Can Zoonoses Be Treated?

- Viral zoonoses are not easy to treat. Some of the available treatments include vaccination, antiviral medications, and adjuvant therapy (augmentation therapy). One can rely on herbal medicines and dietary polyphenols. Bacterial zoonoses are treated with antibiotics.

LARGE HADRON COLLIDER (LHC)

- The European Organisation for Nuclear Research (CERN) has reignited the Large Hadron Collider for the third time (LHC). LHC, the world's most powerful particle collider, began breaking protons at energy levels that previously did not exist.
- It will operate round-the-clock for 4 years at unprecedented energy levels of 13 tera electron volts. (An electron volt is the energy given to an electron by accelerating it through 1 volt of electric potential difference).
- Now, scientists will record and analyse the data. This is likely to throw evidence of physics beyond the Standard Model of particle physics.

The standard Model of particle physics is the theory which describes 3 of the 4 known fundamental forces (electromagnetic, weak, and strong interactions, not including gravitational force) in the universe, as well as classifies all known elementary particles.



- India in 2016 became an associate member of CERN. India was inducted as an **'Observer'** at CERN in 2004
- Indian scientists have played a significant role in the A Large Ion Collider Experiment (ALICE) and Compact Muon Solenoid (CMS) experiments that led to the discovery of the Higgs Boson.

SINGLE-CRYSTALLINE SCANDIUM NITRIDE (SCN)

- Researchers at Bengaluru's Jawaharlal Nehru Centre for Advanced Scientific Research (JNCASR) have discovered a new material called **single-crystalline scandium nitride (ScN).**
- It can **emit, detect, and modulate infrared light** with high efficiency making it useful for **solar and thermal energy harvesting and for optical communication devices.**
- It is **able to convert infrared light into renewable energy.**
- **Researchers have utilized a scientific phenomenon called polariton excitations** that occur in tailored materials when light couples with either the collective free electron oscillations or polar lattice vibrations to achieve this feat.
- Scientists have carefully controlled material properties to excite polaritons and achieve strong light-matter interactions in ScN using infrared light.

Infrared Light

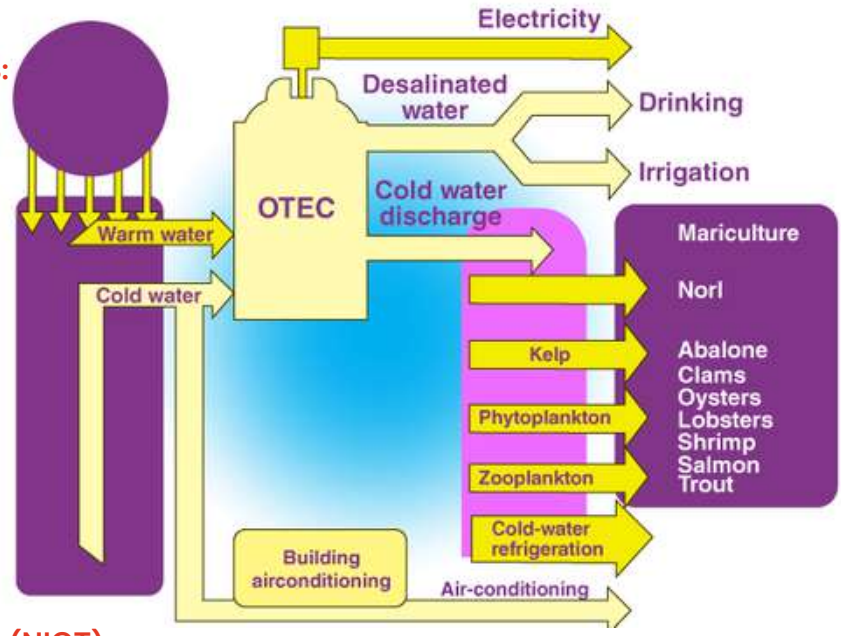
- It is electromagnetic radiation with wavelengths longer than those of visible light.
- People encounter Infrared waves every day; the human eye can't see it, but humans can detect it as heat.
- Infrared radiation is used in industrial, scientific, military, commercial, and medical applications.

OCEAN THERMAL ENERGY CONVERSION PLANT (OTEC)

- The **National Institute of Ocean Technology**, an autonomous institute under the Union Ministry of Earth Sciences (MoES) is establishing an **Ocean Thermal Energy Conversion plant** with a capacity of 65 kW.
- It is **being established in Kavaratti, the capital of Lakshadweep.**
- It is a process or technology **for producing energy by harnessing the temperature differences between ocean surface waters and deep ocean waters.**
- Beyond the production of clean power, the OTEC process also converts seawater into potable water.
- The plant can also deliver the cool water to the surface and can be used in air-conditioning systems.
- This water can also be used in chilled-soil agriculture, which allows for the cultivation of temperate-zone plants in tropical environments.

There are 2 types of OTEC technologies:

- **Closed cycle method :** A *working fluid (ammonia)* is pumped through a heat exchanger for evaporation and the steam runs a turbine.
  - The vapour is turned back to fluid (condensation) by the cold water found at the depths of the ocean where it returns to the heat exchanger.
- **Open cycle method :** The warm surface water is pressurized in a vacuum chamber and converted to steam which runs the turbine. The steam is then condensed using cold ocean water from lower depths.



National Institute of Ocean Technology (NIOT)

- It is an **autonomous society under the MoES**. It was established in November 1993.
- It aims to develop reliable indigenous technologies to solve various engineering problems associated with harvesting of non-living & living resources in **Indian Exclusive Economic Zone (EEZ).**

BIOENGINEERED CORNEA IMPLANT

- Researchers in **Sweden** have been able to create a successful alternative bioengineered cornea implant made of **collagen derived from pig skin.**

About Bioengineering

- It **overlaps substantially with biotechnology and the biomedical sciences.**
- It attempts to either mimic biological systems to create products, or to modify and control biological systems.
- Examples of bioengineering include bacteria engineered to produce chemicals, new medical imaging technology, portable and rapid disease diagnostic devices, prosthetics, biopharmaceuticals, and tissue-engineered organs.

Why Researchers used collagen derived from pig skin?

- Collagen derived from pig skin is a by-product of the food industry that is already used in medical devices for **glaucoma surgery**. Glaucoma is a conditions that damage the optic nerve.
- This is cheaper and easier to access than donated corneas. It requires a less invasive procedure and can be stored for a significantly longer period.

POLYCYCLIC AROMATIC HYDROCARBONS (PAHS)

- PAHs are a class of chemicals that occur naturally in coal, crude oil, and gasoline. They result from burning coal, oil, gas, wood, garbage, and tobacco. They can bind to or form small particles in the air.

MIST SUBMARINE CABLE NETWORK

- The project is known as the Myanmar/Malaysia-India-Singapore Transit (MIST) Submarine Cable System
- It is an 8,100 km-long undersea transnational fibre optic cable system, to connect India with Myanmar, Thailand, Malaysia and Singapore.
- It will provide secure, reliable, robust and affordable telecom facilities in Asia.

TALC AND ASBESTOS

- Talc and Asbestos both are naturally occurring mineral.
- Talc is used in cosmetics and other personal care products. For example, it may be used to absorb moisture, to make facial makeup opaque.
- Asbestos is used in insulation, brakes, shingles, flooring and many other products
- Direct inhalation of both minerals can cause serious and fatal illnesses.

CAR-T THERAPY

- Chimeric antigen receptor (CAR) T-cell therapy is a type of cell-based gene therapy. It involves altering the genes inside T cells to help them attack the cancer.
- T cells have their own proteins called receptors that attach to foreign antigens and help trigger other parts of the immune system to destroy the foreign substance.

APOBEC PROTEIN IN HUMAN BODY

- The study suggests that **several mutations that have been identified in the new sequences of the monkeypox virus** may have emerged due to **interaction between the virus genome and an important family of proteins coded by the human genome known as the Apolipoprotein B Editing Complex (or APOBEC3).**
- These proteins offer protection against certain viral infections by editing the genome sequence of the virus while it replicates in the cell. It has an intrinsic ability to bind to both RNA and single-stranded (ss)DNA.
- Loss of cellular control of APOBEC activities leads to **DNA hypermutation** and random RNA editing associated with the development of cancer or viral drug resistance.

SICKLE CELL DISEASE (SCD)

- African health ministers launched a campaign to ramp up awareness, bolster prevention and care to curb the toll of sickle cell disease.

About SCD

- It is a group of **inherited red blood cell disorders.** The cause of SCD is a defective gene, called a sickle cell gene. People with the disease are born with **two sickle cell genes,** one from each parent.
- With SCD, the **haemoglobin forms into stiff rods within the red blood cells.** This changes the shape of the red blood cells. The cells are supposed to be disc-shaped, but this changes them into a crescent, or sickle, shape.

Impact of SCD

- The sickle-shaped cells stick to vessel walls, causing a blockage that slows or stops the flow of blood. When this happens, oxygen can't reach nearby tissues.
- Poor blood oxygen levels and blood vessel blockages can cause extreme pain in the back, chest, hands and feet.
- **Symptoms of SCD:** Painful swelling of the hands and feet, fatigue or fussiness from anaemia, yellowish colour of the skin.
- **Treatments for SCD:** The only cure for SCD is bone marrow or stem cell transplantation.

Initiatives to Tackle with SCD

- The United Nations General Assembly (UNGA) adopted a resolution in December 2008 recognizing SCD as a public health problem.
- The Ministry of Tribal Affairs (MoTA) has launched the Sickle Cell Disease Support Corner to bridge the gap between patients and health care services in tribal areas.

NATIONAL AUTOMATED FINGERPRINT IDENTIFICATION SYSTEM (NAFIS)

- The union home minister inaugurated the *National Automated Fingerprint Identification System (NAFIS) at the National Securities Strategies (NSS) Conference 2022.*
- It is a **country-wide, centralised and searchable database** of crime- and criminal-related fingerprints.
- It is conceptualized and managed by the **National Crime Records Bureau (NCRB)** at the Central Fingerprint Bureau (CFPB) in New Delhi.
- It assigns a **unique 10-digit National Fingerprint Number (NFN)** to each person arrested for a crime.
- This unique ID will be used for the person's lifetime, and different crimes registered under different FIRs will be linked to the same NFN.

National Security Strategies Conference 2022

- It brings together the top leadership to address the national security challenges.
- Officers held discussions on different subjects of national security including counter-terrorism, radicalisation, counter Rogue-drone technology, issues related to crypto currencies, challenges of Maoist outfits.

BIOENGINEERED CORNEA IMPLANT

Researchers in Sweden have been able to create a successful alternative bioengineered cornea implant made of collagen derived from pig skin.

About Bioengineering

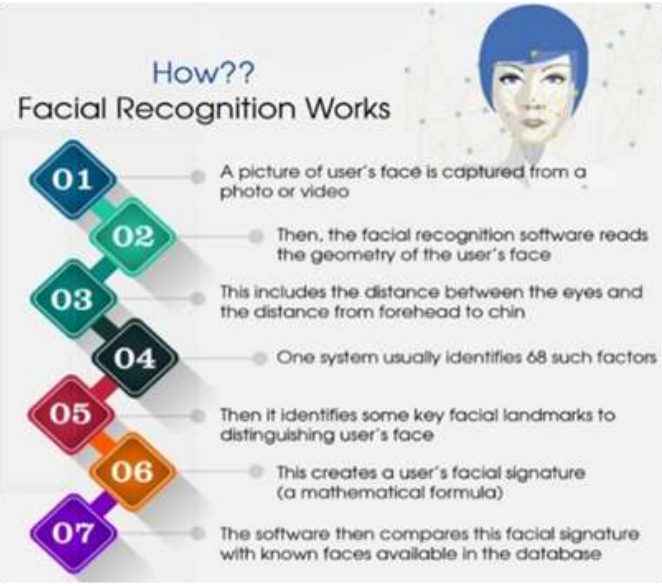
- It overlaps substantially with biotechnology and the biomedical sciences.
- It attempts to either mimic biological systems to create products, or to modify and control biological systems.
- Examples of bioengineering include bacteria engineered to produce chemicals, new medical imaging technology, portable and rapid disease diagnostic devices, prosthetics, biopharmaceuticals, and tissue-engineered organs.

Why Researchers used collagen derived from pig skin?

- Collagen derived from pig skin is a by-product of the food industry that is already used in medical devices for glaucoma surgery. Glaucoma is a conditions that damage the optic nerve.
- This is cheaper and easier to access than donated corneas. It requires a less invasive procedure and can be stored for a significantly longer period.

FACIAL RECOGNITION TECHNOLOGY (FRT)

- The records, shared under two RTI requests, throw light for the first time on how the Delhi Police uses facial recognition matches during investigations.
- Delhi Police considers the match positive if it has an accuracy rate of 80%.



About FRT

- It is a type of image identification technology.
- It uses distinctive facial features to identify and differentiate a person.
- These technologies rely on many of the processes and techniques associated with artificial intelligence (AI).

ADVANCED TOWED ARTILLERY GUN SYSTEM (ATAGS)

ATAGS howitzer became a part of the 21-Gun salute during the **75th anniversary of the country's freedom.**

About ATAGS

- It is an **indigenous howitzer gun developed by the DRDO.**
  - Howitzer is an umbrella term for a category of long-range artillery guns.
- It set a world record for the longest unassisted projectile range of 48 kilometres. It **has an all-electric drive to ensure reliability and minimum maintenance over a long period of time.**
- It has advanced features like high mobility, quick deployability, auxiliary power mode, advanced communication system, automatic command and control system with night capability in direct fire mode.
- The **ATAGS project was started in 2013 by DRDO to replace older guns in service** in the Indian Army with a modern 155mm artillery gun. The specialised gun system is compatible with C4I (command, control, communications, computers, and intelligence) systems.

BUTTERFLY MINE

- The UK Defence Ministry has reported on the possible use of PFM-1 series 'Butterfly Mines' by the Russian military in Ukraine.

About Butterfly Mine

- It is a scatterable, high explosive anti-personnel landmine.
- The **PFM-1 and PFM-1S** are two kinds of landmines that are commonly referred to as Butterfly mines or **"Green Parrots".** These names are derived from the shape & colour of the mines.
  - The major difference between PFM-1 & PFM-1S is that the latter one comes with a self-destruction mechanism which gets activated within one to 40 hours.
- These mines are also **difficult to detect because they are made of plastic and can evade metal detectors. It is very sensitive** to touch and just the act of picking it up can set it off.

- Because of the relatively lesser explosive packed in this small mine, it often injures and maims the handler rather than killing them. These mines can be deployed in the field of action through several means, which include being dropped from helicopters or through ballistic dispersion using artillery and mortar shells.

Conventions on Anti-Personal Mines

- These are banned by international convention on land mines but Russia & Ukraine are not signatories to it. India has not acceded to the Mine Ban Treaty.
- There is a 1996 Amended Protocol II to the Convention on Certain Conventional Weapons-the Landmines Protocol to which Russia and Ukraine are signatories.

VASCULITIS

- A Hollywood Actor Ashton Kutcher has revealed that he had vasculitis that affected his ability to see, hear or walk for a year.

About Vasculitis

- It is simply **an inflammation of blood vessels.**
  - Inflammation is the natural response of the body's immune system to any injury or infection, which in normal course can help the body fight invading germs.
  - It reduces the width of the passageway through the vessel. If blood flow is restricted, it can result in organ and tissue damage.
- The effect can be of different types, minor problems like affecting the skin, or can be a serious condition that restricts blood flow and leads to organ and tissue damage. For the **treatment of vasculitis, steroids are frequently prescribed.**

AGM-88 HARM

- The United States confirmed that it has supplied some **"anti-radiation missiles"** to Ukraine.

About AGM-88 HARM

- The acronym 'HARM' in the AGM-88 HARM stands for **High-Speed Anti-Radiation Missile.**
- It is an **air-to-surface missile**, which can cover a range of more than 100 km. The missile is produced by American defence contractor Raytheon Corporation.
- It has the **capability to detect and penetrate into the radiation emitted by enemy radar stations with surface-to-air detection capability.** It also has an anti-radar homing seeker broadband RF antenna and receiver, and a solid-state digital processor.

LANGYA HENIPAVIRUS (LAYV)

Cases of a novel Langya henipavirus (LayV) have been reported in Shandong and Henan provinces of China.

About LayV

- The newly discovered virus is a phylogenetically (evolutionary) distinct Henipavirus.
  - The types of Henipaviruses that had been identified prior to this included Hendra, Nipah, Cedar, Mojiang and the Ghanaian bat virus. Cedar virus, Ghanaian bat virus, and Mojiang virus are not known to cause human disease. But Hendra and Nipah infect humans and can cause fatal illness
- This virus is known to cause fever. Some infected also complained about the fatigue, cough, nausea, headache and vomiting.

Where has LayV come from?

- In all likelihood, the new virus has jumped from an animal to humans. The LayV virus RNA has been predominantly found in shrews, which may be its natural hosts. There are no clear answers yet about human-to-human transmission.

HELLFIRE R9X MISSILE

US military used a weapon, the Hellfire R9X missile, to kill Al Qaeda chief Ayman al-Zawahiri in Kabul.

About Hellfire R9X missile

- It is a **modified version of the renowned Hellfire missile which was an anti-tank weapon.**
- Hellfire means Heliborne, Laser, Fire and Forget Missile. It is developed by Lockheed Martin and Northrop Grumman (US).
- This **weapon does not carry a warhead and instead deploys razor-sharp blades** at the terminal stage of its attack trajectory.
- The blades pop out of the missile and cut down the intended target without causing massive damage to the surroundings.

AFRICAN SWINE FEVER (ASF)

- African swine fever reported in Kerala's Wayanad district.
- It is a highly contagious hemorrhagic **viral animal disease** that infects domestic and wild pigs. It is caused by a DNA virus of the Asfarviridae family. The **mortality is close to 100%.**
- Symptoms: high fever, loss of appetite, redness of skin on ears, abdomen, vomiting, diarrhoea.
- Currently, there is **no approved vaccine for ASF Pigs** are culled to prevent the spread of infection. It is **not a threat to human beings** since it only spreads from animals to other animals.
- It is listed in **World Organisation for Animal Health (OIE)** Terrestrial Animal Health Code and must be reported to the OIE.

World Organisation for Animal Health (OIE)

- It is an intergovernmental organization **responsible for improving animal health around the world.**
- It has 182 member countries. **India is also one of the members.**
- Headquartered in Paris, France.
- It develops regulatory documents relating to the rules that member states can use to protect themselves from diseases and pathogens. One of them is the Terrestrial Animal Health Code.
- OIE standards are recognised by the WTO as reference international sanitary rules

CSA6 GENE

- **CSA6 gene** can hold the key **to prevent fungal infection Candidiasis** that often affects intensive-care unit (ICU) patients, cancer patients and patients receiving **immunosuppressive therapy.**

Candidiasis

- It is a fungal infection caused by a yeast, a type of fungus called Candida Albicans (A fungal species infamous for causing high rates of morbidity and mortality under certain immuno-compromised conditions such as AIDS or during cancer treatment).
- It normally lives on skin and inside the body, such as the mouth, throat, gut, and vagina, without causing problems.
- Signs and symptoms include white patches on the tongue or other areas of the mouth and throat, soreness and problems swallowing, which is treated with antifungal medications.

INCOVACC

- It is an intra-nasal Covid-19 vaccine.
- It is developed by Bharat Biotech International Limited (BBIL).
- This vaccine will be used for primary immunization against COVID-19 in the 18+ age group for restricted use in emergency situations.
- The vaccine is stable between two and eight degrees Celsius for easy storage and distribution.

ANTI-RADIATION PILLS

- It is also known as potassium iodide (KI) tablet.
- It is known to provide some protection in cases of radiation exposure.
- It contains non-radioactive iodine and may help block the absorption, and subsequent concentration, of radioactive iodine in the thyroid gland.

LASSA FEVER

Nigeria Center for Disease Control (NCDC) said that in the year 2022, 171 people died of Lassa fever in Nigeria.

About Lassa Fever

- It is an acute viral haemorrhagic fever caused by Lassa virus. Viral haemorrhagic fevers (VHFs) are a group of illnesses caused by four families of viruses, including Ebola, Marburg, Lassa fever & yellow fever viruses.
- It is primarily transmitted to humans via contact with infected Mastomys rats.
- The death rate associated with this disease is low, at around 1%.
- Symptoms may include fever, fatigue, weakness, headache, difficulty breathing, vomiting, facial swelling, pain in the chest, back, and abdomen.
- The best way to avoid getting infected is to avoid contact with rats.
- The early stage of the infection can be treated using the antiviral drug ribavirin.

COFFEE-RING EFFECT

- In physics, a coffee ring is a pattern left by a puddle of particle-laden liquid after it evaporates.
- The phenomenon is named for the characteristic ring-like deposit along the perimeter of a spill of coffee.

- It forms because the liquid evaporates faster at the edges, inducing a flow from the droplet interior towards the outside.
- The curious thing though is that this stain will always be a ring shape, not a solid circle.

Implications

- It has implications for the manufacture of high-tech materials such as fuel cells, displays, and sensors. That's because a lot of these devices are made by depositing a coating onto a surface and one of the most popular ways of depositing a coating is by drop-casting.
- It has applications in agriculture, forensic science and even disease diagnosis.

VIRTUAL AUTOPSY

- Comedian Raju Srivastava's post-mortem was conducted using a novel technique called virtual autopsy.

About Virtual Autopsy

- 1.It is also called virtopsy. It is a new technique of post-mortem that does not include dissections. It is done with the help of high-tech digital X-rays and CT scan.
- 2.Countries like Switzerland, USA and Australia are already using virtual autopsy.
- 3.AIIMS Delhi is the only institute in Southeast Asia which has been doing virtual autopsy.

Significance of Virtual Autopsy

- It is less time consuming as compared to the traditional post-mortem.
- It also enables the accurate finding of the depth of foreign body, which is not often possible with conventional autopsy.
- It removes the ethical disadvantages of traditional autopsy as many cultures and traditions do not accept the dissection of the body for autopsy.

SOVA VIRUS

- The new **mobile banking Trojan' virus SOVA** is targeting Indian customers.
- A Trojan Virus is a type of malware that downloads into a device and disguised as a legitimate program.
- It can stealthily encrypt an **android phone** for ransom and is hard to uninstall.
- It can **add false overlays to a range of apps and mimic over 200 banking and payment applications** in order to con the Android user.
- It was earlier focusing on countries like the US, Russia and Spain. It added several other countries, including India, to its list of targets.

BIRD FLU DETECTED IN CETACEANS

- A bottlenose dolphin found dead in a Florida canal tested positive for a highly strong strain of bird flu.
- Swedish officials also reported that they had found the same type of avian influenza in a stranded porpoise.
- These findings represent the first two documented cases in cetaceans.
  - Cetaceans are an entirely aquatic order of mammals comprising whales, dolphins, and porpoises.

About New Strain

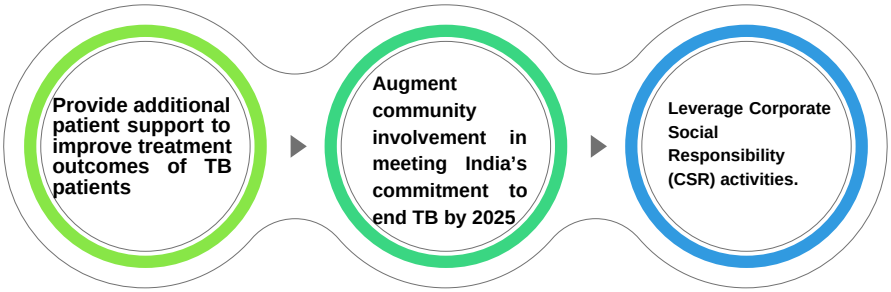
- This **strain of bird flu is known as "Eurasian H5N1"**
- The risk to humans remains low, the spread of the virus to new species poses potential risks to wildlife and provides the virus with new chances to mutate and adapt to mammalian hosts.
- Besides birds, the virus has earlier turned up in foxes, bobcats, skunks, and seals.

About Bird Flu (Types: H5N1, H7N2, H9N6, H17N10, H18N11 etc.)

- It is a disease **caused by avian influenza Type A viruses** found naturally in wild birds worldwide.
- The infection is deadly as it has a **high mortality rate of about 60%.**
- The most common route of virus transmission is direct contact, when a person comes in close contact with infected birds, either dead or alive.
- Symptoms may include fever, cough, sore throat, muscle aches, nausea, abdominal pain, diarrhea, vomiting, severe respiratory illness.
- A policy of killing infected and contact animals is normally used in an effort to rapidly contain, control, and eradicate the disease.

TUBERCULOSIS

- The President of India launched 'Pradhan Mantri TB Mukt Bharat Abhiyaan' to eliminate TB by 2025. It's an initiative of Ministry of Health and Family Welfare (MOHFW). Its objectives are -



Components:

- **Ni-kshay Mitra Initiative:** It is to ensure additional diagnostic, nutritional, and vocational support to those on TB treatment. Ni-kshay Mitra (Donor) are those who can support by adopting health facilities, blocks/urban wards/districts/states for accelerating response against TB to complement government efforts.
- **Ni-kshay Digital Portal:** It will provide a platform for community support for persons with TB.
- **About Tuberculosis**
  - It is caused by a bacterium called Mycobacterium tuberculosis.
  - In humans, it most commonly affects the lungs but it can also affect other parts of your body, including the kidneys, spine or brain.
  - It is spread from person to person through the air.
  - **Common symptoms** are cough with sputum and blood at times, chest pains, weakness, weight loss, fever.
  - It is a curable disease, treated by the standard 6-month course of 4 antibiotics.
  - **Bacillus Calmette Guerin (BCG)** vaccine is a vaccine primarily used against TB.
  - According to WHO, more than 4100 people lose their lives to TB every day.

TB and India

- India has the highest number of TB cases in the world, accounting for about 26% of world's total TB cases.
- It is estimated that every year 26 lakh people suffer from this disease and about 4 lakh people die from this disease.
- In 2018, the UN committed to end TB globally by 2030, but India announced it would try to eliminate TB in India by 2025, five years ahead of the UN's target.

BPaL (Short anti-TB regimen):

- It is a 6-month, all-oral, three-drug regimen that is used to treat people with highly drug-resistant forms of TB.
- BPaL is a combination of three newer antibiotics – bedaquiline, pretomanid and linezolid.

Indian Initiatives to Eliminate TB

- **National TB Elimination Programme -** It provides, various free of cost, quality tuberculosis diagnosis and treatment services across the country through the government health system.
- **The Nikshay Ecosystem -** It is the National TB information system which is a one-stop solution to manage information of patients and monitor program activity and performance throughout the country.
- **Nikshay Poshan Yojana (NPY)** - It aimed at providing financial support to TB patients for their nutrition.
- TB Harega Desh Jeetega Campaign - Launched in 2019, it is showcasing the highest level of commitment for the elimination of TB.
- **The Saksham Project -** It is a project of the Tata Institute of Social Sciences (TISS) that has been providing psycho-social counselling to DR-TB patients.
- **Joint Effort for Elimination of Tuberculosis (JEET) -** It is the largest private health sector engagement initiative for TB. The Government of India has partnered with the Global Fund to launch JEET.

CYBORG COCKROACHES

- An international team of researchers led by Japan's scientific institution, have devised a system that can create cyborg cockroaches, **that are part insect and part machine.**

About Cyborg Cockroaches

- The **Madagascar hissing cockroach is used to create cyborg cockroaches** by the scientists.
- These insect movements are controlled by tiny integrated circuits (ICs), which are wired into the creature's nervous system.
- **Pressing a button sends a shock to the backpack that tricks the roach into moving a certain direction.**
- It will help to conduct surveillance in procedures like urban search and rescue, environmental monitoring and inspection of areas dangerous to humans.

LEGIONELLOSIS

A cluster of pneumonia cases in Argentina has been identified as Legionellosis.

About Legionellosis

- It is a **type of pneumonia** caused by legionella bacteria, found naturally in freshwater.
- It **doesn't spread from person to person.** It spreads via inhalation of contaminated aerosols from contaminated water, which could come from — air conditioning cooling towers, evaporative condensers, hot and cold-water systems, humidifiers and whirlpool spas.
- Many people exposed to the bacteria don't develop symptoms.
- Those who do develop symptoms may experience cough, fever, chills, shortness of breath, muscle aches, headaches and diarrhoea.
- There are **no vaccines that can prevent Legionnaires' disease.**
- It requires treatment with antibiotics and most cases of this illness can be treated successfully.

METHAMPHETAMINE

Goa Police has revealed that political leader and actress Sonali Phogat died due to an **overdose of Methamphetamine.**

About Methamphetamine

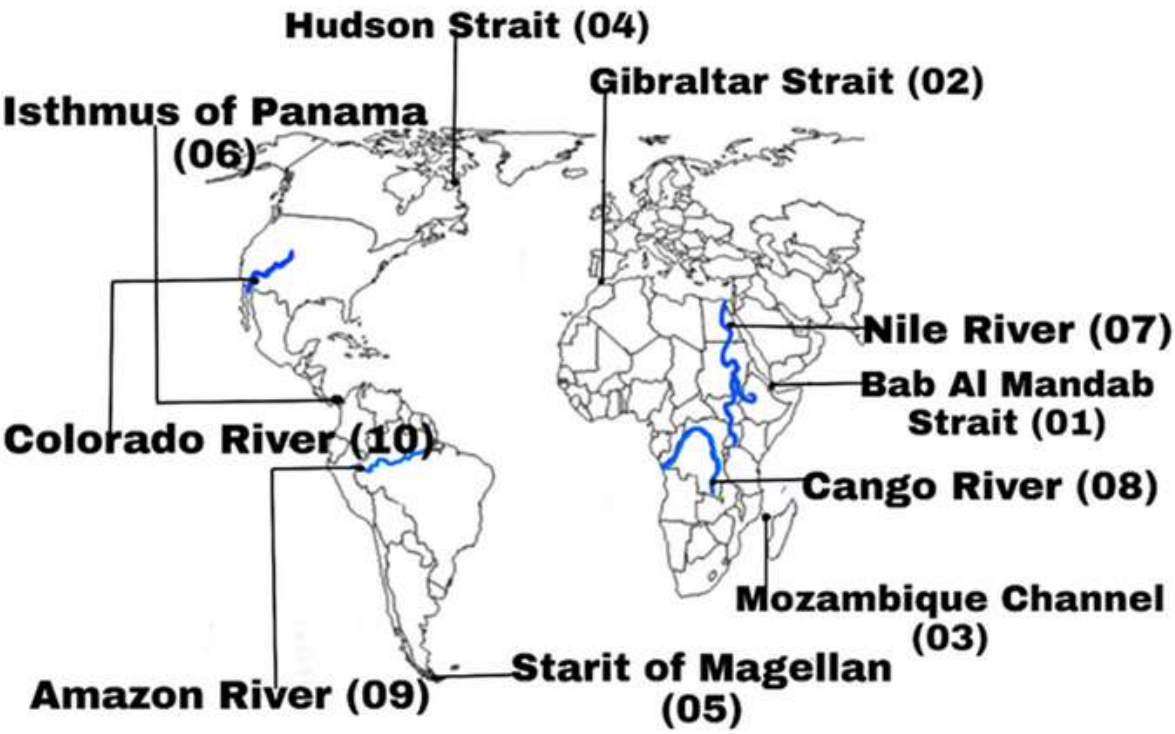
- It is a powerful, highly addictive stimulant that **affects the central nervous system.**
- It is usually a white, bitter-tasting powder or a pill. It can be smoked, swallowed, snorted, and injected after dissolving the powder in water or alcohol.
- It is **used to treat attention-deficit hyperactivity disorder (ADHD) and narcolepsy**, a sleep disorder.
- It is illegally smuggled and sold because of their potential for recreational use.
- The **Golden Triangle (Thailand, Laos, and Myanmar),** specifically Shan State, Myanmar, is the world's leading producer of methamphetamine.

Effects of Methamphetamine

- It increases the amount of the **natural chemical dopamine in the brain. Dopamine** is involved in body movement, motivation, and reinforcement of rewarding behaviors.
  - **Short-term health effects** include increased wakefulness and physical activity, decreased appetite, and increased blood pressure and body temperature.
  - **Long-term health effects** include risk of addiction, risk of contracting HIV and hepatitis, intense itching, violent behavior, and paranoia.

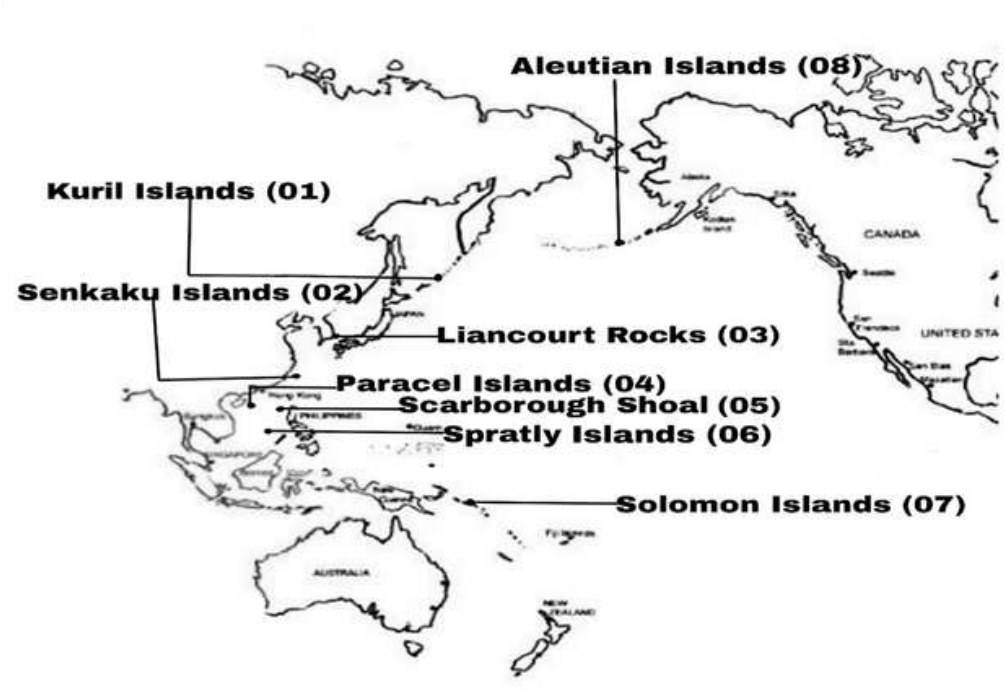
MAPPING

STRAITS AND RIVER



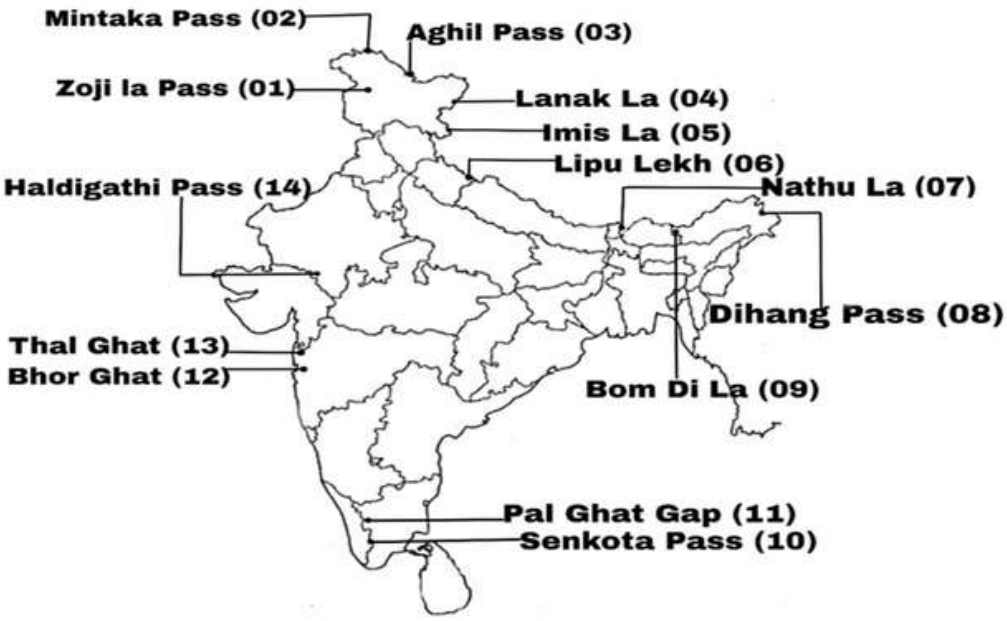
Sr. no	Straits and River	About
1	**Bab Al Mandab Strait**	The Bab-el-Mandeb is a strait between Yemen on the Arabian Peninsula, and Djibouti and Eritrea in the Horn of Africa. It connects the Red Sea to the Gulf of Aden.
2	**Gibraltar Strait**	The Strait of Gibraltar is a narrow strait that connects the Atlantic Ocean to the Mediterranean Sea and separates the Iberian Peninsula in Europe from Morocco in Africa.
3	**Mozambique Strait**	The Mozambique Channel is an arm of the Indian Ocean located between the Southeast African countries of Madagascar and Mozambique.
4	**Hudson Strait**	Hudson Strait lies between Baffin Island and Nunavik. This strait links the Atlantic Ocean and Labrador Sea to Hudson Bay in Canada.
5	**Strait of Magellan**	The Strait of Magellan is a navigable sea route in southern Chile separating mainland South America to the north and Tierra del Fuego to the south. It is considered the most important natural passage between the Atlantic and Pacific Ocean.
6	**Isthmus of Panama**	The Isthmus of Panama is the narrow strip of land that lies between the Caribbean Sea and the Pacific Ocean, linking North and South America.
7	**Nile River**	The Nile is a major north-flowing river in northeastern Africa. It flows into the Mediterranean Sea. The longest river in Africa.
8	**Congo River**	Formerly also known as the Zaire River, it is the 2nd longest river in Africa, shorter only than the Nile, as well as the second largest river in the world by discharge volume, after only the Amazon.
9	**Amazon River**	The Amazon River in South America is the largest river in the world by volume of water, and the longest river in the world compared to the Nile.

DISPUTED ISLANDS IN PACIFIC OCEAN



Sr. no.	Islands	About
1	**Kuril Islands**	These are a chain of islands that stretch between the Japanese island of Hokkaido at their southern end and the Russian Kamchatka Peninsula at their northern end. The islands separate the Sea of Okhotsk from the Pacific Ocean. There is a dispute between Japan and the Russian Federation over the ownership.
2	**Senkaku Islands**	These are a group of uninhabited islands in the East China Sea, administered by Japan, but China claims the discovery and ownership of the islands. In China, they are known as the Diaoyu Islands.
3	**Liancourt Rocks**	It forms a group of small islets in the Sea of Japan between the Korean Peninsula and the Japanese islands. South Korea controls the islands but their sovereignty over them is opposed by Japan. North Korea also claims this area.
4	**Paracel Islands**	Also known as the Xisha Islands, it is a disputed archipelago in the South China Sea between China, Taiwan and Vietnam. The archipelago consists of about 130 small atolls and reefs. This includes the Dragon Hole, the world's deepest underwater sinkhole.
5	**Scarborough Shoal**	It is located within the Philippine EEZ in the South China Sea. China claims it through the disputed nine-dash line.
6	**Spratly Islands**	The Islands are a disputed archipelago in the South China Sea between China, Philippines, Taiwan, Malaysia, Vietnam, and Brunei. They are largely uninhabited, but provide rich fishing grounds and may contain significant oil and natural gas reserves.
7	**Solomon Islands**	It is a sovereign country in the South Pacific Ocean, consisting of six major islands and more than 900 smaller islands in Oceania, east of Papua New Guinea. The US has warned them against China's military base being built in the Solomon Islands.
8	**Aleutian Island**	They are a chain of 14 large volcanic islands and 55 smaller islands. Most of the Aleutian Islands belong to the US state of Alaska, but some belong to the Russian federal. They form part of the Aleutian Arc in the North Pacific Ocean, serving as the boundary between the Bering Sea to the north and the Pacific Ocean to the south.

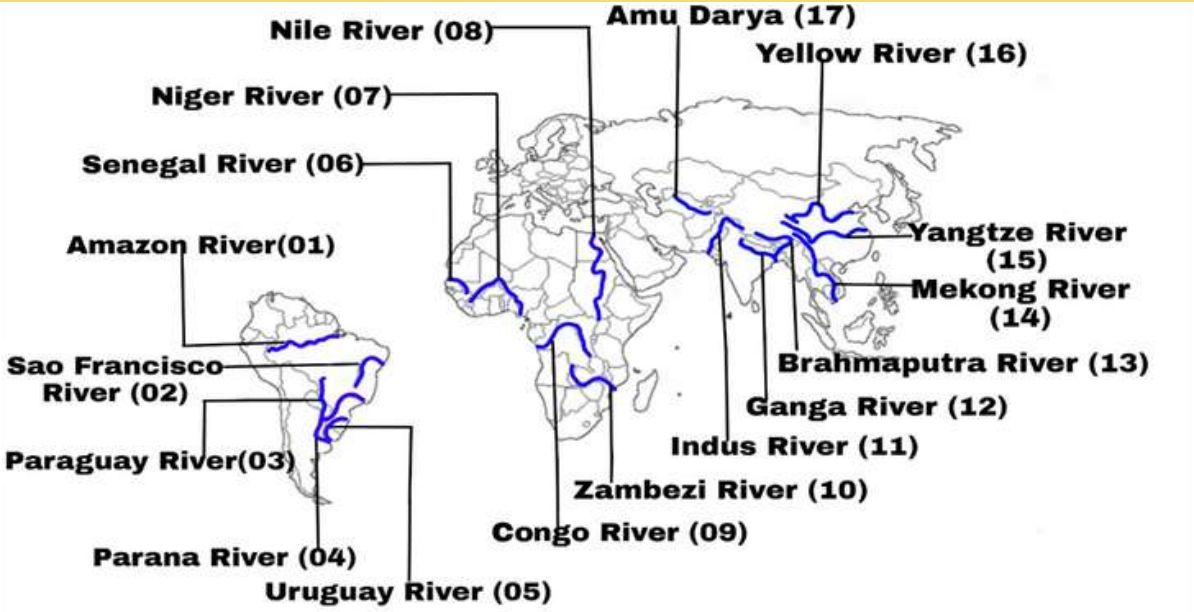
PASSES IN INDIA



	Passes	About
1	**Zoji La Pass**	It is a mountain pass located in the Kargil district of Ladakh. It provides an important link between Union Territories of Ladakh and Kashmir. It is also known as mountain pass of blizzards.
2	**Mintaka Pass**	It is a mountain pass in the Karakorum Mountains, near the tri-junction of India-China and Afghanistan border.
3	**Aghil Pass**	It is situated to the North of Mount Godwin-Austen in the Karakoram (Jammu & Kashmir) northwards from the K2 peak. It connects Ladakh with the Xinjiang province of China.
4	**Lanak La**	It is a mountain pass in the disputed Aksai Chin region, administered by China as part of the Tibet Autonomous Region. It connects Ladakh and Lhasa.
5	**Imis La**	It is located in UT of Ladakh. It connects Ladakh and Tibet. It remains closed during the winter season and has a difficult terrain and steep slopes.
6	**Lipu Lekh**	It is located in Uttarakhand. It connects Uttarakhand with Tibet. The pilgrims for Manasarovar travel through this pass.
7	**Nathu La**	It is a mountain pass in the Dongkya Range of the Himalayas. This famous pass is located in the India- China border and was reopened in 2006.
8	**Dihang Pass**	It is located in the Northeastern states of Arunachal Pradesh. This pass connects Arunachal Pradesh with Myanmar.
9	**Bom Di La**	It connects Arunachal Pradesh with Lhasa, the capital city of Tibet. It is located in the east of Bhutan.
10	**Senkota Pass**	It is located in the Western Ghats between the Nagercoil and the Cardamom hills.
11	**Pal Ghat Gap**	The mountain pass is located between Nilgiri Hills in the north and Anaimalai Hills towards the south and connects Coimbatore in Tamil Nadu with Palakkad in Kerala.
12	**Bhor Ghat**	It is a mountain pass situated on the crest of the Western Ghats, located between Palasdari and Khandala for railway and between Khopoli and Khandala on the road route in Maharashtra.

	passes	About
13	**Thal Ghat**	It is primarily known as Thul ghat or Kasara Ghat located in the Western Ghats near the town of Kasara in Maharashtra. It is located on the busy Mumbai–Nashik route.
14	**Haldi Ghathi Pass**	It is a mountain pass between Khamnore and Bagicha village situated at Aravalli Range of Rajasthan, which connects Rajsamand and Udaipur districts. The pass is located at a distance of 44 kilometres from Udaipur.

INTERNATIONAL RIVERS



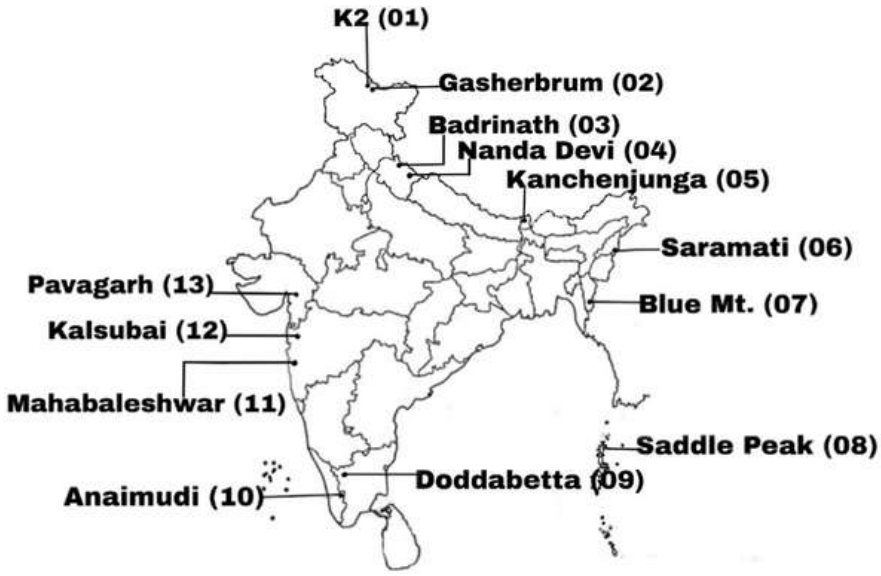
Sr no.	Rivers	South American Rivers
1	**Amazon River**	It is the 2nd longest river in the world, and the largest in terms of the size of its watershed, the number of tributaries, and the volume of water discharged into the sea. The Amazon and its tributaries flow through Peru, Bolivia, Venezuela, Colombia, Ecuador, and Brazil before emptying into the Atlantic Ocean.
2	**Sao Francisco River**	It is the longest river that runs entirely in Brazilian territory, and the 4th longest in South America after the Amazon, the Parana and the Madeira. It empties into the Atlantic Ocean.
3	**Paraguay River**	It runs through Brazil, Bolivia, Paraguay and Argentina.
4	**Parana River**	It runs through Brazil, Paraguay, and Argentina. It is 2nd longest among South American rivers. It merges with the Paraguay River and then farther downstream with the Uruguay River to form the Rio de la Plata and empties into the Atlantic Ocean.
5	**Uruguay River**	It flows from north to south and forms parts of the boundaries of Brazil, Argentina, and Uruguay. An unusual feature of this River is a submerged canyon.

Sr. no		African Rivers
6	**Senegal River**	It is a river in West Africa, much of its length marks part of the border between Senegal and Mauritania. Important tributaries are the Faleme River, Karakoro River, and the Gorgol River.
7	**Niger River**	It is the 3rd-longest river in Africa, after the Nile and the Congo River. It runs in a crescent through Mali, Niger, on the border with Benin and then through Nigeria, discharging through a massive delta, known as the Niger Delta into the Gulf of Guinea in the Atlantic Ocean.
10	**Zambezi River**	It is the 4th-longest river in Africa, the longest east-flowing river in Africa and the largest flowing into the Indian Ocean from Africa. Its most noted feature is Victoria Falls.

(Please note : Explanation for River Congo (9) and River Nile (8) is covered in above map)

Sr. no		Asian Rivers
11	**Indus River**	It is a transboundary river of Asia. It originates from a glacier near Bokhar Chu in the Tibetan region in Kailash Mountain range near the Mansarovar Lake, flows northwest through the region of Kashmir, and then Pakistan, before emptying into the Arabian Sea.
12	**Ganga River**	It is a trans-boundary river of Asia, flows through India and Bangladesh. It is the longest river in India. It rises from the Gangotri glacier near Gaumukh in the Uttarkashi district of Uttarakhand. The Bhagirathi meets the Alaknanda at Devprayag, where it becomes the Ganga.
13	**Brahmaputra River**	It is a trans-boundary river that flows through Tibet, India, and Bangladesh. It is also known as Yarlung Tsangpo in Tibet, the Siang/Dihang River in Arunachal Pradesh. The source of this river in southwest Tibet. It merges with Ganga in this area to form the Sunderbans, a massive delta.
14	**Mekong River**	It is a trans-boundary river in East Asia and Southeast Asia. Rising from the Tibetan Plateau, the river runs through China, Myanmar, Laos, Thailand, Cambodia, and Vietnam. The river is a major trade route between western China and Southeast Asia.
15	**Yangtze River**	It is longest river in both China and Asia and 3rd longest river in the world after Nile and Amazon river. It rises at Jari Hill in the Tanggula Mountains (Tibetan Plateau) and flows in a generally easterly direction to the East China Sea.
16	**Yellow River**	It is the 2nd-longest river in China, after the Yangtze River. It Originates in the Bayan Har Mountains in Qinghai province of Western China.
17	**Amu Darya**	It is a major river in Central Asia and Afghanistan. Rising in the Pamir Mountains, north of the Hindu Kush, it is formed by the confluence of the Vakhsh and Panj rivers.

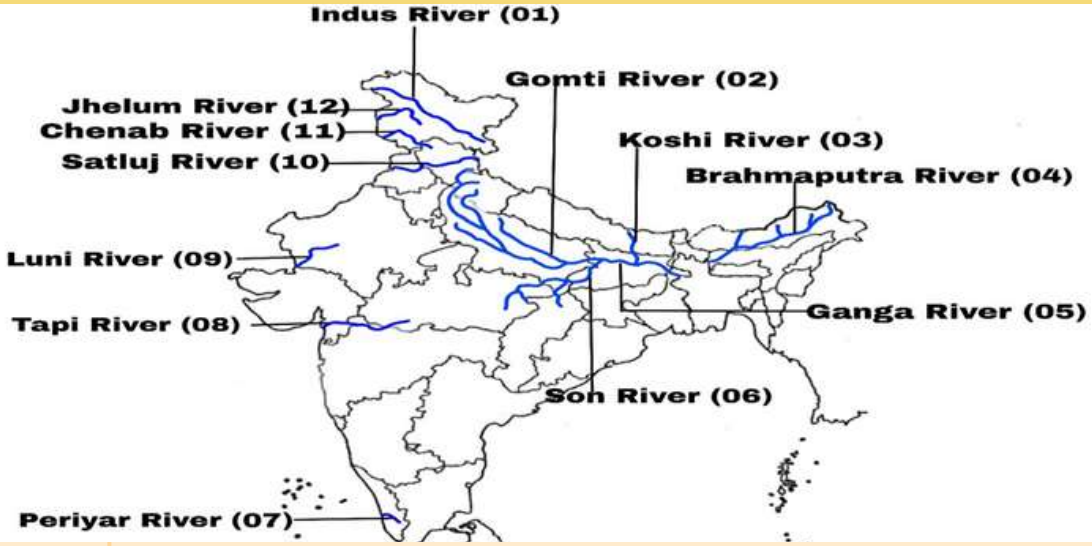
MOUNTAIN PEAKS



Sr. no	Name	About
1	**K2**	It is the 2nd-highest mountain on Earth at 8,611 metre above sea level, after Mount Everest. It lies in the northwestern Karakoram range. It is located between Baltistan in the Gilgit-Baltistan region and the Dafdar Township in Taxkorgan Tajik of Xinjiang, China.
2	**Gasherbrum**	It is a remote group of peaks situated at the northeastern end of Baltoro Glacier in the Karakoram Mountain range. The peaks are located within the border region of Xinjiang, China and Gilgit-Baltistan
3	**Badrinath**	This peak has exclusively grown up as a Hindu pilgrimage all over the world. The Peak has an average elevation of 3,415 metres. It is included in the Garhwal hills, on the banks of Alaknanda River.

4	**Nanda Devi**	It is located in Chamoli Garhwal district of Uttarakhand. The surrounding Nanda Devi National Park was declared a UNESCO World Heritage Site in 1988.
5	**Kanchenjunga**	It is the third highest mountain peak in the world. It lies in the border region between the Sikkim state of India and Nepal.
6	**Saramati**	It is a peak rising above the surrounding peaks at the mountainous border of Nagaland state, India. It is popularly known as the Crown of Nagaland. It forms a natural boundary between India and Myanmar.
7	**Blue Mt.**	It is also known as Phawngpui. It is the highest mountain peak in the Mizo Hills in the state of Mizoram, India.
8	**Saddle Peak**	It is located on North Andaman Island. It is the highest point of the archipelago in the Bay of Bengal. It is surrounded by Saddle Peak National Park.
9	**Doda Betta**	It is the highest mountain in the Nilgiri Mountains. It is the 4th highest peak in South India next to Anamudi, Mannamalai and Meesapulimala.
10	**Anamudi**	It is located in state of Kerala. It is the highest point in India south of Himalayas. Thus, it is known as "Everest of South India. It is located in the southern region of Eravikulam National Park at the junction of the Cardamom Hills, the Anaimalai Hills and the Palani Hills.
11	**Mahabaleshwar**	It is located on the mountainous Sahyadri range of the Western ghats that run North to south along western coast of India. It reaches a height of 1,439 m at its highest peak above sea level, known as Wilson/Sunrise Point.
12	**Kalsubai**	It is a mountain in the Western Ghats. It is the highest point in Maharashtra. The mountain range lies within the Kalsubai Harishchandragad Wildlife Sanctuary.
13	**Pavagadh**	It is situated within a plain in Panchmahal district, Gujarat. It is associated with the volcanic eruption which occurred in the region approximately 500 million years ago.

RIVERS IN INDIA

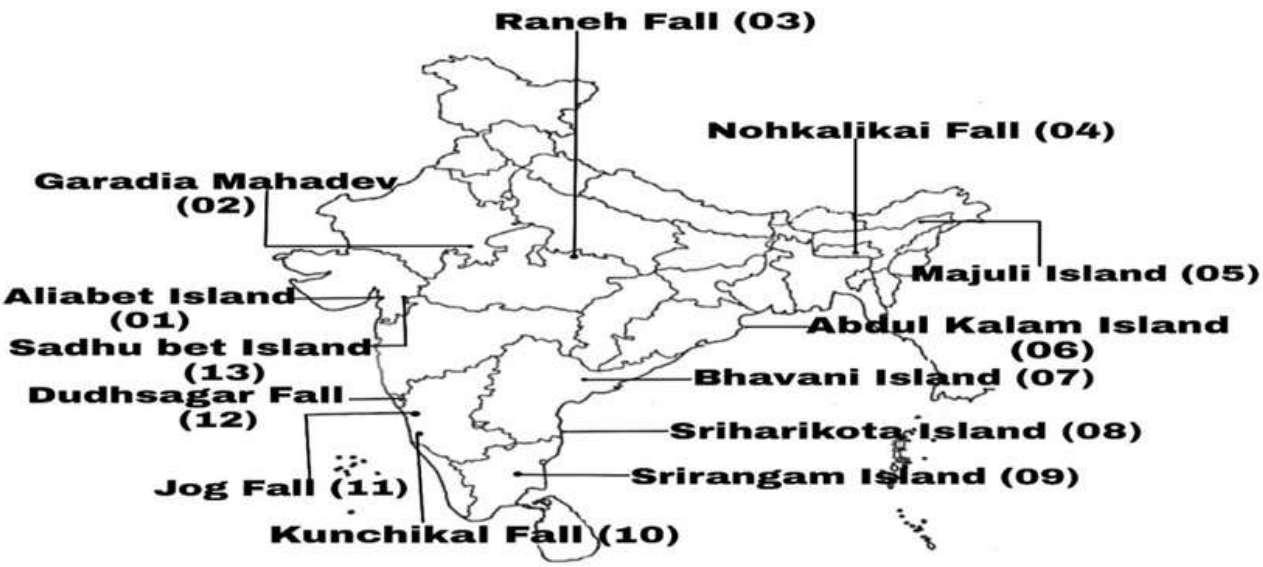


Sr no.	Rivers	About
2	**Gomti River**	It is a tributary of Ganga. It is a monsoon- and groundwater-fed river, originates from Gomat Taal (formally known as Fulhaar jheel), Pilibhit, India. It extends 960 kilometres (600 mi) through Uttar Pradesh and meets the Ganges near Saidpur (Ghazipur district).

(Please note : Explanations for River Indus(1), R. Ganga (5) and R. Brahmaputra (4) are covered in above map)

3	**Koshi River**	It is a trans-boundary river which flows through China, Nepal and India. It drains the northern slopes of the Himalayas in Tibet and the southern slopes in Nepal. From a major confluence of tributaries north of the Chatra Gorge onwards, the Kosi River is also known as Saptakoshi for its seven upper tributaries.
6	**Son River**	It is a perennial river which originates near Amarkantak Hill in Madhya Pradesh and finally merges with Ganga at Arrah in Bihar. Sone river is the 2nd-largest southern tributary of the Ganges' after Yamuna River.
7	**Periyar River**	It is the longest river and the river with the largest discharge potential in Kerala. It generates a significant proportion of Kerala's electrical power via the Idukki Dam. This west flowing river also provides water for irrigation and domestic use. It is also known as "Lifeline of Kerala".
8	**Tapi River**	It located to the south of the Narmada River which originates at Multai in Betul district of Madhya Pradesh and flows westwards before draining into Gulf of Cambay/Khambat in the Arabian Sea in Surat, Gujarat. It flows through the states of Maharashtra and Gujarat before emptying into Arabian Sea. The Tapti River, together with the adjacently running Narmada River in the north, create the borders between North and South India. The Sahyadri Range or the Western Ghats Mountain Range begins south of the Tapi River close to the boundary of Maharashtra and Gujarat.
9	**Luni River**	It is the a west flowing river that originates in Pushkar valley of the Aravalli Range as two branches – Saraswati and Sagarmati which joins at Govindgarh. It passes through the southeastern portion of the Thar Desert, and ends in the marshy lands of Rann of Kutch in Gujarat.
10	**Satluj River**	It originates at lake Rakas near Mansarovar in Tibet. It is also known as Satadru. It is the easternmost tributary of the Indus River. The Bhakra Dam is built around the river Sutlej to provide irrigation and other facilities to the states of Punjab, Rajasthan and Haryana.
11	**Chenab River**	It is formed by the union of two headwaters, Chandra and Bhaga, which rise in the upper Himalayas in the Lahaul and Spiti district of Himachal Pradesh. It flows through the Jammu region of J&K and Punjab region of Pakistan, before ultimately flowing into the Indus River.
12	**Jhelum River**	It originates at Verinag at the foothills of Pir Panjal and flows through Srinagar and Wular lake in J&K and then into the Pakistani province of Punjab. It is the westernmost of the five rivers of the Punjab region. It is a tributary of the Chenab River.

WATERFALLS AND ISLAND



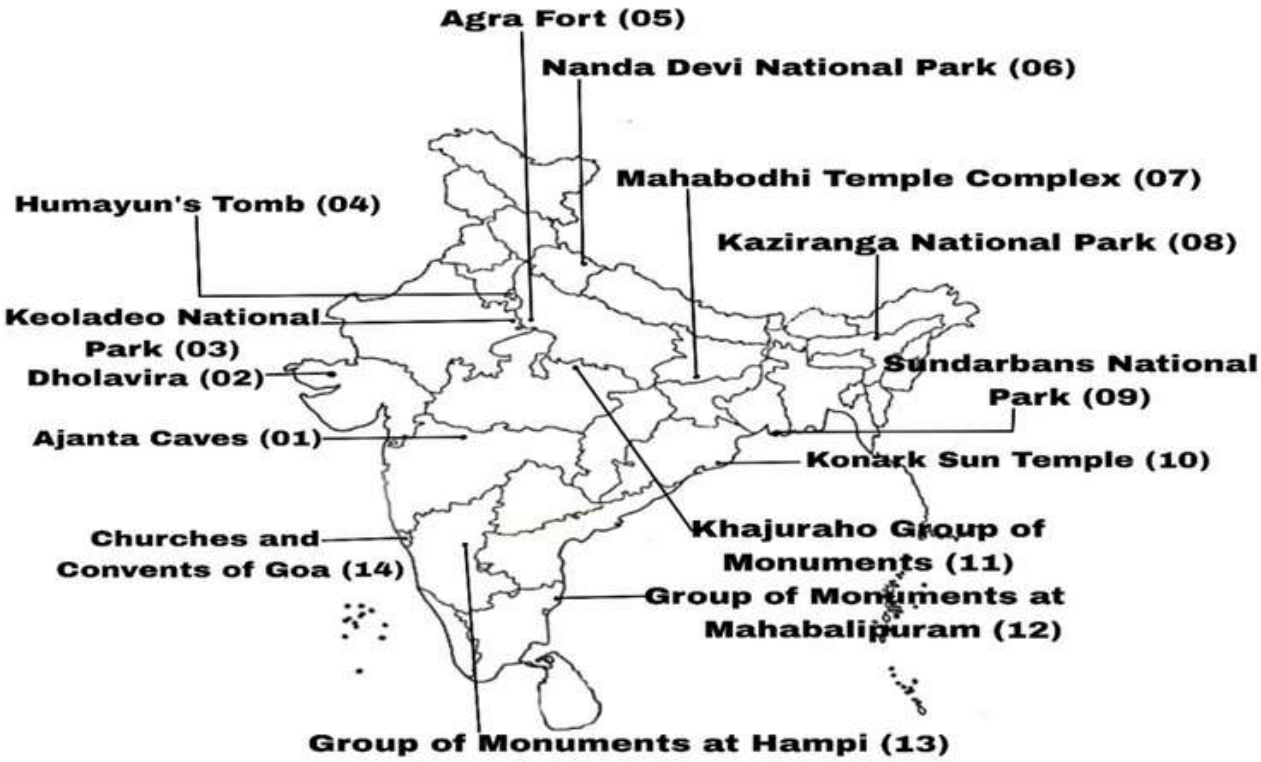
1	**Aliabet Island**	It is a small uninhabited island located in Gujarat, India. It is situated on the Narmada River, with the area close to 3.5 acres. It serves as a small stopover for fishermen. It is off-shore oil well site; about 45 km from Bhavnagar, in the Gulf of Khambat.
2	**Garadia Mahadev**	It is Rajasthan's very own Grand Canyon. It is situated inside the Mukundra Tiger reserve. The rocky barren land, perched at an elevation of 500m, offers a panoramic view of the Chambal river. Garadia Mahadev Temple is dedicated to Lord Shiva
3	**Raneh Falls**	It is a natural waterfall on the Ken River, located in Chhatarpur district 20 kms from Khajuraho (Madhya Pradesh). Due to the building of dam on the river, the Raneh Falls may disappear in the future in spite of already having two dams that eat up much of the waterfall. The waterfall is also close to Panna Tiger Reserve and Ken crocodile sanctuary.
4	**Nohkalikai Falls**	It is the tallest plunge waterfall in India. Its height is 340 metres. It is located in the Indian state of Meghalaya, near Cherrapunji. It is fed by the rainwater collected on the summit of a comparatively small plateau and decrease in power during the dry season, from December to February.
5	**Majuli Island**	It is a river island in the Brahmaputra River, Assam and in 2016 it became the first island to be made a district in India. It had an area of 1,255 square kilometres at the beginning of the 20th century, but having lost significantly to erosion. It covers 352 square kilometres as at 2014. It is the nerve centre of neo-Vaishnavite culture. It has many 'Sattras' (religious and cultural institutions). It is the world's largest river island according to Guinness World Record
6	**Abdul Kalam Island**	It is formerly known as Wheeler Island, is an island off the coast of Odisha. In 2015, the island was renamed. The Integrated Test Range missile testing facility is located on the island, and serves as the test facility for most of India's missiles.
7	**Bhavani Island**	It situated in the midst of the Krishna River, at Vijayawada, Andhra Pradesh. It is located at the upstream of Prakasam Barrage and is considered one of the largest river islands in India, with an area of 133 acres.
8	**Sriharikota Island**	It is a barrier island off the Bay of Bengal coast located in Andhra Pradesh. It separates Pulicat Lake from the Bay of Bengal. It houses the Satish Dhawan Space Centre, one of the two satellite launch centres in India. ISRO launches satellites using multistage rockets from Sriharikota.
9	**Srirangam Island**	It is a river island in the city of Tiruchirappalli (Tamil Nadu). The island is formed by the Kaveri and Kollidam Rivers. The town of Srirangam is a prominent Hindu Vaishnav Pilgrimage centre, is located at the centre of the island.
10	**Kunchikal Falls**	Highest waterfall in India (455 metres). It is a waterfall in the Shimoga district of Karnataka. It is formed by the Varahi River. After the construction of the Mani Dam near Masthikatte and an underground power generation station near Hulikal, Shimoga (Shivamogga) district, the water flow to the falls is greatly reduced and is visible only during the rainy season.
11	**Jog Falls**	It is a waterfall on the Sharavati river located in the Western Ghats of Shivamogga District, Karnataka, India. It is the 2ndhighest plunge waterfall in India. It is a segmented waterfall which depends on rain and season.
12	**Dudhsagar Falls**	It is a four-tiered waterfall located on the Mandovi River in Goa. The falls is located in the Bhagwan Mahaveer Sanctuary and Mollem National Park among the Western Ghats. The falls is a punctuation mark in the journey of the Mandovi River from the Western Ghats to Panjim where it meets the Arabian sea.
13	**Sadhu bet Island**	It is situated on the Narmada River, Gujrat. The Statue of Unity which is built in honour of Sardar Vallabhbhai Patel is on this Island.

CENTRES/LABORATORIES/ESTABLISHMENTS OF ISRO AND DRDO

Sr.no	Body	City	About
1	**Vikram Sarabhai Space Centre (VSSC)**	Thiruvananthapuram, Kerala	It is the lead centre of ISRO responsible for the design and development of launch vehicle technology, like Sounding rockets (Rohini, Menaka launchers), Reusable Launch Vehicles, advanced technology vehicles, air-breathing propulsion, SLV, ASLV, PSLV, GSLV and GSLV Mk III families of launch vehicles.
2	**U R Rao Satellite Centre (URSC)**	Bengaluru, Karnataka	It is formerly known as ISRO Satellite Centre (ISAC). It is the lead centre for building satellites and developing associated satellite technologies. These spacecraft are used for providing applications to various users in the area of Communication, Navigation, Meteorology, Remote Sensing, Space Science and interplanetary explorations.
3	**Research Centre Imarat (RCI)**	Hyderabad, Telangana	It is a laboratory of the DRDO, responsible for Research and Development of Missile Systems, Guided Weapons and advanced Avionics for Indian Armed Forces. It was established by APJ Abdul Kalam in 1988.
4	**Defence Laboratory (DL)**	Jodhpur, Rajasthan	It is a laboratory of the DRDO, responsible for the development and manufacture of electronics and materials required for modern warfare and weapon systems It is researching the areas of camouflage, deception, detection, reconnaissance, performance evaluation and life estimation of weapons and ammunition, clothing, equipment and stores under desert conditions, integrated water management, soil stabilisation, and applications of radioisotopes in defence.
5	**Aerial Delivery Research & Development Establishment (ADRDE)**	Agra, Uttar Pradesh	It is a laboratory of the DRDO, responsible for the development of systems for dropping heavy loads, Parachute Systems (Paratrooper, Aircrew, Ammunition, Brake Parachute, Recovery, Aerial Delivery). It was involved in the design and development of a recovery parachute for the Nishant Unmanned Aerial Vehicle.
6	**Defence Electronics Application Laboratory (DEAL)**	Dehradun, Uttarakhand	It is a laboratory of the DRDO, working on design and development of technologies and systems in the areas of satellite communication and surveillance, like the radio, Satellite, Millimeter Wave communication devices and data link for defence applications.

Sr. no	Body	City	About
7	**Integrated Test Range (ITR)**	Balasore, Odisha	It is a centre of DRDO, responsible to provide safe and reliable launch facilities for performance evaluation of rockets, missiles and air-borne weapon systems. Recently DRDO and the Indian Navy successfully flight-tested Vertical Launch Short Range Surface-to-Air Missile (VL-SRSAM) from here.
8	**National Remote Sensing Centre (NRSC)**	Hyderabad, Telangana	It is a centre of ISRO, which manages data from aerial and satellite sources. It is mostly financed by State and Central Government funds but also does commercial business by selling satellite images and providing Consultancy to various government, private organisations.
9	**Satish Dhawan Space Centre (SDSC)**	Sriharikota, Andhra Pradesh	It is a centre operated by ISRO, responsible for providing Launch Base Infrastructure for the Indian Space Programme. It has two launch pads from where the launching operations of PSLV and GSLV are carried out. Many successful missions like Chandrayaan, Mars orbiter Mangalyaan were launched from the centre.
10	**ISRO Propulsion Complex (IPRC)**	Mahendragiri, Tamil Nadu	It is an ISRO centre involved in testing, assembling, and integrating propulsion systems and stages that are developed at ISRO's Liquid Propulsion Systems Centres.

IMPORTANT UNESCO WORLD HERITAGE SITES IN INDIA

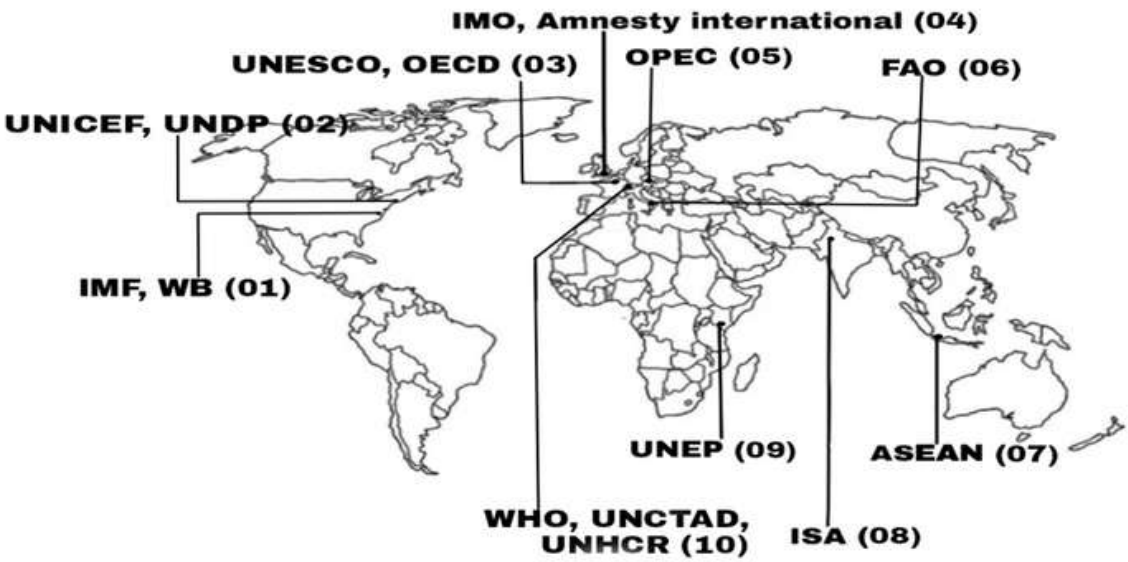


- Currently, there are **40 World Heritage Sites located in India.** These include 32 cultural sites, 7 natural sites, and 1 mixed-criteria site (Khangchendzonga National Park).
- India has the sixth largest number of sites in the world. The first sites to be listed were the Ajanta Caves, Ellora Caves, Agra Fort, and Taj Mahal, all of which were inscribed in the 1983 session of the World Heritage Committee.
- The most **recent site listed was Dholavira**, in 2021.

Sr. no	Sites	Places	About
1	**Ajanta Caves**	Maharashtra	These are 29 rock-cut Buddhist cave monuments dating from the 2nd century BCE to 650 AD. Of these, 4 were used as Chaitya or prayer halls while 25 were used as Viharas or residential caves. It includes paintings and rock-cut sculptures described as among the finest surviving examples of ancient Indian art.
2	**Dholavira**	Gujrat	It is also known as Kotada timba. The site contains ruins of a city of the ancient Indus Valley civilization. It is located on the Tropic of Cancer. It comprises two parts: a walled city and a cemetery to the west of the city. It has two seasonal streams - Mansar and Manhar.
3	**Keoladeo National Park**	Rajasthan	It is a man-made wetland, formerly known as the Bharatpur Bird Sanctuary. It was also designated as Ramsar site in October 1981. Some 364 species of birds, including the rare Siberian crane, have been recorded in the park. As it is not a natural wetland, the main source of water to the national park is a temporary reservoir i.e., the Ajan dam. The dam gets water from the river Gambhir.
4	**Humayun's Tomb**	Delhi	After the death of Humayun in 1556, his wife Hamida Banu Begum started the construction of Humayun's Tomb. It is called the dormitory of the Mughals' as in the cells are buried over 150 Mughal family members. It is an example of the Charbagh (a four-quadrant garden with the four rivers of Quranic paradise represented) with pools joined by channels. It is the first garden style tomb built in India during the Mughal period. It is Humayun's Tomb where Bahadur shah Zafar took shelter in 1857 during the first war of Independence with his three sons.
5	**Agra Fort/ Red fort of Agra**	Uttar Pradesh	Located on Yamuna river, it was built during 1565-1573 for Akbar. It was the main residence of the rulers of Sikarwar clan of Rajputs until Mughals occupied it. Shah Jahan converted it to a palace and in 1658 Aurangzeb used it to prison his father Shah Jahan for 8 years. Before being captured by the British, the last Indian rulers to have occupied it were the Marathas.
6	**Nanda Devi National Park**	Uttarakhand	The entire park lies at an elevation of more than 3,500 m above mean sea level. There are two core zones in Nanda Devi Biosphere Reserve, namely Nanda Devi National Park and Valley of Flower National Park. Both these National Parks are also designated as UNESCO World Heritage Sites.
7	**Mahabodhi Temple Complex**	Bodh Gaya, Bihar	It marks the location where the Buddha is said to have attained enlightenment. The site contains a descendant of the Bodhi Tree. In approximately 250 BCE, about 200 years after the Buddha attained enlightenment, Emperor Ashoka, who converted to Buddhism, visited Bodh Gaya in order to establish a monastery.
8	**Kaziranga National Park**	Assam	It is the single largest undisturbed and representative area in the Brahmaputra Valley floodplain. It hosts two-thirds of the world's great one-horned rhinoceroses. It was declared as a National Park in 1974. It was declared a Tiger Reserve in 2006. NH 37 & Diphlu River are running through it.
9	**Sundarbans National Park**	West Bengal	It is also tiger reserve and biosphere reserve. It is part of the Sundarbans on the Ganges Delta and adjacent to the Sundarban Reserve Forest in Bangladesh. It was designated as a Ramsar site since 2019.

Sr. no	Sites	Places	About
10	**Konark Sun Temple**	Odisha	It is dedicated to the Hindu sun god Surya, and, conceived as a giant stone chariot with 12 wheels. It was built by king Narasimhadeva I of the Eastern Ganga dynasty in about 1250 CE. This temple is called the Black Pagoda. (The Jagannath Temple in Puri is called the White Pagoda).
11	**Khajuraho Group of Monuments**	Madhya Pradesh	These are a group of Hindu and Jain temple. These temples are famous for their Nagara-style architectural symbolism. Most temples were built between 885 AD and 1000 AD by the Chandela dynasty. Kandariya Mahadev is the most visited temple.
12	**Group of Monuments at Mahabalipuram**	Tamil Nadu	The site has 40 ancient monuments and Hindu temples, which includes the Pancha Rathas, also including one of the largest open-air rock reliefs in the world: the Descent of the Ganges or Arjuna's Penance. The monuments were built during the Pallava dynasty. The town's Five Rathas, or monolithic temples, are the remnants of seven temples, for which the town was known as Seven Pagodas
13	**Group of Monuments at Hampi**	Karnataka	It is situated on the southern bank of the river Tungabhadra. It is located within the ruins of the city of Vijayanagara. The remains include religious and secular buildings and defensive structures which include Virupaksha Temple or a carved stone chariot stands in front of the huge Vittala Temple. A large number of royal buildings were raised by Krishnadeva Raya (A.D. 1509-30) and Vittal Temple Complex is one of them.
14	**Churches and Convents of Goa**	Goa	The site comprises seven churches and convents that were built in the 16th and 17th centuries in Gothic, Manueline, Mannerist, and Baroque styles, but were also adapted to suit the local techniques and resources. It comprises of the following: Basilica of Bom Jesus, Se' Cathedral, Church and Convent of St. Francis of Assisi, Church of Lady of Rosary, Church of St. Augustine and Chapel of St. Catherine.

INTERNATIONAL ORGANISATION'S HEADQUARTERS



Sr. no	Body	Headquarters	About
01	**IMF (190 members)**	Washington, D.C	The International Monetary Fund (IMF) is an international financial institution established to foster global monetary cooperation, secure financial stability, facilitate international trade, promote high employment and sustainable economic growth, and reduce poverty around the world. Formed in 1944, at the Bretton Woods Conference. Report Published: Global Financial Stability Report, World Economic Outlook
	WB (189 members)	Washington, D.C	The World Bank (WB) is an international financial institution that provides loans and grants to the governments of low- and middle-income countries for the purpose of pursuing capital projects. It is the collective name for the International Bank for Reconstruction and Development (IBRD) and International Development Association (IDA). It was established along with the IMF at the 1944 Bretton Woods Conference. World Bank Group: IBRD, IDA, International Finance Corporation (IFC), Multilateral Guarantee Agency (MIGA), International Centre for the Settlement of Investment Disputes (ICSID) Reports published: World Development Report, Global Economic Prospect (GEP) Report, Remittance Report, Ease of Living Index, India Development Update, Universal Health Coverage Index, The Service Trade Restriction Index
02	**UNICEF**	New York City	United Nations International Children's Emergency Fund (UNICEF), now officially United Nations Children's Fund, is an agency of the United Nations responsible for providing humanitarian and developmental aid to children worldwide. It was created on 1946. Awarded the Nobel Prize for Peace in 1965 for “promotion of brotherhood among the nations”
	UNDP	New York City	The United Nations Development Programme (UNDP) is a United Nations agency tasked with helping countries eliminate poverty and achieve sustainable economic growth and human development. It emphasizes developing local capacity towards long-term self-sufficiency and prosperity. UNDP is central to advance the 2030 Agenda for Sustainable Development.
03	**UNESCO (193 members)**	Paris, France	The United Nations Educational, Scientific and Cultural Organization (UNESCO) is a specialised agency of the United Nations (UN) aimed at promoting world peace and security through international cooperation in education, arts, sciences and culture. It was founded in 1945 as the successor to the League of Nation’s International Committee on Intellectual Cooperation. Important Initiatives: World Heritage Convention and List, Man and the Biosphere (MAB) Programme, World Water Assessment Programme (WWAP), International Hydrological Programme (IHP)
	OECD	Paris, France	The Organisation for Economic Co-operation and Development (OECD) is an intergovernmental organization with 38 member countries, founded in 1961 to stimulate economic progress and world trade. The members are countries describing themselves as committed to democracy and the market economy. India is not member of OECD Report Published: The Programme for International Student Assessment (PISA)

Sr. no	Body	Headquarters	About
04	**IMO (175) members)**	London, United Kingdom	The International Maritime Organization (IMO) is a specialised agency of the United Nations responsible for regulating shipping. It was established following agreement at a UN conference held in Geneva in 1948 and the IMO came into existence ten years later, meeting for the first time in 1959 (India joined IMO in 1959)
	Amnesty International	London, United Kingdom	It is an international non-governmental organization focused on human rights. It draws attention to human rights abuses and it campaigns for compliance with international laws and standards. The organization was awarded the 1977 Nobel Peace Prize for its defence of human dignity against torture.
05	**OPEC**	Vienna, Austria	The Organization of the Petroleum Exporting Countries (OPEC) is an intergovernmental organization of 13 countries. Founded in 1960 in Baghdad by the first five members (Iran, Iraq, Kuwait, Saudi Arabia, and Venezuela). Austria is not an OPEC member state. India is not a member of OPEC.
06	**FAO**	Rome, Italy	The Food and Agriculture Organization of the United Nations (FAO) is a specialized agency of the United Nations that leads international efforts to defeat hunger and improve nutrition and food security. It was founded in 1945. It helps governments and development agencies coordinate their activities to improve and develop agriculture, forestry, fisheries, and land and water resources.
07	**ASEAN**	Jakarta, Indonesia	The Association of Southeast Asian Nations (ASEAN) is a political and economic union of 10 member states in Southeast Asia. Its primary objective was to accelerate economic growth and through that social progress and cultural development. Member Nations are Indonesia, Malaysia, Philippines, Singapore, Thailand, Brunei, Vietnam, Laos, Myanmar and Cambodia. ASEAN was established in 1967 with the signing of the ASEAN Declaration (Bangkok Declaration)
08	**ISA**	Gurugram, Haryana	The International Solar Alliance (ISA) is an alliance of most being sunshine countries, which lie either completely or partly between the Tropic of Cancer and the Tropic of Capricorn. The primary objective of the alliance is to work for efficient consumption of solar energy to reduce dependence on fossil fuels. This initiative was first proposed by Indian Prime Minister Narendra Modi in a speech in November 2015. The alliance is also called International Agency for Solar Policy and Application (IASPA). Out of 106 nations which signed, 86 have signed and ratified the ISA Framework Agreement.
09	**UNEP**	Nairobi, Kenya	The United Nations Environment Programme (UNEP) is responsible for coordinating responses to environmental issues within the United Nations system. It was established after the United Nations Conference on the Human Environment in Stockholm in June 1972. It hosts the secretariats of several multilateral environmental agreements and research bodies, including Convention on Biological Diversity (CBD), Minamata Convention on Mercury, Convention on Migratory Species and Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).

Sr. no	Body	Headquarters	About
10	**WHO (194 members)**	Geneva, Switzerland.	The World Health Organization (WHO) is a specialized agency of the United Nations responsible for international public health. It was established in 1948. It provides technical assistance to countries, sets international health standards, and collects data on global health issues. A publication, the World Health Report, provides assessments of worldwide health topics.
	UNCTAD	Geneva, Switzerland.	The United Nations Conference on Trade and Development (UNCTAD) was established in 1964 as an intergovernmental organization intended to promote the interests of developing states in world trade. The 1st UNCTAD conference took place in Geneva in 1964, the 2nd in New Delhi in 1968. Reports published: Trade and Development Report, World Investment Report, The Least Developed Countries Report, Information and Economy Report, Technology and Innovation Report, Commodities and Development Report
	UNHCR	Geneva, Switzerland.	The United Nations High Commissioner for Refugees (UNHCR) is a United Nations agency mandated to aid and protect refugees, forcibly displaced communities, and stateless people, and to assist in their voluntary repatriation, local integration or resettlement to a third country. It was established in 1950. It won the Nobel Prize for Peace twice (1954 and 1981)