

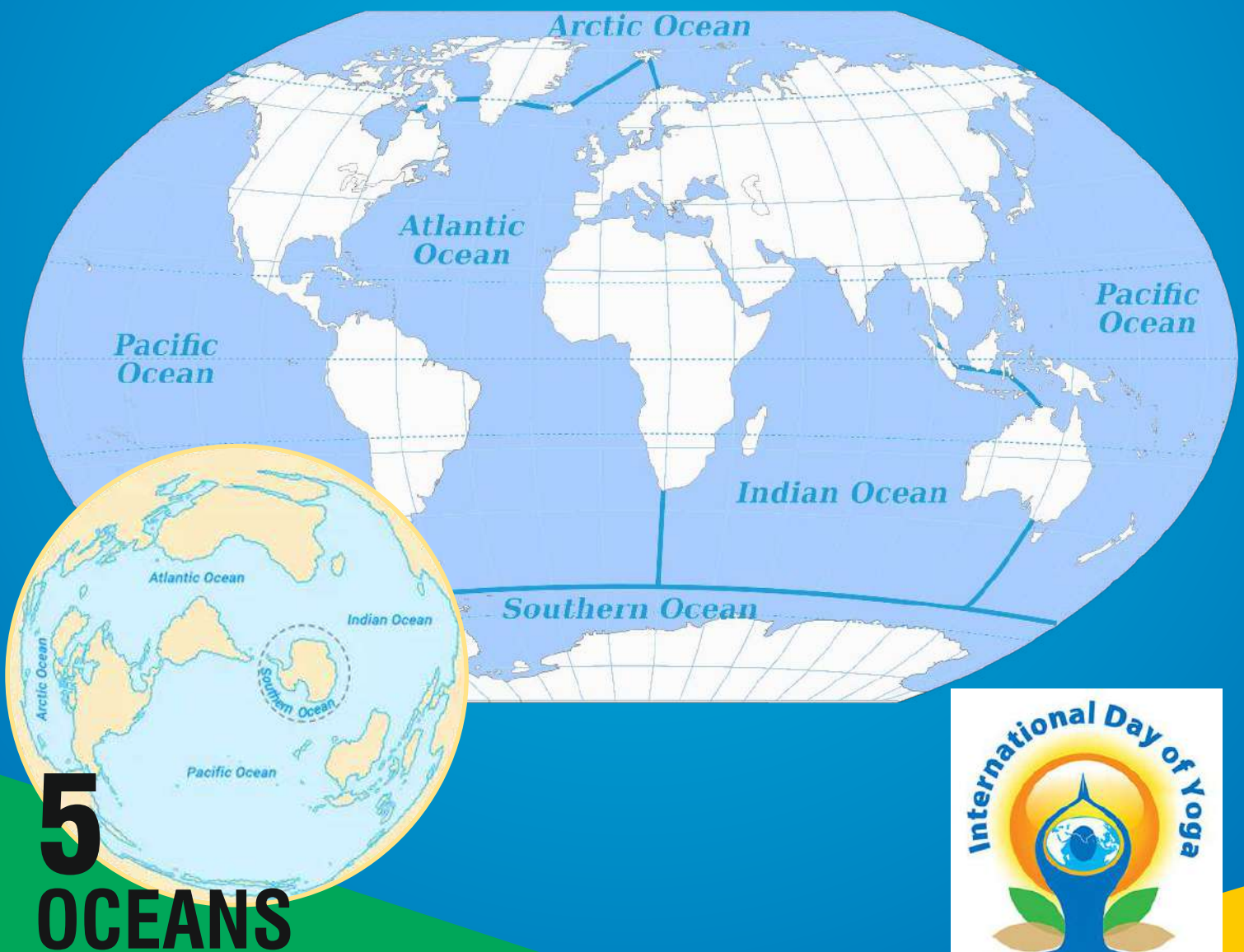


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ASTRA

COMPLETE COVERAGE OF MONTHLY CURRENT AFFAIRS

JUNE 2021



**5
OCEANS**

The National Geographic magazine has recognised the 'Southern Ocean' as the world's fifth ocean.



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Why is in the news?

- Recently, the Prime Minister of India, while addressing a programme to mark the **7th International Day of Yoga (IDY)**, has termed yoga a "ray of hope" and a source of strength amid the ongoing Covid-19 pandemic.

About International Day of Yoga

- Background**

- The **idea** for an **UN-mandated IDY** was first proposed by the **Indian Prime Minister Narendra Modi** during his speech at the **United Nations General Assembly (UNGA)** in **2014**.
- He highlighted yoga as an invaluable gift from Indian ancient tradition. It embodies unity of mind and body, thought and action and is a holistic approach that is valuable to our health and our well-being.
- It is not just about exercise but it is a way to discover the sense of oneness with oneself, the world and nature.
- This initiative was **backed by as many as 177 nations**, the **highest number of cosponsors** ever for any UNGA Resolution of such nature.
- The UN proclaimed 21st June as IDY by passing a **resolution on 11th December 2014**, during the **69th session of the General Assembly**.
- 21st June was chosen as it marks the **summer solstice**, the **longest day of the year in the northern hemisphere**, which holds special significance in many parts of the world.



- Theme for 2021:** Yoga for Well-being.

- It is relevant for current times where society is still recovering from the impact of the **Covid-19 pandemic**.
- Beyond its immediate impact on physical health, the Covid-19 pandemic has also **exacerbated psychological suffering and mental health problems**, including **depression and anxiety**, as pandemic-related restrictions continue in various forms in many countries.
- This has highlighted the **urgent need to address the mental health dimension** of the pandemic, in addition to the physical health aspects.
- As it is an event of a global scale, preparations for the IDY event usually begin 3-4 months prior, ultimately culminating in a grand programme where millions of people come together to observe the spiritual history and significance of the day.
- Logo:** The **brown leaves** in the logo symbolize the **earth** element, the **green leaves** of **nature**, **blue** the **fire** element while the **sun** symbolises the source of **energy and inspiration**.

Why is in the news?

- Recently, various organisations initiated a Twitter campaign demanding **official language status to Tulu in Karnataka and Kerala** and received an overwhelming response.
- History of Tulu Language in India**
- The scholars have suggested that Tulu is among the **earliest Dravidian** languages with a history of 2000 yrs.
- Robert Caldwell (1814-1891), in his book '**A Comparative Grammar of the Dravidian or South-Indian Family of Languages**' had called Tulu as one of the **most highly developed languages** of the Dravidian family.
- In between 14th to 15th century the **oldest inscriptions were available in Tulu**.
- These inscriptions are in **Tigalari script** and it is found in **Barkur (capital of Tulu nadu)** during Vijaynagar period.

About Tulu Language

- Tulu is a **Dravidian language**.
- It is spoken mainly in two coastal districts **Dakshina Kannada and Udupi of Karnataka** and **Kasaragod district of Kerala**.
- As per the 2011 Census report, there are **18,46,427 Tulu-speaking people** in India.
- It has a **rich oral literature tradition** with folk-song forms like **paddana**, and traditional folk theatre **yakshagana**.
- It has an **active tradition of cinema** with around 5 to 7 Tulu language movies produced a year.

Demand of Tulu Speakers

- The Tulu speakers, mainly in Karnataka and Kerala, have been requesting the governments to **give it official language status** and include it in the eighth schedule to the Constitution.
- The official languages mentioned under eighth schedule are **Assamese, Bengali, Gujarati, Hindi, Kannada, Kashmiri, Konkani, Malayalam, Manipuri, Marathi, Nepali, Oriya, Punjabi, Sanskrit, Sindhi, Tamil, Telugu, Urdu, Bodo, Santhali, Maithili** and **Dogri**.

Present status of Tulu language

- According to Karnataka Tulu Sahitya Academy president Dayananda G Kathalsar, **people who speak Tulu are confined** to the above-mentioned regions of Karnataka and Kerala.
- They are informally known as **Tulu Nadu**.
- Tulu is **not an official language** in the country.
- If included in the eighth schedule, Tulu would get **recognition from the Sahitya Akademi**.

Use of Tulu language in education

- The Karnataka government introduced **Tulu as a language in schools** a few years ago.
- In the year 2020, a total of **956 children from Dakshina Kannada and Udupi districts** wrote **Tulu** as the third optional language in SSLC (Class 10) examination.
- In 2020, '**Jai Tulunad**' conducted an online campaign demanding to include **Tulu in the new National Education Policy (NEP)**.

National Maritime Heritage Complex

History & Culture

Why is in the news?

- Recently, the Union Ministry of Ports, Shipping & Waterways has signed a Memorandum of Understanding with the Ministry of Culture to develop a **National Maritime Heritage Complex (NMHC)**.

About National Maritime Heritage Complex

- It is located within the **Archeological Survey of India (ASI) site of Lothal** that is located 80 kms away from Ahmedabad in Gujarat.
- It will be dedicated to the **maritime heritage of India** and showcase India's rich as well as diverse maritime glory.
- It will be made an **international tourist destination in India** where people from across the countries can take a look at the maritime heritage of India from ancient to modern times.
- It will have many offerings including **National Maritime Heritage Museum, Heritage Theme Park, and Light House Museum**.



- It shall be funded by **Ministry of Shipping and Ministry of Culture** through National Culture Fund by way of grant.
- In order to showcase the maritime heritage and history of India, a National Maritime Heritage Complex (NMHC) will be developed at Harappan town of Lothal, near Ahmedabad.
- To cooperate for this, Ministry of Culture (MoC) and Ministry of Ports, Shipping and Waterways (MoPSW) have recently signed an MoU.
- The unique feature of NMHC is the recreation of ancient Lothal city, which is one of the prominent cities of the ancient Indus valley civilization dating to 2400 BC.
- NMHC would be developed as an international tourist destination, where the maritime heritage of India from ancient to modern times would be showcased.
- It will have various unique structures such as National Maritime Heritage Museum, Heritage Theme Park, Maritime themed eco-resorts, Maritime Institute etc.
- An edutainment approach using the latest technology would be adopted to spread awareness about India's maritime heritage.

Lothal

- The archaeological remains of Harappa port-town of Lothal is located along the Bhogava river, a tributary of Sabarmati, in the Gulf of Khambat. The site provides evidence of Harappa culture between 2400 BCE to 1600 BCE.
- Lothal is believed to have one of the oldest docks in the world and displays many features that make Harappan civilisation distinct, like the division of the town into two sections - Upper Town and Lower Town - and advanced town planning
- Lothal was a vital and thriving trade centre in ancient times, with its trade of beads, gems and valuable ornaments reaching the far corners of West Asia and Africa.

Poson Poya festival

History & Culture

Why is in the news?

- Sri Lanka recently released 93 prisoners, including 16 LTTE terror suspects held without charges, on the presidential pardon on the occasion of Poson Poya.

About the festival

- Poson poya annual festival celebrates the **arrival of Buddhism in Sri Lanka in the 3rd century BC.**
- Poson, held on the full moon day of June, commemorates the occasion over 2,000 years ago when **Arahat Mahinda**, son of Emperor Asoka of India, converted King Devanampiyatissa to Buddhism.
- The main center of celebration is **Mihintale**, the ancient monastic complex where the royal missionary monk **Mahinda perched the first sermon to the ruling king.**
- **Anuradhapura**, is the ancient capital, to which a large crowd of pilgrims converge.
- Mihinthale is called the cradle of Buddhism in Sri Lanka.
- For Buddhists, this hallowed day of Poson is **second only to Vesak in terms of importance.**



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Why is in the news?

- The **World Heritage Committee** under **UNESCO** has proposed to **downgrade** the status of **Australia's Great Barrier Reef**. The committee recommended it to be added to the list of **World Heritage sites in danger**.

Reasons behind downgrading

- The organization is of the view that the **world's biggest coral reef system** should be added to the list **due to the impact of climate change**.
- In 2015, UNESCO noted the **outlook for the reef was poor** but kept the site's status unchanged. Since then, scientists say it has suffered three major coral bleaching events due to severe marine heatwaves.

Other Sites That Risk Losing Their Treasured Heritage Site Status

- Venice** - The city in Italy has been damaged by "**overtourism**", and is recommended to be added in its endangered heritage list.
- Budapest** - The Hungarian city, bisected by river **Danube**, has been put on the **endangered list** because of a major renovation of the Buda Castle quarter.
- Liverpool** - UNESCO recommended taking Liverpool off the World Heritage list altogether. UNESCO is angry due to the redevelopment of Liverpool's historic waterfront and northern dock area.

About UNESCO

- UNESCO - United Nations Educational, Scientific and Cultural Organization**
- It is **specialized agency** of the United Nations (UN). The constitution, which entered into force in 1946, called for the **promotion of international collaboration in education, science, and culture**.
- UNESCO's mission is to contribute to the building of a culture of peace, the eradication of poverty, sustainable development and intercultural dialogue through education, the sciences, culture, communication and information.
- The agency's permanent headquarter is in **Paris, France**.
- Parent Organisation** - United Nations Economic and Social Council

About juneteenth

- Juneteenth also known as **Freedom Day**, Jubilee Day, Liberation Day, and **Emancipation Day** is a holiday celebrating the emancipation of those who had been enslaved in the **United States**.
- Originating in **Texas**, it is now celebrated annually on the **19th of June** throughout the United States, with varying official recognition.
- Specifically, it commemorates Union army general **Gordon Granger** announcing federal orders in Galveston, Texas, **on June 19, 1865**, proclaiming that **all slaves in Texas were free**.
- President **Abraham Lincoln's Emancipation Proclamation, 1865** had officially outlawed slavery in Texas and the other states in rebellion against the Union almost two and a half years earlier.

Why in News?

- Recently, the **Rengma Nagas** in Assam have written to Union Home Minister demanding an **autonomous district council**.

Reasons for Autonomous District Council by Rengma Nagas

- It was demanded amid a decision by the Central and the State governments to upgrade the **Karbi Anglong Autonomous Council (KAAC)** into a territorial council.

- The **Rengma Naga Peoples' Council (RNPC)** said in the memorandum that the **Rengmas were the first tribal people** in Assam to have **encountered the British** in 1839.
- They stated that the **existing Rengma Hills was eliminated from the political map** of the State and replaced with that of Mikir Hills (now Karbi Anglong) in 1951.
- The council said that during the **Burmese invasions of Assam in 1816 and 1819**, it was the Rengmas who gave shelter to the Ahom refugees.
- The petition said that the **Rengma Hills was partitioned in 1963** between Assam and Nagaland at the time of creation of Nagaland State.
- The **Karbis**, who were known as Mikirs till 1976, were the **indigenous tribal people of Mikir Hills**.

Who are Rengma Nagas?

- People who are presently living in Rengma Hills are from **Assam, Arunachal Pradesh and Meghalaya**.
- They speak different dialects and **do not know Karbi language** of Karbi Anglong.
- It is a Naga tribe found in **Nagaland and Assam**.
- The Census 2011 states that the **Rengma population stands at 62,951**.
- The Rengma headquarters is located in **Tseminyu**.
- The traditional Rengma religion is an **animist religion** and **involved spirit worship**.
- **Ngada** is the harvest festival of the Rengmas.

About Autonomous District Councils

- The **Sixth Schedule of the Constitution of India** allows creation of Autonomous District Councils (ADCs) in **Assam, Meghalaya, Tripura & Mizoram**.
- **Article 244 of the Indian Constitution** provides for the creation of ADCs which seeks to safeguard the rights of tribal population.
- ADCs are bodies **representing a district** to which the Constitution has given varying degrees of

Ram Prasad Bismil

History & Culture

Why is in the news ?

- Recently, the Ministry of Culture has paid tribute to **Shaheed Ram Prasad Bismil** on his birth anniversary at Shahjahanpur (UP) as a part of Azadi Ka Amrit Mahotsav.

About Shaheed Ram Prasad Bismil

- **Early Life**
 - He was born on **11th June, 1897** in **Shahjahanpur (Uttar Pradesh)**.
 - He was associated with the **Arya Samaj** from an early age.
 - He **wrote powerful patriotic poems** in Urdu and Hindi under the pen name of names of '**Bismil**', '**Ram**' and '**Agyat**'.
 - The **ideals of freedom and revolution got first ingrained** in his mind after he read the death sentence passed on Bhai Parmanand, an Indian nationalist and Arya Samaj missionary.
- **Organisations against British Rule**
 - He organised **Matrivedi and Shivaji Samiti** along with **Genda Lal Dixit** and youths from Etawah, Mainpuri, Agra and Shahjahanpur districts.
 - He formed the **Hindustan Republican Association** with leaders like Bhagat Singh and Chandrasekhar Azad.
 - He participated in the **Mainpuri conspiracy of 1918** and the **Kakori conspiracy of 1925** with Ashfaq Ullah Khan and Roshan Singh to protest against the British Rule.
- **Famous writings and poems**
 - He gave vent to his anger over death of Bhai Parmanand in the form of his poem '**Mera Janm**'.
 - He published a pamphlet titled '**Deshwasiyon ke Naam**' and distributed it along with his poem 'Mainpuri ki Pratigya' in 1918.
 - He wrote '**Mera Rang De Basanti Chola**' and '**Sarfaroshi Ki Tamanna**' which became the anthem for freedom fighters.

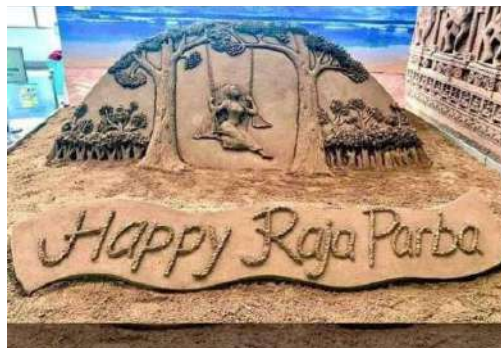


Why is in the news ?

- PM extends best wishes to people of Odisha on Raja Parba.

About the festival

- Raja or Raja Parba or Mithuna Sankranti is a **three-day-long festival of womanhood celebrated in Odisha, India**.
- The second day of the festival signifies beginning of the **solar month of Mithuna from**, which the **season of rains starts**.
- To **celebrate the advent of monsoon**, the joyous festival is arranged for three days by the villagers.
- The first day is called "**Pahili Raja**", second is "**Raja Sankranti**" and third is "**Bhumi Dahana or Basi Raja**".
- It is **similar to Ambubachi Mela of Assam**.



Ekambaranathar Temple

History & Culture

Why in News?

- Recently, the Ekambaranathar temple in Kancheepuram (Tamil Nadu) has taken control of the Seetha Kingston School, located on the temple's property in Poonamallee High Road.

About the temple

- It is a **Hindu temple** dedicated to the deity Shiva, located in **Kanchipuram, Tamil Nadu**.
- It is significant to the **Hindu sect of Saivism** as one of the temples associated with the five elements, the **Pancha Bhoota Stalas**, and specifically the element of Earth, or Prithvi.
- Shiva is worshiped as **Ekambareswarar** or **Ekambaranathar**, and is represented by the lingam, with his idol referred to as **Prithvi lingam**.
- The present masonry structure was **built during the Chola dynasty** in the **9th century**, while later expansions are attributed to Vijayanagar rulers.
- It is **maintained and administered by the Hindu Religious and Charitable Endowments Department** of the Government of Tamil Nadu.



Flag Satyagraha/Jhanda Satyagraha

History & Culture

Why is in the news?

- The anniversary of the 'Jhanda Satyagraha' was celebrated in Jabalpur in Madhya Pradesh.

About Flag Satyagraha

- The Flag Satyagraha movement by the freedom fighters **shook the British government** and it infused a new life into the freedom movement.
- It was held in **Jabalpur and Nagpur** in **1923**.
- The news of flag hoisting in Jabalpur **spread like fire in the country** and after flags were hoisted at several places across the country.
- It is a **campaign of peaceful civil disobedience** that focused on **exercising the right and freedom to hoist the nationalist flag** and challenge the legitimacy of the British Rule in India through the defiance of laws prohibiting the hoisting of nationalist flags and restricting civil freedoms.

Impact

- The arrest of nationalist protestors demanding the **right to hoist the flag caused an outcry** across India especially as Gandhi had recently been arrested.
- Nationalist leaders such as **Sardar Vallabhbhai Patel, Jamnalal Bajaj, Chakravarthi Rajagopalachari, Dr. Rajendra Prasad** and **Vinoba Bhave organised the revolt** and thousands of people from different regions traveled to Nagpur and other parts of the Central Provinces to participate in civil disobedience.
- In the end, the British **negotiated an agreement** with Patel and other Congress leaders permitting the protestors to conduct their march unhindered and obtaining the **release of all those arrested**.

Sant Kabirdas

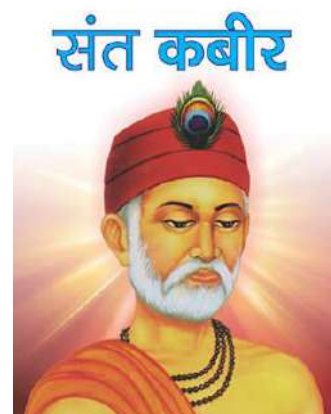
History & Culture

Why is in the news?

- Recently, the Prime Minister has paid tribute to Sant Kabir Das ji on his Jayanti on 24th June.

About

- He was a **15th-century Indian mystic, social reformer, poet** and **saint** who had a significant role among the people in India.
- He was one of the **most influential saints**.
- He was brought up in a **family of Muslim julahas orweavers** settled in or near the city of Benares (Varanasi).
- He was best known for his two-line couplets, known as '**Kabir Ke Dohe**'.
- He is a **widely revered poet** whose works had a **tremendous influence on the Bhakti movement**.
- Kabir's legacy is still going on throu Kabir believed in a **formless Supreme God** and **preached that the only path to salvation** was through **bhakti** or **devotion**. Kabir drew his followers from among both Hindus and Muslims.



His Teaching

- Kabir's teachings were based on a **complete, indeed vehement, rejection of the major religious traditions**.
- His teachings **openly ridiculed all forms of external worship** of both Brahmanical Hinduism and Islam, the pre-eminence of the priestly classes and the caste system.
- The language of his poetry was a **form of spoken Hindi** widely understood by ordinary people.
- Kabir believed in a **formless Supreme God** and **preached that the only path to salvation** was through **bhakti** or **devotion**. Kabir drew his followers from among both Hindus and Muslims
- According to him every life has a **relationship with two spiritual principles** (Jivatma and Paramatma). His view about the moksha is that it is the **process of uniting these two divine principles**.
- He also sometimes used **cryptic language**, which is difficult to follow.
- His popular verses and dohas continue to **inspire generations** even in the 21st century.

Writings/Works

- Kabir Das' writings had a **great influence on the Bhakti movement** and includes titles like **Kabir Granthawali, Anurag Sagar, Bijak**, and **Sakhi Granth, Panch Vani**
- The major part of his work was **collected by the fifth Sikh guru--Guru Arjan Dev**.
- He **fought against social evils** and **taught the lesson of humanity** and **love** to the world.



Why in the news?

- The Colombian Army has tightened its control over Cali following the latest anti-government protests.

About Cali

- Cali is the **second-largest city in Colombia** by area and the third most populous.
- It is the only major Colombian city with **access to the Pacific Coast**.
- Cali is located in the **Cauca Valley** to the **west of the Cauca River**.

**Why in News?**

- To help out horticulturists who face crop damage due to hailstorms, the Himachal Pradesh government will be testing the use of indigenously developed 'anti-hail guns'.

About the Gun

- An anti-hail gun is a **machine** that **generates shock waves** to disrupt the growth of hailstones in clouds.
- It is developed indigenously by **IIT Bombay** along with **Dr Y S Parmar University of Horticulture and Forestry** at Nauni (Solan). They are likely to be much cheaper than the imported ones.
- How do anti-hail guns prevent a hail storm?
- Anti-hail gun comprises a **tall, fixed structure** somewhat resembling an inverted tower, **several meters high with a long and narrow cone** opening towards the sky.
- The gun is "fired" by feeding an **explosive mixture of acetylene gas & air** into its lower chamber. This **releases a shock wave** (waves that travel faster than the speed of sound, such as those produced by supersonic aircraft).
- These shock waves supposedly **stop water droplets** in clouds from **turning into hailstones**, so that they fall simply as raindrops.

**How are Hails formed?**

- Hails are formed **by cumulonimbus clouds** which are generally large and dark and may cause thunder and lightning.
- In such clouds, winds can **blow up the water droplets to heights** where they **freeze into ice**.
- The frozen droplets **begin to fall** but are soon **pushed back up by the winds** and **more droplets freeze** onto them, resulting in **multiple layers of ice** on the hailstones.
- This fall and rise are **repeated several times**, till the hailstones become too heavy and fall down.
- Why is hail a big issue in HP?
- Every summer from **March to May**, **frequent hailstorms** in the fruit-growing areas of **Himachal** destroy apples, pears and other crops, causing massive losses to farmers.
- In some hail-prone areas such as **Narkanda and Theog**, the **entire apple crop in an orchard** may sometimes get **destroyed** during such storms.

Why in the news?

- Kenya recently launched its newest mega infrastructure project, the Lamu port, which is a part of an ambitious transport corridor between Lamu (a small archipelago north of Mombasa in Kenya), South Sudan and Ethiopia.

About

- The Lamu port is going to be **Kenya's second deep-water port** after Mombasa.
- The port is **part of the wider US \$23 billion Lamu Port South Sudan-Ethiopia Transport (LAPSSET) corridor** and has been constructed by China Communications Construction Company, with the first three of the planned 32 berths coming at a cost of US \$367 million.
- This transport corridor is touted to comprise a **standard gauge railway line**; an **oil pipeline and refinery**; **road network**; **international airports at Isiolo**, Lamu, Lokichogio; the port of Lamu at Manda Bay; and resort cities.

**Why in the news?**

- The massacre of at least 160 people in a border village in Burkina Faso over the weekend is a grim reminder of the threat the Sahel region faces from religious terrorism.

About Burkina faso

- Burkina Faso is a **landlocked country** in **western Africa**.
- It is bounded by **Mali** to the north and west, **Niger** to the northeast, **Benin** to the southeast, and **Côte d'Ivoire, Ghana, and Togo** to the south.
- It is a **low-income Sahelian country** with limited natural resources.
- Its economy is largely **based on agriculture**, which employs 80% of the workforce, although gold exports have increased.
- The country occupies an **extensive plateau**, and its geography is characterized by a **savanna** that is grassy in the north and gradually gives way to sparse forests in the south.

Why in the news?

- Recently, Denmark has approved the building of Lynetteholm, an artificial island off the coast of Copenhagen (capital of Denmark, located near Baltic Sea).

About the island

- The **275-hectare project** was designed as a housing and business district for around 35,000 people.
- It will be **built using soil** from construction projects in Copenhagen and the surrounding area.
- The artificial island will be located **between Nordhavn and Refshaleøen**.
- It will **protect the city's harbour** from rising water masses and from more frequent storm surges.



Why in the news?

- In the ongoing summer, the Sardar Sarovar Narmada dam released about 1.3 Million Acre Feet (MAF) water for irrigation between April 1 and May 31 in its command area of 21.29 lakh hectares.

About the dam

- The Sardar Sarovar Narmada Dam or Sardar Sarovar Project (SSP) is a **terminal dam** and **gravity dam built on the Narmada River** at Kevadia in Narmada district of Gujarat.
- It is the **second biggest dam in terms of volume** of concrete used in it. It is the third highest concrete dam in India.
- The Sardar Sarovar Project (SSP) involves a **series of large irrigation** and **hydroelectric multi-purpose dams**.
- It took form in **1979** as part of a development scheme to **increase irrigation** and **produce hydroelectricity**.
- The SSP includes two powerhouses - **River Bed Power House** (RBPH; 1,200 MW) and **Canal Head Power House** (250 MW).
- The power benefits from the project are to be shared thus: **Madhya Pradesh at 57%, Maharashtra at 27%** and **Gujarat at 16%**

**Narmada River**

- Narmada is the **largest west flowing river** of the **peninsular region** flowing through a rift valley **between the Vindhya Range on the north** and the **Satpura Range on the south**.
- It rises from **Maikala range** near Amarkantak in Madhya Pradesh.
- It drains a **large area in Madhya Pradesh** besides some areas in the states of **Maharashtra, Gujarat**.
- The river near Jabalpur (Madhya Pradesh) forms the **Dhuandhar Falls**.
- There are several islands in the estuary of the Narmada of which **Aliabet** is the largest.
- Major Tributaries: **Hiran, Orsang, the Barna** and **the Kolar**.
- The major Hydro Power Projects in the basin are **Indira Sagar, Sardar Sarovar** etc.

Addu Atoll

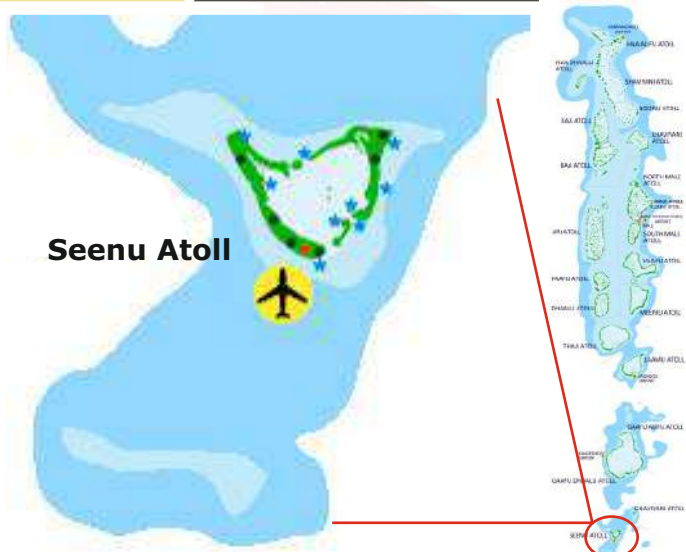
Geography

Why in the news?

- President Ibrahim Mohamed Solih has said that the Maldives has made no decision on opening an Indian consulate in its southern Addu Atoll.

About the atoll

- Addu Atoll, also known as **Seenu Atoll**, is the **southernmost atoll of the Maldives**.
- Apart from **its strategic location in the Indian Ocean**, Addu is the second largest city in the archipelago, home to **over 30,000 people**.
- Addu Atoll, together with **Fuvahmulah**, **extend the Maldives** into the **Southern Hemisphere**.

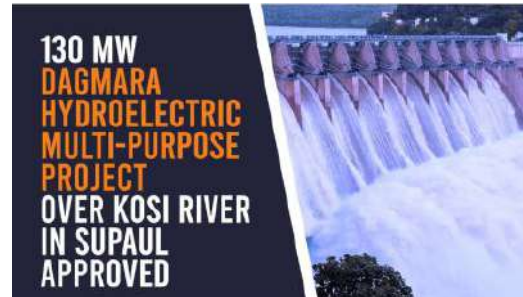


Why in the news?

- Recently, a Memorandum of Understanding (MoU) has been signed between National Hydro Power Corporation (NHPC) Limited and Bihar State Hydroelectric Power Corporation Limited (BSHPC) for Implementation of Dagmara Hydro-Electric Project, Supaul, Bihar.

About the project

- The project is located near **village Dagmara on the right bank and Simri on the left bank**, about 22.5 km downstream of Bhimnagar barrage **on Kosi river**.
- It is a **Run-of-the-River scheme**. Run-of-river hydro projects use the **natural downward flow of rivers** and **micro turbine generators** to capture the kinetic energy carried by water.
- Typically water is taken from the **river at a high point** and **diverted to a channel, pipeline, or pressurised pipeline** (or penstock).
- The project will have the total capacity of generating **130 MW energy**, in which **17 units of 7.65 MW** will be installed for power generation.
- The estimated cost of construction of this project is at **Rs. 2478.24 crore**.

**Significance**

- It will be a **landmark project in the power sector** scenario of Bihar as far as green power is concerned.
- Apart from **generating clean and green power**, the execution will boost the socio-economic and infrastructure development in the area and shall also create employment opportunities.

Kosi River

- The Kosi is a **trans-boundary river** which flows through **Tibet, Nepal and India**.
- It has its **source in Tibet**.
- Major tributaries are **Sun Kosi, Arun and Tamur**.
- Its **unstable nature** causes course changes.
- The Kosi carries the **maximum amount of silt and sand** after the Brahmaputra in India.
- It is also known as the "**Sorrow of Bihar**" due to the extreme flooding that it causes.

National Hydro Power Corporation (NHPC)

- NHPC is a **Category-A Miniratna Company** under the **Ministry of Power**, in the field of Hydropower.
- It is the largest organisation for hydropower development in India, currently, NHPC has **24 operational power stations** with a total **installed capacity of 7071 Mega Watt (MW)**.

Why in the news?

- Recently, a consignment of Geographical Indication (GI) certified 'Jalgaon banana' has been exported to Dubai.

About Jalgaon banana

- Jalgaon District is located in the **north-west region of the state of Maharashtra**.

- It is bounded by **Satpura mountain ranges** in the north, **Ajanta mountain ranges** in the south.
- Jalgaon is **rich in volcanic soil** which is well suited for cotton production.
- It is a major business center for **tea, gold, pulses, cotton** and **bananas**
- The principal natural feature is the **Tapti River**.
- Unlike the rest of the Deccan, whose rivers rise in the Western Ghats and flow eastward to the Bay of Bengal, the Tapti **flows westward** from headwaters in **eastern Maharashtra** to empty into the **Arabian Sea**.
- The Tapti receives **thirteen principal tributaries** in its course.
- India is the **world's leading producer of bananas** with a share of around 25% in total output.



Geographical Indication Tag

- It is a sign used on products that have a **specific geographical origin** and **possess qualities** or a **reputation**
- that are due to that origin.
- It is a **part of the intellectual property rights** that comes under the **Paris Convention** for the Protection of Industrial Property.

Deep Ocean Mission

Geography

Why in the news?

- Recently, the Cabinet Committee on Economic Affairs has approved the proposal of the Ministry of Earth Sciences (MoES) on the Deep Ocean Mission (DOM).

About the mission

- Deep Ocean Mission aims to **explore the deep ocean for resources**. Also, for sustainable use of ocean resources, it aims to **develop deep-sea technologies**.
- **Ministry of Earth Sciences** (MoES) will be the nodal Ministry for implementing this mission.
- The mission will be implemented over a period of **5 years** in a **phased manner**. Its 1st phase will be of 3 years.

Key Components of the mission

- A **manned submersible** will be developed to **carry three people** to a depth of 6,000 metres in the ocean with a suite of **scientific sensors and tools**. An **Integrated Mining System** will be developed for mining polymetallic nodules at those depths in the central Indian Ocean.
- Development of **Ocean Climate Change Advisory Services**.
- Development of a **component for searching deep sea flora and fauna**, including microbes, and studying ways to sustainably utilise them.
- The next component is to **explore and identify potential sources of hydrothermal minerals** that are sources of precious metals formed from the earth's crust along the Indian Ocean mid-oceanic ridges.
- It has a component for **studying and preparing detailed engineering design** for offshore Ocean Thermal Energy Conversion (**OTEC**) powered desalination plants.
- The final component is aimed at **grooming experts** in the **field of ocean biology and engineering**. This component aims to translate research into industrial applications and product development through on-site business incubator facilities.

Significance

- The mission will give a **boost to efforts** to **explore India's vast Exclusive Economic Zone** and Continental Shelf.
- The plan will enable India to develop capabilities to **exploit resources** in Central Indian Ocean Basin (**CIOB**).



Polymetallic nodules

- Polymetallic nodules (also known as manganese nodules) are **potato-shaped, largely porous nodules** found in abundance carpeting the sea floor of world oceans in deep sea.
- Besides **manganese and iron**, they contain **nickel, copper, cobalt, lead, molybdenum, cadmium, vanadium, titanium**, of which nickel, cobalt and copper are considered to be of economic and strategic importance.

Yellow Gold 48

Geography

Why in the news?

- Recently, Bayer (German agrochemicals major) has launched the first-ever yellow watermelon variety Yellow Gold 48 under Seminis brand in India.

About yellow gold

- It has been **developed from superior germplasm** as part of Bayer's global research and development efforts.
- It is best **suited for cultivation from October to February** and for harvest from April onwards and will be available in the market until mid-July.
- It has been **commercially introduced in India** following two years of local trials.
- The company is also creating **market linkages for growers** by connecting them directly to large buyers and food retail stores.

Significance

- It has **high yield** and **income potential** and **will empower watermelon growers** to diversify into new categories and meet the growing demand for exotic fruits.
- Watermelon growers can benefit from **enhanced yield potential, better disease** and **pest tolerance**, and **higher returns**.

Saint Vincent and the Grenadines

Geography

Why in the news?

- Cabinet approved the agreement between India and Saint Vincent and The Grenadines for the Exchange of Information and Assistance in Collection with respect to Taxes.

About

- It is an **island country in the Caribbean**.
- It is located in the **southeast Windward Islands of the Lesser Antilles**, which lie in the West Indies at the southern end of the eastern border of the Caribbean Sea where the latter meets the Atlantic Ocean.

Details of the Agreement:

- It mainly proposes to **facilitate exchange of information** between the two countries and to **provide assistance to each other** in **collection of tax claims**.
- The Agreement will help in facilitating the exchange of information between the two countries including **sharing of information**
- held by the banks and other financial institutions** encompassing the information regarding the **legal** and **beneficial ownership**.



Why in the news?

- In a recent event, Russia alleged that the British warship had breached its territorial waters in Black Sea which Britain and most of the world say belong to Ukraine.

About black sea

- Black Sea is an **inland sea** located **between far-southeastern Europe** and **the far-western edges of the continent of Asia** and the **country of Turkey**.
- Bordering Countries è **Romania, Bulgaria, Ukraine, Russia, Georgia, and Turkey**.
- It is surrounded by the **Pontic, Caucasus, and Crimean Mountains** in the south, east and north respectively.
- The Turkish straits system - **the Dardanelles, Bosphorus and Marmara Sea** - forms a transitional zone between the Mediterranean and the Black Sea.
- The Black Sea is also **connected to the Sea of Azov by the Strait of Kerch**.

**Anoxic Water**

- There is a **significant absence of oxygen** in the water.
- The Black Sea happens to be the **largest water body** with a **meromictic basin**, which means the **movement of water** between the lower and upper layers of the sea is a **rare phenomenon** to find anywhere in the world.
- The **anoxic condition** is also caused due to the presence of the **process of Eutrophication** in the sea.

Why in the news?

- The National Geographic magazine has recognised the 'Southern Ocean' as the world's fifth ocean.

About the naming

- Usually, the magazine has **followed the** International Hydrographic Organization (**IHO**) **on marine names**.
- The change in name is in **alignment with** the **National Geographic Society's initiative** to conserve the world's oceans.
- The Southern Ocean is the only ocean to **touch three other oceans** and to **completely embrace a continent** rather than being embraced by them.
- Its northern limit is a **latitude of 60 degrees south**. It is also defined by its **Antarctic Circumpolar Current** that was formed 34 million years ago. The current flows from west to east around Antarctica.
- By officially changing the name of the waterbody, the National Geographic hoped to **draw attention to the following issues**,
 - Rapid warming of the Southern Ocean due to global warming,
 - Industrial fishing on species like krill and Patagonian toothfish.



Recognition

- The **IHO too** had **recognised 'Southern Ocean'** as a distinct body of water surrounding Antarctica **in 1937** but had repealed the same in 1953.
- However, the **US Board on Geographic Names** and the National Oceanic and Atmospheric Administration **recognize** the term 'Southern Ocean'.

International Hydrographic Organization

- It is an **intergovernmental organization** that works to ensure all the world's seas, oceans and navigable waters are surveyed and charted.
- Established in **1921**, it coordinates the activities of national hydrographic offices and promotes uniformity in nautical charts and documents.
- It issues **survey best practices, provides guidelines to maximize the use of hydrographic survey data** and develops hydrographic capabilities in Member States.
- **India is also a member** of IHO.

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Why in News?

- Recently, the Indian Coast Guard has pressed into service an aircraft for 'Operation Olivia' to protect Olive Ridley turtles.

About Operation Olivia

- Operation Olivia was launched **by the Indian Coast Guard** in the **early 1980s**.
- The operation aims to **protect Olive Ridley turtles** when they arrive at the Odisha coast for breeding and nesting from November to December.
- Indian Coast Guards (**ICGs**) **execute** this operation. As part of the operation, ICGs conduct **round-the-clock surveillance**. **Assets of Indian Coast Guards** such as fast patrol vessels, air cushion vessels, interceptor craft, and Dornier aircraft are **used in this operation** to enforce laws near the rookeries (colony of breeding animals).

**Olive Ridley Turtles:**

- Features**
 - The Olive ridley turtles are the **smallest** and **most abundant** of all sea turtles found in the world.
 - These turtles are **carnivores** and get their name from their **olive colored carapace**.
 - They **migrate thousands of kilometers** between feeding and mating grounds in the course of a year.
 - They are best known for their **unique mass nesting** called **Arribada**, where thousands of females come together on the same beach to lay eggs.
- Habitat**
 - They are found in **warm waters of the Pacific, Atlantic and Indian oceans**.
 - The Odisha's **Gahirmatha Marine Sanctuary** is known as the world's largest rookery of sea turtles.
- Protection Status**
 - IUCN Red List: **Vulnerable**
 - CITES: **Appendix I**
 - Wildlife (Protection) Act, 1972: **Schedule I**.
- Major Threats:**
 - Unfriendly fishing practices, development and exploitation of nesting beaches for ports, and tourist centres.
 - They are still extensively poached for their meat, shell and leather, and their eggs, though illegal to harvest, have a significantly large market around the coastal regions.
 - Most severe threat is the accidental killing of adult turtles through entanglement in trawl nets and gill nets due to uncontrolled fishing during their mating season around nesting beaches.
- Other Initiatives**
 - To reduce accidental killing in India, the Odisha government has made it mandatory for trawls to use **Turtle Excluder Devices (TEDs)**, a net specially **designed with an exit cover** which allows the turtles to escape while retaining the catch.

Why in News?

- The State of Finance for Nature Report has been released. The report recommended more investments in "Nature-based solutions".

About the report

- Released by **United Nations Environment Programme, World Economic Forum** and the **Economics of Land Degradation**.
- The report **tracks the global trends in public and private investment** in nature-based solutions. By this, it aims to improve data quality and identify opportunities for governments, businesses and financiers.
- Nature-based solutions(NbS) refer to **sustainable management** and **the use of nature to tackle socio- environmental challenges**. These challenges range from disaster risk reduction, climate change and biodiversity loss to food and water security as well as human health.

Key Findings

- The current investments in Nature-based solutions amount to **USD 133 billion**. This is about **0.10% of global GDP**.
- The largest proportion of **public investment** is carried out by the **United States**, with approximately **\$36 billion a year** in NbS spending. It is **followed by China, Japan, Germany** and **Australia**.

Devika Project of Udhampur

Environment

Why in News?

- Recently, the Ministry of Personnel, Public Grievances & Pensions has said that Devika Project is for all and therefore suggestions are welcome from every Party.

About the project

- It is **North India's first- of- its- kind project** located in Udhampur, Jammu & Kashmir.
- It is **Rs.190 Crore project** under the National River Conservation Plan (NRCP) which started in March '19.
- The activities involved under the project are
 - Bathing "ghats"** (places) on the banks of the Devika River will be developed;
 - Encroachments will be removed;** and
 - Natural water bodies** will be restored and catchment areas will be developed along with cremation ground.
- The project includes the construction of **three sewage treatment plants** of 8 MLD, 4 MLD and 1.6 MLD capacities.

About Devika River

- It holds **great religious significance** as it is **revered by Hindus** as the sister of river Ganga.
- In the **Nilmat Puran** that was written in the **7th century by Nela Muni**, it is mentioned that the Devika River is a manifestation of the mother Goddess Parwati herself to benefit the people of Mader Desha.
- It originates from the **hilly Suddha Mahadev temple** in **Udhampur district of Jammu & Kashmir** and flows down towards western Punjab (now in Pakistan) where it **merges with the Ravi River**.

Pyrostria Laljii

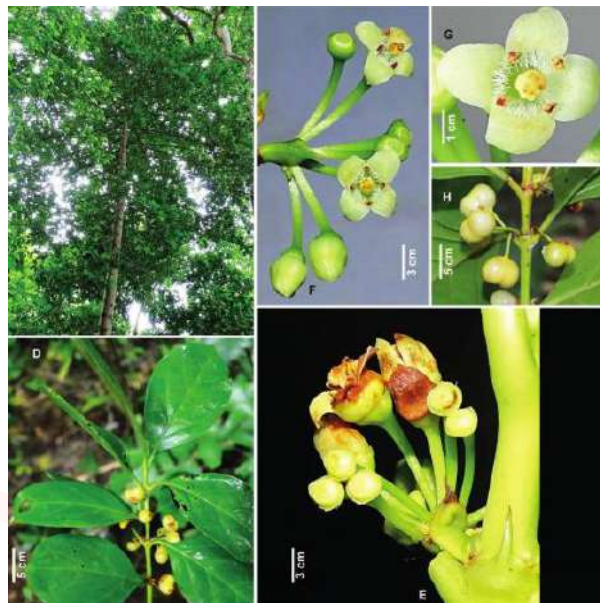
Environment

Why in News?

- A 15-meter-tall tree that belongs to the genus of the coffee family has recently been discovered from the Andaman Islands by a team of researchers from India and the Philippines.

About

- The new species *Pyrostria laljii*, is also the **first record of the genus *Pyrostria* in India**. Trees belonging to these species are usually found in Madagascar.
- Conservation Status** – **Critically endangered** as per IUCN status.
- Physical features**
 - The tree is distinguished by a **long stem** with a **whitish coating on the trunk**, and oblong-ovate leaves with a cuneate base.
 - Other physical features that distinguish the tree from other species of the genus is its **umbellate inflorescence** with **8-12 flowers**.
 - The **colour of the flowers** varies from **white to cream**, and turns brown after pollination.
 - The fruit drupes of the tree are **obovoid** or **subglobose**, **green to yellow or white**, when mature turning pale yellow to brown.
- The tree has been named *Pyrostria laljii* **after Lal Ji Singh, Joint Director**, Andaman and Nicobar Regional Centre, Botanical Survey of India.
- Where was the tree found?**
 - It was **first** reported from **South Andaman's Wandoor forest**.
 - The **other places** in the Andaman and Nicobar Islands where the tree could be located are the **Tirur forest** near the **Jarawa Reserve Forest** and **the Chidia Tapu (Munda Pahar) forest**.



New species Pokeweed Species

- Researchers have also discovered a new species of pokeweed named ***Rivina andamanensis***.
- It was found growing **under large trees, shaded and rocky areas**, along with **herbs and shrubby plants**.
- This discovery of new species, representing the **first record of the pokeweed family Petiveriaceae** in the **Andaman and Nicobar Islands**, adds one more family to the islands' flora.

Srivilliputhur-Megamalai Tiger Reserve

Environment

Why in News?

- The recently declared Srivilliputhur-Megamalai Tiger Reserve in Tamil Nadu will provide protection to Megamalai,
- the Vaigai's primary catchment, in turn helping water levels to rise in the river.

About

- Establishment in Srivilliputhur-Megamalai Tiger Reserve is the **fifth Tiger Reserve of Tamil Nadu** and the **51st tiger reserve of India**.
- It was jointly declared as a Tiger Reserve by the Centre and Tamil Nadu governments in **February 2021**.
- For this, the **Megamalai WLS** and the **adjoining Srivilliputhur WLS** were clubbed together.
- It has a mix of **tropical evergreen forests** and **semi-evergreen forests**, **dry deciduous forests** and **moist mixed deciduous forests**, **grassland**.
- Megamalai has a large population of **ungulates** (hoofed mammals), **spotted deer**, **Indian gaurs**, **wild boars** and **other carnivores**.
- The adjoining Srivilliputhur hosts **grizzled giant squirrels**, **flying squirrels**, **leopards**, **Nilgiri tars**, **jungle cats**, **Sambar**, **elephants**, **lion-tailed macaques** and many species of birds.

- Srivilliputhur-Megamalai Tiger Reserve will be the **5th tiger reserve** of Tamil Nadu. The **other four** are
 - Mudumalai (MTR)
 - Anamalai (ATR)
 - Sathyamangalam (STR)
 - Kalakkad Mundanthurai Tiger Reserve (KMTR)

• **Vaigai River**

- Vaigai is a river in **Tamil Nadu**. The river is also referred to as **Shiva Ganga** in many places.
- It is also called **Kritamaala**, for it runs around the **city of Madurai** like a garland
- It travels through the **Pandiya Nadu** region of Tamil Nadu.
- The Vaigai was the river that flowed through the **city of Madurai**, the **capital of the ancient**
- and **prosperous Pandya kingdom** located in southern Tamil Nadu.
- The river also finds a mention in **Sangam literature dated to 300 before** the Common Era (**BCE**).
- The story of Vaigai is told in **Thiruvilayadal Puranam**
- The river originates in the **Varusanadu Hills**, the **Periyar Plateau of the Western Ghats range**.
- The river finally **empties into the Palk Strait** near the Pamban Bridge in Ramanathapuram district.
- Its main tributaries are **Suruliyaru**, **Mullaiyaru**, **Varaaga Nadhi**, **Manjalaru**, **Kottagudi**, **Kridhumaal** and **Upparu**.
- The Vattaparai Falls are also located on this river.
- The river fulfils the **drinking water** requirement of five districts of Tamil Nadu namely Theni, Madurai, Ramanathapuram, Sivagangai and Dindigul.

Bharitalasuchus Tapani

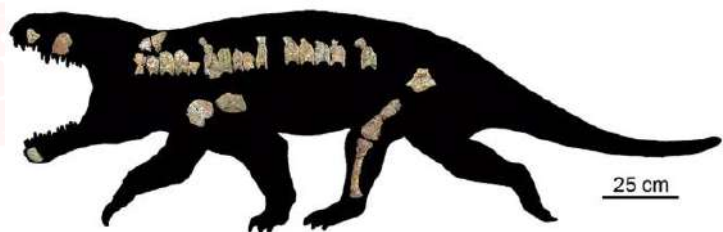
Environment

Why in News?

- In the mid-20th century, researchers from the Indian Statistical Institute, Kolkata, carried out extensive studies on rocks of the Yerrapalli Formation in what is now Telangana, uncovering several fossils.

About

- By studying some of these specimens stored at the Institute, an international team has now thrown light on a carnivorous reptile that **lived 240 million years ago**.
- They named it **Bharitalasuchus tapani**.
- In the Telugu language, **Bhari means huge**, **Tala means head**, and Suchus is the name of the Egyptian crocodile-headed deity.
- The species is named after **paleontologist Tapan Roy Chowdhury** in honour of his extensive work on the Yerrapalli Formation tetrapod fauna.
- This reptile belonged to a **family of extinct reptiles** named **Erythrosuchidae**.



Key Features include

- Bharitalasuchus tapani were robust animals with **big heads and large teeth**, and these probably predated other smaller reptiles.
- They were approximately the **size of an adult male lion** and might have been the **largest predators** in their ecosystems.

Erythrosuchidae

- Erythrosuchidae (meaning red crocodiles) are a family of large basal **archosauriform carnivores**. They lived from the later **Early Triassic** to the early Middle Triassic.



- The Triassic is a **geologic period** and system which **spans 50.6 million years** from the end of the Permian Period to the beginning of the Jurassic Period. It is the **first and shortest period** of the **Mesozoic Era**.
- The first Erythrosuchidae remains were discovered in **South Africa in 1905** and more were **found in China and Russia**.
- The South African one is about **245 million years old**, while the ones from China and Russia are around 240 million years old.

Yerrapalli Formation

- Yerrapalli Formation is located primarily in the **Pranhita–Godavari Basin in Telangana**.
- It is a Triassic rock formation consisting **primarily of red mudstones**. The area **preserves fossils of freshwater** and **terrestrial vertebrates**, as well as trace fossils of invertebrates.

Baihetan Dam

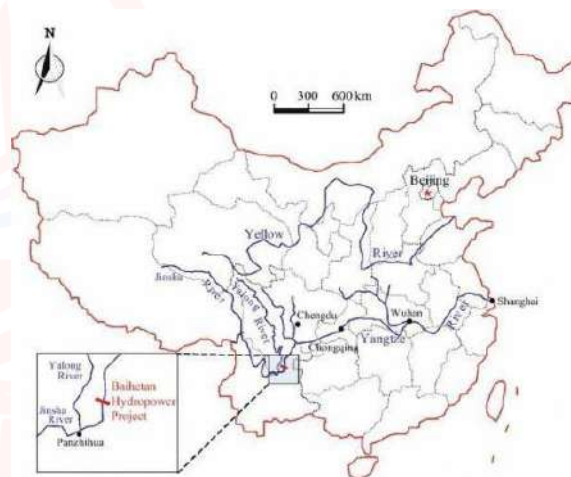
Environment

Why in News?

- China operationalises Baihetan hydro project of 16GW capacity, biggest since Three Gorges.

About

- Located on the Border of **southwestern provinces of Yunnan and Sichuan**.
- Constructed on **Jinsha**, the upstream section of the Yangtze river.
 - Yangtze is the **longest in Asia** and the third-longest river in the world.
 - It **risers in the northern part of the Tibetan Plateau** and flows in a generally easterly direction to the East China Sea.
- Three Gorges Dam is also a **hydroelectric gravity dam**
- that **spans the Yangtze River**.
- It has been the **world's largest power station** in terms of installed capacity of 22,500 MW or 22.5 GW.
- The **Three Gorges** are three adjacent gorges along the middle reaches of the Yangtze River.



Pygmy Hog

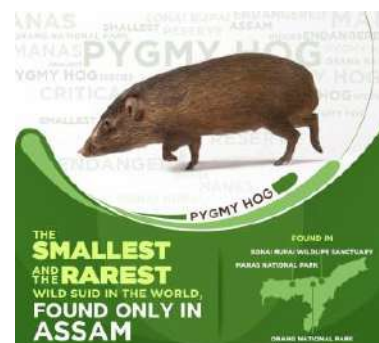
Environment

Why in News?

- Eight of 12 captive-bred pygmy hogs, the **world's rarest and smallest wild pigs**, were on June 22 released in the Manas National Park of western Assam.
- This is the second batch to have been reintroduced into the wild under the **Pygmy Hog Conservation Programme (PHCP)** in a year.

About Pygmy Hog

- They are effectively very small pigs, members of the family Suidae, standing at 20-30 cm in height. The pygmy hog is one of the very few mammals that build its own home, or nest, complete with a 'roof'.
- Population:** 200-500.
- Distribution:** The pygmy hog is now restricted to very few locations in and around Manas National Park in north- western Assam.



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- **Habitat And Ecology:** This species inhabits dense, tall grasslands. They feed on roots, tubers, insects, rodents and small reptiles. They breed seasonally before the monsoons, giving birth to a litter of three to six.
- **Threats:** The main threats pygmy hogs face are loss and degradation of habitat due to human settlements, agricultural encroachments, dry-season burning, livestock grazing, commercial forestry and flood control schemes.
- **Conservation Status:** Critically Endangered' on the IUCN Red List of Threatened Species.

Sea Snot

Environment

Why in News?

- There has been growing environmental concern in Turkey over the accumulation of 'sea snot', a slimy layer of grey or green sludge in the country's seas, which can cause considerable damage to the marine ecosystem.

About sea snot

- It is a slimy layer of grey or green sludge, which can cause considerable damage to the marine ecosystem.
- It is formed when algae are overloaded with nutrients.
- A 'sea snot' outbreak was first recorded in the country in 2007. Back then, it was also spotted in the Aegean Sea near Greece.
- Overloading of nutrients happens because of warm weather caused by global warming, water pollution, uncontrolled dumping of household and industrial waste into the seas etc.



Where has it been found?

- Turkey's Sea of Marmara, which connects the Black Sea to the Aegean Sea, has witnessed the largest outbreak of 'sea snot'.
- The sludge has also been spotted in the adjoining Black and Aegean seas.

Effects on marine ecosystem

- The growth of the mucilage, which floats upon the surface of the sea like brown phlegm, is posing a severe threat to the marine ecosystem of the country.
- Divers have said that it has caused mass deaths among the fish population, and also killed other aquatic organisms such as corals and sponges.
- The mucilage is now covering the surface of the sea and has also spread to 80-100 feet below the surface.
- If unchecked, this can collapse to the bottom and cover the sea floor, causing major damage to the marine ecosystem.
- Over a period of time, it could end up poisoning all aquatic life, including fishes, crabs, oysters, mussels and sea stars.

Black Carbon

Environment

Why in News

- The World Bank has released a report titled "Glaciers of the Himalayas, Climate Change, Black Carbon and Regional Resilience".

Key findings

- Black carbon (BC) deposits produced by human activity accelerate the pace of glacier and snow melt in the Himalayan region.

- The **rate of retreat of HKHK glaciers** is estimated to be **0.3 metres per year** in the west to 1.0 metre per year in the east. BC adds to the impact of climate change.
- Deposits of BC **act in two ways** hastening the pace of glacier melt: by **decreasing surface reflectance of sunlight** and by **raising air temperature**.

About Himalaya, Karakoram and Hindu Kush (HKHK) mountain region

- The glaciers in the HKHK mountain ranges, containing **almost 55000 glaciers**. They **store more freshwater** than any region outside the North and South Poles.
- Their ice reserves feed into **three major river** basins in South Asia—**the Indus, Ganges, and the Brahmaputra**. These rivers are home to **750 million people**.

About Black Carbon

- Black carbon (BC) is a **short-lived climate pollutant**. It is the **second-largest contributor to warming** the planet after carbon dioxide (CO₂).
- It **absorbs solar energy** and **warms** the atmosphere. When it falls to earth with precipitation, it **darkens the surface** of snow and ice. Thus **reducing their albedo** (the reflecting power of a surface), and warming the snow, resulting in the faster glacial melting.
- However, unlike other greenhouse gas emissions (GHGs), BC is **quickly washed out** and **can be eliminated** from the atmosphere if emissions stop.
- **Source of Black Carbon in HKHK region**
 - **Industry** [primarily brick kilns] **and residential burning of solid fuel** together account for 45–66% of BC emissions; On-Road diesel fuels (7–18%) and Open burning (less than 3% in all seasons).

Industrial Deep Decarbonization Initiative (IDDI)

Environment

Why in the news?

- **India** along with **Govt. of United Kingdom** launched a new work stream to *promote industrial energy efficiency* under the Clean Energy Ministerial's (CEM) Industrial Deep Decarbonization Initiative (IDDI) co-ordinated by **UNIDO**, at the 12th Chief Energy Ministerial (CEM).

About Clean Energy Ministerial

- It is a high-level **global forum** to promote policies and programs that advance clean energy technology, to share lessons learned and best practices, and to encourage the transition to a global clean energy economy.
- It was established in Dec' 2009 at the UN's Framework Convention on Climate Change conference of parties in **Copenhagen**. The Framework for the Clean Energy Ministerial, adopted at the seventh
- Clean Energy Ministerial in 2016, defines the CEM governance structure and outlines the mission statement, objectives, membership, and guiding principles. India is also a member country
- 12th Clean Energy Ministerial (CEM12), **hosted by Chile**, convened at a critical moment to determine the medium and long-term role of clean energy in supporting the economic recovery from the COVID- 19 pandemic, building momentum towards the commitment to cut emissions ahead of COP26.
- **Theme of CEM12:** "Ambition into Action-- Turning a Year of Ambition into a Decade of Delivery".

Heritage Trees

Environment

Why in News?

- The Maharashtra government has proposed amendments to the Maharashtra (Urban Areas) Protection and Preservation of Trees Act of 1975, to introduce provisions for the protection of 'heritage trees'.

About

- A tree with an **estimated age of 50 years** or **more** shall be defined as a heritage tree. It may **belong to specific species** which will be notified from time to time.



- Method to determine the age of the tree: The environment department in **consultation with the forest department** will **issue guidelines** to determine the age of the tree.
- **Compensatory Plantation**
 - Compensatory plantation will include **planting the number of trees equivalent to the age of trees to be cut.**
 - The saplings need to be **six to eight feet in height** while planting, and they will **undergo geo-tagging**
 - with **seven years** of caring period.
 - The option of **monetary compensation** has also been given, instead of the compensatory plantation.

Tree Authority

- As per amendments, **tree Authority** will be formed in **local civic bodies and councils** which will take all decisions regarding the protection of trees.
- It will have to **ensure tree census** to be carried out **every five years** along with counting of heritage trees.
- The Tree Authority is tasked with **"increasing the tree cover in urban areas and protecting the existing ones."**
- A proposal to cut more than 200 trees of age 5 years or more, will be **referred** to the state tree authority.
- The State authority will **issue directions** for the **use of tree cess**. The fine amount cannot be more than ₹1 lakh per tree in case of violations.

World Environment Day

Environment

Why in News?

- The Union Education Minister has approved the release of Performance Grading Index (PGI) 2019-20 for States and Union Territories.

About

- The United Nations Assembly established World Environment Day in **1972**, which was the **first day** of the
- **Stockholm Conference on the human environment.**
- However, it was first observed in the United States in **1974** with the theme- '**Only one earth**'.
- The **theme** of World Environment Day 2021 is '**Reimagine. Recreate. Restore.**' The theme is based on the UN Decade on Ecosystem Restoration, which will be launched by the United Nations this year.
- It is being **hosted by Pakistan.**

Initiatives by India on World Environment Day:

- Indian Government has declared the theme for World Environment Day, 2021 as "**Promotion of biofuels for a better environment**".
- '**Report of the expert committee on the road map for ethanol blending in India 2020-2025**' was released An **E-100 pilot project** has been launched in Pune for the production and distribution of ethanol across the country.
- In 2020, the Government of India had set a target of reaching **10% ethanol blending in petrol** (10% of ethanol mixed with 90% of diesel) **by 2022 & 20% ethanol blending by 2030**. However, the target date for achieving 20% ethanol-blending with petrol has been brought **forward by five years to 2025 from the earlier target of 2030**. This is to cut pollution and reduce import dependence.

Why in News?

- Recently, the International Union for Conservation of Nature (IUCN) has moved Blue-finned Mahseer from
- Endangered to the Least Concern' status on its Red List.

About Mahseer

- The Mahseer belongs to the **genus Tor**, of which there are **several subspecies to be found in India** and in other range countries in South Asia.
- The Blue-finned Mahseer or Tor Khudree is **one of the subspecies of the Mahseer**.
- IUCN Status is **Least Concern** (LC).
- **Features**
 - It is a **silvery-bluish coloured fish** with **blood-red fins** or fins tipped with a bluish tinge.
 - **Indicator species:** Blue finned Mahseer is **very sensitive** to **dissolved oxygen levels, water temperature** and **sudden climatic changes**. It just cannot bear pollution.
 - Hence, it acts as an **indicator of ecosystem health** because its prime requirement is a clean and pure environment.
 - The fish **feeds on plants, fruits, insects, shrimps** and **molluscs** and may be grown in ponds. They are also **predatory and prey on smaller mahseer**.
- Habit is Blue Finned Mahseer is found in the **Mula-Mutha River** close to the **Indian city of Pune**, a part of the Krishna River basin. It is also found in **other rivers of the Deccan Plateau**.
- The species is **migratory** and **moves upstream** during rains.

**International Union for Conservation of Nature**

- IUCN is a membership union uniquely composed of **both government** and **civil society organisations**.
- Created in **1948**, it is the global authority on the **status of the natural world** and the **measures** needed to safeguard it. It is headquartered in **Switzerland**.

The Red List

- The IUCN Red List of **Threatened Species**, is the **world's most comprehensive inventory** of the
- **global conservation status** of plant and animal species.
- It divides species into **nine categories**: Not Evaluated, Data Deficient, Least Concern, Near Threatened, Vulnerable, Endangered, Critically Endangered, Extinct in the Wild and Extinct.
- It is recognized as the **most authoritative guide** to the **status of biological diversity**.

Why is in the news?

- There have been two cases where the Mumbai Police has arrested five persons trying to sell Ambergris or whale vomit.

About Ambergris

- Ambergris, French for grey amber, is generally referred to as whale vomit.
- A sperm whale eats several thousand squid beaks a day. Occasionally, a beak makes it way to the whale's stomach and into its looping convoluted intestines where it becomes ambergris through a complex process, and may ultimately be excreted by the whale.



- It is a **solid waxy substance** that floats around the surface of water body and at times settles on the coast.

Significance

- This excretion is so valuable that it is referred to as floating gold. As per the latest estimates given by Mumbai Police, **1 kg of ambergris is worth Rs 1 crore** in the international market.
- The reason for its high cost is its use in the **perfume market**, especially to create fragrances like musk. It is believed to be in high demand in countries like Dubai that have a large perfume market.
- Ancient Egyptians used it as **incense**.
- It is also believed to be used in some traditional medicines.
- Due to its high value, Ambergris has been a target for smugglers especially in coastal areas. Since the sperm whale is a protected species, hunting of whale is not allowed. However, smugglers are known to have illegally targeted the fish in order to obtain the valuable Ambergris from its stomach.

Ramgarh Vishdhari wildlife sanctuary

Environment

Why in News?

- Rajasthan is poised to get its fourth tiger reserve after Ramgarh Vishdhari wildlife sanctuary received a nod from the National Tiger Conservation Authority (NTCA)'s technical committee.

About the sanctuary

- This Sanctuary is located at a distance of 45 Km from Bundi City on **Bundi-Nainwa Road near Village Ramgarh, District Bundi, Rajasthan.**
- It was notified in the **Year 1982** and is spread over an **area of 252.79 Sq. Km.**
- Biodiversity
 - Its flora consists of **Dhok, Khair, Salar, Khirni trees** with **some Mango** and **Ber trees**.
 - The Fauna consists of birds and animals like **Leopard, Sambhar, Wild boar, Chinkara, Sloth bear, Indian Wolf, Hyena, Jackal, Fox, deer** and **Crocodile**.
- Rajasthan has three tiger reserves with over 90 big cats at **Ranthambore Tiger Reserve** (RTR) in Sawai Madhopur, **Sariska Tiger Reserve** (STR) in Alwar, and **Mukundra Hills Tiger Reserve** (MHTR) in Kota.

Other Protected Areas in Rajasthan:

- Desert National Park, Jaisalmer
- Keoladeo National Park, Bharatpur
- Sajjargarh wildlife sanctuary, Udaipur
- National Chambal Sanctuary (on tri-junction of Rajasthan, Madhya Pradesh and Uttar Pradesh).

Summer Solstice

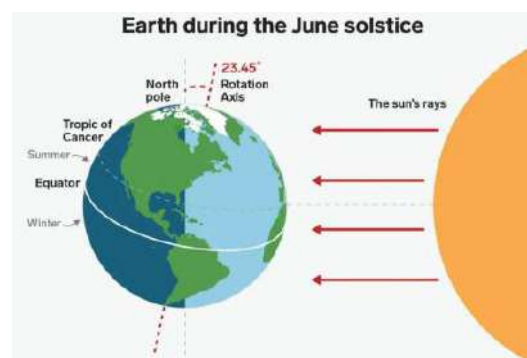
Environment

Why in News?

- The summer solstice will happen today around 9:02 am on Monday (Indian Standard Time).

About Solstice

- It is a Latin word that means '**stalled sun**'.
- It is a **natural phenomenon** that **occurs twice every year**, once in the summer and again during winter, in each hemisphere of the earth - Summer and Winter Solstice.
- Solstice is an astronomical event, **caused by Earth's tilt on its axis** and **its motion in orbit around the sun**.
- At the **June solstice**, Earth is positioned in its orbit so that **our world's North Pole** is **leaning most toward the sun**.



- As seen from Earth, the sun is **directly overhead** at **noon 23 1/2 degrees north of the equator**, at an imaginary line encircling the globe known as the Tropic of Cancer – named after the constellation Cancer the Crab. This is as far north as the sun ever gets.

Implications

- All locations **north** of the equator have **days longer than 12 hours** at the June solstice. Meanwhile, all locations **south** of the equator have **days shorter than 12 hours**.
- This day is characterised by a **greater amount of energy received** from the sun. According to NASA, the amount of incoming energy the Earth received from the sun on this day is **30 per cent higher** at the **North Pole than at the Equator**.

What is the winter solstice?

- 21st December** or the Winter Solstice marks the **shortest day** of the year in the **Northern Hemisphere**.
- It is the shortest day and longest night of the year in the Northern Hemisphere and is also known as the '**first day of winter**' in the Northern Hemisphere as well as '**Hiemal solstice** or **Hibernal solstice**'.
- During this, countries in the Northern Hemisphere are **farthest from the Sun** and the **Sun shines overhead** on the **Tropic of Capricorn** (23.5° south).

Desertification, Land Degradation and Drought

Environment

Why is in the news?

- Prime Minister of India delivered the keynote address at a United Nations high-level dialogue on Desertification, Land Degradation and Drought.

About the dialogue

- India is on track to achieve its national commitment on land degradation neutrality, and that it's working to restore **26 million hectares of degraded land by 2030**.
- This would contribute to India's commitment to achieving an additional **carbon sink of 2.5 to 3 billion tonnes** of carbon dioxide equivalent.
- Land degradation affects over two-thirds of the world today. If left unchecked, it will erode the very foundations of our societies, economies, food security, health etc.
- The **Delhi Declaration 2019** called for better access and stewardship over land, and emphasised gender-sensitive transformative projects.
- Banni region in Rann of Kutch in Gujarat** suffers from highly degraded land and receives very little rainfall. In that region, land restoration is done by developing grasslands, which helps in achieving land degradation neutrality.
- A **Centre of Excellence** is being set up in India to promote a scientific approach towards land degradation issues.

Climate Breakthroughs Summit

Environment

Why in News?

- Recently, world leaders convened at the Climate Breakthroughs Summit to demonstrate progress in critical sectors of the global economy, including steel, shipping, green hydrogen and nature.

About Climate Breakthroughs Summit

- Climate Breakthroughs Summit is a **collaboration between** World Economic Forum, Mission Possible Partnership, United Nations Climate Champions and the United Kingdom Climate Change Conference (COP26) Presidency.
- It aims to **demonstrate progress** in **critical sectors of the global economy**. This includes sectors such as steel, shipping, green hydrogen and nature.
- It also aims to discuss the **breakthroughs needed** to **achieve a net-zero world in time**.



Key highlights of the summit:

- During the summit, the United Nations made a call for **coordinated action to secure global net-zero emissions**.
- UN also demands to fulfil the goal of **limiting global warming to 1.5 degrees Celsius compared to pre-industrial levels by 2050**.
- Moreover, **Maersk**, the world's largest container shipping line and vessel operator, **joined the Race to Zero campaign** during the summit.

About Race to Zero Campaign

- Race to Zero is the **UN-backed global campaign** rallying **non-state actors** – including companies, cities, regions, financial and educational institutions – to take rigorous and immediate action to **halve global emissions by 2030** and deliver a **healthier, fairer, zero-carbon world in time**.
- Race To Zero mobilizes actors outside of national governments to **join the Climate Ambition Alliance**.

Climate Ambition Alliance

- The CAA currently includes **120 nations** and **several other private players** that have committed to achieving **zero net greenhouse gas emissions by 2050**.
- Signatories are responsible for **23%** of **current greenhouse-gas emissions** worldwide and **53% of global GDP**.
- **India** is **not part** of this Alliance.

Litoria Mira

Environment

Why in News?

- They are new frog species discovered recently in the rainforests of New Guinea.

About the frog species

- The name is **inspired by the Latin adjective mirum**, which means surprised or strange, stemming from the scientist's surprise in discovering an undescribed member of the predominately **Australian Litoria genus of tree frogs**.
- They are **chocolate coloured**.
- Litoria mira can be **distinguished from all other Litoria** by its unique combination of **moderately large size, webbing on hand, relatively short and robust limbs**, and small violet patch of skin on the edge of its eyes.
- Please note that the **island of New Guinea** is separated from the '**horn**' of Queensland by the Torres Strait.



Saltwater Crocodile

Environment

Why in News?

- Recently, a saltwater or estuarine crocodile has been found dead in the Patasala river near Silapokhari village within the Bhitarkanika National Park (BNP) in Odisha (only State in India with all crocodiles species: Gharial, Mugger and Saltwater crocodiles).

About the crocodile species

- It is considered as the **Earth's largest living crocodile species**.
- The estuarine crocodile is **infamous globally** as a known **maneater**.



- **Habitat**
 - It is found in **Odisha's Bhitarkanika National Park**, the **Sundarbans in West Bengal** and the **Andamans and Nicobar Islands**. It is also found across **Southeast Asia** and **northern Australia**.
- **Protection Status**
 - IUCN Red List: **Least Concern**
 - Wild Life (Protection) Act, 1972: **Schedule I**
 - CITES: **Appendix I** (except the populations of Australia, Indonesia and Papua New Guinea, which are included in Appendix II).
- Threats include **Illegal hunting**, **habitat loss**, and **antipathy toward the species** because of its reputation as a man-eater continue to put pressure on the population.
- **Conservation Efforts**
 - In 1975, the Ministry of Environment, Forest and Climate Change and the **United Nations Development Programme (UNDP)** started a **crocodile breeding and rearing project**.
 - Efforts have **increased** the number of crocodiles in BNP to **1,768 in January '21** from just 96 in 1974.

UN's CEO Water Mandate

Environment

Why in the news news?

- Recently, National Thermal Power Corporation Limited (NTPC) joined UN's CEO Water mandate; to step up work on water conservation with reduce, reuse and recycle

About the CEO Water Mandate

- It is a UN Global Compact initiative to demonstrate commitment and efforts of companies to better their water and sanitation agendas as part of long term Sustainable Development Goals.
- The CEO Water Mandate is designed to assist companies in the development, implementation, and disclosure of comprehensive water strategies and policies.
- It also provides a platform for companies to partner with like-minded businesses, UN agencies, public authorities, civil society organizations, and other key stakeholders.
- The Mandate is a commitment platform for business leaders and learners to advance water stewardship.
- Endorsing companies commit to action across six key elements and report annually on progress.
- In implementing water stewardship, endorsing companies also identify and reduce critical water risks to their businesses, seize water-related opportunities, and contribute to water security and the Sustainable Development Goals.

UN Global Compact initiative

- It is a non-binding United Nations pact to encourage businesses and firms worldwide to adopt sustainable and socially responsible policies, and to report on their implementation.
- It is a principle-based framework for businesses, stating ten principles in the areas of human rights, labor, the environment and anti-corruption.
- Under the Global Compact, companies are brought together with UN agencies, labor groups and civil society.
- Cities can join the Global Compact through the Cities Programme
- The UN Global Compact is the world's largest corporate sustainability initiative, with more than 12,000 corporate participants and stakeholders from more than 140 countries.

About NTPC

- NTPC Ltd. is a central Public Sector Undertaking (PSU) under the Ministry of Power.
- It is India's largest energy conglomerate with roots planted way back in 1975 to accelerate power development in India.
- Aim: To provide reliable power and related solutions in an economical, efficient and environment-friendly manner, driven by innovation and agility.
- It became a Maharatna company in May 2010.
- It is located in New Delhi.

The Six Commitment Areas

1. Direct Operations
2. Supply Chain and Watershed Management
3. Collective Action
4. Public Policy
5. Community Engagement
6. Transparency

Argostemma Quarantena

Environment

Why in News?

- A new plant species belonging to the coffee family has been spotted in the Wagamon hills in Kerala.

About Argostemma quarantena

- It has been named **Argostemma quarantena** to **commemorate the millions** who have died in the pandemic.
- It is a herbaceous species from the **family Rubiaceae**.
- Herbaceous plants are plants that have **no persistent woody stem** above ground.
- It was found along the **Idukki-Kottayam border**.

Dehing Patkai

Environment

Why in the news?

- Researchers at the Zoological Survey of India (ZSI), Kolkata have developed tools to differentiate the scales of Indian pangolin (*Manis crassicaudata*) and Chinese pangolin (*Manis pentadactyla*).

About Dehing Patkai

- It is located within the **larger Dehing Patkai Elephant Reserve**, which spreads across the coal- and oil-rich districts of **Upper Assam** (Dibrugarh and Tinsukia districts).
- The **oldest refinery of Asia** in Digboi and '**open cast**' **coal mining at Lido** are located near the sanctuary.
- The Dehing Patkai Wildlife Sanctuary is also known as the **Jeypore Rainforest**.
- Dehing is the **name of the river** that flows through this forest and Patkai is the hill at the foot of which the sanctuary lies.
- It is believed to be the **last remaining contiguous patch of lowland rainforest area in Assam**.
- Rare fauna found in the region include **Chinese pangolin, flying fox, wild pig, sambar, barking deer, gaur, serow** and **Malayan giant squirrels**.
- It is the only sanctuary in India which is home to seven different species of wild cats - **tiger, leopard, clouded leopard, leopard cat, golden cat, jungle cat** and **marbled cat**.
- **Assamese macaque**, a primate found in the forest, is in the red list of Near Threatened species.
- It has the highest concentration of the rare endangered **White Winged Wood Duck**.



National Paks in Assam

- **Kaziranga, Manas, Nameri, Orang, Dibru-Saikhowa** and **Raimona National Park**.
- **Kaziranga** and **Manas** are **UNESCO World Heritage Sites**. They are also tiger reserves along with Nameri and Orang.

Why is in the news?

- Odisha has announced a cash reward of Rs 1,000 for rescuing gharials, a critically endangered crocodile species, and informing wildlife personnel.

About Gharial

- It is a species of Asian crocodilian distinguished by their **long, thin snouts** which **resembles a pot**.
- They prefer to **live in riverine habitats** with deep, clear, fast-moving water and steep, sandy banks.
- It was **once found across Bangladesh, Bhutan, India, Myanmar, Nepal and Pakistan**. However, currently it survives in several severely fragmented populations in India and Nepal.
- In India, Gharials are **present in Son River, Girwa River, the Ganges, Mahanadi River and the Chambal River**.
- Protected areas include **National Chambal Sanctuary** and **Katerniaghat Wildlife Sanctuary**.

**Protection Status**

- IUCN Red list: **Critically Endangered**
- Wild Life (Protection) Act, 1972: **Schedule I**
- CITES: **Appendix I**.
- Threat include **Construction of Dam, barrages, and water abstraction**, entanglement in fishing nets, River bed cultivation and sand mining.
- Conservation Efforts include Breeding Centres of **Kukrail Gharial Rehabilitation Centre** in Lucknow, **Uttar Pradesh**, **National Chambal Sanctuary** (Gharial Eco Park, Madhya Pradesh).

Mahanadi River

- The Mahanadi River system is the **third largest of peninsular India** after Godavari and Krishna, and the largest river of Odisha state.
- The catchment area of the river extends to **Chhattisgarh, Madhya Pradesh, Odisha, Jharkhand and Maharashtra**.
- It rises from a place **near Sihawa in Bastar hills** in the **state of Chhattisgarh** to the **south of Amarkantak**.
- Major Tributaries : **Seonath River, Hasdeo river, Mand river, Ib river, Jonk river, Tel river**
- Mahanadi River Dispute : The Central Government constituted **Mahanadi Water Disputes Tribunal** in 2018.
- Major Dams/Projects on Mahanadi**
 - Hirakud Dam: This is the **longest dam** of India.
 - Ravishankar Sagar, Dudhawa Reservoir, Sondur Reservoir, Hasdeo Bango and Tandula** are other major projects.

**Why in News?**

- More than 200 contingency workers of the Pakke Tiger Reserve in Arunachal Pradesh went on an indefinite strike over non-payment of wages since December 2020.

About pakke tiger reserve

- It is located in the **Pakke Kessang district of Arunachal Pradesh**.



- Pakke Tiger Reserve, also known as **Pakhui Tiger Reserve**, is a Project Tiger reserve.
- It falls within the **Eastern Himalaya Biodiversity Hotspot**.
- This Tiger Reserve has **won India Biodiversity Award 2016** in the category of '**Conservation of threatened species**' for its Hornbill Nest Adoption Programme.
- It is bounded by **Bhareli** or **Kameng River** in the west and north, and by **Pakke River** in the east.
- **Papum Reserve Forest** in Arunachal Pradesh, Assam's **Nameri National Park**, **Doimara Reserve Forest** and **Eaglenest Wildlife Sanctuary**.
- The main perennial streams in the area are the **Nameri**, **Khari** and **Upper Dikorai**. West of Kameng River is **Sessa Orchid Sanctuary**.

Stygartus Keralensis

Environment

Why in News?

- Recently, New tardigrade species named Stygartus keralensis were discovered from Vadakara.

About: Stygartus keralensis

- The new tardigrade is a species of the **genus Stygartus**.
- It is the **eighth species** named under the genus Stygartus, which grows up to a length of 130 micrometres (0.13 mm).
- Stygartus keralensis is the **first taxonomically described marine tardigrade** from the Indian waters, which makes the discovery a **significant one**.
- The present discovery is an outcome of an ongoing **Ministry of Earth Sciences-National Centre for Earth Science Studies** study on the ecology and diversity of submarine groundwater habitats of Kerala.

Global Assessment Report (GAR) on Drought 2021

Environment

Why in the News?

- The UN Office for Disaster Risk Reduction (UNDRR) has released a report titled "Global Assessment Report (GAR) on Drought 2021".

About the report

- Released by UN Office for Disaster Risk Reduction (**UNDRR**).
- Objective è The report **explores the systemic nature of drought** and **its impacts** on the achievement of the Sendai Framework for Disaster Risk Reduction, the SDGs, and human and ecosystem, health and wellbeing.
- **Key Findings**
 - Globally
 - Around **700 million people** are **at risk** of being displaced as a result of drought by 2030.
 - Two-third of the world will be under water-stressed conditions by 2025.
 - India
 - The effect of severe droughts on India's gross domestic product (**GDP**) is **estimated at 2-5%**.
 - The **Deccan region** sees the **highest frequency (>6%)** of **severe droughts** in all of India

United Nations Office for Disaster Risk Reduction (UNISDR)

- The UNISDR was established in **1999** as a dedicated secretariat to **facilitate the implementation of** the International Strategy for Disaster Reduction (**ISDR**).
- Headquartered è **Geneva, Switzerland**.
- Mandate è It is mandated to **serve as the focal point** in the **United Nations system** for the coordination of disaster reduction and to ensure synergies among the disaster reduction activities.
- It is an **organisational unit of the UN Secretariat** and is **led by the UN Special Representative** of the Secretary General for Disaster Risk Reduction (SRSG).



Why in News?

- Shyam Sundar Jyani, a Rajasthan-based climate activist, has won the prestigious United Nations' Land for Life Award for his environment conservation concept, **Familial Forestry**.
- Key updates-**
- The announcement was made by the UN Convention to Combat Desertification (UNCCD).
- The unique concept of familial forestry **relates a tree with a family, making it a green "family member."**
- It involves **transferring the care of the tree and environment in the family so that a tree becomes a part of the family's consciousness.**
- More than a million families from more than 15,000 villages of desert-prone northwest Rajasthan in over 2.5 million saplings have been planted in the past 15 years, with active participation of students and desert dwellers.
- Jyani was chosen by the UNCCD among 12 shortlisted candidates across the globe.
- He is an associate professor of Sociology in Rajasthan's Bikaner, has been campaigning for Familial Forestry for over 15 years.
- Two candidates had been shortlisted from India – the other being **Jaggi Vasudev**, popularly known as **Sadguru**, who has been campaigning for environmental causes for several years.

About the Award-

- The award was launched at the UNCCD COP (Conference of Parties) 10 in **2011**.
- It is considered as the world's highest reward regarding land conservation and restoration.
- The Award will recognize innovative and excellent efforts in land restoration and conservation, particularly in regards to the **SDG 15 "Life on Land" and the Target 15.3 "Land Degradation Neutrality"**.
- The winner will receive an individually tailored UNCCD secretariat support package for a duration of two years.
- This year's theme for the award was **"Healthy Land, Healthy Lives"**.
- The Award ceremony will take place in August'21 at the Eighth Kubuqi International Desert Forum in China.

Great Barrier Reef

Environment

Why in the News?

- Recently, the UNESCO World Heritage Committee has recommended that the Australia's Great Barrier Reef should be added to a list of "in danger" World Heritage Sites.

About Great Barrier Reef

- The Great Barrier Reef is unique as it extends over **14 degrees of latitude, from shallow estuarine areas to deep oceanic waters.**
- Within this **vast expanse** are a **unique range of ecological communities, habitats and species** – all of which make the Reef one of the most complex natural ecosystems in the world.
- The reef is located in the Coral Sea, **off the coast of Queensland, Australia.**
- It was selected as a **World Heritage Site in 1981.**

Coral Reefs

- A coral reef is an **underwater ecosystem** characterized by reef-building corals.
- Reefs are formed of **colonies of coral polyps held together by calcium carbonate.**
- The coral polyps live in an **endosymbiotic relationship with algae.** Algae provides up to 90 percent of the coral's energy.



- Temperature :
 - The temperature of the water should **not be below 20°C**.
 - The most favourable temperature for the growth of the coral reefs is **between 23°C to 25°C**.
 - The temperature should **not exceed 35°C**.
- Corals can survive only under saline conditions with an **average salinity between 27% to 40%**.
- Shallow Water: Coral reefs **grow better in shallow water** having a depth less than 50 m. The depth of the water should **not exceed 200m**.
- Coral reefs are divided into four classes : **fringing reefs**, **barrier reefs**, **atolls**, and **patch reefs**.
- **Fringing** reefs are the **most common type** of reef that we see.
- Coral Reef Areas in India : India has four coral reef areas: **Gulf of Mannar**, **Andaman and Nicobar Islands**, **Lakshadweep islands** and **the Gulf of Kutch**.
- More than one-third of the world's coral reefs are **located in the territories of Australia**, **Indonesia** and **Philippines**.

Benefits

- **Protect humanity** from natural calamities.
- Provide **revenue and employment** through tourism and recreation.
- **Provide habitats** for fishes, starfish and sea anemones.

Barnadi Wildlife Sanctuary

Environment

Why in News?

- Recently, the World Wide Fund for Nature-India (WWF) found a few tigers inhabiting the Barnadi Wildlife Sanctuary in Assam.

About

- Location : Northern Assam's Baksa and Udalguri districts bordering Bhutan.
- The Sanctuary is bordered by the **Barnadi river** and **Nalapara river** to the west and east respectively.
- Status : It was affirmed as the **WS in 1980** by the Government of Assam.
- Barnadi was established specifically to **protect the Pygmy Hog** (*Sus salvanius*) and **Hispid Hare** (*Caprolagus hispidus*).

Biodiversity

- This is important for threatened species such as the **Asian Elephant** (*Elephas maximus*), **Tiger** (*Panthera tigris*) and **Gaur Bos frontalis**.
- About **60%** of the BWS is reported to be **grassland**, most of it is **now grassy woodland**.
- The main Forest types are **Tropical Moist Deciduous** along the northern edge of the Sanctuary, and **mixed scrub** and **grassland** in the southern part with few trees.

Vegetation

- The vegetation has been **drastically modified** by human activity.
- Most of the natural vegetation has been cleared and replaced by commercial plantations of **Bombax ceiba**, **Tectona grandis** and **Eucalyptus** and **by thatch grasses** (mostly *Saccharum*, with some *Phragmites* and *Themeda*).

Other Protected Areas in Assam

Dibru-Saikhowa National Park
Nameri National Park
Kaziranga National Park

Manas National Park
Rajiv Gandhi Orang National Park



Why in the news?

- The forest department of Odisha has recently busted an organized trafficking racket and seized seven Bengal monitor lizards.

About the lizard

- The Bengal monitor or common Indian monitor (*Varanus bengalensis*) is a **large lizard that is mainly terrestrial**.
- The monitors are **carnivorous** and **non-poisonous**.
- The monitor lizard is protected under **Schedule I of WPA** but is regularly killed for its meat, blood and oil.
- The **species is listed** under the '**Least Concern**' category on the International Union for Conservation of Nature Red List.
- Threat**: Its population is dwindling due to **rampant poaching**.

**Why in the news?**

- Recently, the Union Environment Minister in a virtual event released the Detailed Project Reports (DPRs) of LiDAR (Light Detection and Ranging) based survey of forest areas in ten states.

About the survey

- The project was **awarded to WAPCOS** in July 2020 at a cost of over Rs. 18 crore for implementation in 26 states over 261897 hectares.
- WAPCOS is a **Mini Ratna Public Sector Undertaking (PSU)** under the Jal Shakti Ministry.
- Coverage: The 10 mapped states are **Assam, Bihar, Chhattisgarh, Goa, Jharkhand, Madhya Pradesh, Maharashtra, Manipur, Nagaland, and Tripura**.
- The survey has **used the LiDAR** (light detection and ranging) technology to **create 3-D images** of the forest areas to recommend soil and water conservation structures.
- These structures will help in **catching the rain water** and **prevent stream run off** which will help in recharging of Groundwater.
- The Government of India will provide **funds from Compensatory Afforestation Fund Management and Planning Authority (CAMPA)** to states so that they can **enhance water resources** within the forests to meet the needs of flora and fauna as well as fodder augmentation.

LiDAR

- It is a **remote sensing method** that **uses light in the form of a pulsed laser** to measure ranges & variable distances.
- These light pulses—combined with other data recorded by the airborne system— **generate precise, three-dimensional information** about the shape of the Earth and its surface characteristics.
- A LiDAR instrument principally **consists of a laser, a scanner, and a specialized Global Positioning System (GPS)** receiver.
- Airplanes and helicopters are the most commonly used platforms for acquiring LiDAR data over broad areas.
- LiDAR follows a simple principle — **throw laser light at an object** on the earth surface and **calculate the time it takes to return** to the LiDAR source.
- Applications: Lidar is commonly used to **make high-resolution maps**, with applications in **surveying, geodesy, geomatics, archaeology, geography, geology, geomorphology, seismology, forestry, atmospheric physics, laser guidance, airborne laser swath mapping (ALSM), and laser altimetry**.

Why is in the news?

- The Ministry of Environment, Forests and Climate Change (MoEFCC) has extended fly ash utilization deadline for thermal power plants with the introduction of penalties for non-compliance.

About the rules

- Composition, Generation and Utilization of Fly Ash in India**
- Fly ash is a **byproduct of coal-based power generation**.
- It is a fine powder with substantial amounts of **oxides of silica, aluminum and calcium**.
- It also contains traces of **Arsenic, Boron, Chromium, lead** etc. which leads to air and water pollution if disposed on land.
- With **low grade of Indian coal**, its **ash content is as high** as 30-45% in comparison to imported coal with 10- 15%.
- With nearly 55% of our total power production through coal and lignite based Thermal Power Plants (TPP), the fly ash generation in India is very high (226 million tonnes in 2018-19).
- Out of these 226 million tonnes, about **83% of Fly Ash is utilized**. (Refer infographic for the sectoral utilization of Fly Ash).

Key Highlights of the New Notification:

- First fly ash notification was **issued in 1999** to **ensure 100% fly ash utilization in India by 2009**. This was followed by a similar notification in 2016. The current notification aims to achieve the objective of 100% utilization in 3 to 5 years.
- Shorter Fly-ash utilization cycle è Existing provisions allow TPPs to fully utilize fly ash in a **four-year cycle in a staggered manner**. The new policy will follow a **three-year cycle for 100% utilization of Fly-ash** with a grace period of a year if the percentage of ash utilization is between 60-80% and two years if it is below 60%.
- Legacy Fly Ash Utilization:** The progressive utilization of legacy fly ash has been **extended by another 10 yrs**.
- Fly ash which remains unutilized and consequently gets accumulated is referred to as **legacy ash**.
- Introduction of Polluter Pays Principle è A **fine of Rs 1,000 per tonne** of unutilized ash has been introduced if the plant does not achieve at least 80% ash utilization annually or in three years.
- Construction and Transportation è The non-complying power plants will **provide ash free-of-cost to agencies engaged in construction activities within a 300 km radius** with all transportation cost to be borne by TPPs.
- Role of Central Pollution Control Board è A committee under the chairmanship of **CPCB chairman will examine**, review and recommend eco-friendly ways on fly ash utilization. Also, CPCB will have real-time data on ash availability.

Why in the news?

- The world's first genetically modified (GM) rubber plant was planted on the outskirts of Guwahati, Assam.

About the tree

- It has been developed at the Kerala-based Rubber Research Institute of India (RRII).
- The GM rubber plant, the first of its kind, is **developed exclusively for the northeast** and is expected to thrive in the climatic conditions of the region.
- This is the first time any GM crop is developed exclusively for this region.
- The plant has **additional copies of the gene MnSOD (manganese containing superoxide dismutase)** in it.
- The MnSOD gene has the **ability to protect plants from the adverse effects of severe environmental stresses such as cold, drought**, etc...and low and high temperatures as well as high light intensity.

- The new crop is expected to **cut short the maturity period of rubber**, indicating chances for early yielding as well.
- As **natural rubber is a native of warm humid Amazon forests** and is not naturally suited for cold conditions in the northeast, the plant is expected to **tide over severe cold conditions during winters**.
- Commercial planting would be taken up later, depending on the results of the experiments conducted at farm.
- As there are no plant species in India that can breed with natural rubber, there is **no risk of genes flowing from the GM rubber into any other native species**.
- Though **different from Bacillus Thuringiensis (BT)**, GM Rubber is the second genetically modified crop to start field trials in India after Bt. Cotton.

WHO Report on e-waste

Environment

Why in the news?

- The recently published WHO report titled 'Children and Digital Dumpsites' underlined the risk children working in the informal processing faced due to discarded electronic devices or e-waste.

Key highlights of the report

- According to the report, more than 18 million children, adolescents and 12 million women working at e-waste dumpsites in low- and middle-income countries are potentially at the risk of severe health hazards.
- This e-waste is **dismantled and recycled by children**.
- It contains over 1,000 precious metals and other substances like gold, copper, mercury and polycyclic aromatic hydrocarbons.
- The **processing is done in low-income countries**, which do not have proper safeguarding regulation and which makes the process even more dangerous.
- Children are given preference because of their small and dexterous hands.
- About 53.6 million tonnes of e-waste was generated in 2019.
- **Only 17.4 percent of this e-waste was processed in formal recycling facilities**.
- The rest of it was dumped in low- or middle-income countries for illegal processing by informal workers.
- Processing e-waste exposes women as well as their children to these toxins, which can lead to premature births and stillbirth.
- The hazardous impact of working at such sites is also experienced by **families and communities that reside in the vicinity of these e-waste dumpsites**.
- Children working at these 'digital dumpsites' are more prone to **improper lung function, deoxyribonucleic acid damage** and increased risk of chronic **diseases like cancer and cardiovascular disease**.



Why in the news?

- Recently, the **Research Design & Standards Organization (RDSO)** of Indian Railways has become the **first institution to be declared SDO** (Standard Developing Organization) under "**One Nation One Standard**" mission.

About Nation One Standard Mission

- It is a scheme which provides for "**Recognition of SDO**".
- It is an initiative of **Bureau of Indian Standards (BIS)**.
- It is envisioned on the line of '**one nation one ration card**' in order to ensure quality products in India.

Significance of One Nation One Standard Mission

- It aims at **aggregating and integrating the existing capabilities and dedicated domain specific expertise** available with various organizations in the country engaged in standards development.
- It will enable **convergence of all standard development activities** in the country resulting in "One National Standard for One Subject".
- It aims to usher in more **faster transition from development of technology & innovation stage** to actual use on ground.
- It aims to make **India the leader in setting global benchmarks** in setting standards.

Bureau of Indian Standards

- The Bureau of Indian Standards (BIS) is the National Standards Body of India working under the Ministry of Consumer Affairs, Food & Public Distribution. It is established under the Bureau of Indian Standards Act, 1986.
- The organisation was earlier known as the Indian Standards Institution (ISI), which was registered under the Societies Registration Act, 1860.
- It works towards the development of the activities of standardization and quality certification of goods.
- BIS aids the national economy, by providing safe reliable quality goods, minimizing health hazards to consumers and promoting exports and imports, through standardization, certification and testing.
- The Minister in charge of the Ministry or Department having administrative control of the BIS is the ex-officio President of the BIS.
- The **recognition is valid for 3 years** and will require renewal after completion of the validity period.

Model Tenancy Act

Polity and Governance

Why in the news?

- Union Cabinet has recently approved the Model Tenancy Act (MTA) to streamline the process of **renting property in India** and aid the rent economy in the estate sector. The Act aims to **formalise the shadow market of rental housing**, unlock vacant properties, increase rental yields, ease/remove exploitative practices, and reduce procedural barriers in registration, and increase transparency and discipline.

Need For The Act

- In India, 95% of households in rural areas live in self-owned housing, and rental housing is a predominantly urban phenomenon. Between 1951 and 2011, the **urban population in India grew by six times** and as of 2011, comprises 31% of the total population. This is projected to grow to 40% by 2036. The **2011 Census** noted that between 6.5 crore to 10 crore people (17% to 24% of the urban population) live in unauthorised housing in urban areas.
- The **2015 draft National Urban Rental Housing Policy** noted that urban areas face a significant housing shortage and stated that this cannot be addressed by home ownership.
- The **Economic Survey (2017-18)** noted that **rental housing is a key way to address informality and shortage**. It stated that rental housing enables mobility and affordability for low-income segments, who may not be able to purchase housing.

- At present, many states have their own rent laws but the laws have become outdated over a period of time and fail to serve their purpose. These restrictive and outdated rent control laws are one of the main reasons for low rental housing in India and discourage owners from renting out their vacant houses due to fear of repossession.
- One of the potential measures to unlock the vacant house is to bringing transparency and accountability in the existing system of renting of premises and to balance the interests of both the property owner and tenant in a judicious manner.
- Model laws are not binding on states. Since MTA is a model law (as land is a state subject) the responsibility will now be on the states to accept or reject it. States can adopt the Act as it is with fresh legislation, since it is a **state subject**, or they can **amend their existing rent acts to factor in the new MTA**. States and Union Territories have MoUs with the Centre under the Pradhan Mantri Awas Yojana-Urban which has this provision. Like in the case with RERA (Real Estate Regulation and Development Act), the fear is that states may choose not to follow guidelines, diluting the essence of the Model Act.

Features Of The Act

- **Salient features of the Model Tenancy Act**
- **Mandatory Rent Agreement:** The act makes it mandatory to create a written lawful rent agreement between the owner and tenant.
- **Rent Authority:** The Act requires establishing rent authorities in every district to regulate renting of premises.
- Both the landlord and tenant will have to submit a copy of the rent agreement to the district Rent Authority.
- The proposed authority will also provide a speedy adjudication mechanism for the resolution of disputes.
- **Tribunal and Courts:** It calls for creating dedicated tribunals and courts for dealing with tenancy related disputes.
- **Security Deposit:** The act puts a **cap** on the amount of security deposit. It will be a maximum of **two months** of rent in case of residential premises and **six months** in case of non-residential premises.
- **Subletting:** The act bars tenants from subletting the property in part or whole.
- **Vacating Rental Premises:** It says that if a landlord has fulfilled all the conditions stated in the rent agreement, then the tenant has to vacate the premises.
- If the tenant fails to vacate the premises, then the landlord is entitled to double the monthly rent for the first two months and four times after that.
- **Increase in Rent:** The rent can be revised according to the terms and conditions mentioned in the agreement. If there is no such agreement, the landowner will have to give a 3 months notice to the tenant before revising the rent.
- **Coverage:** The Act will apply to premises rented for residential, commercial, or educational use but not for industrial use. It also won't cover hotels, lodging, etc. This model law will be applied prospectively and will not affect existing tenancies.

Practices Enshrined In The Act

- The **security deposit** to be paid by the tenant should not exceed two months' rent for residential property (six months' rent in case of non-residential property), and should be a minimum of one month's rent for non-residential property.
- The Act lists the kinds of repairs each party would be responsible for, with the provision that **money for repairs can be deducted from the security deposit or rent**, as applicable, if a party refuses to carry out their share of the work.
- **No arbitrary eviction** of a tenant can be done during the tenancy period, except in accordance with provisions of the Act.
- The Rent Court can allow repossession by the landlord if the tenant **misuses the premises**, after being served a notice by the landowner. Misuse of the premises, as defined, includes public nuisance, damage, or its use for "immoral or illegal purposes". If the tenant refuses to vacate, the landlord can claim double the monthly rent for two months, and four times the monthly rent thereafter.
- In case of a **force majeure event**, the landlord shall allow the tenant to continue in possession until a period of one month from the date of cessation of such disastrous event, on the terms of existing tenancy agreement.

Challenges with the Model Tenancy Act

1. **Non-Binding nature:** Land and Urban Development is a state subject. The states may or may not adopt the proposed law, as done by them in the case of Real Estate (Regulation and Development) Act.
2. **Prospective effect:** The new model act would have a prospective effect. This means it would be applicable to future disputes only, hence past disputes would continue to linger on for years.
3. **Inadequate Security Cover:** Security Cap for two months may not be enough to cover damages, especially during the last month when tenants adjust their rent in the security deposit.
4. **Lacunae in the formation of the Act:** The act fails to properly define the term 'habitation'. Further, it fails to mention the penalty if the owner delays in paying back the security deposit. Also, it is altogether silent on sudden leave and license arrangements.

Central Civil Services - New Pension Rules

Polity and Governance

Why in the news?

- The Centre has amended its pension rules putting new restrictions on officials of **intelligence and security organisations** after retirement.

About the recent rules

- The government has amended the CCS Pension Rules-1972. Under amended Rule-8(3)(a) : "No government servant, who, having worked in **any intelligence or security-related organisation included in the Second Schedule of the RTI Act**, shall, without prior clearance from the Head of the Organisation, make any publication after retirement, of any material relating to and including:
 - **Domain of the organisation**, including any reference or information about any personnel and his designation, and experience or knowledge gained by virtue of working in that organisation;
 - **Sensitive information**, the disclosure of which would prejudicially affect the sovereignty and integrity of India, the security, strategic, scientific or economic interests of the state, or relation with a foreign state or which would lead to incitement of an offence."
- **The Second Schedule of the RTI Act** covers 26 organisations including the Intelligence Bureau, R&AW, Directorate of Revenue Intelligence, CBI, NCB, BSF, CRPF, ITBP and CISF.
- The move was prompted by concerns arising out of the fact that some **high-profile retired officers had written books** on their tenure, and some of these had revealed information.

Existing Provisions

- The pension of government servants is already **subject to their conduct after retirement**. Rule 8 of the CCS Pension Rules says: "Future good conduct shall be an implied condition of every grant of pension and its continuance."
- The **appointing authority may, by order in writing**, withhold or withdraw a pension or a part thereof, whether permanently or for a specified period, if the pensioner is convicted of a serious crime or is found guilty of grave misconduct.
- The expression 'grave misconduct' includes the communication or disclosure of any secret official code or password or any sketch, plan, model, article, note, document or information which was obtained while holding office under the Government so as to prejudicially affect the interests of the general public or the security of the state."

Restrictions For Government Employees While In Service

- Rule 7 of the CCS Conduct Rules restricts government servants from **resorting to or abetting any form of strike or coercion**.
- Rule 8 restricts them, except with government sanction, from **owning or participating in the editing or management of any newspaper** or other periodical publication or electronic media. If they publish a book or participate in public media, they "shall at all times make it clear that the views expressed by him are his own and not that of Government".
- Rule 9 restricts a government servant from making statements of fact or opinion in writing or in a telecast or a broadcast "which has the effect of an **adverse criticism of any current or recent policy or action** of the Central Government or a State Government" Rule 9 of the CCS Pension Rules says that if any government official has **committed any misconduct and retires**, he or she may face departmental proceedings only until four years of the date of committing that misconduct.

Employment After Retirement

- Rule 26, Death-cum-Retirement Benefits Rules, restricts a pensioner from any commercial employment for one year after retirement, except with previous sanction of the central government. Non-compliance can lead the central government declaring that the employee "shall not be entitled to the whole or such part of the pension and for such period as may be specified".

Joining Politics after Retirement

- There is no rule to stop government servants from joining politics after their retirement. In 2013, Election Commission had written to DoPT (Department of Personnel and Training) and Law Ministry, suggesting a cooling-off period for bureaucrats joining politics after retirement, but it was rejected.
- The Legislative Department of the Ministry of Law advised "that any such restriction (against officials joining politics or contesting polls) may not stand the test of valid classification under Article 14 (equality before the law) of the Constitution of India".

UN's CEO Water Mandate

Polity and Governance

Why in the news?

- India's largest power utility, NTPC Ltd has become a signatory of UN's CEO Water Mandate.

About UN's CEO Water Mandate:

- **UN's CEO Water Mandate** is a UN Global Compact initiative to demonstrate the commitment and efforts of companies towards better water and sanitation agendas as part of Sustainable Development Goals (SDGs).
- **Purpose:** The mandate is designed to assist companies in the development, implementation, and disclosure of comprehensive water strategies and policies.
- **It also provides a platform** for companies to partner with like-minded businesses, UN agencies, public authorities, civil society organizations and other key stakeholders.
- **Companies:** The mandate is now endorsed by over 180 companies from a range of industry sectors and regions around the world.

About United Nations Global Compact Initiative:

- **United Nations Global Compact** is a non-binding United Nations Initiative.
- **Purpose:** It aims to encourage companies worldwide to adopt sustainable and socially responsible policies. For that, the UN categorised 10 principles range from human rights, anti-corruption, environment, labour, etc.
- **Launched in:** The initiative was announced by the then UN Secretary-General in 1999. It was officially launched at UN Headquarters in New York City in 2000.

Incredible India Tourist Facilitator Certification (IITFC) Programme

Polity and Governance

Why in the news?

- Recently, on the occasion of World Environment Day (5th June), the Tourism Minister appreciated the Incredible India Tourist Facilitator Certification Programme (IITFC).

About:

- Incredible India Tourist Facilitator Certification Programme
- IITFC Programme is a digital initiative of the Ministry of Tourism (MoT), for the citizens of India to become a part of the booming Tourism Industry.
- It is an online programme where one can learn about tourism at their own time, space, path and pace.
- The successful completion of this programme would enable the learner to become a Certified Tourist Facilitator of the Ministry of Tourism.

Tourism & Hospitality Sector in India:

- In FY20, the tourism sector in India accounted for 39 million jobs, which was 8% of the total employment in the country. By 2029, it is expected to account for about 53 million jobs.
- According to WTTC (World Travel and Tourism Council), India ranked 10th among 185 countries in terms of travel & tourism's total contribution to GDP in 2019. During 2019, the contribution of travel & tourism to GDP was 6.8% of the total economy.
- By 2028, international tourist arrivals are expected to reach 30.5 billion and generate revenue over USD 59 billion.

Model Panchayat Citizens Charter

Polity and Governance

Why in the news?

- Union Minister of Rural Development & Panchayati Raj released a Model Panchayat Citizens Charter recently

Aim & Objective

- **Aim:** To provide services to the people in a time bound manner, redressing their grievances and improving their lives
- Basic objective of the Gram Panchayat Citizen Charter is to empower the citizens in relation to public services and to improve the quality of services without any prejudice, and in accordance with the expectations of the citizens.

About Model Panchayat Citizens Charter

- A Model Panchayat Citizens Charter/ framework for delivery of the services across the 29 sectors, aligning actions with localised Sustainable Development Goals (SDGs) was prepared by Ministry of Panchayati Raj (MoPR) in collaboration with National Institute of Rural Development & Panchayati Raj (NIRDPR)
- The charter would ensure transparent and effective delivery of public services for sustainable development
- It would ensure enhanced citizen service experiences
- It would deepen inclusive and accountable Local Self Governments by incorporating diverse views while designing and delivering services.
- Adopting this will help in making the citizens aware of their rights on the one hand, and to make the Panchayats and their elected representatives directly accountable to the people, on the other hand.
- It is expected that the Panchayats will utilise this framework to draw up a Citizens Charter and adopt it through a resolution of the Gram Sabha by 15th August, 2021.
- It is expected that the Panchayats utilising this framework, and with the due approval of Gram Sabha, would draw up a Citizens Charter, detailing the different categories of services rendered to the citizen by the Panchayat, the conditions for such service and also the time limit for such service.

Benefits

- The Citizen Charter would ensure **transparent and effective delivery of public services** for sustainable development and enhanced citizen service experiences; deepening inclusive and accountable Local Self Governments.
- This will help in making the **citizens aware of their rights** on the one hand, and to make the Panchayats and their **elected representatives directly accountable to the people**, on the other hand.

- Recently, the government released the draft Cinematograph (Amendment) Bill 2021 to the general **public for comments until July 2**.
- The new draft proposes to amend the **Cinematograph Act of 1952** with provisions that will give the Centre "revisionary powers" and enable it to "re-examine" films already cleared by the **Central Board of Film Certification (CBFC)**

About

- In November 2000, the Supreme Court had upheld a Karnataka High Court order which struck down the **Centre's "revisional powers"** in respect of films that are **already certified by the Board**".
- The "Supreme Court has also opined that the **Legislature may, in certain cases, overrule or nullify the judicial or executive decision** by enacting an **appropriate legislation**".
- In this regard, it is stated that sometimes complaints are received against a film that alludes to violation of Section 5B(1) of the Cinematograph Act, 1952 after a film is certified.

Proposed Amendment

Revision of certification

- It proposes to add a provision to the **Act that will equip** the Centre with **revisionary powers on account of violation of Section 5B(1)** (principles for guidance in certifying films).
- It is also proposed in the Draft Bill to add a **provision to sub-section (1)** of section 6 to the **effect that on receipt** of any references by the **Central Government** in respect of a film **certified for public exhibition**, on account of violation of **Section 5B(1) of the Act**.
- The Central Government may, if it considers it necessary to do so, **direct the Chairman of the Board to re-examine the film**.
- The proposed revision "means that the Central Government, if the situation warranted, has the power to reverse the decision of the Board".
- The newly added clause reads - "Since the provisions of Section 5B(1) are derived from **Article 19(2) of the Constitution (reasonable restrictions on freedom of speech) and are non-negotiable**.

Age-based certification

- The draft proposes to introduce **age-based categorisation** and classification. Currently, films are certified into three categories — 'U' for unrestricted public exhibition; 'U/A' that requires parental guidance for children under 12; and **'A' for adult films**.
 1. The new draft proposes to divide the categories into further age-based groups: U/A 7+, U/A 13+ and U/A 16+.
 2. This proposed age classification for films echoes the new IT rules for streaming platforms.

Provision against piracy

- At present, there are no enabling provisions to **check film piracy** in the Cinematograph Act, 1952.
- The draft proposes to add **Section 6AA** that will prohibit **unauthorised recording**.
- The proposed section states, "notwithstanding any law for the time being in force, no person shall, without the written authorisation of the author, be permitted to **use any audio-visual** recording device in a place to knowingly make or transmit or attempt to make or transmit or abet the making or transmission of a copy of a film or a part thereof".
- Violation shall be **punishable with imprisonment for a term** "which shall not be less than three months but which may extend to **three years** and with a fine which shall not be less than **Rs 3 lakh** but which may extend to **5 percent** of the audited gross production cost or with both".

Eternal certificate

- The draft proposes to **certify films for perpetuity**.
- Currently, a certificate issued by the CBFC is valid only for 10 years

Criticisms Against The Bill

- **Role of CBFC:** The draft cinematograph Bill must clearly define the role of the Central Board of Film Certification (CBFC) as a body that certifies film content for public exhibition, and not as a censoring body. The Bill in its current form overturns the sovereignty of the two bodies – CBFC and the Supreme Court
- **Revisionary powers of the centre:** The revisional powers that the Centre seeks in the draft law will not only see "State censorship" but also "mob censorship".
- **Encouraging vigilantism:** The proposed Act will give a lot of power to vigilantism – instead of dealing with the problem. The plight of the independent filmmaker will be far more difficult. Any fringe group will be successful in getting films or OTT series banned.
- **Undue impact on documentary-makers:** The draft cinematograph Bill will fundamentally impact documentary makers more; the money to certify is charged basis a film's length, the production cost of a 2-hour fiction film is hugely different from a 2-hour documentary, where a lot of radical work is happening.
- **Compliance of anti-piracy provisions:** Considering that film piracy in India rose by over 60% post-COVID, it is difficult to imagine how our already-stressed law enforcement agencies would be able to ensure the compliance of this provision.

About Central Board of Film Certification (CBFC)

- It is a statutory body under the **Ministry of Information and Broadcasting**, regulating the public exhibition of films under the provisions of the Cinematograph Act 1952.
- Films can be publicly exhibited in India only after they have been **certified by the Central Board of Film Certification**.

Composition

- The Board consists of **non-official** members and a Chairman (all of whom are appointed by Central Government) and functions with headquarters at Mumbai.
- The members of the panels are nominated by the Central Government by drawing people from different walks of life for 2 years.
- The Certification process is following The Cinematograph Act, 1952, The Cinematograph (Certification) Rules, 1983, and the guidelines issued by the Central government u/s 5 (B).

Gujarat Prohibition Act, 1949

Polity and Governance

Why in the news?

- Recently, the Gujarat Prohibition Act, 1949 was challenged before the Gujarat High Court, more than seven decades after it came into effect.

Key provisions of the act

- Also known as the Bombay Prohibition Act, 1949, this act is related to promotion and enforcement of alcohol prohibition in the Bombay State.
- The Bombay state was divided into the states of Maharashtra and Gujarat in 1960.
- Today the Act is applicable in the State of Gujarat.
- Gujarat adopted the prohibition policy since 1960 and subsequently chose to enforce it with greater rigidity.
- Under the Act a permit is mandatory to purchase, possess, consume or serve liquor.
- The Act empowers the police to arrest a person for purchasing, consuming or serving alcohol without the permit with punishment ranging from three months to five years in prison.
- It also penalises the transporting of liquor.
- In 2011, the state government renamed the Act as Gujarat Prohibition Act.

Origin of the Prohibition Act

- The first hint at the prohibition of liquor was through the Bombay Abkari Act, 1878. This Act dealt with levying of duties on intoxicants, among other things and aspects of prohibition via amendments made in 1939 and 1947.
- In 1940 it was decided to undertake and enforce a policy of "total prohibition" in the whole of the Province of Bombay on the basis of a four-year plan.

Main grounds raised against prohibition of liquor and in favour of prohibition are:

Arguments against the law:

- Two key grounds have been taken up by the petitioners, that of **the right of privacy**, which has been held as a fundamental right by the Supreme Court in several judgments since 2017
- **Second ground of manifest arbitrariness** has been especially highlighted while challenging sections pertaining to **grant of health permits and temporary permits to out-of-state tourists** on the basis that **there is no intelligible differences in the classes** thus being created by the state on who gets to drink and who does not and **violates the Right to Equality** under Article 14 of the Constitution.
- The petitioners also submitted that any invasion by the state in an **individual's right to choice of food and beverage** amounts to an unreasonable restriction and destroys the individual's decisional and bodily autonomy.

Arguments in favour:

- If relief claimed by the petitioners of setting aside several sections are granted, it will open Pandora's box, primarily on the ground that various research and studies have shown that alcohol tends to aggravate the sense of violence
- The applicants have also objected to the plea challenging the law, calling it to be an attack on the constitutional obligation of the primary duty of the State as the guardian of the population to protect the health and lives of its people.

Delimitation In Jammu and Kashmir

Polity and Governance

- The Central Govt. has made it clear that for the political process to begin and elections to take place in the Valley, it is crucial for the delimitation exercise to be completed in the region first.

What Is Delimitation

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

How often has delimitation been carried out in J&K?

- **Basis of delimitation in J&K:** Delimitation of **Lok Sabha seats** in J&K, before its special status was scrapped, was governed by the **Constitution of India**, but the delimitation of the **state's Assembly seats** was governed by the **Jammu and Kashmir Constitution and Jammu and Kashmir Representation of the People Act, 1957**.
- **Previous delimitations** of assembly seats: Assembly seats in J&K were delimited in 1963, 1973 and 1995.
- The last exercise was conducted by the Justice (retired) **K K Gupta Commission** when the state was under President's Rule and was based on the 1981 census, which formed the basis of state elections in 1996.
- **No delimitation after 2001 census:** There was no census in the state in 1991. Also, no Delimitation Commission was set up by the state government after the 2001 census because the J&K Assembly passed a law putting a freeze on the fresh delimitation of seats until 2026.
- This freeze was upheld by the Supreme Court.
- The J&K Assembly, at that time, had 87 seats — 46 in Kashmir, 37 in Jammu and 4 in Ladakh. **Twenty-four more seats are reserved for Pakistan-occupied Kashmir.**
- The freeze, some political parties argue, has created inequity for Jammu region.

How J&K's delimitation will be done now?

- After the abrogation of J&K's special status in 2019, delimitation of Lok Sabha and Assembly seats in the newly-created Union Territory would be **as per the provisions of the Indian Constitution**.



- In March 2020, the government set up the Delimitation Commission, headed by retired Supreme Court judge Ranjana Prakash Desai, which was tasked with completing delimitation in J&K in a year.
- The commission has been granted an year's extension in light of the pandemic.

Concerns About J&K Delimitation

- The delimitation in J&K is a politically sensitive matter as it concerns the **representation of Kashmir** where Muslims are in majority and the Hindu-dominated Jammu in the Legislative Assembly.
- Since the delimitation is based on the census, several groups in Jammu have been strongly opposing delimitation based on the 2011 census. Per the 2011 census, **Kashmir's population is over 68 lakh against 53 lakh in Jammu**. This means Kashmir will get more seats in terms of the population ratio.
- Political parties have been demanding greater representation for Hindu-dominated Jammu in the legislative assembly.
- The mainstream political parties in J&K remain concerned that their political fortunes will see a reversal after the delimitation exercise.

Delimitation Commission

- It consists of a **chairman**, who can either be a retired or a sitting judge of the Supreme Court, the Chief Election Commissioner or any of the two Election Commissioners, and the Election Commissioner of the state in which the exercise is being carried out.
- Besides, a **select number of MPs and legislators** (maximum 5) of the state chosen for the delimitation exercise can also be included as additional members of the commission.
- It is a **temporary body** and entirely depends on Election Commission for carrying out the delimitation exercise. On behalf of the commission, the poll panel officials collect Census data for each district, tehsil and gram panchayat and on the basis of the information, the new boundaries are demarcated.

National Human Rights Commission

Polity and Governance

Why in News?

- The President of India appointed Justice Arun Kumar Mishra as the Chairman of the National Human Rights Commission (NHRC).

About

- NHRC, established in **1993**, is an **independent statutory body** as per the provisions of the Protection of Human Rights Act of 1993.
- It aims to **protect and promote human rights** related to life, liberty, equality and dignity of individuals.
- Composition
 - The National Human Rights Commission (NHRC) is composed of a **Chairperson** and **eight other members**.
 - The chairperson is **retired chief justice of India** or a **judge of the Supreme Court**.
 - Those **eight members** are:
 - Four full-time members.
 - Four deemed members.
- A **Selection Committee** will recommend the candidates to the President. The Selection Committee **includes**:
 - Prime Minister (Chairman)
 - Speaker of Lok Sabha
 - Union Home Minister
 - Deputy Chairman of Rajya Sabha
 - Leaders of the Opposition in both Houses of the Parliament.
- Term and removal
 - They hold office for a term of **three years** or **until they attain the age of 70 years**, whichever is earlier.
 - The **President can remove them** from the office under specific circumstances.



- The Commission shall have all the **powers of a civil court** namely:
 - **Summoning and enforcing** the attendance of witnesses and examining them on oath;
 - **Discovery and production of any document;**
 - **Receiving evidence** on affidavits.

National Commission for Protection of Child Rights

Polity and Governance

Why in News?

- The National Commission for Protection of Child Rights (NCPCR) has informed the Supreme Court that nearly 10,000 children need immediate care and protection due to the impact of Covid-19.

About the commission

- NCPCR is a **statutory body** established in **2007** under the Commission for Protection of Child Rights Act (CPCR), 2005.
- It is under the administrative control of the **Ministry of Women & Child Development**.
- The Commission's Mandate is 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.
- **Composition**
 - This commission has a **chairperson** and **six members** of which at least **two should be women**.
 - All of them are **appointed by Central Government** for **three years**.
 - The maximum age to serve in commission is **65 years for Chairman** and **60 years for members**.

Bal Swaraj Portal

- It was **launched by** the National Commission for Protection of Child Rights (**NCPCR**).
- The portal has been created with a **purpose for online tracking** and **digital real-time monitoring mechanism** of children who are in need of care and protection.
- The Commission has **extended the use of this portal** for tracking children who have lost both their parents or either of the parents during COVID-19.
- It has **provided a link** under the name of "**COVID-Care**" for uploading data of such children by the concerned department on the portal.

Public Accounts Committee

Polity and Governance

Why in News?

- The Public Accounts Committee (PAC) of Parliament has decided its agenda for the following year.

About PAC

- Public Accounts Committee was **introduced in 1921** after its first mention in the Government of India Act, 1919 also called Montford Reforms.
- The PAC is formed **every year** with a **strength of not more than 22 members** of which 15 are from Lok Sabha and 7 from Rajya Sabha.
- The term of office of the members is **one year**.
- The Chairman is **appointed by the Speaker** of Lok Sabha. **Since 1967**, the chairman of the committee is **selected from the opposition**.
- Its chief function is to **examine the audit report** of Comptroller and Auditor General (**CAG**) after it is laid in the Parliament.
- Note: CAG submits three reports – a report on appropriation accounts, an audit report on finance accounts, and an audit report on public undertakings.
- **Limitations of the Public Accounts Committee:**
 - Broadly, it **cannot intervene** in the **questions of policy**.
 - It can keep a tab on the expenses only after they are incurred. It has **no power to limit expenses**.



- It **cannot intervene** in **matters of day-to-day administration**.
- Any recommendation that the committee makes is **only advisory**. They can be ignored by the ministries.
- It is **not** vested with the **power of disallowance of expenditures** by the departments.
- **Being only an executive body**; it cannot issue an order. Only the Parliament can take a final decision on its findings.

Election Petition

Polity and Governance

Why in News?

- Recently, the West Bengal Chief Minister has filed an election petition in the Calcutta High Court challenging the Assembly election result of Nandigram constituency.

About Election Petition

- Post results, an election petition is the **only legal remedy available** to a voter or a candidate who believes there has been **malpractice in an election**.
- An election petition **submitted to the High Court of the state** in which the constituency is located.
- Although the **Representative of the People Act of 1951 suggests** that the **High Court** should try to conclude the **trial within six months**, it usually drags on for much longer, even years.
- Under Section 100 of the RP Act, an election petition can be filed on the grounds that :
 - Section 123 of the RP Act has a **detailed list of what amounts to corrupt practice**, including bribery, use of force or coercion, appeal to vote or refrain from voting on grounds of religion, race, community, and language.
 - **Improper acceptance of the nomination** of the winning candidate or improper rejection of a nomination.
 - **Malpractice in the counting process**, which includes improper reception, refusal or rejection of any vote, or the reception of any vote which is void.
 - **Non-compliance with the provisions** of the Constitution or the RP Act or any rules or orders made under the RP Act.
- The verdict on an election petition, if found in favour of the petitioner, may result in a **fresh election** or **the court announcing a new winner**.

Recusal of Judges

Polity and Governance

Why in News?

- Recently, two Supreme Court judges have recused themselves from hearing cases relating to West Bengal.

About

- When there is a **conflict of interest**, a judge can **withdraw from hearing** a case to prevent creating a perception that s/he carried a bias while deciding the case.
- The practice stems from the **cardinal principle of due process of law** that nobody can be a judge in his/her own case.
- Another instance for recusal is when an **appeal is filed in the Supreme Court** against a judgement of a High Court that may have been delivered by the SC judge when she was in the HC.

Process for recusal

- The decision to recuse generally comes **from the judge herself** as it **rests on the conscience and discretion** of the judge to disclose any potential conflict of interest.
- In some circumstances, lawyers or parties in the case bring it up before the judge. If a judge recuses, the case is **listed before the Chief Justice for allotment to a fresh Bench**.

Rules

- There are **no formal rules** governing recusals, although **several Supreme Court judgments** have dealt with the issue.
- In **Ranjit Thakur v Union of India (1987)**, the Supreme Court held that the tests of the likelihood of bias are the reasonableness of the apprehension in the mind of the party.
- The 1999 charter '**Restatement of Values in Judicial Life**' is a code of ethics adopted by the Supreme Court.
- It states, "**A Judge shall not hear and decide a matter** in a company in which he **holds shares**, unless he has **disclosed his interest** and **no objection to his hearing** and deciding the matter is raised."
- Once a request is made for recusal, the decision to recuse or not **rests with the judge**.
- The judges can recuse **even if** they do **not see a conflict** but only because such an apprehension was cast. They can **refuse to withdraw from a case**. Since there are **no formal rules** governing the process, it is **often left to individual judges** to **record reasons** for recusal.

Task force for Mission Karmayogi

Polity and Governance

Why in News?

- Recently, a three-member task force has been formed to help the government in bringing major bureaucratic
- reforms through its ambitious "Mission Karmayogi".

About

- **Former Infosys CEO S D Shibulal** has been appointed chairperson of a three-member task force.
- The task force has been constituted to **draw a clear road map** for the guidance and operationalisation of the '**Karmayogi Bharat**' and the **constitution of a Special Purpose Vehicle (SPV)**.

Mission Karmayogi

- **Aim and Objectives**
 - It is aimed at **building a future-ready civil service** with the right attitude, skills and knowledge, aligned to the vision of New India.
 - It aims to **prepare Indian civil servants for the future** by making them **more creative, constructive, imaginative, proactive, innovative**, progressive, professional, energetic, transparent, and technology-enabled.
- **The core guiding principles of the Programme will be**
 - To emphasize on '**on-site learning**' to complement the '**off-site**' learning,
 - To create an **ecosystem of shared training infrastructure** including that of learning materials, institutions and personnel,
 - To calibrate all Civil Service positions to a **Framework of Roles, Activities and Competencies (FRACs) approach** and to create and deliver learning content relevant to the identified FRACs in every Government entity.
 - To make available to all civil servants, an **opportunity to continuously build and strengthen** their Behavioral, Functional and Domain Competencies in their **self-driven** and **mandated learning paths**.
- **Institutional framework and implementation of the programme**
 - PM led **Public Human Resources (HR) Council** to approve and monitor Civil Service Capacity Building Plans.
 - **Capacity Building Commission** to harmonize training standards, create shared faculty and resources, and have supervisory role over all Central Training Institutions.
 - Wholly owned **Special Purpose Vehicle** to own and operate the online learning platform and facilitate world-class learning content market-place.
 - **Coordination Unit** headed by the Cabinet Secretary.



Why in News?

- The tenure of Attorney General K.K. Venugopal is extended by the government for a period of one more year with effect from July 1.

About the AG

- She/he is the **top legal officer** in the country & part of Union Executive.
- She/he is **not considered** as a **government servant**.
- Assisted by **2 Solicitor Generals** & **4 Additional Solicitor Generals**.
- Under the Constitution of India, **Article 76 deals** with for Attorney General of India & **Article 165** for Advocate General of States.
- Eligibility** - Qualified to be **appointed as Supreme Court judge, Citizen of India, Judge of High Court** (HC) for 5 years/advocate HC for 10 years/eminent jurist President's opinion.
- Tenure - **Not fixed**.
- Appointment **by President** on Government advice.
- Functions are**
 - Advise Government** on legal matters.
 - Perform legal duties** assigned by President.
 - Appear on behalf of Government** in all cases in SC or HC.
 - Represent Government** under Article 143 (Power of President to consult SC).
 - Discharge functions **conferred by Constitution** or **law**.
- Rights**
 - Right to Speak & take part in proceedings** of both Houses of Parliament/joint sitting/any committee of Parliament of which he/she may be named a member.
 - Enjoys **privileges & immunities** of a member of Parliament.
 - Not a Government servant & **not debarred** from **private legal practice**.
- Limitations include**
 - No Right to Vote** in House proceedings/committees.
 - Should **not advise against** or **hold a brief against Government**.
 - Should not defend accused persons in criminal prosecutions without the permission of the Government of India.
 - Should **not accept appointment** as a **director in any company** or corporation without the permission of the Government of India.
- Removal**
 - Holds office during **President's pleasure** & can be **removed by President** at any time.
 - No grounds** for removal or procedure mentioned in Constitution.

Why is in the news?

- Recently, the Minister of Tribal Affairs launched the ADI PRASHIKSHAN portal and inaugurated a three-day training programme on "Capacity Building Training of Master Trainers for ST PRI Members" as part of Azadi Ka Amrit Mahotsav

About ADI PRASHIKSHAN portal

- The Tribal Affairs Ministry has developed the portal in collaboration with the United Nations Development Programme.
- Its aim is to provide comprehensive information on training programmes held across the country.
- It is an initiative to reach the remotest area using information technology so that tribal communities are able to have access to their rights and benefits.

- It would act as a Central Repository of all training programs conducted by
 - Tribal Research Institutes.
 - Different divisions of the Ministry.
 - National Society for Education of Tribal Students.
 - Centre of Excellences funded by Ministry of Tribal Affairs and
 - National Tribal Research Institute.
- It will also catalyze, improve the processes of conducting training by making it online and accessible to all.
- Unified open platform will give users access to authentic knowledge products.

Capacity Building Training of Master Trainers For ST PRI Members

- It is jointly organized by National Tribal Research Institute and Tribal Research & Development Institute, Govt. of Madhya Pradesh from 16th -19th June 2021.
- The participants of the training programme will be officers from ITDAs, District Level & Block Level Welfare Officers, NGOs, Tribal Youths, SHG Member and Sarpanches.
- This training programme will cover topics such as Constitutional Rights of Schedule Tribes, Financial and administrative management of GPs, flagship programmes of Central and State Governments.

Tribal Research Institute (TRI)

- It is the research body of the Ministry of Tribal affairs at state level .
- It is envisaged that TRIs should focus on their core responsibilities as body of knowledge & research more or less as a think tank for tribal development, preservation of tribal cultural heritage, providing inputs to States for evidence based planning and appropriate legislations, capacity building of tribals and persons / institutions associated with tribal affairs, dissemination of information and creation of awareness .
- There are 26 Tribal Research Institute (TRIs) supported by the Ministry of Tribal Affairs, Government of India.

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Why is in the news?

- The Prime Minister has announced a special PM-CARES for Children scheme. The scheme includes a comprehensive financial aid package for children orphaned during the pandemic.

About the scheme

- All children who have **lost both parents** or **surviving parent** or **legal guardian/adoptive parents** due to Covid 19 will be supported under the scheme.

Features of the scheme

- Fixed Deposit in the name of the child à A **corpus of Rs 10 lakh for each child** when he or she reaches 18 years of age.
- School Education: For children under 10 years à Admission will be given in the **nearest Kendriya Vidyalaya** or **in a private school** as a day scholar.
- School Education: for children between 11-18 years à The child will be given **admission in any Central Government residential school** such as Sainik School, Navodaya Vidyalaya etc.
- The child will be **assisted** in **obtaining an education loan** for Professional courses / Higher Education in India as per the existing Education Loan norms.
- All children will be enrolled as a beneficiary under Ayushman Bharat Scheme (**PM-JAY**) with a **health insurance cover of Rs 5 lakhs**.

Why is in the news?

- Recently, the Ministry of Education, Department of Higher Education has launched a scheme called **YUVA-Prime Minister's Scheme for Mentoring Young Authors**.

About YUVA Scheme

- It is an **Author Mentorship programme** to train young and budding authors (below 30 years of age) in order to promote reading, writing and book culture in the country.
- It is a part of **India@75 Project** (Azadi Ka Amrit Mahotsav).
- The **National Book Trust, India** under the Ministry of Education is the **Implementing Agency of YUVA Scheme**.
- The books prepared under this scheme will be **published by National Book Trust, India**.
- The books will also be **translated into other Indian languages** ensuring the exchange of culture and literature, thereby promoting '**Ek Bharat Shreshtha Bharat**'.
- The winner will also get a **scholarship worth Rs 50,000 per month** for a period of six months.

Significance of YUVA Scheme

- The launch of **YUVA (Young, Upcoming and Versatile Authors)** is in tune with PM's vision to encourage young writers to write about India's freedom struggle.
- It aims to bring to the fore the **perspectives of the young generation of writers** on themes like Unsung Heroes, Freedom Fighters, Unknown and Forgotten Places.
- It will help to **develop a stream of writers who can write on a spectrum of subjects** to promote Indian heritage, culture and knowledge system.
- The scheme is aimed at **promoting reading, writing, and book culture in the country**, and project India and Indian writings globally

Why is in the news?

- Kerala's 'Bell of Faith' scheme will be expanded to the villages to reach senior citizens staying alone. Earlier, the scheme was successfully implemented in a number of urban households in Kerala.

About Bell of Faith Scheme:

- **Bell of Faith Scheme** was launched by the Kerala Police in 2018. It aims to provide security to senior citizens staying alone as part of Kerala's Community Policing Scheme.
- **Under the Scheme**, police have installed a bell in the senior citizens' houses.
- **The neighbour** will get an alert with an alarm when the senior citizen rings the bell during an emergency.
- **The neighbour can immediately** rush to the house or contact the police or hospital.

Significance of the Scheme:

- **The Bell of Faith scheme** sets an example for community participation to ensure the well-being and safety of the elderly.
- **Moreover**, this scheme can be of great support for the senior citizens during the COVID-19 pandemic as many live in fear for their health.

Why in News?

- The Minister of Social Justice and Empowerment, launched the SAGE (Seniorcare Aging Growth Engine) initiative and SAGE portal to support India's elderly persons.

About SAGE Initiative

- SAGE is a "one-stop access" for elderly care services and products by credible start-ups.
- It will aim to provide solutions for health, housing, care centers, apart from technological access linked to finances, food and wealth management, and legal guidance.
- The SAGE initiative promotes the idea of "silver economy" by developing residential and infrastructure facilities of different grades for seniors through public-private partnership for a dignified and safe ageing experience.

Silver Economy

- Silver economy is the system of production, distribution and consumption of goods and services aimed at using the **purchasing potential of elder and ageing people** and satisfying their consumption, living and health needs.
- The silver economy is analyzed in the field of **social gerontology** (study of aging) and gerontechnology not as an existing economic system but as an instrument of ageing policy.

Global Ageing scenario and the Need for such an initiative

- Both the **share and size of elderly population** has been increasing over time. From 5.6% in 1961 the proportion has increased to 8.6% in 2011.
- The **share of elders**, as a percentage of the total population in the country, is expected to increase from around 7.5% in 2001 to almost 12.5% by 2026 and surpass **5% by 2050**.
- According to Population Census 2011, there are nearly **104 million** elderly persons (aged 60 years or above) in India. A report released by the United Nations Population Fund and HelpAge India suggests that the number of elderly persons is expected to **grow to 173 million by 2026**.
- There is an urgent need to create a more robust eldercare ecosystem in India, especially in the **post-COVID phase**.

Why is in the news?

- The Union Education Minister **approved** the release of the Performance Grading Index (PGI) 2019-20 for States and Union Territories of India.

About the index

- The Government has introduced the **PGI** with a set of 70 parameters to catalyse transformational change in the field of school education.
- It was first published for States and Union Territories 2019 with reference year 2017-18.
- PGI is released by the **Department of School Education and Literacy (DoSEL)**, Ministry of Education.
- The PGI is structured in two categories:
 - Learning Outcomes and
 - Governance & Management
- Domains** under categories include:
 - Access,
 - Infrastructure & Facilities,
 - Equity,
 - Governance process.

Important Findings

- Punjab scored highest: Punjab has recorded the **highest score** in the index with a **total of 929 out of 1,000**. This is a huge improvement from 769 in 2020.
- Punjab, Tamil Nadu and Kerala have **all scored higher than 90%** in the Index for 2019-20.
- Gujarat drops from **second to 8th place**.
- Madhya Pradesh and Chhattisgarh also saw a **severe drop** in their scores. Thus pushing both States to an overall performance that was worse than in the previous edition of the index.

Significance

- It is envisaged that the index would propel States and UTs towards undertaking **multi-pronged interventions** that will bring about the much-desired optimal education outcomes.
- It will also help the States/UTs to **pinpoint the gaps** and accordingly prioritise areas for intervention to ensure that the school education system is robust at every level.
- When implemented with the Right to Education (RTE) Act, it will help in bringing better **Quality of education with enhanced Accessibility** from the latter.
- This exercise is expected to act as a **good source of information for best practices** followed by States and UTs which can be shared.
- The PGI evaluation provides a grade to the States and UTs, as opposed to ranking. **Grading**, by allowing several States and UTs to be considered at the same level, **eliminates the phenomenon of one improving only at the cost of others**, thereby casting a stigma of underperformance on the latter.
- Question wise scores of each State/UT has been shared so that **Best Practices** of higher Scoring states can be followed by other lower scoring states.
- It will help in achieving **SDG 4** targets of Quality Education.
- Data is collected from all levels** which will increase the accuracy of the database and will help in creating optimised solutions.

Issues

- Population** sometimes may be construed as a hindrance to development as it tends to increase the financial outlays for interventions by the Government.
- A State/UT that has already come near the highest possible score would have **less scope of showing large improvements** in score.

Unified District Information System for Education (UDISE)

- Incepted in **1995**
- Under **DoSEL, Ministry of Education.**
- The **main objective** of the Education Management Information System (EMIS (i.e. the U-DISE)) in India has been:
 - to promote data driven decision making to manage access, efficiency, equity, and quality of school education by
 - facilitating policy analysis and formulation, programme planning,
 - budgeting, monitoring and
 - evaluation of the performance of the school education system in general and
 - development programmes in particular.
- The U-DISE is an **annual census** of schools in the country with 30th September as the reference date.
- The U-DISE collects data on more than 4,000 variables covering key aspects of school education. Specifically, it collects data on school profile, Infrastructure facilities, teaching-learning material and equipment, incentives to students, enrollment, teachers, and examination results.
- The U-DISE collects data every year from around 1.53 million **recognised and unrecognised** institutions in the country, covering around 260 million students and 8.9 million teachers.
- It also collects data on important variables to assess the status of the implementation of the Right to Education (RTE) Act 2009.

School Education Shagun

- It is an overreaching initiative to improve the school education system.
- The initiative involves creating a junction in the form of a platform for all portals and websites of the DoSEL in the Government of India and all States and Union Territories (UTs).
- The word '**Shagun**' is coined from two different words – '**Shala**', meaning **Schools** and '**Gunvatta**' meaning **Quality**.
- **Aim:** To capture and showcase innovations in the **elementary sector of school education** and continuous monitoring of the Sarva Shiksha Abhiyan (SSA).
- With the introduction of Samagra Shiksha from 2018-19, there is no differentiation between elementary, secondary and senior secondary levels.
- However, since the name 'Shagun' has caught the imagination of many people in India and abroad, it has been decided to adopt this name for this present all encompassing platform.
- The SE Shagun platform provides single point access to all portals and websites of the Department. Relevant information pertaining to more than 1.5 million schools, 9 million teachers and 250 million students can be accessed through this platform.

QS World University Rankings 2022

Society

Why in News?

- Jawaharlal Nehru University (JNU) has entered the top 1,000 of the QS World University rankings for the first time, as its new undergraduate engineering programme now makes it eligible for the rating.

About

- Released by **Quacquarelli Symonds (QS)**, a British company specialising in the analysis of higher education institutions around the world.
- It is an **annual publication** of university rankings which **comprises the global overall and subject rankings**.

Key Findings

- Top 5 universities in World-Massachusetts Institute of Technology (**MIT**), **Cambridge**, USA; **University of Oxford**, UK; **Stanford University**, USA; **Cambridge University**, UK; **Harvard University**, USA.
- Only three educational institutes from India, the **IIT Bombay (177)**, **IIT Delhi (185)** and
- **IISc Bengaluru (186)** feature in the top 200 list.

Why is in the news?

- The Supreme Court has directed the States/UTs to take stringent action against private individuals and NGOs who invite people to illegally adopt children orphaned by the COVID-19 pandemic.

About CARA

- Central Adoption Resource Authority (CARA) is the **nodal body for adoption of Indian children**.
- CARA primarily deals with **adoption of orphan, abandoned and surrendered children** through its associated /recognised adoption agencies.
- It regulates **in-country** and **inter-country adoptions** (in accordance with the provisions of **The Hague Convention** on Inter-Country Adoption, 1993, ratified by Government of India in 2003).
- It is an **autonomous** and a **statutory body** of the **Union Women and Child Development Ministry**.
- The **mandatory registration** of CCIs and linking to CARA has been provided in Juvenile Justice (Care and Protection of Children) Act, 2015.
- In 2018, CARA has **allowed** individuals in a **live-in relationship** to **adopt children** from and within India.

Surakshit Hum Surakshit Tum Abhiyan

Society

Why in News?

- NITI Aayog and Piramal Foundation launched Surakshit Hum Surakshit Tum Abhiyaan in 112 Aspirational Districts.

About Surakshit Hum Surakshit Tum Abhiyaan:

- Surakshit Hum Surakshit Tum Abhiyaan** has been launched in 112 aspirational districts.
- Aim:** To assist district administrations in providing home-care support to COVID-19 patients who are asymptomatic or have mild symptoms.

Features of the initiative:

- Firstly**, the initiative will be **led by district magistrates** in partnership with local NGOs.
- Secondly**, the NGOs will help mobilise **local volunteers**. They shall be trained so that they can provide support to affected families by educating them to follow Covid-19 protocols. They shall also be trained to provide **psycho-social support** and **timely updates** about patients to the administration.
- Thirdly**, local leaders, civil societies and volunteers will also work with district administrations to address emerging problems across key focus areas of the Aspirational Districts Programme.
- Significance of the campaign:** The Surakshit Hum Surakshit Tum Abhiyaan campaign is expected to contribute to **district preparedness** for managing nearly 70% of COVID cases at home. Hence, it shall reduce pressure on the healthcare system and curbing the spread of fear among the people.

Aspirational Districts Programme

- It was launched in **January 2018**, the '**Transformation of Aspirational Districts' Programme** (TADP).
- To **transform some of the most underdeveloped districts** of the country.
- At the Government of India level, the programme is **anchored by NITI Aayog**. In addition, **individual Ministries** have assumed responsibility to drive the progress of districts.

Focus Areas

- ADP is based on **49 indicators** from the **5 identified thematic areas**, which focuses closely on improving people's Health & Nutrition, Education, Agriculture & Water Resources, Financial Inclusion & Skill Development, and Basic Infrastructure.
- With States as the main drivers, ADP seeks to **focus on the strength of each district, identify low-hanging fruits for immediate improvement, measure progress, and rank districts**.

Why is in the news?

- Recently, the Union Minister of Women & Child Development has appealed to Citizens to **report the instances of Child Labour on PENCIL Portal** or by calling on Childline-1098.

About PENCIL Portal

- It is the **Platform for Effective Enforcement for No Child Labour (PENCiL)**.
- It was launched by the **Ministry of Labour and Employment** to rehabilitate child labour in the country.
- It is an online platform that aims at **engaging the Central Government, State Government, District, civil society and the public** in eradicating child labour.

Features of PENCiL Portal

- It is an **integrated application system** that is based on the technology which primarily aims at the submission of complaints by any citizens of the country from anywhere and anytime basis.
- It mandates the **uniform and systematic approach** towards the monitoring of the process by adopting a general classification and standardisation of filing complaints.
- It facilitates the **online lodging of complaints** that are registered by the general citizens to the concerned Departments, Ministries and Organizations which can be linked to their official portal.
- It facilitates the user with the **generation of automated notifications** such as Acknowledgment and replies for the official correspondence with the complainants.

Significance of PENCIL Portal

- It aims to achieve the target of **child labour free society**.
- It enables the citizens to **raise a complaint and report incidents of child labour** through effective tracking and monitoring mechanism.
- It is to build a **strong authentication mechanism** for implementing and monitoring both the enforcement of the legislative provisions and effective implementation of the National Child Labour Project (NCLP).
- It aims to facilitate **convergence and provides better coordination** between the Governments departments and the general public.

Implementation of PENCiL Portal

- All complaints filed will be received by **District Nodal Officers (DNOs)** who are nominated by the Districts.
- After receiving the complaints, the **rescue measures will be taken within the time frame of 48 hours** in coordination with the police department.

Why in News?

- India is now ranked as the 14th most charitable country in the world as per a report released by the World Giving Index 2021 (WGI).

About

- The World Giving Index (WGI)** is published by the Charities Aid Foundation (CAF).
- Parameters:** The index provides combined insight into the scope and nature of giving around the world. It looks at three aspects of giving behavior and asks: Have you done any of the following in the past month?
 - Helped a stranger** or someone you didn't know who needed help?
 - Donated money** to a charity?
 - Volunteered** your time to an organization?
- Data Source:** The index uses data gathered by Gallup and ranks countries in the world according to how charitable they are.
- The report includes** the results of 1.6 million individuals interviewed across the globe since 2009.

Ranking	COUNTRY	Index Score	Ranking	COUNTRY	Index Score
1	Indonesia	69%	9	Kosovo	46%
2	Kenya	58%	10	Thailand	46%
3	Nigeria	52%	11	Tajikistan	45%
4	Myanmar	51%	12	Bahrain	45%
5	Australia	49%	13	United Arab Emirates	44%
6	Ghana	47%	14	India	44%
7	New Zealand	47%	15	Ethiopia	44%
8	Uganda	45%			

Why is in the news?

- Ministry of Tribal Affairs and NCERT come together on a joint mission for NISHTHA Capacity Building Programme for Eklavya Model Residential Schools (EMRSs) Teachers and Principals.

About NISHTHA

- NISHTHA Teachers Training Programme 2020 – NISHTHA stands for National Initiative for School Heads' and Teachers' Holistic Advancement.
- NISHTHA is a capacity building and enhancement program for "Improving Quality of School Education through Integrated Teacher Training".
- It aims to build competencies among all the teachers and school principals at the grassroots stage.
- It is expected from this body to fulfill the long-standing vision of the Ministry of Tribal Affairs (MoTA) to achieve academic excellence and brilliance in Eklavya Model Residential Schools (EMRSs).
- The NISHTHA Training program for EMRS teachers declared the National Education Policy (NEP-2020) recommendation of "Providing In-service affirms uninterrupted professional development as these will be strengthened and substantially enlarged to meet the needs of enriched teaching-learning processes for standard education."

Objectives

- To provide all the elementary stage teachers on literacy outcomes, school-based assessment, learner-centered pedagogy, new initiatives in education, and contending diverse needs of children through multiple pedagogies, etc.
- To surveillance and provide huge support to the teachers using multiple modes up to the classroom level, in view of **better** learning outcomes of the students.
- To align state functionaries and school principals on learning consequences, national achievement survey, learner-centered pedagogy, and new advantage in school education so that they became competent to monitor schools and extend their support to schools and educational institutions for the implementation of new outcomes.

Why is in the news?

- The World Health Organization (WHO) June 7, 2021 released a handbook to help assess the burden of foodborne diseases and locate data gaps to help strengthen health infrastructure.

About the handbook

- This handbook provides detailed guidance on assessing the burden of diseases caused by microbiological agents commonly transmitted through foods.
- It is particularly intended for use at national level, and gives a complete picture of the requirements, enabling factors, challenges and opportunities involved, and the steps in the process.
- It also aims to foster harmonization of methodologies for estimating foodborne disease burden across countries.
- The goal of a national burden of foodborne disease study is to rank and prioritize foodborne diseases based on their overall public health impact in the population. The objectives of such a study are to:
 - Estimate the burden of disease for selected foodborne hazards
 - Develop a framework for routine updating of estimates and evaluation of trends and
 - Provide a baseline against which food safety interventions can be evaluated.
- Burden of foodborne disease study: Disability -Adjusted Life Year (DALY)**
- In this document, the **disability-adjusted life year (DALY) is proposed as the ultimate summary measure for quantifying the population health impact of foodborne diseases.**
- The DALY measures the healthy life-years lost as a result of diseases or risk factors.
- It combines information on morbidity, mortality and disability caused by diseases.

- While some countries may not yet have the resources or capacity to estimate DALYs, it should be an aspirational goal, and any step towards it – such as estimating incidence or mortality – is valuable.
- **A burden of foodborne disease study has six main elements:** planning; data preparation; calculations; attribution; interpretation; and dissemination.

Pran Vayu Devta Pension Scheme (PVDPS)

Society


Why is in the news?

- The Haryana government came out with a unique and first of its kind initiative called **Pran Vayu Devta Pension Scheme (PVDPS)**.

About the scheme-

- It is an initiative to **honour all those trees which are of the age of 75 years and above** and have served humanity throughout their life.
- Such trees will be identified throughout the state and these **will be looked after by involving local people**.
- For maintenance of such trees, a **"pension amount" of Rs 2,500** would be given per year to village panchayats in the name of PVDPS.
- This 'tree pension' shall **continue to increase every year**.
- To get pure air from the environment, **Oxy Van (Oxy Forests)** will be **planted on land ranging from 5 acres to 100 acres** in the cities of Haryana.
- **Oxy Van, Karnal**, shall come up along the Old Badshahi Canal (also known as Mughal Canal), on an area of 80 acres, covering a total length of 4.2 km.
- This park will have **components** named: *Chit Van* (Forest of Beauty), *Paakhi Van* (Forest of Birds), *Antriksh Van* (Forest of Zodiac Signs), *Tapo Van* (Forest of Meditation), *Arogya Van* (Healing/herbal Forest), *Neer Van* (Forest of Waterfalls), *Rishi Van* (Sapt Rishi), *Panchavati* (Five Trees), *Smaran Van* (Forest of Memories), and *Sugandh Suvaas/Sugandh Van* (Forest of Fragrance).
- The total cost of this project in Karnal shall be Rs 5 crore, and it will be a joint venture of Haryana Forest Department, the Government of India, and the Municipal Committee, Karnal.
- The scheme helps in reducing **'Heat Island Effect'** and bad air quality and helps in overcoming the oxygen shortage in future.

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Why is in the news?

- **Government formally launched e-filing portal of Income Tax Appellate Tribunal (ITAT) named 'itat e-dwar'.**

About Itat E-dwar

- In a major change to the on-going FAME-II scheme, the Department of Heavy Industry has notified incentives for India-made electric two-wheelers.
- Currently, most of the electric two-wheeler vehicles are costlier than the Internal Combustion Engine two wheelers. Thus, the government aims to promote electric two-wheeler usage in the country by reducing this price gap.
- Aiming at faster adoption and manufacturing of electric vehicles in India, the Centre has decided to increase subsidies on India made electric two-wheelers. According to the notification, the subsidy for India made electric two-wheelers has been increased to ₹15,000 per kWh, from the earlier subsidy rate of ₹10,000 per kWh.
- The Centre has also increased the cap on incentives for electric two-wheelers at 40 % of the cost of vehicles, from 20 % earlier.
- It will enhance the **accessibility, accountability and transparency** in the day to day working of the ITAT. It would not only result in **economization** of the use of paper, savings in costs but also **rationalization** of the fixation of cases leading to quicker disposal of cases.

Benefits

- The incentive will support the manufacturers to reduce price of electric two wheelers in the country.
- Together with the other important factors like extremely low running cost, low maintenance & zero emission, such price levels will push more riders to switch from a combustion-engine model to an electric model.
- The increase in adoption of EVs will facilitate government's plan of making India an electric vehicle nation by 2030.
- Moreover, a focus on locally built electric two wheelers can make India the manufacturing hub of Evs.

FAME Scheme

- Faster Adoption and Manufacturing of (Hybrid &) Electric Vehicles in India (FAME-India) Scheme was launched by the **Ministry of Heavy Industries and Public Enterprises** under the National Electric Mobility Mission Plan.
- It is an incentive scheme for promotion of electric and hybrid vehicles (xEV) in the country. The incentives are given as subsidies to the manufacturers of electric vehicles & infrastructure developers of electric vehicles.
- The FAME India Scheme is aimed at incentivising all vehicle segments i.e. 2 Wheeler, 3 Wheeler Auto, Passenger 4 Wheeler Vehicle, Light Commercial Vehicles and Buses. The scheme covers Hybrid & Electric technologies like Mild Hybrid, Strong Hybrid, Plug in Hybrid & Battery Electric Vehicles
- The **First Phase** of the scheme began in 2015 and was completed in March, 2019.

FAME II

- The **Phase-II of FAME Scheme** was approved with an outlay of Rs. 10,000 Crore for a period of 3 years from April 2019.
- Out of total budgetary support, about 86 percent of fund has been allocated for Demand Incentive, to create demand for xEVs in the country.
- This phase aims to generate demand by supporting 7000 e-Buses, 5 lakh e-3 Wheelers, 55000 e-4 Wheeler Passenger Cars and 10 lakh e-2 Wheelers.
- Only vehicles fitted with advanced chemistry battery and registered vehicles are incentivized under the scheme.
- In addition, creation of **charging infrastructure** is also supported under the scheme.
- With greater emphasis on providing affordable & environment friendly public transportation options for the masses, scheme will be applicable mainly to vehicles used for public transport or those registered for commercial purposes in e-3W, e-4W and e-bus segments. However, privately owned registered e-2Ws are also covered under the scheme as a mass segment.

Why is in the news?

- The Enforcement Directorate has transferred assets worth ₹8,441.50 crore to public sector banks that suffered losses to the tune of ₹22,585.83 crore due to frauds committed allegedly by Vijay Mallya, Nirav Modi and Mehul Choksi.

What is money-laundering?

- Money laundering is the process by which large amounts of illegally obtained is given the appearance of having originated from a legitimate source. In Money laundering, the black money must involve a predicate crime such as the violation of Indian Penal Code, IPC, Narcotics, Prevention of corruption and Human Trafficking. This is because in India, stashing black money is simply a civil crime involving tax evasion, while money laundering has criminal dimensions related to black money.

Steps in Money Laundering

There are three different steps in money laundering described by three terms as follows:

- **Placement:** Black Money, generally in the form of cash is inserted into a legitimate financial institution.
- **Layering:** In this stage, the money launderer typically engages in a series of continuous conversions or movements of funds, within the financial or banking system by way of numerous accounts, so as to hide their true origin and to distance them from their criminal source. The money launderer may use various channels for the movement of funds, as a series of bank accounts sometimes spread across the globe, especially in those jurisdictions which do not co-operate in anti-money laundering investigations.
- **Integration:** At the integration stage, the money re-enters the mainstream economy in legitimate-looking form. This may involve a final bank transfer into the account of a local business in which the launderer is "investing" in exchange for a cut of the profits. At this point, the money can be used by the criminal without getting caught.

Prevention of Money-laundering Act, 2002:

- Prevention of Money Laundering Act, 2002 is an Act of the Parliament of India enacted by the government to prevent money-laundering and to provide for confiscation of property derived from money-laundering.
- PMLA defines money laundering offense and provides for the freezing, seizure and confiscation of the proceeds of crime.
- The act was amended in the year 2005, 2009, 2012 and 2019. PMLA (Amendment) Act, 2012 has enlarged the definition of money laundering by **including activities such as concealment, acquisition, possession, and use of proceeds of crime as criminal activities.**

Features:

- RBI, SEBI, and IRDA have been brought under the PMLA, and therefore the provisions of this act are applicable to all financial institutions, banks, mutual funds, insurance companies, and their financial intermediaries.
- **Punishment under the Act:** The Act prescribes that any person found guilty of money-laundering shall be punishable with rigorous imprisonment from three years to seven years and where the proceeds of crime involved relate to any offense under paragraph 2 of Part A of the Schedule (Offences under the Narcotic Drugs and Psychotropic Substance Act, 1985), the maximum punishment may extend to 10 years instead of 7 years.
- **Powers of attachment of tainted property:** Appropriate authorities, appointed by the Govt of India, can provisionally attach property believed to be "proceeds of crime" for 180 days. Such an order is required to be confirmed by an independent Adjudicating Authority (the authority appointed by the central government through a notification to exercise jurisdiction, powers, and authority conferred under PMLA. It decides whether any of the property attached or seized is involved in money laundering.
- Where money laundering involves two or more inter-connected transactions and one or more such transactions is or are proved to be involved in money laundering, then for the purposes of adjudication or confiscation, it shall be presumed that the remaining transactions form part of such inter-connected transactions.

- A person, who is accused of having committed the offense of money laundering, has to prove that alleged proceeds of crime are in fact lawful property.
- An Appellate Tribunal is the body appointed by Govt of India. It is given the power to hear appeals against the orders of the Adjudicating Authority and any other authority under the Act. Orders of the tribunal can be appealed in appropriate High Court (for that jurisdiction) and finally to the Supreme Court.
- Section 43 of Prevention of Money Laundering Act, 2002 (PMLA) says that the Central Government, in consultation with the Chief Justice of the High Court, shall, for trial of offence punishable under Section 4, by notification, designate one or more Courts of Session as Special Court or Special Courts for such area or areas or for such case or class or group of cases as may be specified in the notification.

PMLA Amendment 2019:

- The most crucial amendments are the deletion of provisos in sub-sections (1) of Section 17 (Search and Seizure) and Section 18 (Search of Persons), doing away with the pre-requisite of an FIR or charge sheet by other agencies that are authorized to probe the offenses listed in the PMLA schedule.
- Another important change is the insertion of an explanation in Section 44. "The jurisdiction of the Special Court, while dealing with the offense under this Act, during investigation, inquiry or trial under this Act, shall not be dependent upon any orders passed in respect of the scheduled offense, and the trial of both sets of offenses by the same court shall not be construed as joint trial," it says.
- The scope of "proceeds of crime", under Section 2, has been expanded to empower the agency to act against even those properties which "may directly or indirectly be derived or obtained as a result of any criminal activity relating to the scheduled offense".
- An explanation added to Section 45 clarifies that all PMLA offenses will be cognizable and non-bailable. Therefore, ED officers are empowered to arrest an accused without a warrant, subject to certain conditions.

What is 'proceeds of crime'?

- "Proceeds of crime" means any property derived or obtained, directly or indirectly, by any person as a result of criminal activity relating to a scheduled offense or the value of any such property.

What is a 'scheduled offense'?

- Scheduled offense means an offense specified under Part A or Part C of the Schedule of the Prevention of Money Laundering Act, 2002.
- In part A, offenses to the Schedule comprise of offenses under Indian Penal Code, Narcotic Drugs and Psychotropic Substances, Explosive Substances Act, Unlawful Activities (Prevention) Act, offenses under Arms Act, Wild Life (Protection) Act, Immoral Traffic (Prevention) Act, Prevention of Corruption Act, Explosives Act, Antiquities & Arts Treasures Act etc.
- Part 'C' deals with trans-border crimes and is a vital step in tackling Money Laundering across International Boundaries.

FIU-IND

- Financial Intelligence Unit – India (FIU-IND) is an independent body reporting directly to the
- **Economic Intelligence Council (EIC)** headed by Finance Minister of India.
- It was established in 2004 as the central national agency responsible for receiving, processing and analysing information relating to suspect financial transactions.
- It is responsible for coordinating and strengthening efforts of national and international intelligence. It also undertakes investigations for pursuing the global efforts against money laundering & related crimes.

Enforcement Directorate

- The Enforcement Directorate (ED) is a law enforcement and economic intelligence agency responsible for enforcing economic laws and fighting economic crime in India. It comes under the **Department of Revenue, Ministry of Finance**.
- The *prime objective* of the ED is the enforcement of two key Acts namely, the Foreign Exchange Management Act 1999 (**FEMA**) and the Prevention of Money Laundering Act 2002.
- ED has the power to **attach the asset** of the culprits found guilty of the violation of FEMA. It has also been empowered to undertake, search, seizure, arrest, prosecution action, and survey, etc. against the offences committed under PMLA.



Other Functions of ED

- Processing cases of fugitive/s from India under the Fugitive Economic Offenders Act, 2018.
- Sponsoring cases of Preventive Detention under the Conservation of Foreign Exchange and Prevention of Smuggling Activities Act, 1974 (COFEPOSA) with respect to FEMA violations.
- Adjudicating show cause notices issued under the repealed FERA (Foreign Exchange Regulation Act, 1973)

(RoDTEP) Scheme:

Economy

Why in the news?

- After months of delay, the Centre is planning to clear the pending dues of exporters. The allocation under RoDTEP scheme is being enhanced to Rs 17,000 crore for the current financial year, against Rs 13,000 crore provided earlier. This will offer much-needed relief to exporters, who have been struggling during the Covid pandemic.

Remission of Duties and Taxes on Export Products (RoDTEP) Scheme

- The RoDTEP was formed to replace the Merchandise Exports from India (MEIS) Scheme. It became applicable from January 2021.
- Before the introduction of RoDTEP, GST taxes and import/customs duties for inputs required to manufacture exported products were either exempted or refunded.
- However, certain taxes/duties/levies are outside GST, and were not refunded for exports, such as, VAT on fuel used in transportation, Mandi tax, Duty on electricity used during manufacturing etc.
- RoDTEP creates a mechanism for reimbursement of taxes/ duties/ levies, which were not refunded under any other mechanism.

Digitized Process

- The Scheme is implemented with **end to end digitisation**. Thus, refunds under the scheme are given in form of transferable duty credit/electronic scrip to the exporters.
- These duty credits are maintained and tracked through an electronic ledger.
- Moreover, a monitoring and audit mechanism, with an **Information Technology based Risk Management System (RMS)**, is used to physically verify the records of exporters.

Eligibility

- RoDTEP is applicable to all the sectors. Labour-intensive sectors will be given priority.
- Manufacturer exporters and merchant exporters (traders) are both eligible for the benefits.
- To be eligible, the exported products need to have the **country of origin** as India.
- Special Economic Zone Units and Export Oriented Units are also eligible to claim the benefits.
- The scheme is also applicable to goods exported via courier through e-commerce platforms.

Benefits

- The scheme helps the country to comply with WTO norms, while providing benefits to exporters.
- By covering previously uncovered taxes/duties the scheme would lead to cost competitiveness of exported products in international markets.
- It would also create better employment opportunities in export oriented manufacturing industries.
- Moreover, the digital platform, helps clearance at a much faster rate and also increases the accuracy of transaction processing.

Investment Report 2021

- The United Nations Conference on Trade and Development (UNCTAD) recently released the World Investment Report 2021.
- The report supports policymakers by monitoring global and regional investment trends and national and international policy developments.



- This year's report also reviews investment in the Sustainable Development Goals (SDGs) and shows the influence of investment policies on public health and economic recovery from the pandemic.

Highlights Of The Report

India

- The report says that India is the **fifth largest recipient** of Foreign Direct Investment (**FDI**) **in the world**.
- In India, the FDI **increased 27% to USD 64 billion** (2020) from USD 51 billion (2019), due to the acquisitions in the Information and Communication Technology (ICT) industry.

Global

- The global FDI flows have been **severely hit by the pandemic** and they **plunged by 35%** in 2020 to USD 1 trillion.
- COVID-19 led lockdowns around the world **slowed down existing investment projects** and prospects of a recession led multinational enterprises (MNEs) to reassess new projects. **UNCTAD**

UNCTAD

- UNCTAD was established by United Nations General Assembly in 1964, as a permanent intergovernmental body.
- Headquartered in **Geneva**, UNCTAD reports to UN General Assembly and United Nations Economic and Social Council.
- The creation of UNCTAD was based on concerns of developing countries over the international market, multi-national corporations, and a great difference between developed nations and developing nations. It was established to provide a forum where the developing countries could discuss the problems relating to their economic development.
- The primary objective of UNCTAD is to formulate policies relating to all aspects of development including trade, aid, transport, finance and technology.

Other Service Providers

Economy

Why in the news?

- The Union Minister for Electronics & Information Technology has further liberalized the guidelines for Other Service Providers (OSPs).

What are OSPs?

- These entities are business process outsourcing (BPO) organizations giving Voice based services, in India and abroad.
- The term Business Process Outsourcing or BPO as it is popularly known, refers to outsourcing in all fields.
- A BPO service provider usually administers, manages a particular business process for another company.
- BPOs either use new technology or apply an existing technology in a new way to improve a particular business process.
- India is currently the number one destination for business process outsourcing, as most companies in the US and UK outsource IT-related business processes to Indian service providers.

New Guidelines

- Distinction between Domestic and International OSPs has been removed. A BPO centre with common Telecom resources will now be able to serve customers located worldwide including in India.
- EPABX (Electronic Private Automatic Branch Exchange) of the OSP can be located anywhere in the world. OSPs apart from utilising EPABX services of the Telecom Service Providers can also locate their EPABX at third Party Data Centres in India.
- With the removal of the distinction between Domestic and International OSP centres, the interconnectivity between all types of OSP centres is now permitted.
- Remote Agents of OSP can now connect directly with the Centralised EPABX/ EPABX of the OSP/ EPABX of the customer using any technology including Broadband over wireline/ wireless.

- No restriction for data interconnectivity between any OSP centres of same company or group company or any unrelated company.

Impact

- The new guidelines will provide greater ease of business, regulatory clarity and help to increase the scale and speed of operations.
- It would lead to major cost savings and significantly improve resource utilisation for OSPs, permitting them increased operational flexibility.
- The reforms would position India as a strong global destination for OSPs, which will increase the flow of Foreign Direct Investment in the country.

EPABX

- **EPABX is a private telephone network** used by the organizations and the companies for various types of communication, either between the employees or with the clients.
- The main advantage of EPABX for large organizations is **cost reduction**. As employees share resources for external calls, a single line can work for the entire organization.
- Furthermore, the EPABX system is **completely programmable**. Hence, companies can modify the setup as per their needs.
- Also, the system is **expandable** and can occupy new employees very easily. Therefore, growing companies can keep the same setup without any issues.

Hallmarking

Economy

Why in the news?

- The Ministry of Consumer Affairs, Food and Public Distribution recently announced the phased implementation of mandatory hallmarking of gold jewellery with effect from June.
- In the first phase, gold hallmarking will be available in only in **256 districts** and **jewellers having annual turnover above Rs 40 lakh** will come under its purview.

What is Hallmarking Of Gold?

- The **Bureau of Indian Standard (BIS)**, which operates gold and silver hallmarking scheme in India, defines hallmarking as the "accurate determination and official recording of the proportionate content of precious metal in precious metal articles." So, it is a "guarantee of purity or fineness" of precious metal articles.
- **Metals Covered Under hallmarking:** The government, through a notification issued on June 14, 2018, notified two categories—gold jewellery and gold artefacts; and silver jewellery and silver artefacts—under the purview of hallmarking. So, hallmarking in India is available for jewellery of only two metals—gold and silver.
- **Exemptions**
 - According to the Department of Consumer Affairs, Export and re-import of jewellery as per Trade Policy of Government of India — **Jewellery for international exhibitions, jewellery for government-approved B2B domestic exhibitions** will be exempted from mandatory Hallmarking.
 - **Watches, fountain pens and special types of jewellery** such as Kundan, Polki and Jadau will be also exempted from hallmarking.
- **Purity Standards:** As per BIS standards, there are **three categories** of hallmarking based on purity of gold—**22 carat, 18 carat and 14 carat**. However, the Ministry on 15 June announced that Gold of **Additional carats 20, 23 and 24** will also be allowed for Hallmarking. Also, jewellers can continue to buy back old gold jewellery without a hallmark from consumers.
- **Penalty:** No penalty will be imposed on jewellers for non-compliance with the hallmarking norm till Aug'21.

Need Of Making Hallmarking Mandatory

- The hallmarking of jewellery/artefacts is required to enhance the credibility of gold jewellery and customer satisfaction through third party assurance.
- **India is the biggest consumer of gold.** However, the level of hallmarked jewellery is very low in the country. According to the Ministry, at present, only 30% of Indian gold jewellery is hallmarked.



- One of the reasons responsible for low level is **non-availability of sufficient assaying and hallmarking centres (A&HC)**. There are about only 35,879 jewellers across the country, who are certified by BIS. The number of A&HC is 945.
- The govt had announced mandatory hallmarking of gold several years back. However, it could not implement the same and kept postponing the dates. In Nov' 2019, the government had announced the mandatory hallmarking of gold jewellery and artefacts across the country from January 15, 2021.
- However, later it extended the date of implementation to June 1, 2021, granting more time to jewellers to register themselves with the BIS in the wake of Covid-19 outbreak. In May this year, it extended the deadline by a fortnight.

Impact

- The current move will help to establish accountability in the sector, and will help consumers ensure the quality of gold jewellery they are buying.
- The new rules will not hurt the end consumer as the government has allowed jewellers to buy back old gold jewellery without hallmarks from the consumer.
- Jewellery that conforms to the benchmark will enjoy a premium, which will push households to exchange their older jewellery for new, hallmarked jewellery. This can potentially help to monetise around USD 1.5 trillion of gold and jewellery.
- Majority of the country's gold jewellery retailing market is unorganized and not led by large chains. Mandatory hallmarking will standardise the purity of gold jewellery and make the industry more structured as well as further shift the business from the unorganised to the organised segment.
- Hallmarking may potentially lead to better GST compliance in the medium term, as the practice followed by some informal players of selling without bill will be difficult in the future.

Horticulture Cluster Development Programme

Economy

Why in the news?

- The Ministry of Agriculture and Farmers' Welfare recently launched the Horticulture Cluster Development Programme (CDP), in order to promote the **export of horticultural produce**.
- In the pilot phase, the programme will be implemented in 12 horticulture clusters out of the total 53 clusters selected for the programme. Based on the learnings from the pilot project, the programme will be scaled up to cover all the identified clusters.

Horticulture Cluster Development Programme (CDP)

- In a **pilot** phase, the programme will be implemented in **12 horticulture clusters out of the total 53 clusters** selected for the programme.
- A **central sector programme** implemented by the **National Horticulture Board (NHB)** of the Ministry of Agriculture and Farmers' Welfare, CDP aims at **growing and developing identified horticulture clusters** to make them globally competitive.
- The programme will address all major issues related to the Indian horticulture sector including pre-production, production, post-harvest management, logistics, marketing and branding.
- The programme is designed to **leverage geographical specialisation and promote integrated and market-led development** of horticulture clusters.
- Ministry of Agriculture and Farmers' Welfare (MoA&FW) has identified **53 horticulture clusters**, of which 12 have been selected for the pilot launch of the programme.
- CDP will benefit about 10 lakh farmers and related stakeholders of the value chain.
- With this programme, we aim to improve exports of the targeted crops by approx. 20% and create cluster-specific brands to enhance the competitiveness of cluster crops.
- The clusters of the pilot phase include Shopian (J&K) and Kinnaur (H.P.) for Apple, Lucknow (U.P.), Kutch (Gujarat) and Mahbubnagar (Telangana) for Mango, Anantpur (A.P.) and Theni (T.N.) for Banana, Nasik (Maharashtra) for Grapes, Siphahijala (Tripura) for Pineapple, Solapur (Maharashtra) and Chitradurga (Karnataka) for Pomegranate and West Jaintia Hills (Meghalaya) for Turmeric.
- These clusters will be implemented through Cluster Development Agencies (CDAs) which are appointed on the recommendations of the respective State/UT Government.

- The programme is expected to **converge with other initiatives of the Government such as the Agriculture Infrastructure Fund** which is a medium - long term financing facility for investment in projects for post-harvest management infrastructure and community farming assets and will **leverage** the central sector scheme of the Ministry for Formation and Promotion of 10,000 **Farmers Producer Organisations (FPOs)**.

Benefits

- CDP is expected to attract an estimated investment of Rs 10,000 crore when implemented in all the 53 clusters. This will benefit about 10 lakh farmers and related stakeholders of the value chain.
- It is expected to improve exports of the targeted crops by approximately 20% and create cluster- specific brands to enhance the competitiveness of cluster crops.
- It also has the potential to transform the entire horticulture ecosystem, improving its global competitiveness by building last-mile connectivity.
- The programme framework will ensure engagement of state governments through CDAs, and institutionalization of learnings for future replication and scaling up of the programme in other clusters.

National Horticulture Board

- National Horticulture Board (NHB) was set up in 1984, as an autonomous organization under the administrative control of Ministry of Agriculture and Farmers Welfare.
- Its main objectives are to improve integrated development of horticulture industry and to help in coordinating, sustaining the production and processing of fruits and vegetables.

International Labour Organization (ILO)

Economy

- The International Labour Organisation (ILO) has released the annual World Employment and Social Outlook: Trends 2021 (WESO) report.

About the World Employment and Social Outlook report:

- The report analyses** key labour market issues including unemployment, labour underutilisation, working poverty, income inequality, labour income share and factors that exclude people from decent work.
- It highlights how the COVID-19 crisis had worsened pre-existing inequalities by hitting vulnerable workers harder.
- Key Findings of the World Employment and Social Outlook report
- COVID-induced job loss:** Covid-19 induced jobs loss will reach 75 million in 2021, before falling to 23 million in 2022. **Further, people who have held** onto their jobs have seen their working hours cut dramatically.
- Global Unemployment:** Unemployment is expected to stand at 205 million people in 2022. This far greater than the 187 million in 2019. This corresponds to an unemployment rate of 5.7%.
- Poor quality of jobs:** The quality of newly created jobs would likely deteriorate in developing and emerging economies.
- Increase in Poverty:** Compared to 2019, an additional 108 million workers worldwide are now categorized as poor or extremely poor. *This means they and their families live on the equivalent of less than US\$3.20 per person per day.*
- Women:** Covid-19 crisis has hit women disproportionately. They have lost jobs at a greater rate than men. Moreover, additional domestic responsibilities for women from crisis lockdowns have created the risk of a "re-traditionalization" of gender roles.
- Child Labour:** The crisis has also appeared to reverse the decade of progress in battling child labour and forced labour.

About International Labour Organization (ILO)

- The ILO is a **specialized agency** of the United Nations (UN) 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** which brings 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)
- It was established in 1919 under the League of Nation, as part of the **Treaty of Versailles**.
- **Key Reports Published by ILO** - World Employment and Social Outlook; Global Wage Report
- The ILO had received **Nobel Peace Prize in 1969**, for improving fraternity and peace among nations, pursuing decent work and justice for workers, providing technical assistance to other developing nations.

Positive Indigenisation List

Economy

Why in the news?

- The Ministry of Defence (MoD) approved the **Department of Military Affairs'** proposal to notify the 'second positive indigenisation list' of 108 items.

About the list

- The list is also called **Second defence negative import list**.
- A negative import list is a boost for domestic industries as it **details all the military equipment that the government won't import in the future**.
- The list includes **complex systems, sensors, simulators, weapons and ammunition like helicopters, next generation corvettes, air-borne early warning and control systems, tank engines, medium power radar** for mountains etc..
- The second list is expected to be **implemented from December 2021 to December 2025**.
- All the **108 items will now be procured from indigenous sources** as per provisions given in **Defence Acquisition Procedure (DAP) 2020**.
- The move helps in fulfilling the **twin objectives of achieving self-reliance and promoting defence exports**.
- It lays **special focus on weapons systems which are currently under development/trials** and likely to translate into firm orders in the future.
- In **August 2020**, the '**first positive Indigenisation' list** comprising **101 items** was notified.
- It gives the defence industry, opportunity to build robust R&D facilities, capacities and capabilities to meet the futuristic requirements of the Armed Forces.

Potential Benefits:

- It will give a boost to indigenisation with active participation of public and private sector for fulfilling the twin objectives of achieving self-reliance (Atmanirbhar Bharat) and promoting defence exports.
- Import substitution of ammunition which is a recurring requirement has been given special focus.
- Not only does the list recognise the potential of the local defence industry, it will also invigorate impetus to domestic Research & Development by attracting fresh investment into technology & manufacturing capabilities.
- It also provides an excellent opportunity for 'start-ups', as Micro, Small, and Medium Enterprises (MSMEs) will get a tremendous boost from this initiative.

Items Included:

- It comprises complex systems, sensors, simulator, weapons and
- ammunitions like Helicopters, Next Generation Corvettes, Airborne Early Warning and Control (AEW&C) systems, Tank Engines, Medium Power Radar for Mountains, MRSAM (Medium Range Surface to Air Missile) Weapon Systems and many more such items to fulfil the requirements of Indian Armed Forces.

Defence Acquisition Procedure (DAP) 2020

- The Defence Acquisition Procedure, 2020 came into effect from October 2020 by replacing the Defence Procurement Procedure (DPP).
- DAP, 2020 seeks to **empower the domestic defence industry** through the Make in India initiative with the eventual aim of turning India into a global manufacturing hub.

- DAP has provisions to **encourage FDI** to establish manufacturing hubs both for import substitution and exports, while protecting interests of Indian domestic industry.
- DAP also places greater emphasis on **time-bound defence procurement processes** through the setting up of a project management unit and framing of realistic and verifiable GSQRs (General Staff Qualitative Requirements).
- It also aims to improve **ease of doing business**, with emphasis on simplification, delegation and making the process industry friendly.

Nano Urea Liquid

Economy

Why is in the news?

- Recently, the **Indian Farmers Fertiliser Cooperative Limited (IFFCO)** has launched **Nano Urea Liquid**.

Need for Nano Liquid Urea

- India is **dependent on imports** to meet its urea requirements.
- During 2019-20, the **production of urea was only 244.55 LMT** as against the **consumption volume of 336 lakh metric tonnes** leaving a gap of over 91 LMT.
 - India **imported 91.99 LMT urea fertiliser** in 2019-20 to fill this gap.
- The excess urea causes **environmental pollution, harms soil health**, and makes plants more **susceptible to disease and insect infestation**.

About Nano Urea Liquid

- It is a **nutrient to provide nitrogen to plants** as an alternative to the conventional urea.
- It is the **world's first nano liquid urea**.
- It is developed to **replace conventional urea** and it can curtail the **requirement of the same by at least 50%**.
- It contains **40,000 ppm of nitrogen in a 500 ml bottle** which is equivalent to the impact of nitrogen nutrient provided by one bag of conventional urea.
- The **conventional urea is effective 30-40 per cent** in delivering nitrogen to plants, while the **effectiveness of the Nano Urea Liquid is over 80 per cent**.
- It will have a huge positive impact on the **quality of underground water, very significant reduction in the global warming** with an impact on climate change and **sustainable development**.

Indian Farmers Fertiliser Cooperative Limited

- It is one of India's biggest cooperative societies which is **wholly owned by Indian Cooperatives**.
- Background: Founded in **1967** with just 57 cooperatives, today it is an **amalgamation of over 36,000 Indian Cooperatives** with diversified business interests ranging from General Insurance to Rural Telecom apart from its core business of manufacturing and selling fertilisers.
- Objective: To enable Indian farmers to **prosper through timely supply of reliable, high quality agricultural inputs and services** in an environmentally sustainable manner and to undertake other activities to improve their welfare.

Corporatisation of OFB

Economy

Why is in the news?

- Cabinet approved a plan to corporatise the Ordnance Factory Board (OFB), which has 41 factories, into **7 fully government owned corporate entities on the lines of Defence Public Sector Undertakings**.
- Once implemented, the OFB, the establishment of which was accepted by the British in 1775, will cease to exist.

Impact of this decision

- It is a major decision in terms of national security and also make the country self-sufficient in defence manufacturing.
- This move would allow these companies autonomy as well as help improve accountability and efficiency.
- This restructuring is aimed at transforming the ordnance factories into productive and profitable assets,



deepening specialisation in the product range, enhancing competitiveness, improving quality and achieving cost efficiency.

- All employees of the OFB (Group A, B and C) belonging to the production units would be transferred to the corporate entities on deemed deputation initially for a period of two years without altering their service conditions as Central government employees.
- The pension liabilities of the retirees and existing employees would continue to be borne by the government.

Employee Concerns

- The factories controlled by the board employ around 81,000 people who have gone on strike since the changes were announced.
- However, the government has assured that there would be no change in the service conditions of the OFB employees and the government was committed to safeguarding their interests.
- All OFB employees (Group A, B and C) from different production units will be transferred to the corporate entities on deemed deputation for an initial period of two years without changing their service conditions as government employees.
- Moreover, the pension liabilities of the retirees and existing employees will continue to be borne by the government.

Impact Of The Change

- The OFB currently comes under the administrative control of the Department of Defence Production in the Defence Ministry. The corporatisation of OFB will give the organisation autonomy and take it out of the direct control of the Department of Defence Production.
- The new structure will help overcome various shortcomings in the existing OFB set-up by eliminating inefficient supply chains and provide these companies incentive to become competitive.
- It will transform the ordnance factories into productive and profitable assets, deepen product specialisation, boost performance and improve quality, cost efficiency and accountability.
- It will also help to increase OFB's share in the domestic market through better capacity utilisation and also help to tap new export opportunities.

About Corporatization

- Corporatization refers to the restructuring or transformation of a state-owned asset or organization into a corporation. These organizations typically have a board of directors, management, and shareholders.
- However, unlike publicly traded companies, the government is the company's only shareholder, and the shares in the company are not publicly traded.
- The main goal of corporatization is to allow the government to retain ownership of the company while allowing the company to run as efficiently as its private counterparts. Government departments are often inefficient due to internal bureaucratic conventions.
- Additionally, the government may consider that joining the private sector might improve a company's performance. If this is the case, the government might conduct an offering on the stock market to divest the organization.

Evolution of Disinvestment Policy in India

- The liberalization reforms undertaken in 1991 ushered in an increased demand for privatization/disinvestment of PSUs.
- In the initial phase, this was done through the sale of a minority stake in bundles through auction. This was followed by a separate sale for each company in the following years, a method popularly adopted till 1999-2000.
- India adopted strategic sale as a policy measure in 1999-2000 with the sale of a substantial portion of government shareholding in identified Central PSEs (CPSEs) up to 50% or more, along with transfer of management control. This was started with the sale of 74 % of the Government's equity in Modern Food Industries Limited (MFIL).
- Thereafter, 12 PSUs (including four subsidiaries of PSUs), and 17 hotels of Indian Tourism Development Corporation (ITDC) were sold to private investors along with transfer of management control by the Government.



- Another major shift in disinvestment policy was made in 2004-05 when it was decided that the government may "dilute its equity and raise resources to meet the social needs of the people", a distinct departure from strategic sales.
- Department of Investment and Public Asset Management (DIPAM) has laid down comprehensive guidelines on "Capital Restructuring of CPSEs" in May 2016 by addressing various aspects, such as payment of dividends, buyback of shares, issues of bonus shares and splitting of shares.

Economic Relief Package

Economy

The Ministry of Finance recently announced various measures, amounting to Rs. 6,28,993 crore, to provide relief to diverse sectors affected by the 2nd wave of COVID pandemic.

Economic Relied From Pandemic

CONSUMER SPENDING

- Leave Travel Concession (LTC) Cash Voucher Scheme
 - It is the biggest incentive for employees to avail the LTC Cash Voucher Scheme.
 - Government has decided to give cash payment in lieu of one LTC during 2018-21.
- Special Festival Advance Scheme
 - A Special Festival Advance Scheme for **non-gazetted employees, as well as for gazetted employees** too, is being revived as a one-time measure to stimulate demand.
 - All Central Government employees can now get an interest-free advance of Rs. 10,000, to be spent by 31st March, 2021.

CAPITAL EXPENDITURE

- Special Assistance to the States
 - Central Government is issuing a **special interest-free 50-year loan to States of Rs. 12,000 crore** Capital Expenditure.
 - It can be used for **new or ongoing capital projects** needing funds and / or settling contractors'/ suppliers' bills on such projects.
- Enhanced Budget Provisions
 - Additional budget of Rs. 25,000 crore, in addition to Rs. 4.13 lakh crore given in Union Budget 2020, is being provided for **Capital Expenditure on roads, defence, water supply, urban development and domestically produced capital equipment.**
 - The government has decided to expand the Emergency Credit Line Guarantee Scheme (ECLGS), launched as part of Aatma Nirbhar Bharat Package in May, 2020, by Rs 1.5 lakh crore
- Loan Guarantee Scheme**
 - Under this new scheme, additional credit of Rs 1.1 lakh crore will flow to the businesses. This includes Rs 50,000 crore for health sector and Rs 60,000 crore for other sectors, including tourism.
 - The health sector component is aimed at up scaling medical infrastructure targeting underserved areas.
 - Maximum loan admissible under the scheme is Rs. 100 crore and guarantee duration is up to 3 years. Loans available under the scheme will be much cheaper compared to the normal interest rates.
- Credit Guarantee Scheme for Micro Finance Institutions**
 - It is a new scheme, which aims to benefit the smallest borrowers who are served by the network of Micro Finance Institutions (MFIs).
 - Guarantee will be provided to Scheduled Commercial Banks for loans to new or existing NBFC-MFIs or MFIs for on lending upto Rs 1.25 lakh to approximately 25 lakh small borrowers.
 - The scheme focuses on new lending, and not on repayment of old loans. Another feature of the scheme is that all borrowers (including defaulters upto 89 days) will be eligible.
- Strengthening Public Health**
 - Besides supporting the health sector through credit guarantee scheme, a new scheme for strengthening public health infrastructure and human resources with outlay of Rs. 23,220 crore was also announced.



- The new scheme will focus on short term emergency preparedness with special emphasis on children and paediatric care/paediatric beds.

IPO Grey Market

Economy

Why in News?

- Paytm's stock has risen from ₹11,500 to ₹21,000 in four days in the grey market.

About

- Generally, when companies **wish to raise funds** to fuel their growth, they **sell a part of their stock on the stock market**. This process is called an **initial public offering**, or IPO.
- But, an IPO grey market is an **unofficial market** where IPO shares or applications are bought and sold before they become available for trading on the stock market.
- It is also termed a **parallel market** or an **over-the-counter market**.

How is it governed?

- Since it's unofficial, inevitably, there are **no regulations** that govern it. The Securities and Exchange Board of India (SEBI), stock exchanges, and brokers have **no part to play in it**. These transactions are **undertaken in cash** on a **one-on-one basis**.

Kostak rate

- It relates to an IPO application. So, the **rate at which an investor buys an IPO application before the listing** is termed the Kostak rate.

Why do investors trade in the Grey Market?

- It's an **excellent opportunity for investors** to purchase a company's shares even **before they are listed**, especially if they feel that the company's stock will increase in value.
- If an **investor** has **missed the deadline for the IPO application** or wishes to buy more shares then they can **approach the IPO grey market**.

What is in it for the companies?

- For companies, the grey market is a great way to **know how the demand for their shares** is and how the company's shares might perform once it is listed.

Seed Minikit Programme

Economy

Why in the news?

- The Seed Minikit Programme was launched by Union Agriculture Minister by distributing Seed Minikits (higher yielding varieties of seeds) of Pulses and oilseeds to farmers.

About

- Launched by **Ministry of Agriculture**.
- Seed Minikit Programme aims to **distribute high yielding varieties of seeds** of pulses and oilseeds to farmers.
- The programme is **wholly funded by the Center** through the National Food Security Mission.
- The **seed mini-kits** are being provided by the following central agencies –
 - National Seeds Corporation (NCS)
 - NAFED
 - Gujarat State Seeds Corporation.

Significance

- This programme is a **major tool for introducing new varieties of seeds** in fields and instrumental in increasing the seed replacement rate.



- Seed Replacement Rate (SRR) is Out of the total area of a crop planted in a season, SRR is the **percentage of total area sown using certified/quality seeds** other than the farm-saved seed (the practice of saving seeds to plant in the next season).

G7 Corporate Tax Deal

Economy

Why in News?

- A group of the world's richest nations reached a landmark deal to close cross-border tax loopholes used by some of the world's biggest companies.

About tax deal

- The Group of Seven (G7) would support a minimum global corporation tax rate of **at least 15%**.
- They would put in place measures to **ensure taxes were paid in the countries where businesses operate**.

How will it work?

- Global minimum tax rate would **apply to Overseas profits**.
- Governments could **set whatever local corporate tax rate** they want, but if companies pay lower rates in a particular country, their home governments could top-up their taxes to the minimum rate, thus eliminating the advantage of shifting profits.
- The Organisation of Economic, Cooperation and Development (**OECD**) has also been **coordinating tax negotiations** on **rules for taxing cross-border Digital Services** and **curbing tax base erosion**, including a global corporate minimum tax.
- Also, countries would lose the device used to push policies that suit them once a global minimum rate is put in place.

Impact on India

- The decision is likely to **benefit India** as India has wanted to **keep corporate tax rate artificially lower** to **attract FDI** in comparison to tax havens or low taxation countries.

Beed Model

Economy

Why in News?

- Maharashtra government has asked for state-wide implementation of the 'Beed model' of the crop insurance scheme Pradhan Mantri Fasal Bima Yagna (PMFBY).

About Beed Model of Crop Insurance

- Under this model, the insurance company provides a **cover of 110% of the premium collected**.
- In case the compensation amount **exceeds the 110% mark**, the **state government would pay** the bridge amount.
- But if the compensation was **less than the premium collected**, the **insurance company** would **keep 20%** of the amount as handling charges and reimburse the rest to the state government.

Need for such a model

- Beed is a **drought-prone district** in Maharashtra. Farmers here have **repeatedly lost crops** either to failure of rains or too heavy rains.
- Due to this, insurance companies have **sustained losses** given high payouts. Moreover, the state government also had a difficult time getting bids for tenders to implement the scheme in Beed.
- Hence, the Maharashtra Government decided to **modify the crop insurance guidelines for the district**.

Effects on the state government

- In a normal season where farmers report minimal losses, the **state government is expected to get back money** that can form a corpus to fund the scheme for the following year.

- However, the state government would have to **bear the financial liability in case of losses** due to extreme weather events.

Pradhan Mantri Fasal Bhima Yojna

- Launched in **2016**, the flagship PMFBY **insures farm losses against inclement weather events**.
- It is a central scheme **implemented by state agriculture departments** as per central guidelines.
- Coverage of crops è It covers **food crops, oilseed crops, annual commercial/horticultural crops**.
- **Premium :**
The prescribed premium is
 - 2% for Kharif crops
 - 1.5% for Rabi crops
 - 5% for commercial and horticultural crops.
- Completely voluntary è The enrollment under the scheme is **100% voluntary for all farmers**. Earlier, the scheme was compulsory for loanee farmers.

Sub-Mission on Agricultural Mechanization

Economy

Why in the news?

- Recently, the Government of India has released funds for various activities of Farm Mechanization under the Sub- Mission on Agricultural Mechanization (SMAM) scheme.

About

- SMAM was launched in **2014-15** by the **Ministry of Agriculture and Farmers Welfare**.
- Under it, **subsidy** is provided for **purchase of various types of agricultural equipment and machinery** to the extent of 40-50% for States other than NER (North Eastern Region) States and for NER States it is 100% limited to Rs.1.25 lakhs per beneficiary.
- The agriculture ministry has also developed a **Multilingual Mobile App, 'CHC (Custom Hiring Centres)- Farm Machinery'** which connects farmers with Custom Hiring Service Centres situated in their locality.
- Aim: **Increasing the reach** of farm mechanization **to small and marginal farmers** and to the regions and difficult areas where farm power availability is low.

Objectives

- Promoting '**Custom Hiring Centres**' and '**Hi-tech Hubs of High-Value Machines**' to offset the adverse economies of scale arising due to small and fragmented landholding and high cost of individual ownership.
- **Creating awareness among** stakeholders through demonstration and capacity building activities.
- **Ensuring performance testing** and **certification** of agricultural machines at designated testing centres located all over the country.

Inland Vessels Bill

Economy

Why in the news?

- The Union Cabinet gave the nod to the Inland Vessels Bill, 2021.

About the bill

- Inland Vessels Bill, 2021 will **replace the Inland Vessels Act, 1917**.
- Draft Inland Vessels bill proposes to **streamline and regulate how vessels travel** in the inland water fields of India.

Key features of the Bill:

- It provides for a **unified law for the entire country**, instead of separate rules framed by the States.



- The **certificate of registration granted** under the proposed law will be deemed to be **valid in all States and Union Territories**, and there will be no need to seek separate permissions from the States.
- The Bill provides for a **central data base** for recording the details of vessel, vessel registration, crew on an electronic portal.
- It requires all mechanically propelled vessels to be **mandatorily registered**. All non-mechanically propelled vessels will also have to be **enrolled at district, taluk or panchayat or village level**.

Inland Water Transport (IWT) in India:

- India has about **14,500 km of navigable waterways** which comprise of rivers, canals, backwaters, creeks, etc.
- IWT is a **fuel-efficient** and **environment-friendly mode**.
- As per the National Waterways Act 2016, **111 waterways** have been declared **as National Waterways** (NWs).
- The Inland Waterways Authority of India (**IWAI**) is **implementing the Jal Marg Vikas Project (JMVP)** at an estimated **cost of ₹5369.18 crores** for capacity augmentation of navigation on the Haldia-Varanasi stretch of Ganga (part of NW-1) with the technical & financial assistance of the World Bank.

Integrated Power Development Scheme

Economy

Why in News?

- A 50 kWp Solar roof top was recently inaugurated in Solan, Himachal Pradesh under the Integrated power development scheme of the Ministry of Power, Government of India.

About the scheme

- Launched in **2014** by **Ministry of Power**.
- **Power Finance Corporation** (PFC) is the Nodal agency for implementation of the scheme.

Objectives

- **Strengthening of sub-transmission** and distribution network in the urban areas.
- **Metering of distribution transformers / feeders** / consumers in the urban areas.
- **IT enablement** of distribution sector and strengthening of distribution network under R-APDRP.

Significance of the scheme

- The scheme will help in **reduction in AT&C losses**; establishment of **IT enabled energy accounting / auditing system**, improvement in billed energy based on metered consumption and improvement in collection efficiency.

- **Restructured Accelerated Power Development and Reforms Programme (R-APDRP)**
- Launched in **July 2008**.
- Focus on **establishment of base line data, fixation of accountability, reduction of AT&C losses upto 15%** level through strengthening & up-gradation of Sub Transmission and Distribution network and adoption of Information Technology during XI Plan.
- **Power Finance Corporation Ltd. (PFC)**
- It is an Indian financial institution established in **1986** under the **ownership of Ministry of Power**.
- It is a **Schedule-A Navratna** Central Public Sector Enterprise (**CPSE**).
- It is a leading **Non-Banking Financial Corporation** in India.
- It was classified as an **Infrastructure Finance Company** by the RBI in **2010**.

Why in News?

- Recently, the National Internet Exchange of India (NIXI) had celebrated its 18th Foundation Day.

About

- It is a **not-for-profit Organization** under section 8 of the Companies Act 2013.
- It is under Ministry of Electronics & Information Technology (**MeitY**).
- It was set up for **peering of ISPs among themselves** for the purpose of routing the domestic traffic within the country.
- It is working **since 2003** for spreading the internet technology to the citizens of India through the following activities è
- Internet Exchanges** through which the internet data is exchanged amongst ISPs and between ISPs and CDNs
- IN Registry**, managing and operation of IN country code domain and भारत IDN domain for India
- IRINN**, managing and operating Internet protocol (IPv4/IPv6).

Objectives

- To **Promote Internet**
- To set up, when needed, in **select location(s)/parts/regions of India** Internet Exchanges/Peering Points
- To enable **effective and efficient routing, peering, transit** and **exchange** of the Internet traffic within India.

Indian Registry for Internet Names and Numbers (IRINN)

- It provides **allocation and registration services** of **IP addresses and AS numbers**.
- It contributes to the society by **providing Internet-related information** as a non-profit, affiliation-based organisation, and performing research, education and enlightenment activities.

Why in News?

- The Department of Investment and Public Asset Management has finalised the structure of the Land Bank Company that will be tasked with selling land parcels owned by government departments and public sector companies.

About Land bank

- Land bank is a **governmental entity or non-profit corporation** that helps **manage and dispose of vacant properties**, vacant land, or tax-delinquent properties so that vacant property can be redeveloped for a more productive use.
- State governments began to **"bank" land in the 1990s**, particularly in the post-liberalisation period.
- Till 2017, most Indian states either already had a sizeable land banks or were in the process of creating them.
- NITI Aayog's strategy for New India @ 75 suggested to adopt the system of using Geographic Information System
- (GIS) based maps at all levels to create preapproved land banks for manufacturing facilities.

Steps towards Land Bank

- In August 2020, **National GIS-enabled Land Bank system** was launched by integration of **Industrial Information System (IIS)** with GIS Systems of six states in first phase. In the second phase, eight more states joined.

- At present, India Industrial Land Bank (IIS) portal, a **GIS-enabled database of industrial areas**/clusters across the country covers more than 3,350 parks/clusters covering about 475,000-hectare land across 31 States/UTs.
- IIS aims to provide the following:
 - Information on available land for prospective investors.
 - GIS mapping of industrial clusters
 - Links to state GIS portals and state land banks.
 - Information about the existing external and internal infrastructure such as rail, road, connectivity.

Silverline Project

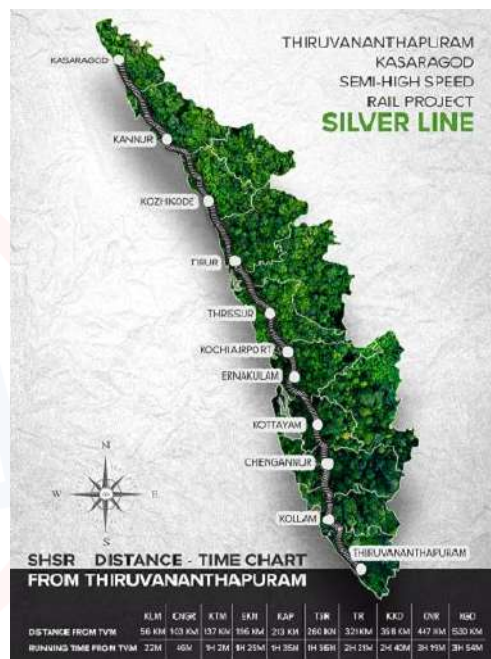
Economy

Why in the news?

- Recently, Kerala government gave the green light to begin acquiring land for Silverline project

About Silverline project

- It is a semi high-speed railway project aimed at reducing travel time between the state's northern(Kasaragod) and southern ends(Thiruvananthapuram).
- Project Cost: Rs 63,940 crore
- The line is proposed to be 529.45 kms long, covering 11 districts through 11 stations.
- Once completed, one can travel from Kasaragod to Thiruvananthapuram in less than four hours on trains travelling at 200 km/hr.
- The current travel time on the existing Indian Railways network is 12 hours.
- The deadline for the project, being executed by the Kerala Rail Development Corporation Limited (KRDCL), is 2025.
- KRDCL, or K-Rail, is a joint venture between the Kerala government and the Union Ministry of Railways.



Other key features of the project

- The project will have trains of electric multiple unit (EMU) type with preferably nine cars and extendable to 12 cars each.
- A nine-car rake can seat a maximum of 675 passengers in business and standard class settings.
- The trains can run at a maximum speed of 220 kmph on standard gauge track, completing journeys in either direction in under four hours.
- Every 500 metres of the corridor, there will be under passages with provision of service roads.
- Cities covered under this rail line are Thiruvananthapuram(elevated station), Kollam, Chengannur, Kottayam, Ernakulam (Kakkanad)(elevated), Cochin Airport, Thrissur(elevated), Tirur, Kozhikode(underground station), Kannur and Kasaragod.

Need for the project

- The existing railway infrastructure in the state cannot meet the demands of the future.
- Most trains run with an average speed of 45 km/hr due to a lot of curves and bends on the existing stretch.
- The government claims the SilverLine project is the need of the hour as it can take a significant load of traffic off the existing railway stretch and make travel easier and faster for commuters

Opposition to the project

- Experts have called the project a 'white elephant' amid an array of concerns raised over i
- Environmentalists claim that it would impact the Western Ghats heavily because the project requires huge amounts of granite and loose soil.
- The project has received flak over apprehensions that it would destroy many paddy fields in the state



Significance of the project

- The proposed railway line will reduce greenhouse gas emissions, help in expansion of Ro-Ro services, produce employment opportunities, integrate airports and IT corridors and faster development of cities it passes through.

SEBI Tightens Norms related to Independent Directors

Economy

What is the News?

- Securities Exchange Board of India (SEBI) has approved various amendments to rules governing the appointment, re-appointment, and removal of Independent Directors.

Who are Independent Directors?

- **An independent Director** is a director on a board of directors representing minority shareholders. He/she does not have a pecuniary relationship with the company or related persons, except for sitting fees.
- **Their role** is to take an unambiguously and independently stand to have a check and balance on the majority shareholders. It reduces exposure of the company to unwarranted risks.
- **As per the Companies Act, 2013** all listed public companies need to have at least one-third of the total Directors to be independent.

Amendments approved by SEBI for Independent Directors:

- **Appointment of Independent Directors (IDs)**
 - **The appointment**, re-appointment, and removal of independent directors shall be through a special resolution. It will now require 75% votes in support instead of 51%. This will be applicable to all listed entities.
 - **The nomination and remuneration committee (NRC)** will be required to have two-third Independent Directors (IDs) instead of the existing requirement of a majority. NRC selects candidates for appointment as independent directors
 - **Further**, the NRC will have to disclose and justify the skill-sets while selecting a candidate as an independent director.
 - **The key managerial personnel and their relatives** or employees of the promoter group will have to observe
 - a three-year cooling-off period before they get appointed as an independent director.
- **Resignation of Independent Directors:**
 - **In case an independent director resigns**, the company must disclose the entire resignation letter along with a list of her/his present directorships and membership in board committees.
 - **Moreover**, a cooling-off period of one year has been introduced for an independent director transitioning to a whole-time director in the same company or subsidiary company or any company belonging to the promoter group.
 - **"Fast Tracking Freight in India" Report:** NITI Aayog and Rocky Mountain Institute (RMI) has released a report titled "Fast Tracking Freight in India: A Roadmap for Clean and Cost-Effective Goods Transport".

Record FDI Inflows

- **Syllabus** - Indian Economy and issues relating to planning, mobilization, of resources, growth, development and employment.

In news

- India has attracted **highest ever total FDI inflow of U.S.\$81.72 billion** during the financial year 2020-21 and it is 10 percent higher as compared to the last financial year 2019-20.
- The Rajya Sabha has passed the **Insurance (Amendment) Bill, 2021**. The Bill seeks to raise the FDI in the insurance sector to 74% from the current 49%.

Introduction

- **About - Foreign direct investment (FDI)** is when a **company takes control of ownership in a business entity in another country**. With FDI, foreign companies are directly involved with day-to-



day operations in the other country. This means they aren't just bringing money with them, but also knowledge, skills and technology.

- Generally, FDI takes place when an investor **establishes foreign business operations or acquires foreign business assets**, including establishing ownership or controlling interest in a foreign company.

• **FDI in India**

- FDI is an important **monetary source for India's economic development**. Economic liberalisation started in India in the wake of the 1991 crisis and since then, FDI has steadily increased in the country. India, today is a part of top **100-club on Ease of Doing Business (EoDB)** and **globally ranks number 1 in the greenfield FDI ranking**.

Routes through which India gets FDI

- **Automatic route** - The non-resident or Indian company does not require prior nod of the RBI or government of India for FDI.
 - Sectors which come under the '100% Automatic Route' category are Agriculture & Animal Husbandry, Air-Transport Services (non-scheduled and other services under civil aviation sector), Airports (Greenfield + Brownfield), Asset Reconstruction Companies, Auto-components, Automobiles, Biotechnology (Greenfield), Broadcast Content Services (Up-linking & down-linking of TV channels, Broadcasting Carriage Services, Capital Goods, Cash & Carry Wholesale Trading (including sourcing from MSEs), Chemicals, Coal & Lignite, Construction Development, Construction of Hospitals, Credit Information Companies, Duty Free Shops, E-commerce Activities, Electronic Systems, Food Processing, Gems & Jewellery, Healthcare, Industrial Parks, IT & BPM, Leather, Manufacturing, Mining & Exploration of metals & non-metal ores, Other Financial Services, Services under Civil Aviation Services such as Maintenance & Repair Organizations, Petroleum & Natural gas, Pharmaceuticals, Plantation sector, Ports & Shipping, Railway Infrastructure, Renewable Energy, Roads & Highways, Single Brand Retail Trading, Textiles & Garments, Thermal Power, Tourism & Hospitality and White Label ATM Operations.
- **Govt 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. The application is then forwarded to the respective ministry, which will approve/reject the application in consultation with the **Department for Promotion of Industry and Internal Trade (DPIIT), Ministry of Commerce**. DPIIT will issue the Standard Operating Procedure (SOP) for processing of applications under the existing FDI policy.

FDI prohibition

- There are a few industries where FDI is strictly prohibited under any route. These industries are
 - Atomic Energy Generation
 - Any Gambling or Betting businesses
 - 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, Pisciculture, animal husbandry, etc)
 - Housing and Real Estate (except townships, commercial projects, etc)
 - Trading in TDR's
 - Cigars, Cigarettes, or any related tobacco industry

Trends in India's Foreign Direct Investment

- India has attracted **highest ever total FDI inflow of US\$ 81.72 billion** during the financial year 2020-21 and it is 10% higher as compared to the last financial year 2019-20 (US\$ 74.39 billion).
- **FDI equity inflow grew by 19% in the F.Y. 2020-21** (US\$ 59.64 billion) compared to the previous year F.Y. 2019-20 (US\$ 49.98 billion).
- In terms of **top investor countries**, **'Singapore' is at the apex with 29%**, followed by the U.S.A (23%) and Mauritius (9%) for the F.Y. 2020-21.
- **'Computer Software & Hardware' has emerged as the top sector during F.Y. 2020-21 with around 44%** share of the total FDI Equity inflow followed by Construction (Infrastructure) Activities (13%) and Services Sector (8%) respectively.

- **Gujarat is the top recipient state during the F.Y. 2020-21 with 37%** share of the total FDI Equity inflows followed by Maharashtra (27%) and Karnataka (13%).
- Majority of the equity inflow of Gujarat has been reported in the sectors 'Computer Software & Hardware' (94%) and 'Construction (Infrastructure) Activities' (2%) during the F.Y. 2020-21.
- The major sectors, namely **Construction (Infrastructure) Activities, Computer Software & Hardware, Rubber Goods, Retail Trading, Drugs & Pharmaceuticals and Electrical Equipment** have **recorded more than 100% jump in equity** during the F.Y. 2020-21 as compared to the previous year.
- Out of top 10 countries, **Saudi Arabia is the top investor in terms of percentage increase during F.Y. 2020- 21**. It invested US\$ 2816.08 million in comparison to US\$ 89.93 million reported in the previous financial year.
- 227% and 44% increase recorded in FDI equity inflow from the USA & the UK respectively, during the F.Y. 2020-21 compared to F.Y.2019-20.

Indian Certification of Medical Devices (ICMED) Plus Scheme

Economy

- The Quality Council of India (QCI) launched the Indian Certification of Medical Devices (ICMED) Plus Scheme recently

About ICMED scheme

- **QCI** and the **Association of Indian Medical Device Industry(AiMeD)** have added further features to the ICMED, the Scheme that had been launched for Certification of Medical Devices in 2016.
- The ICMED 13485 PLUS, as the new scheme has been christened, **will undertake verification of the quality, safety and efficacy of medical devices**.
- ICMED Plus has been **designed to integrate the Quality Management System components** and product related quality validation processes through **witness testing of products** with reference to the defined product standards and specifications.
- This is the first scheme around the world in which quality management systems along with product certification standards are integrated with regulatory requirements.
- This scheme will be **an end to end quality assurance scheme** for the medical devices sector in India.
- This scheme **provides the much-needed institutional mechanism** for assuring the product quality and safety.
- It will go a long way in assisting the procurement agencies to **tackle the challenges relating to the menace of counterfeit products and fake certification**.
- This will also help in **eliminating the circulation and use of sub-standard medical products** or devices of doubtful origin that could prove to be serious health hazards.

Association of Indian Medical Device Industry(AiMeD)

- AiMeD is an Umbrella Association of Indian Manufacturers of Medical Devices covering all types of Medical Devices including Consumables, Disposables, Equipments, Instruments, Electronics, Diagnostics and Implants.
- The aim behind forming AiMeD is to allow the Indian Government to access a single point of contact and provide various services to the manufacturers like Advocacy on policy issues, Information services, Regulations for Medical Devices etc.
- AiMeD ensures convergence at a one common platform, when needed, for ensuring overall growth of Indian Medical Devices Industry and further address the needs of all members of the Medical Device Industry irrespective of their affiliation or their company size.

EU's Generalised Scheme of Preferences

Economy

Why in the news?

- A resolution has been adopted by the European Parliament, urging the EU Commission to consider temporary withdrawal of the **GSP+ status given to Sri Lanka**.

Key updates-

- Sri Lanka regained the **EU's 'Generalised Scheme of Preferences' in 2017** on its commitment to implement 27 international conventions on human rights, labour conditions, protection of the environment and good governance.
- The status effectively **removes import duties on goods from Sri Lanka entering the EU.**
- EU parliament on June 10 adopted a resolution expressing deep concern over Sri Lanka's alarming path towards the recurrence of grave human rights violations, mainly in reference to the use of the Prevention of Terrorism Act (PTA).
- The resolution highlighted the **"accelerating militarisation" of civilian government functions in Sri Lanka.**
- The resolution came ahead of a periodic review of the 'GSP +' concessions accorded to the country.

Generalized Scheme of Preferences (GSP)-

- It is a preferential tariff system extended by developed countries to developing countries which allows zero tariff imports from developing countries.
- The primary objective of GSP is to give development support to poor countries by promoting exports from them into the developed countries.
- The GSP of the US provides preferential duty-free entry for up to 4,800 products from 129 designated countries.
- According to World Bank data, India is currently the largest beneficiary of the GSP programme.

Legal Basis

- "Decision on Differential and More Favourable Treatment, Reciprocity and Fuller Participation of Developing Countries", was adopted under GATT in 1979 and it enables developed members to give differential and more favourable treatment to developing countries.
- This Enabling Clause is the WTO legal basis for the Generalized System of Preferences (GSP).
- Under the GSP, developed countries offer non-reciprocal preferential treatment (such as zero or low duties on imports) to products originating in developing countries.
- Preference-giving countries unilaterally determine which countries and which products are included in their schemes.

What is GSP then?

- Under the Generalized System of Preferences, developed countries offer non-reciprocal preferential treatment (such as zero or low duties on imports) to products originating in developing countries.
- Preference-giving countries unilaterally determine which countries and which products are included in their schemes.
- The Enabling Clause is the WTO legal basis for the Generalized System of Preferences (GSP).
- The Enabling Clause officially called the "Decision on Differential and More Favourable Treatment, Reciprocity and Fuller Participation of Developing Countries", was adopted under GATT in 1979 and enables developed members to give differential and more favourable treatment to developing countries.
- The Enabling Clause is also the legal basis for regional arrangements among developing countries (e.g.: RCEP) and for the Global System of Trade Preferences (GSTP), under which a number of developing countries exchange trade concessions among themselves.

What is the "developing country" status according to USTR?

- The office of the United States Trade Representative (USTR) maintains a list of countries that the USA classifies as "developing", "developed", and "least-developed".
- The "developing country" status owes its origin to the U.S. Trade Act of 1974, which authorised the Generalized System of Preferences (GSP) to help poor countries develop faster.
- Those countries that have been tagged as developing countries will get the benefits that are available under the GSP provision.

Why in the news?

- Expert committee on Variable Capital Company has submitted its report on the feasibility of Variable Capital Companies in IFSC to IFSCA

Key updates

- Dr. K.P. Krishnan headed expert committee on Variable Capital Company has submitted its report on the feasibility of Variable Capital Companies in the International Financial Services Centres to the Chairperson of the International Financial Services Centres Authority (IFSCA)

More about the expert committee

- IFSCA constituted a Committee of Experts ('the Committee') to examine the feasibility of the Variable Capital Company ('VCC') in India to examine the suitability of the Variable Capital Company as a vehicle for fund management in the IFSC in India.
- This committee has been set up to explore the potential for allowing another legal structure – popularly known as a variable capital company (VCC) – as an additional option through which asset managers could pool the investors' funds.
- The VCC structure dispenses with some of the key limitations of companies and LLPs and provides for higher regulatory standards than those applicable to trusts.

Key recommendations

- In line with the mandate given to the Committee, it examined the relevance and adaptability of the VCC for the IFSC in India or alternative structures to attract fund business in the IFSC.
- The Committee assessed the features of a VCC or its equivalent, in other jurisdictions such as the UK, Singapore, Ireland and Luxembourg.
- The Committee **recommended** the adoption of a **VCC-like legal structure for the purpose of conducting fund management activity in IFSCs**
- It also recognized that the legal framework governing entities that undertake fund management should provide for certainty and clarity to investors effective segregation and ring fencing of different pools of asset the ability to issue different classes of shares alterations to the funds' capital structure without regulatory approvals and the freedom to choose the appropriate accounting standards applicable to funds with different characteristics the ability to wind up quickly.

What is VCC?

- Variable Capital Company ("VCC") is a corporate structure that is tailored for collective investment schemes
- VCC is a new corporate entity structure under which several collective investment schemes (whether open-end or closed-end) may be gathered under the umbrella of a single corporate entity and yet remain ring-fenced from each other.
- The new corporate entity structure gives funds an alternative to unit trusts, limited partnerships, limited liability partnerships and companies.
- A key characteristic of the VCC is its umbrella structure is that it allows the sub-funds to share a board of directors and have common service providers, such as the same fund manager, custodian, auditor and administrative agent.
- Certain administrative functions, for instance, the holding of general meetings and preparation of prospectuses, can also be consolidated.
- Where a VCC is set up as an umbrella fund with several sub-funds, members may hold shares that are referenced to a particular sub-fund held by the VCC.

Why in News?

- The Economic Community of West African States (ECOWAS) is attempting to mediate to solve the crisis in Mali.

About Mali's Crisis

- The **2021 Malian coup d'état** began on the night of 24 May 2021 when the Malian Army led by Vice President captured President, Prime Minister and Minister of Defence.
- It is the country's third coup d'état in ten years, following the 2012 and 2020 military takeovers with the latter having happened only nine months earlier.
- Col Goïta was installed as **transitional vice-president – a recognition of the army's still powerful influence**.
- It took weeks of negotiation before the terms for a transition back to democratic rule were finally agreed between the coup leaders and mediators from the **Economic Community of West African States (Ecowas), the regional bloc to which Mali belongs**.
- But resolving the conundrum posed by this latest military intervention – which began when soldiers arrested could prove rather more awkward for Ecowas
- Mali began to edge forward. There were still serious problems – hardly a surprise in a country struggling to contain jihadist attacks across the far north and broker local deals to end inter-communal violence between farming and herding communities in its central regions.
- There **were complaints about the performance of the transitional government**, while opposition political parties felt they had been marginalised.
- Moreover, if Mali is governed by a regime that is not internationally recognised as legitimate, that could severely hamper collaboration between the Malian army and the French and other European military forces now deployed in the country in operations against the jihadists.

International Response

- The coup has been condemned by the international community.
- The United Nations, through its MINUSMA peacekeeping mission, quickly condemned the coup and called for calm across the nation. António Guterres, the Secretary-General of the United Nations, called for calm and the release of the prisoners.
- The President of the Democratic Republic of the Congo and head of the African Union, "strongly condemned any action that aims to destabilise Mali". French Foreign Minister also condemned the coup, saying "France condemns with the greatest firmness the violent act that occurred in Mali yesterday."
- In addition, the United Nations, ECOWAS, the European Union, the United States, and the African Union issued a joint statement condemning the coup and call for the release of the politicians. West African officials are assessing the situation and describe it as an "attempted coup".
- The European Union and the U.S. State Department threatened sanctions

About ECOWAS

- It is a **regional political and economic union of fifteen countries located in West Africa**.
- Established in **1975**, with the signing of **the Treaty of Lagos**.
- The goal of ECOWAS** is to achieve "collective self-sufficiency" for its member states by creating a single large trade bloc by building a full economic and trading union.
- It also serves as a **peacekeeping force in the region**.
- Considered one of the pillar regional blocs of the continent-wide **African Economic Community (AEC)**.
- ECOWAS is meant to be a region governed in accordance with the principles of democracy, rule of law and good governance.
- The member countries of ECOWAS comprises: Benin, Burkina Faso, Cape Verde, Cote d' Ivoire, The Gambia, Ghana, Guinea, Guinea Bissau, Liberia, Mali, Niger, Nigeria, Sierra Leone, Senegal and Togo.
- ECOWAS includes two sub-regional blocs:**
- The West African Economic & Monetary Union** is an organisation of eight, mainly French-speaking states.
- The West African Monetary Zone (WAMZ)**, established in 2000, comprises six mainly English-speaking countries.

Why is in the news?

- Recently, the **74th World Health Assembly (WHA)** has adopted a new resolution to accelerate efforts to end malaria.

About the resolution

- The resolution aims to urge Member States to step up **progress on containing the disease**, in line with WHO's updated global malaria strategy and the WHO Guidelines for malaria.
- It called on countries to **expand investment, scale-up funding for global response** and boost investment in research and development of new tools.
- Significance:** It sends a very strong signal that countries around the world are committed to scaling up action towards a common goal: a world free of malaria.

Global Efforts

- The **WHO Global Malaria Programme** is responsible for coordinating WHO's global efforts to control and eliminate malaria.
- Its work is guided by the "**Global technical strategy for malaria 2016–2030**" adopted by the WHA in May 2015.
- Under this, WHO's global technical strategy provides a technical framework for all malaria-endemic countries working towards malaria control and elimination. Its global targets for 2030 include:
 - Reducing **malaria case incidence** by at least **90 per cent**
 - Reducing **malaria mortality rates** by at least 90 per cent
 - Eliminating malaria** in at least 35 countries
 - Preventing a resurgence** of malaria in all malaria-free countries
- A new country-driven response – "**High burden to high impact**" – was launched in Mozambique in November 2018. It will be **supported by WHO**.

India's Effort to Combat Malaria

- Malaria Elimination Efforts were initiated in 2015 and were later brought under the **National Framework for Malaria Elimination (NFME)** in 2016. **Nodal Agency:** Ministry of Health and Family Welfare. The National Strategic Plan for Malaria Elimination for 2017-22 was launched in July 2017 which laid down strategies for the control of the disease.

About World Health Assembly:

- It is the decision-making body of WHO. It is attended by delegations from all WHO Member States and 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 at the headquarters of WHO.

Why in News?

- The Union Cabinet of India has approved the ratification of an Agreement on "Cooperation in the field of Mass Media" between all the Member States of Shanghai Cooperation Organisation. The Agreement was signed in June, 2019.

Highlights of the Agreement

- The agreement, which was signed in June 2019, would provide an opportunity for the member states to share best practices and new innovations in the field of mass media.

- It aims to promote equal and mutually beneficial cooperation among associations in the field of mass media.
- The main areas of cooperation in the agreement are the creation of favorable conditions for the wide and mutual distribution of information through mass media in order to further deepen the knowledge about the lives of the peoples of their states.
- It will assist in broadcasting television and radio programmes and those, distributed legally within the territory of the state of the other side.

Shanghai Cooperation Organisation

International Relations

- The SCO is a **permanent intergovernmental international organisation**. It is a Eurasian political, economic, and security alliance and has been the primary security pillar of the region.
- It was established in **2001**. It was preceded by the **Shanghai Five mechanism**.
- The Heads of State Council (**HSC**) is the **supreme decision-making body** in the SCO. It **meets once a year** and adopts decisions and guidelines on all important matters of the organisation.
- The SCO's official languages are **Russian** and **Chinese**.
- The organisation has two permanent bodies
 - the **SCO Secretariat** based in **Beijing**.
 - the Executive Committee of the Regional Anti-Terrorist Structure (**RATS**) based **in Tashkent**.
- **Membership**
 - Eight member states: **India, Kazakhstan, China, Kyrgyzstan, Pakistan, Russia, Tajikistan, and Uzbekistan**.
 - Four observer states: **Afghanistan, Belarus, Iran and Mongolia**.

United Nations General Assembly

International Relations

Why is in the News?

- In a first for the Maldives, Foreign Minister Abdulla Shahid was elected the President of the UN General Assembly for 2021-22. This time the UNGA head will be chosen from the Asia-Pacific grouping.

About UNGA

- The General Assembly is the **main deliberative, policymaking and representative organ of the UN**.
- All **193 Member States** of the UN are represented in the General Assembly, making it the only UN body with **universal representation**.
- The **President** of the General Assembly is **elected each year** by assembly to **serve a one-year term** of office.
- The presidency **rotates annually** between the **five geographic groups**: African, Asia-Pacific, Eastern European, Latin American and Caribbean, and Western European and other States.
- **How are the decisions taken?**
 - **Decisions on important questions**, such as those on peace and security, admission of new members and budgetary matters, require a two-thirds majority of the General Assembly.
 - **Decisions on other questions** are by simple majority.
 - The Assembly has **no binding votes** or **veto powers** like the UN Security Council.
- **According to the Charter of the United Nations, the General Assembly may:**
 - **Consider and approve the United Nations budget** and establish the financial assessments of Member States.
 - **Elect the non-permanent members** of the **Security Council** and the members of other United Nations councils and organs and, on the recommendation of the Security Council, appoint the Secretary-General.
 - **Consider and make recommendations** on the **general principles of cooperation** for maintaining international peace and security, including disarmament.
 - Discuss any question relating to **international peace and security** and, except where a dispute or situation is currently being discussed by the Security Council, make recommendations on it.



Why is in the news?

- The Chemical Weapons Convention (international chemical weapons watchdog) told the U.N. Security Council that Syria had likely or definitely used chemical weapons in 17 cases.

About OPCW

- OPCW is an **intergovernmental organization** and the implementing body for the Chemical Weapons Convention.
- This convention has been in **force since 1997** and **193 members**.
- It aims to achieve the **vision of a world free of chemical weapons** by implementing the provisions of the Chemical Weapons Convention.

Functions

- The OPCW is authorized to **perform inspections** to verify that signatory states are complying with the convention.
- It can also **perform testing of sites** and **victims of suspected** chemical weapons attacks.
- Headquartered in **The Hague, Netherlands**.
- The OPCW was awarded the **Nobel Peace Prize in 2013**.

Chemical Weapons Convention

- Chemical Weapons Convention (CWC) is a **multilateral treaty** that **bans chemical weapons** and **requires their destruction** within a specified period of time.
- The negotiations for the convention **started in 1980** at the **UN Conference on Disarmament**. The convention opened for **signature in 1993** and entered into **force in 1997**.
- The convention **prohibits the large-scale use, development, production, stockpiling and transfer of chemical weapons** and **their precursors**, except for very limited purposes (research, medical, pharmaceutical or protective).
- Implemented by the **Organization for the Prohibition of Chemical Weapons** (OPCW).
- The convention is **open to all nations** and currently has **193 states-parties**. **India signed** the treaty in 1993.
- Israel** has **signed but has yet to ratify** the convention. Three states have neither signed nor ratified the convention are Egypt, North Korea and South Sudan. A unique feature of the Convention is its incorporation of the '**challenge inspection**'. Under this, any State Party in doubt about another State Party's compliance can **request a surprise inspection**.

Atlantic Charter

International Relations

Why is in the news?

- US President Joe Biden and British Prime Minister Boris Johnson seeks to sign a new Atlantic Charter.

Need for a new charter

- At their meeting, the two leaders plan to sign what they're calling a **new Atlantic Charter**, pledging to "**defend the principles, values, and institutions of democracy and open societies**."
- US hopes to **reassure European allies** that the US had shed the transactional tendencies of Donald Trump's term and is a reliable partner again.
- The **US staunchly opposed the Brexit movement**, the British exodus from the European Union that Mr. Johnson championed, and has **expressed great concern** with the future of Northern Ireland.
- Biden once called the British leader a "**physical and emotional clone**" of Trump.

About the Atlantic charter-

- It was a declaration **signed by British Prime Minister Winston Churchill and U.S. President Franklin D. Roosevelt in August 1941**.
- It set out common goals for the world after the Second World War that included **freer trade**,

disarmament and the right to self-determination of all people.

- The Charter **made it clear that the United States supported Britain in the war.**
- A fundamental aim was to focus on the peace that would follow, not specific American involvement and war strategy.
- The charter's adherents signed the **Declaration by the United Nations on 1 January 1942**, which was the basis for the modern United Nations.
- The dismantling of the British Empire, the formation of NATO, and the General Agreement on Tariffs and Trade (GATT) all were derived from the Atlantic Charter.
- The **eight principal clauses** of the charter were-
 - No territorial gains were to be sought by the United States or the United Kingdom.
 - Territorial adjustments must be in accord with the wishes of the peoples concerned.
 - All people had a right to self-determination.
 - Trade barriers were to be lowered.
 - There was to be global economic co-operation and advancement of social welfare.
 - The participants would work for a world free of want and fear.
 - The participants would work for freedom of the seas.
 - There was to be disarmament of aggressor nations and a common disarmament after the war.

NATO Summit

International Relations

Why is in the news?

- The North Atlantic Treaty Organization (NATO) held its 31st summit in Brussels on June 14th

About the summit

- NATO leaders largely backed US President Joe Biden's decision to withdraw troops from Afghanistan.
- During the summit, the NATO members issued a communiqué highlighting the "threat" presented by Russia and the "challenges" posed by China
- NATO agrees cyberattacks could lead to the invocation of mutual self-defense clause
- During the summit, US President called for NATO members to stand up to autocrats and "phony populism
- NATO summits are not regular meetings like the more frequent NATO ministerial meetings, but rather are important junctures in the alliance's decision-making process on the highest level.
- Summits are often used to introduce new policy, invite new members into the alliance, launch major new initiatives, and build partnerships with non-NATO countries.
- From the founding of NATO in 1949, there have been a total of 31 NATO summits. Only the traditional summits have received an official number, thereby excluding the exceptional summit of 2001 in NATO headquarters.
- Previously, the summit held in Watford (U.K) in December 2019

About NATO

- NATO is an intergovernmental military alliance between 30 North American and European countries.
- The organization implements the North Atlantic Treaty that was signed on 4 April 1949
- NATO's purpose is to guarantee the freedom and security of its members through political and military means.
- **POLITICAL** – NATO promotes democratic values.
- **MILITARY** – NATO is committed to the peaceful resolution of disputes. If diplomatic efforts fail, it has the military power to undertake crisis-management operations.
- NATO's Headquarters are located in Evere, Brussels, Belgium, while the headquarters of Allied Command Operations is near Mons, Belgium.
- Members: NATO has thirty members, mainly in Europe and North America.
- The most recent member state to be added to NATO was North Macedonia on 27 March 2020
- All decisions of NATO are taken by consensus

Why is in the news?

- The 1959 Antarctic Treaty celebrates its 60th anniversary. This Treaty is the only example of a single treaty that governs a whole continent.

About Antarctic Treaty

- Negotiated during the middle of the Cold War by 12 countries with Antarctic interests, it remains the only example of a single treaty that governs a whole continent.
- The treaty **entered into force in 1961** and currently has **54 parties**.
- Since September 2004, the Antarctic Treaty Secretariat **headquarters has been located in Buenos Aires, Argentina**.
- **The original signatories were the 12 countries:**
 - Argentina, Australia, Belgium, Chile, France, Japan, New Zealand, Norway, South Africa, the Soviet Union, the United Kingdom, and the United States
- **India became a member of this treaty in 1983.** On 12 September 1983, the country became the fifteenth Consultative Member of the Antarctic Treaty.
- It is also the foundation of a rules-based international order for a continent without a permanent population.
- The treaty is remarkably short and contains only 14 articles. Principal provisions include promoting the freedom of scientific research, the use of the continent only for peaceful purposes, and the prohibition of military activities, nuclear tests and the disposal of radioactive waste.

What the treaty says about territorial claims

- The most important provision of the treaty is Article IV, which effectively seeks to neutralise territorial sovereignty in Antarctica.
- For the Antarctic territorial claimants, this meant a limit was placed on making any new claim or enlargement of an existing claim.
- Likewise, no formal recognition was given to any of the seven territorial claims on the continent, by Argentina, Australia, Chile, France, New Zealand, Norway and the United Kingdom.
- Russia, the United States and China — signatories with significant Antarctic interests who have not formally made territorial claims — are also bound by the limitations of Article IV.
- And one sector of Antarctica is not subject to the claim of any country, which effectively makes it the last unclaimed land on earth.
- The treaty also put a freeze on any disputes between claimants over their territories on the continent. Claimants agreed to abide by the rules and obligations of the treaty, which meant countries that don't recognise claims (such as China and Russia) are free to go about scientific research and peaceful activities.

How the treaty has expanded

- Though the compact has held for 60 years, there have been tensions from time to time. Argentina and the UK, for instance, have overlapping claims to territory on the continent. When combined with their ongoing dispute over the nearby Falkland (Malvinas) Islands, their Antarctic relationship remains frosty.
- Building, operating and conducting scientific research programs are key to the success not only of the treaty, but also to the claimants' credibility in Antarctica. Australia, for instance, has permitted Belarus, China, France, India, Italy, Russia, and the US to conduct scientific programs at their own research bases within its Antarctic territory, which covers 42% of the continent.

Challenges

- The Antarctic Treaty has been able to successfully respond to a range of challenges but circumstances are different in the 2020s compared to the 1950s.
- Antarctica is much more accessible, partly due to technology but also **climate change**. More countries now have substantive interests in the continent than the original 12. **Some global resources are becoming scarce**, especially oil.

- This will inevitably result in increased attention being given to the potential for **Antarctic mining** to take place sometime in the future. Calls to revisit the prohibition on Antarctic mining would seem inevitable.
- There is also **uncertainty as to China's intentions in Antarctica**.
- While Australia and China cooperate on a number of Antarctic scientific and logistics programs, the direction of China's Antarctic engagement and long-term support for the treaty is not clear. There is **considerable speculation as to China's interests in Antarctic resources, especially fisheries and minerals**, and whether China may seek to exploit weaknesses in the treaty system to secure access to those resources.

International Labour Organisation

International Relations

Why in News?

- India's term as chair of the Governing Body of the International Labour Organisation (ILO) ended recently (October 2020- June 2021).

About ILO

- It is the **United Nations agency** for the world of work. It is also a **member of** the United Nations Development Group (**UNDP**).
- It **sets international labour standards, promotes rights at work** and encourages decent employment opportunities, the enhancement of social protection and the strengthening of dialogue on work-related issues.
- **Structure**
 - It is the **only tripartite U.N. agency**, that brings together governments, employers and workers' representatives of 187-member States.
 - The 187-member states of ILO **comprise 186 of the 193 UN member states** plus the **Cook Islands** are members of the ILO.
 - **India** is one of the **founding members of ILO**.
 - It is headquartered in **Geneva, Switzerland**.
 - It is under **Economic and Social Council of the United Nations**.
- **History**
 - It was **created in 1919**, as part of the **Treaty of Versailles** that ended World War I, to reflect the belief that universal and lasting peace can be accomplished only if it is based on social justice.
 - In 1946, the ILO **became a specialized agency** of the newly formed United Nations.
 - The Organization won the **Nobel Peace Prize** on its **50th anniversary in 1969**.
 - It is the **apex executive body of the ILO** which decides policies, programmes, agenda, budget and elects the Director-General. It meets in Geneva.
- **Reports published by ILO**
 - World Employment and Social Outlook.
 - Global Wage Report.

Tax Inspectors without Borders

International Relations

Why in the news?

- India has been chosen as a partner country in Bhutan's TIWB programme. India provided the Tax Expert for this programme.

About Tax Inspectors Without Borders (TIWB) Programme

- It is a **joint initiative** of United Nations Development Programme (UNDP) and Organisation for Economic Cooperation and Development (OECD).
- Launched in July 2015, it is a **capacity-building programme** which **aims to strengthen developing countries' auditing capacity** and multinationals' compliance worldwide.

India and Tax Inspectors Without Borders (TIWB) Programme

- India in collaboration with the United Nations Development Programme (UNDP) and the TIWB Secretariat aims to **aid Bhutan in strengthening its tax administration**.
- It will transfer technical know-how and skills to Bhutan's tax auditors, as well as share the best audit practices. The focus of the programme will be in the area of **International Taxation and Transfer Pricing**.
- This programme is expected to be of about 24 months' duration and is seen as **another milestone** in the continued **cooperation between India and Bhutan** and India's continued and active support for **South-South cooperation**.

International Court of Justice (ICJ)

International Relations

Why in the news?

- **Pakistan's Parliament** has passed a bill that will **help Kulbhushan Jadhav appeal against the death sentence** given to him by a military court.
- The Bill, named as *The International Court of Justice (Review and Re-consideration) Bill*, is aimed at allowing Jadhav to have consular access.

About kulbhushan Jadhav

- Jadhav, an Indian national, had been arrested in Pakistan's restive province of Balochistan in 2016 and accused of terrorism, spying, and subversive activities.
- He was sentenced to death by a Pakistani military court in 2017.
- In May 2017, India appealed against Pakistan in ICJ to render justice for Jadhav.
- Finally, in July 2019, the ICJ **stayed the execution** of Jadhav. It directed Pakistan to stay his execution and **allow him consular access**.
- The ruling upheld that Islamabad had **violated Article 36 of Vienna Convention of Consular Relations, 1963**.

Vienna Convention on Consular Relations

- It is an international treaty that defines a framework for consular relations between independent sovereign states.
- **Article 5** of the convention **defines the consular functions**. It lists **thirteen functions of a consul**, including "*protecting in the receiving State the interests of the sending State and of its nationals, both individuals and bodies corporate, within the limits permitted by international law*".
- **Article 36** addresses communications between consular officers and nationals of the sending state. The Convention provides that "consular officers shall be free to communicate with nationals of the sending State and to have access to them."

About ICJ

- The International Court of Justice (ICJ) is the **principal judicial organ** of the United Nations (UN).
- It was established in June 1945 by the Charter of the United Nations and began work in April 1946.
- The seat of the Court is at the **Peace Palace in The Hague** (Netherlands).
- All members of the UN are parties to the statute of the ICJ, and nonmembers may also become parties.
- The Court's role is to settle in accordance with international law, legal disputes submitted to it by States and to give advisory opinions on legal questions referred to it by authorized United Nations organs and specialized agencies.
- The Court is composed of **15 judges** who are elected for terms of office of nine years by the United Nations General Assembly and the Security Council.
- It is assisted by a Registry, its administrative organ. Its official languages are **English and French**.
- The court's judgment is **final and without appeal**.

Why in news?

- The **United Kingdom has officially joined** the Indian Navy's Information Fusion Centre-Indian Ocean Region (**IFC-IOR**). It has appointed Lieutenant Commander Stephen Smith as a liaison officer to IFC-IOR.

Key Highlights

- This appointment is part of the **2030 roadmap announced** by Indian PM and his British counterpart after their virtual summit in May.
- UK is the **fifth country to send its officer** after the US, Japan, France and Australia.
- This step **boldly underlines UK and Indian desires to work together** in the Indian Ocean Region and wider Indo-Pacific.

Roadmap 2030

- An ambitious '**Roadmap 2030**' was adopted at India-UK Virtual Summit, held in May 2021, to **elevate bilateral ties to a 'Comprehensive Strategic Partnership'**.
- The roadmap will pave the way for a **deeper and stronger engagement over next 10 years** in key areas of people-to-people contacts, trade & economy, defence & security, climate action and health.

About IFC-IOR

- In December 2018, Indian launched the Information **Fusion Centre – Indian Ocean Region (IFC- IOR)**, at **Information Management and Analysis Centre (IMAC)** Gurugram.
- The IFC-IOR aims to engage with partner nations and multi-national maritime constructs to develop **comprehensive maritime domain awareness and share information on vessels of interest** (i.e., information on "white shipping", or commercial shipping).
- It has been also **recognised** by the **UN's International Maritime**.

India - Australia Joint Working Group on Cyber Security Cooperation

International Relations

Why in the news?

- The **first meeting** of Joint Working Group on **Cyber Security Cooperation** between India and Australia was held virtually.

About the group

- The Joint Working Group on Cyber Security Cooperation is a mechanism established under the **Framework Arrangement on the Cyber and Cyber-enabled Critical Technology Cooperation** between India and Australia to implement the **2020-25 Plan of Action under the Framework**.
- This mechanism brings together policy makers and working level experts in the area to strengthen bilateral cooperation.
- It should be noted that the relationship between these two countries was **elevated to Comprehensive Strategic Partnership** (CSP) in June 2020.

US Investigation Into Digital Services Tax

International Relations

Why is in the news?

- The US has announced further **suspension of punitive tariffs for six months** on India, Austria, Italy, Spain, Turkey, and the United Kingdom while it continues to resolve the digital services taxes investigation.

About the suspension

- The US conducted a year-long investigation into digital services taxes imposed by countries. These investigations were **conducted by USTR** (United States Trade Representative).



- The investigation found that the DST adopted by the above-mentioned countries **discriminated against US digital companies**. It said that these taxes were **inconsistent with principles of international taxation** and burdened US companies.
- As a retaliation measure, the US announced **25 per cent tariffs on over \$2 billion worth** of imports from these six countries.
- However, it **immediately suspended the duties** to allow time for international tax negotiations.

Case Against India

- In case of India, the **USTR's proposed** course of action includes **additional tariffs of up to 25 per cent ad valorem** on an aggregate level of trade.
- It would collect **duties on goods of India** in the range of the amount of DST that India is expected to collect from US companies.
- Around 26 categories of goods are in the preliminary list of products that would be subject to the additional tariffs.

Digital Taxes in India:

1. Equalization Levy

- It was introduced in Budget 2016. Its aim was to tax foreign digital companies.
- It proposed to levy a 6% tax payable on gross revenues from online advertising services. Hence, it was **limited to advertisement services only**.

2. Significant Economic Presence (SEP)

- The government had introduced the concept of SEP in line with its **plan to tax digital companies** in the **Finance Act, 2018**.
- SEP was defined to mean, among other things, systematic and continuous soliciting of business activities or engaging in interaction with such number of users as may be prescribed in India through digital means.
- This provision was earlier proposed to be effective from assessment year 2021-22, but has **now been deferred to 2022-23**.

ASEAN Defence Ministers' Meeting Plus (ADMM Plus)

International Relations

Why is in the news?

- **8th ADMM-Plus** meeting was held recently. Indian Defence Minister participated in the meeting. It was organized in virtual format.
- As the **chair of ASEAN grouping** this year, **Brunei** hosted this meeting.

India and The meeting

- India has **strengthened its cooperative engagements in the Indo-Pacific** based on converging visions and values for promotion of peace, stability and prosperity in the region.
- Premised upon the centrality of ASEAN, **India supports utilisation of ASEAN-led mechanisms** as important platforms for implementation of our shared vision for the Indo-Pacific.
- India's views **stressed that the emerging challenges to international peace and security** cannot be addressed with outdated systems designed to deal with trials of the past.
- India's support to **freedom of navigation, over-flight and unimpeded commerce** for all in international waters in accordance with the UN Convention on the Law of the Sea (UNCLOS).

Act East Policy

- The key elements of the policy aim to promote economic cooperation, cultural ties and develop strategic relationships with countries in the Indo-Pacific region through continuous engagement at bilateral, regional and multilateral levels.

Terrorism and radicalisation

- Gravest threats to **world peace and security** and called for collective cooperation to fully disrupt terror organisations and their networks

- Identify the **perpetrators and hold them accountable** and ensure that strong measures are taken against those who support and finance terrorism and provide sanctuary to terrorists.
- As a member of the Financial Action Task Force (FATF), India remains committed to combat financing of terrorism.

Cyber Threats

- Called for a **multi-stakeholder approach guided by democratic values** with a governance structure that is open and inclusive and a secure, open and stable internet with due respect to sovereignty of countries, that would drive the future of cyberspace.

Humanitarian Assistance and Disaster Relief (HADR) operations

- India remains **one of the first to respond** in times of distress in the immediate as well as extended neighbourhood.
- As a founding member of the Heads of Asian Coast Guard Agencies Meeting (HACGAM), India seeks to enhance capacity building through collaboration in the areas of Maritime Search & Rescue.

ADMM Plus

- The is an annual meeting of Defence Ministers of 10 ASEAN (Association of Southeast Asian Nations) countries and eight dialogue partner countries – Australia, China, India, Japan, New Zealand, Republic of Korea, Russia and the United States.
- Brunei is the Chair of the ADMM Plus forum this year.

South Asia Co-operative Environment Programme (SACEP)

International Relations

Why in the news?

- Indian Coast Guard (ICG) is working to extinguish the massive fire onboard container vessel MV X- Press Pearl off Colombo, Sri Lanka under **operation Sagar Aaraksha-II**.

About SACEP

- SACEP is an intergovernmental organization, established in 1982 by the governments of South Asia. The aim is to promote and support protection, management and enhancement of the environment in the region. SACEP member countries are **Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan and Sri Lanka**.

Global Trends Report 2020

International Relations

Why is in the news?

- The UN High Commissioner for Refugees (UNHCR) has recently released the **Global Trends Report 2020**. The report shares details of forced displacement of people across the world.

Highlights Of The Report

- Despite worldwide restrictions in movement, war, violence, persecution and human rights violations caused nearly 3 million people to leave their homes in 2020.
- In 2020, the **cumulative total of displaced people has risen to 82.4 million** (from 79.5 million in 2019) - roughly the population of Germany.
- It includes the number of internally displaced people (people displaced within their own countries), which has reached 48 million (from 45.7 million in 2019).
- Conflict and the impact of climate change in places such as Mozambique, Ethiopia's Tigray region and Africa's broad Sahel area were among the leading sources of new movements of refugees and internally displaced people in 2020.
- This is in addition to millions who have fled countries such as Syria & Afghanistan due to long wars or fighting.
- 2020 is the ninth year of continuous rise in forced displacement worldwide. Last year, **one per cent of humanity was displaced** and there were twice as many forcibly displaced people than in 2011, when the total was just under 40 million.



• Source And Destination Countries

- More than two thirds of all people who fled abroad came from **just five countries**: Syria (6.7 million), Venezuela (4.0 million), Afghanistan (2.6 million), South Sudan (2.2 million) & Myanmar (1.1 million).
- For the seventh year in a row, **Turkey** hosted the largest refugee population worldwide (3.7 million refugees). It was followed by Colombia (1.7 million), Pakistan (1.4 million), Uganda (1.4 million) and Germany (1.2 million).

United Nations High Commissioner for Refugees (UNHCR)

- Headquartered in Geneva, UNHCR was created in 1950 to address the refugee crisis that resulted from World War II.
- It is mandated to lead and co-ordinate international action to protect refugees and resolve refugee problems worldwide. Its primary purpose is to safeguard the rights and well-being of refugees.
- It works to ensure that everyone can exercise the right to seek asylum and find safe shelter in another state, with the option to return home voluntarily, integrate locally or to resettle in a third country.
- An **asylum seeker** is a person who has left his/her home country because of war or other factors, and has entered another country, and applies for asylum, that is, international protection, in this new country.

Himadri Research Station

International Relations

Why is in the news?

- The **Himadri research station** is located in Arctic. Recently, the 60th anniversary of the Antarctic Treaty was observed. This treaty had entered into force on 23 June 1961.

About The Treaty

- The treaty was signed on 1 December 1959 by the twelve nations.
- **12 countries were** - Argentina, Australia, Belgium, Chile, France, Japan, New Zealand, Norway, South Africa, United Kingdom, United States and USSR.
- There are now 54 Parties to the Treaty. **India** became a **member of this treaty in 1983**.
- **Headquarters**: Buenos Aires, Argentina.
- The treaty applies to all land and ice-shelves south of 60° South latitude.
- Through its 14 articles, the Treaty promotes **freedom of scientific research and peaceful use of the continent**.
- The treaty also prohibits **military activities, nuclear tests and disposal of radioactive waste**.
- The treaty seeks to **neutralise territorial sovereignty** in Antarctica (a limit was placed on making any new claim or enlargement of an existing claim).
- The treaty also put a **freeze on any disputes** between claimants over their territories on the continent.

India and Antarctica research stations

- **Dakshin Gangotri**:
 - Dakshin Gangotri was the first Indian scientific research base station established in Antarctica, as a part of the Indian Antarctic Program.
 - Located at a distance of 2,500 kilometres from the South Pole, it was established during the third Indian expedition to Antarctica in 1983/84.
 - This was the first time an Indian team spent a winter in Antarctica to carry out scientific work.
 - It has weakened and become just a supply base.
- **Maitri**:
 - Maitri is India's second permanent research station in Antarctica. It was built and finished in 1989.
 - Maitri is situated on the rocky mountainous region called Schirmacher Oasis. India also built a freshwater lake around Maitri known as Lake Priyadarshini.
- **Bharti**:
 - Bharti, India's latest research station operation since 2012. It has been constructed to help researchers work in safety despite the harsh weather.



- It is India's first committed research facility and is located about 3000 km east of Maitri. Bharti made India an elite member of the club of nine nations that have multiple stations in the region.

Other research facilities

- **Sagar Nidhi:**
 - In 2008, India commissioned the Sagar Nidhi, the pride of the National Institute of Ocean Technology (NIOT), for research.
 - An ice-class vessel, it can cut through the thin ice of 40 cm depth and is the first Indian vessel to navigate Antarctic waters.

Antarctic Treaty System (ATS)

- Antarctic Treaty and related agreements are collectively known as the Antarctic Treaty System (ATS)
- **Antarctic Treaty System (ATS)**
 - It regulates international relations with respect to Antarctica
 - Antarctica is defined as all of the land and ice shelves south of 60°S latitude
 - Antarctic Treaty Secretariat Headquarters — Buenos Aires, Argentina
- **Antarctic treaty**
 - First arms control agreement established during the Cold War
 - Signed in Washington on 1959(1 December) by the twelve countries whose scientists had been active in and around Antarctica during the International Geophysical Year (IGY) of 1957-58
 - Entered into force in 1961
 - Currently has 53 parties
 - Sets aside Antarctica as a scientific preserve
 - **Provisions:**
 - Antarctica shall be used for peaceful purposes only(Art. I)
 - Freedom of scientific investigation in Antarctica and cooperation toward that end ... shall continue(Art. II).
 - Scientific observations and results from Antarctica shall be exchanged and made freely available(Art. III).

Protocol on Environmental Protection to the Antarctic Treaty

- Signed in Madrid on October 4, 1991
- In 1998, entered into force
- Designates Antarctica as a "natural reserve, devoted to peace and science"
- It sets forth basic principles applicable to human activities in Antarctica
- Article 7, prohibits all activities relating to Antarctic mineral resources, except for scientific research.
- **Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR), 1982**
- **Secretariat** : Hobart, Tasmania
- **Objective:**
 - To conserve Antarctic marine life.
 - Response to increasing commercial interest in Antarctic krill resources, a keystone component of the Antarctic ecosystem.
 - It practises an ecosystem-based management approach.

Fukuoka Grand Prize for 2021

International Relations

Why is in the news?

- Noted journalist **P. Sainath** has been selected as one of the three recipients of the Fukuoka Prize for 2021.

About Sainath

- He will receive the '**Grand Prize**' of the Fukuoka Prize.
- The Secretariat of the Fukuoka Prize Committee noted his work for creating a new form of knowledge through his writings and commentaries on rural India and for "promoting civil cooperation".



- After establishing the **People's Archive of Rural India** in 2014 as a platform for digital journalism, Sainath has worked on ground-breaking projects of collecting information about the diverse cultures of rural societies.
- He was awarded the European Commission's Lorenzo Natali Prize for journalism in 1995 and the Amnesty International Global Human Rights Journalism Prize in 2000.
- He received the UN Food & Agriculture Organization's Boerma Prize in 2001 and the Ramon Magsaysay Award for outstanding contribution to Asian journalism in 2007.
- His major publications are 'Everybody loves a good drought', which is a collection of 85 articles published in The Times of India, under the **series "The face of poor India"**.
- Besides the Grand Prize, the two more award categories are the '**Academic Prize**' and the '**Prize for Arts and Culture**' which went to Prof. Kishimoto Mio of Japan and filmmaker Prabda Yoon of Thailand respectively.

About the award-

- The award was **established by Japan's Fukuoka city and the Fukuoka City International Foundation**.
- It is given annually to distinguished people to foster and increase awareness of Asian cultures, and to create a broad framework of exchange and mutual learning among the Asian people.
- It was **first awarded in 1990**.
- It is limited to East, South, and Southeast Asia.
- **Eleven Indians** have received the Fukuoka Prize so far including musician **AR Rahman** and historians **Romila Thapar, Ramchandra Guha**.
- There are **three prize categories**: Grand Prize, Academic Prize, and Arts and Culture Prize.
- Grand Prize- To be presented to an individual or an organization in either the field of academics or arts and culture. The prize is endowed with 5 million yen.
- Academic Prize- To be presented to one or two individuals or organizations that have made outstanding achievements in the field of Asian studies, such as social and human sciences. The prize is endowed with 3 million yen.
- Arts and Culture Prize – To be presented to one or two individuals or organizations who have made outstanding contributions in the diverse arts and culture of Asia like fine arts, literature, music, drama, dance, film, architecture, and so forth. The prize is endowed with 3 million yen.

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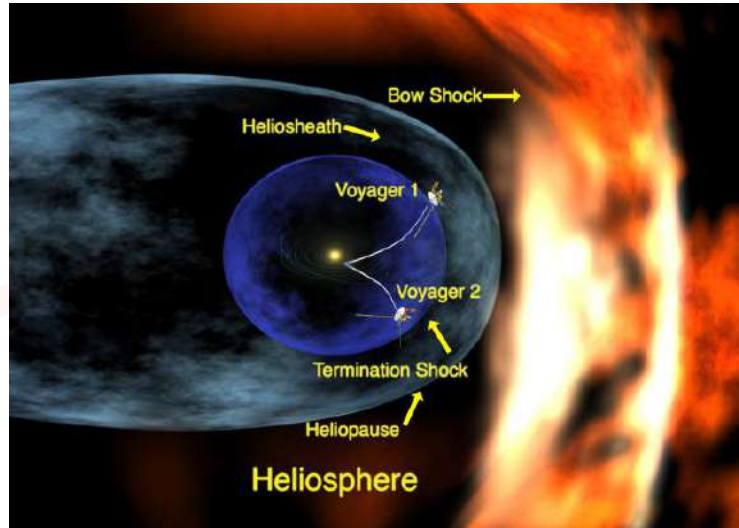
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Why in the news?

- Scientists at **Los Alamos National Laboratory** in the United States have developed the **first 3D map of the heliosphere** using data from NASA's Interstellar Boundary Explorer.

About heliosphere

- Interstellar Boundary Explorer** is an earth-orbiting satellite that keeps an eye on the interactions happening between our solar system and interstellar space.
- The **heliosphere is a protective bubble created by the solar wind**, a stream of mostly protons, electrons, and alpha particles that extends from the Sun into interstellar space and **protects the Earth from harmful interstellar radiation**.
- Using the data, astronomers were able to map the edge of our heliosphere - the heliopause. The **heliopause is the area where a fierce interaction between interstellar space radiation and the solar wind happens**.
- The solar winds colliding with interstellar space radiation pushes outwards while interstellar space radiation pushes the solar wind inwards.
- Solar winds are a constant stream of magnetic fields and particles released by the sun.



Neutrinos

Science & Technology

Why in News?

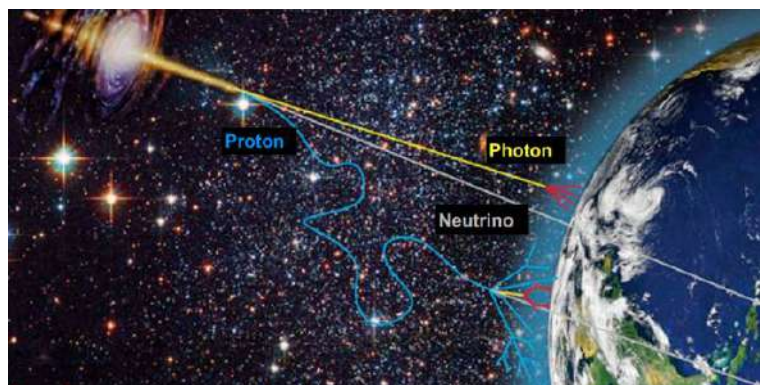
- Scientists have shown that the geometry of space-time can cause neutrinos to oscillate.

About Neutrinos

- Detected for the first time in **1959**, neutrinos are the **second most abundant particles in the world, after photons**, or the light particle.
- Neutrinos are **mysterious particles**, produced copiously in nuclear reactions in the Sun, stars, and elsewhere.
- They also "**oscillate**" – meaning that different types of neutrinos change into one another.
- Probing of oscillations of neutrinos and their relations with mass are **crucial in studying the origin of the universe**.
- Neutrinos are created by **various radioactive decays; during a supernova**, by cosmic rays striking atoms etc.

Features of neutrinos

- Neutrinos **interact very weakly with everything else** – trillions of them pass through every human being every second without anyone noticing.
- A neutrino's **spin always points in the opposite direction of its motion**.
- It is now generally believed that the **phenomenon of neutrino oscillations** require neutrinos to have **tiny masses**.



Why in News?

- China, which aims to become a major space faring power by 2030, became the second country to put a rover on Mars, two years after landing the first spacecraft on the far side of the moon.

About Shenzhou-12

- Shenzhou-12 is a **manned mission**. It is the **third of the 11 missions** that needed to complete China's first permanent space station, named **Tiangong Space Station**. Among these missions, four will be manned missions.
- Shenzhou-12 is made up of three sections—**an orbiter module, a return module and a propelling module**.
- It will carry **three astronauts to the orbiting Tianhe core module**. The astronauts will test the module's technologies, including its life-support system.
- Moreover, the men will also be monitored for **how they fare in space physically and psychologically** for an extended period of time.
- Shenzhou-12 is **China's seventh manned mission** to space and the first during the construction of China's space station.
- It is also the **first in nearly five years** after China's manned mission in 2016.

Tiangong Space Station

- Tiangong is a planned **Chinese Permanent space station** to be placed in **Low Earth orbit**.
- The operations of the station will be **controlled by the Beijing Aerospace Command and Control Center** in China.
- The Space Station roughly will be **one-fifth the mass of the International Space Station**.

Why is it in the news?

- It is said that people who are living life carefree, finding responsibilities challenging in** recently, the Bombay High Court granted bail to a 23-year-old rape accused on the ground that the accused suffered from a psychological condition known as Peter Pan Syndrome. The man allegedly sexually assaulted a 14-year-old girl.

About Peter Pan Syndrome

- It is a psychological condition that is used to describe an adult, more in men than women who are socially immature. In simple words, it can be called an overgrown child.
- More about Peter Pan Syndrome**
 - The **term was coined by psychologist Dan Kiley** to explain the behaviour of such men who 'refuse to grow' and behave their age.
 - The term '**Peter Pan Syndrome**' **first appeared in 1983**, in a book authored by Dr Dan Kiley titled 'Peter Pan Syndrome: Men Who Have Never Grown Up'.
 - He described it as a **"social-psychological phenomenon"**.
 - The **World Health Organisation (WHO)** **does not recognise Peter Pan Syndrome** in its list of mental illnesses.
 - The **term has its origin in literature, a play called Peter and Wendy by Scottish playwright JM Barrie**, who wrote this play in 1904 and a novel by the same name in 1911.
 - Peter's character is one of a **care-free young boy**, who never grows up.
 - He features in several of Barrie's books and plays, and has since been adapted in numerous films, television series and comics.
 - It is said that people who develop similar behaviours of living life carefree, finding responsibilities challenging in adulthood, and basically, "never growing up" suffer from Peter Pan Syndrome.

Symptoms of Peter Pan Syndrome

- As Peter Pan Syndrome **hasn't officially been diagnosed** as a health disorder, there aren't clearly-defined symptoms or characteristics or even reasons which cause it.
- However, it could **affect one's daily routine, relationships**, work ethic, and result in attitudinal changes.
- The 'Peter Pan Syndrome' **affects people who do not want or feel unable to grow up**, people with the body of an adult but the mind of a child.
- They don't know how to or don't want to stop being children and start being mothers or father

Global Housing

Science & Technology

Why is it in the news?

- The Delhi High Court dismissed the petition filed by Bollywood actor Juhi Chawla against the roll-out of 5G technology in India.

About 5 G technology

- 5G is the fifth generation cellular technology that apart from increasing the downloading and uploading speeds over the mobile network, also reduces the latency i.e. the time taken by a network to respond.
- 5G will provide download speed of 1 Gbps, which is at least 100 times the existing data speeds.
- It also increases energy efficiency and offers more stable network connections.
- 5G will have a wider area in the frequency spectrum (range of frequencies) that will ensure no network congestion.
- In addition, it will also ensure connectivity to a full circle i.e. everything is connected to every other thing.
- The standards for the usage of 5G are defined and driven by 3rd Generation Partnership Project.

How does 5G work?

- All 5G networks chiefly operate on three spectrum bands.
- The low-band spectrum has been proven to have great coverage and works fast even in underground conditions. However, the maximum speed limit on this band is 100 Mbps (Megabits per second).
- In the mid-band spectrum, though the speeds are higher, telcos across the world have registered limitations when it comes to coverage area and penetration of telephone signals into buildings.
- The high-band spectrum offers the highest speed but has extremely limited network coverage area and penetration capabilities.

Trials for 5G technology

- The Department of Telecommunications (DoT) on Tuesday gave permission **to Telecom Service Providers (TSPs)** to conduct trials for the use and application of 5G technology.
- The applicant TSPs include Bharti Airtel Ltd., Reliance JioInfocomm Ltd., Vodafone Idea Ltd. and MTNL.
- **These TSPs have tied up with original equipment manufacturers** and technology providers which are Ericsson, Nokia, Samsung and C-DOT.
- Each TSP will have to conduct trials in rural and semi-urban settings also in addition to urban settings so that the **benefit of 5G technology proliferates across the country**.
- This formally **leaves out Chinese companies** like Huawei and ZTE from the 5G race in India.

About 5Gi technology

- TSPs are encouraged to conduct trials using **5Gi technology** in addition to the already known 5G technology.
- 5Gi technology was advocated by India, as it facilitates **much larger reach of the 5G towers** and radio networks.
- The 5Gi technology has been **developed by** the Indian Institute of Technology, Madras (IIT-M), Centre of Excellence in Wireless Technology (CEWiT) and IIT Hyderabad.

Key Points

• **Features of 5G Technology:**

- **Millimeter wave spectrum:** The 5G networks will operate in the **millimeter wave spectrum** (30-300 GHz) which have the advantage of sending large amounts of data at very high speeds because the frequency is so high, it experiences little interference from surrounding signals.
- **Upgraded LTE:** 5G is the latest upgrade in the long-term evolution (LTE) mobile broadband networks.
- **Internet speed:** In the high-band spectrum of 5G, internet speeds have been tested to be as high as **20 Gbps** (gigabits per sec) as compared to the maximum internet data speed in 4G recorded at 1 Gbps.
- 5G network speeds should have a **peak data rate of 20 Gb/s** for the downlink & **10 Gb/s** for the uplink.
- **Bands in 5G:** 5G mainly work in 3 bands, **namely low, mid and high frequency** spectrum — all of which have their own uses as well as limitations.
- **Low band spectrum:** It has shown great promise in terms of coverage and speed of internet and data exchange however the maximum speed is **limited to 100 Mbps** (Megabits per second).
- **Mid-band spectrum:** It offers higher speeds compared to the low band, but has limitations in terms of coverage area and penetration of signals.
- **High-band spectrum:** It has the highest speed of all the three bands, but has extremely limited coverage and signal penetration strength.

• **Hurdles in Rolling Out 5G Technology:**

- **Enabling critical infrastructures:** 5G will require a **fundamental change to the core architecture** of the communication system. The major flaw of data transfer using 5G is that it can't carry data over longer distances. Hence, even 5G technology needs to be augmented to enable infrastructure.
- **Financial liability on consumers:** For transition from 4G to 5G technology, one has to upgrade to the latest cellular technology, thereby creating financial liability on consumers.
- **Capital Inadequacy:** Lack of flow of cash and adequate capital with the suitable telecom companies (like Bharti Airtel and Vodafone Idea) is delaying the 5G spectrum allocation.

Evolution from First Generation to Fifth Generation

- 1G was launched in the 1980s and worked on analog radio signals and supported only voice calls.
- 2G was Launched in the 1990s which uses digital radio signals and supported both voice and data transmission with a Bandwidth of 64 Kbps.
- 3G was launched in the 2000s with a speed of 1 Mbps to 2 Mbps and it has the ability to transmit telephone signal including digitised voice, video calls and conferencing.
- 4G was launched in 2009 with a peak speed of 100 Mbps to 1 Gbps and it also enables 3D virtual reality.

Internet Through LEO Satellites

Science & Technology

Why in the news?

- OneWeb has launched its next batch of 36 satellites as part of its programme, **'Five to 50' service**,
- whose goal is to offer internet connectivity to all regions north of 50 degrees latitude.
- OneWeb is a global communications company that **aims to deliver broadband satellite Internet around the world** through its fleet of LEO satellites.

About Low Earth Orbit (LEO) Satellite Technology

- LEO satellites have been orbiting the planet since the 1990s, providing companies and individuals with various communication services.
- LEO satellites are **positioned around 500km-2000km from earth**, compared to stationary orbit satellites which are approximately 36,000km away.
- **Benefits:**
 - As LEO satellites orbit closer to the earth, they are able to **provide stronger signals and faster speeds** than traditional fixed-satellite systems.
 - Additionally, because signals travel faster through space than through fibre-optic cables, they also have the potential to rival if not exceed existing ground-based networks.



• Challenges:

- LEO satellites travel at a speed of 27,000 kph and complete a full circuit of the planet in 90-120 minutes. As a result, **individual satellites can only make direct contact with a land transmitter for a short period of time** thus requiring massive LEO satellite fleets and consequently, a **significant capital investment**.
- Most of the companies regulating LEO satellites are owned by private companies. As such, there are questions related to **who regulates these companies**.
- These companies have to receive requisite licences to operate in each country and all these considerations make for a **complicated regulatory framework**.
- Satellites can sometimes be seen in the night skies which **creates difficulties for astronomers** as the satellites reflect sunlight to earth, leaving streaks across images.
- Satellites travelling at a lower orbit can also **interrupt the frequency of** those orbiting above them.
- It may **accentuate the quantities of space junk** as there are already almost 1 million objects larger than 1cm in diameter in orbit. These objects have the **potential to damage spacecraft** or collide with other satellites.
- LEO satellite broadband is only preferable in areas that cannot be reached by fibre and spectrum services. It will therefore be **suitable for rural populations and military units** operating away from urban areas.

NASA's Two Missions to Venus

Science & Technology

Why in the news?

- NASA announced two missions to Venus as part of its '**Discovery Program**' that aims to explore and study the solar system.

About the missions

- The two missions are: **DAVINCI+** (Deep Atmosphere Venus Investigation of Noble Gases, Chemistry and Imaging) and **VERITAS** (Venus Emissivity, Radio Science, InSAR, Topography and Spectroscopy).
- The aim of these missions is to study the atmosphere and geologic features of Venus and better understand why Venus and Earth emerged so differently.
- NASA's last dedicated mission to Venus, the **Magellan spacecraft**, reached the planet in 1990.
- **DAVINCI+**
 - The DAVINCI+ will measure the **atmospheric composition of Venus and its formation and evolution**. The mission will also try to determine if the planet held an ocean of liquid water in the past.
 - The mission will return the first high-resolution images of unique surface features known as **"tesserae" on Venus**. Scientists believe those features may be comparable to Earth's continents and suggest that Venus has plate tectonics.
- **VERITAS**
 - The VERITAS mission will study the **geology of Venus with radar, map its entire surface topography in 3D** and will try to understand why it developed differently from Earth.
 - It will also **study infrared emissions from the surface** to map various kinds of rocks. The mission will also seek to understand if any volcanic or tectonic activity is present on the planet currently.
 - It will also try to find out **if any active volcanoes are releasing water vapour into the atmosphere**, sustaining its greenhouse effect.

EnVision Mission

Science & Technology

Why in the news?

- Recently, the **European Space Agency (ESA)** had announced that it has selected **EnVision** as its next orbiter that will visit Venus sometime in the 2030s.

What is EnVision Mission?

- It is an **European Space Agency (ESA) led mission** with contributions from NASA.
- The earliest launch opportunity for EnVision is **2031, followed by 2032 and 2033**.
- The spacecraft will take about **15 months to reach Venus** and will take **16 more months to achieve orbit circularisation**.



- The spacecraft will carry a range of instruments to **study the planet's atmosphere and surface, monitor trace gases in the atmosphere and analyse its surface composition.**
- A radar provided by NASA will help to **image and map the surface.**
- It will follow another ESA-led mission to Venus called '**Venus Express**' (2005-2014) that focussed on atmospheric research and pointed to volcanic hotspots on the planet's surface.

About Venus

- It is the **second-brightest object** in the sky after the moon.
- It appears bright because of its **thick cloud cover that reflects and scatters light.**
- It is called the **Earth's twin** because of their similar sizes.
- The planet's thick atmosphere **traps heat** and is the reason that it is the **hottest planet in the solar system**, despite coming after Mercury.
- The surface temperatures on Venus can go up to **471 degrees Celsius**, which is hot enough to melt lead.
- It moves **forward on its orbit around the Sun** but **spins backwards around its axis slowly** which implies that on Venus the **Sun rises in the west and sets in the East.**
- **One day on Venus is equivalent to 243 Earth days** because of its backward spinning, opposite to that of the Earth's and most other planets.
- Venus also **does not have a moon** and **no rings.**



Significance of studying Venus

- The core of the ESA's mission is the **question of how Earth and Venus evolved so differently from each other** considering that they are roughly of the same size and composition.
- Venus is the hottest planet in the solar system because of the **heat that is trapped by its thick cloud cover.**
- The scientists speculate about the **existence of life on Venus in its distant past** and the possibility that life may exist in the top layers of its clouds where temperatures are less extreme.

CHIME Telescope

Science & Technology

Why is in the news?

- Scientists with the **Canadian Hydrogen Intensity Mapping Experiment (CHIME) Collaboration**, who include researchers at the Pune-based Tata Institute for Fundamental Research (TIFR) and the National Centre for Radio Astrophysics (NCRA), have assembled the **largest collection of fast radio bursts (FRBs) in the telescope's first FRB catalogue.**

About CHIME

- CHIME is an interferometric radio telescope at the Dominion Radio Astrophysical Observatory in British Columbia, Canada.
- It consists of four antennas consisting of 100 x 20-meter cylindrical parabolic reflectors with 1024 dual-polarization radio receivers suspended on support above them.
- The telescope receives radio signals each day from half of the sky as the Earth rotates.
- While most radio astronomy is done by swiveling a large dish to focus light from different parts of the sky, CHIME stares, motionless, at the sky, and focuses incoming signals using a correlator.
- This is a powerful digital signal processor that can work through huge amounts of data, at a rate of about seven terrabytes per second, equivalent to a few percent of the world's Internet traffic

What are Fast Radio Bursts?

- **FRBs are oddly bright flashes of light, registering in the radio band of the electromagnetic spectrum, which blaze for a few milliseconds before vanishing without a trace.**
- These brief and mysterious beacons have been spotted in various and distant parts of the universe, as well as in our own galaxy.



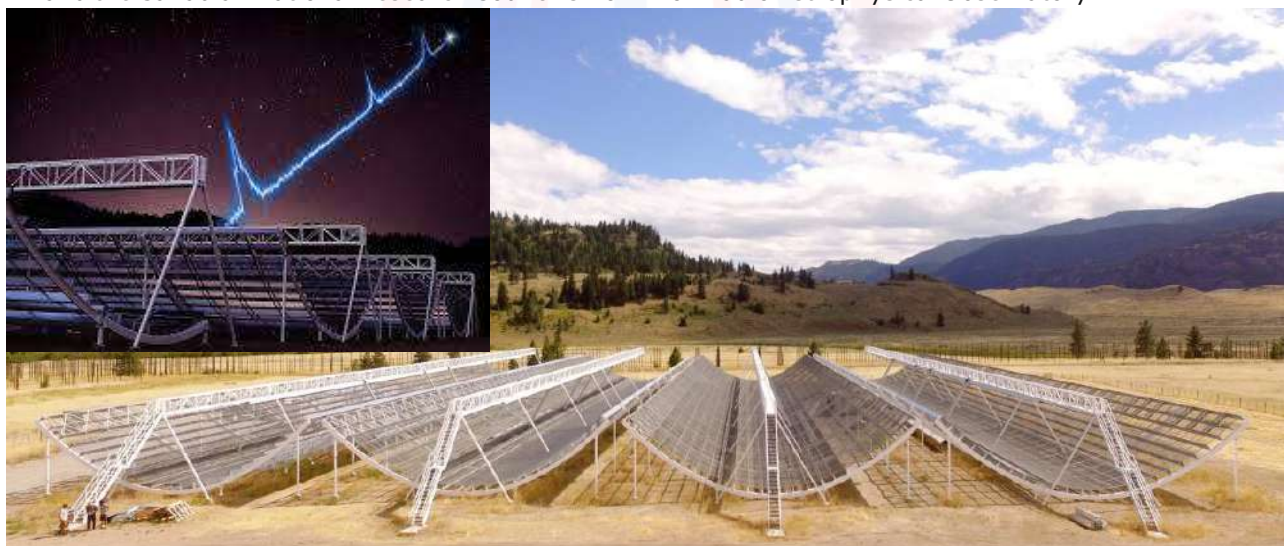
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- Their origins are unknown and their appearance is highly unpredictable.
- But the advent of the CHIME project — **a large stationary radio telescope in British Columbia, Canada** — has been a game changer and has nearly quadrupled the number of fast radio bursts discovered to date.
- With more observations, astronomers hope soon to pin down the extreme origins of these curiously bright signals.
- The telescope has detected a whopping 535 new fast radio bursts in its first year of operation itself, between 2018 and 2019.
- When the scientists mapped their locations, they found the bursts were evenly distributed in space, seeming to arise from any and all parts of the sky.
- From the FRBs that CHIME was able to detect, the scientists calculated that bright fast radio bursts occur at a rate of about 800 per day across the entire sky — the most precise estimate of FRBs overall rate to date.
- Scientists with the **Canadian Hydrogen Intensity Mapping Experiment (CHIME) Collaboration** have assembled the largest collection of **fast radio bursts (FRBs)** in the telescope's first FRB catalogue.
- FRBs are oddly bright flashes of light, **registering in the radio band of the electromagnetic spectrum**, which blaze for a few milliseconds before vanishing without a trace.
- These brief and mysterious beacons have been spotted in various and distant parts of the universe, as well as in our own galaxy.
- Their **origins are unknown** and their appearance is highly unpredictable.
- The CHIME project is a large **stationary interferometric radio telescope** located in British Columbia, Canada.
- The telescope **receives radio signals each day from half of the sky** as the Earth rotates.
- It consists of **four antennas consisting of 100 x 20 metre cylindrical parabolic reflectors** with 1024 dual-polarization radio receivers suspended on a support above them.
- It is a partnership between the University of British Columbia, McGill University, the University of Toronto and the Canadian National Research Council's Dominion Radio Astrophysical Observatory.



New Shephard Rocket System

Science & Technology

Why in News?

- Amazon founder Jeff Bezos's space company called **Blue Origin** concluded the online auction for the first seat on **New Shephard, a rocket system** meant to take tourists to space.
- The winning bidder will get to fly aboard New Shephard on **July 20**, which marks the **52nd anniversary of Neil Armstrong and Buzz Aldrin's moon landing**.

About

- New Shephard is a **reusable rocket system** that has been designed to **take astronauts and research payloads past the Karman line** – the internationally recognized boundary of space.
- The rocket system consists of two parts, the cabin or capsule and the rocket or the booster. The capsule is fully autonomous and **does not require a pilot**.



- The system is a **fully reusable, vertical takeoff** and vertical landing space vehicle that accelerates for about 2.5 minutes before the engine cuts off.
- **Built by :** The rocket system has been built by **Blue Origin**, space company of Amazon founder Jeff Bezos.
- **Named after :** The rocket system has been named after **astronaut Alan Shephard** – the first American to go to space.
- **Significance :** The idea is to **provide easier and more cost-effective access to space** meant for purposes such as academic research, corporate technology development and entrepreneurial ventures among others.
- Moreover, apart from academic and research-oriented goals, the rocket will also **allow space tourists to experience microgravity** by taking them 100 km above the Earth.
- Microgravity is the condition in which people or objects **appear to be weightless**. The effects of microgravity can be seen when **astronauts and objects float in space**.

Karman Line

- The Karman line is the **internationally recognized boundary of space**.
- The line is named after **Theodore von Kármán**, a Hungarian American engineer and physicist.
- He was the first person to **determine the altitude** at which the **atmosphere becomes too thin** to support aeronautical flight.
- The Fédération Aéronautique Internationale (**FAI**) defines the Kármán line as the **altitude of 100 kilometres** (62 miles) above Earth's mean sea level.
- FAI is an **international standard-setting** and **record-keeping body** for aeronautics and astronautics.

World's First Wooden Satellite

Science & Technology

- The **European Space Agency (ESA)** has planned to put the world's first wooden satellite, **WISA Woodsat**, on Earth's orbit by the end 2021.
- The mission of the satellite is to **test the applicability of wooden materials** like plywood in spacecraft structures and **expose it to extreme space conditions**, such as heat, cold, vacuum and radiation, for an extended period of time.
- The satellite will **orbit at around 500-600 km altitude** in a roughly polar Sun-synchronous orbit.
- WISA Woodsat is a 10x10x10 cm nano satellite built up from standardised boxes and surface panels made from plywood, the same material that is found in a hardware store or to make furniture.

Supersonic Plane

- The US airline **United** announced plans to buy 15 new supersonic airliners with the ability to travel at Mach 1.7, faster than the speed of sound. If the deal gets through, the **new supersonic "Overture" aircraft** will become the world's fastest commercial airliner, reducing travel time by about half of today's planes.
- Supersonic aircraft are planes that can fly faster than the speed of sound. **Concorde**, the British- French turbojet-powered commercial airliner, was the first aircraft to carry passengers at supersonic speed. Usually, supersonic planes **can travel at the speed of around 900 kmph**, twice the speed of normal aircraft.

Overture Supersonic Plane

- The Overture aircraft would travel at the speed of Mach 1.7 or 1,805 kmph with a range of 4,250 nautical miles.
- The Overture will also **not be noisy** as supersonic planes in the past were. This essentially means that it will cruise at supersonic speeds only over water, ensuring that no sonic boom or excessive noise reaches the surfaces where people live.
- Overture planes would **rely completely on sustainable aviation fuel**, made from biodegradable material. In using this, it aims for maximum fuel efficiency during operations.

Challenges With Supersonic Planes:

- The costs of making "sustainable" supersonic planes are extremely high. The very nature of its flying — using excessive amounts of fuel and energy — is likely to have **high environmental costs**. Despite the use of sustainable fuels, the greenhouse gas emissions are not nullified.



- The very speed of the planes result in **producing excessive amounts of noise pollution in the environment**. The "Sonic Boom" created by these planes feels like an explosion to the human ear. This, thus, limits where and when the supersonic planes can fly.
- **Getting clearance from regulators** around the world would be a **challenging task**, especially for transatlantic flights.
- It would **not be economically feasible** for everyone.

CIBER-2: Counting of Stars

Science & Technology

Why is in the news?

- Recently, a NASA-funded rocket's launch window opened at the White Sands Missile Range in New Mexico, USA.

Aim of CIBER

- To count the number of stars that exist in the Universe.
- While this is not the first time that such a mission has been undertaken, the CIBER-2 instrument has been improved upon to see if any stars had been undercounted in the previous counting attempts.

About Cosmic Infrared Background Experiment-2(CIBER-2)

- The universe contains a mind-boggling number of stars but scientists' best estimates may be an undercount.
- **A NASA-funded sounding rocket is launching with an improved instrument to look for evidence of extra stars** that may have been missed in stellar head counts.
- The Cosmic Infrared Background Experiment-2, or CIBER-2, mission **is the latest in a series of sounding rocket launches that began in 2009**.
- It is led by Michael Zemcov, assistant professor of physics and astronomy at the Rochester Institute of Technology in New York
- **The CIBER-2 instrument, like the earlier CIBER instrument it's based on, will launch aboard a sounding rocket a small suborbital rocket** that carries scientific instruments on brief trips into space before falling back to Earth for recovery.
- **Once above Earth's atmosphere, CIBER-2 will survey a patch of sky about 4 square degrees** for reference; the full Moon takes up about half a degree that includes dozens of galaxy clusters.
- It won't count stars, but it will detect the diffuse, cosmos-filling glow known as the extragalactic background light.
- **CIBER-2 was designed to observe an expanded range of wavelengths** from the near-infrared to green visible light to see if it's there.
- **CIBER-2 can also distinguish light from the first galaxies and stars or early direct-collapsing black holes:** Both should have a characteristic portion of their total light missing, the part absorbed by the thick fog of intergalactic hydrogen in the early universe.

Counting of stars by CIBER-2

- Once the instrument is above Earth's atmosphere, it will survey a patch of sky that will include dozens of clusters of galaxies.
- NASA notes that the instrument will not actually count individual stars but it will instead detect the extragalactic background light, which is all of the light that has been emitted throughout the history of the Universe.
- From all of this extragalactic background light, the **CIBER-2 will focus on a portion of this called cosmic infrared background**, which is emitted by some of the most common stars.
- This approach is aiming to look at how bright this light is to give scientists an estimate of how many of these stars are out there.
- The ESA infrared space observatory Herschel also counted the number of galaxies in infrared and measured their luminosity previously.

Why is in the news?

- Indian Institute of Technology, Ropar (IIT Ropar) in Punjab has developed a first-of-its-kind IoT device – AmbiTag.

About the device-

- It **records real-time ambient temperature** during the transportation of perishable products, vaccines, vegetables, meat, body organs, blood, dairy products as well as animal semen.
- The recorded temperature helps to know whether that particular **item transported from anywhere in the world is still usable or perished** because of temperature variation.
- It is shaped like a **USB device** that continuously records the temperature of its immediate surroundings from **-40 to +80 degrees** in any time zone **for a full 90 days on a single charge**.
- Similar devices that are available at present record data only for a duration of 30- 60 days.
- It has a range of **inbuilt features** to customise logging intervals, time zone and alarms.
- The device generates an **alert when the temperature goes beyond a pre-set limit**.
- The recorded data can be retrieved by connecting the USB with any computer.
- The device has been **developed under Technology Innovation Hub – AWaDH** (Agriculture and Water Technology Development Hub) and its Startup ScratchNest.
- So far, such devices are being imported by India from other countries such as Singapore, Hong Kong, Ireland, and China.



Why is in the news?

- The **Cabinet Committee on Economic Affairs** has approved the proposal of the "**Deep Ocean Mission**". The aim is to **explore the deep ocean for resources** and **develop deep-sea technologies** for sustainable use of ocean resources. The **Ministry of Earth Sciences (MoES)** will be the nodal ministry for implementing the multi- institutional mission

Major Components Of The Mission:

- Development of Technologies for Deep Sea Mining:** A **manned submersible** will be developed to **carry three people to a depth of 6000 metres** in the ocean with a suite of scientific sensors and tools. An **Integrated Mining System** will be also developed for **mining polymetallic nodules** at those depths in the **central Indian Ocean**.
- Development of Ocean Climate Change Advisory Services:** It entails developing a suite of observations and models to understand and provide **future projections of important climate variables** on seasonal to decadal time scales.
- Technological innovations for deep-sea biodiversity:** It includes bio-prospecting of deep sea flora and fauna including microbes and studies on sustainable utilization of deep sea bio-resources.
- Deep Ocean Survey and Exploration:** To explore and identify **potential sites of multi-metal Hydrothermal Sulphides mineralization** along the Indian Ocean mid-oceanic ridges.
- Energy and Freshwater from the Ocean:** Studies and detailed engineering design for offshore
- Ocean Thermal Energy Conversion (OTEC)** powered desalination plant.
- The United Nations (UN) has declared the decade 2021-2030 as the Decade of Ocean Science for Sustainable Development.
- Advanced Marine Station for Ocean Biology:** This component is aimed at the development of human capacity and enterprise in ocean biology and engineering.
- India has a unique maritime position -its **7517 km long coastline** is home to **nine coastal states** and 1382 islands.
- India has been allotted a site of 75,000 square kilometres in the Central Indian Ocean Basin (CIOB) by the UN International SeaBed Authority for exploitation of polymetallic nodules (PMN).
- These are rocks scattered on the seabed containing iron, manganese, nickel and cobalt

Why is in the News?

- The illegal cultivation of (Herbicide Tolerant) HT Bt cotton has seen a significant increase in recent years. Similarly, the sale of HT Bt Cotton seeds has more than doubled from 30 lakh in 2020 to 75 lakh in 2021.

About Bt Cotton:

- Bt cotton** is the only transgenic crop that has been approved by the Government of India for commercial cultivation.
- Bt cotton** has been genetically modified to produce an insecticide to combat the cotton bollworm, a common pest.

How is Bt Cotton produced?

- Bt cotton** was created by genetically altering the cotton genome to express a microbial protein from the bacterium *Bacillus thuringiensis*.
- In short**, the transgene inserted into the plant's genome produces toxin crystals that the plant would not normally produce which, when ingested by a certain population of organisms, dissolves the gut lining leading to the organism's death.

About HT Bt Cotton Variant:

- This is another variant of **Bt cotton**. This variant adds another layer of modification, making the plant resistant to the herbicide glyphosate. However, this variant has **not been approved by regulators**.
- Concerns regarding illegal cultivation of HT Bt Cotton:** There have been various concerns raised against the illegal cultivation of Herbicide Tolerant Bt Cotton. These concerns include:
- The HT Bt cotton variant** has serious environmental and economic consequences. This is because there are fears that glyphosate has a carcinogenic effect. Further, the unchecked spread of **herbicide resistance is creating a variety of superweeds**.
- The illegal sale will eliminate small cotton seed companies and also threaten the entire legal cotton seed market in India.
- There is no accountability of the quality of cottonseed as it is being sold illegally.
- The industry is losing legitimate seed sales and government is also losing revenue in terms of tax collection.

Why in News?

- The Wide Area Linear Optical Polarimeter (WALOP), a vital instrument for the PASIPHAE Project, is being developed at Inter-University Centre for Astronomy and Astrophysics (IUCAA), India.

About the survey

- Polar-Areas Stellar-Imaging in Polarisation High-Accuracy Experiment (PASIPHAE) is **an international collaborative sky surveying project**.
- The project has been **funded by the world's leading institutions** from USA, Norway, South Africa and Private foundations.
- Scientists aim to **study the polarisation in the light coming from millions of stars**.
- The survey will use **two high-tech optical polarimeters** to observe the northern and southern skies, simultaneously.
- It will focus on **capturing starlight polarisation of very faint stars** that are so far away that polarisation signals from there have not been systematically studied.
- The distances to these stars will be obtained from measurements of the **GAIA satellite** (of European Space Agency)
- By combining these data, astronomers can create a **3-Dimensional model** of the **distribution of the dust and magnetic field structure** of the galaxy using a novel polarimeter instrument known as WALOP (Wide Area Linear Optical Polarimeter).
- Since its birth about **14 billion years ago**, the universe has been **constantly expanding**, as evidenced by the **presence of Cosmic Microwave Background (CMB) radiation** which fills the universe. The PASIPHAE polarimetric map will be used to **perform magnetic tomography** of the Milky Way Galaxy.

WALOP

- Wide Area Linear Optical Polarimeter (WALOP) is an **instrument**, when mounted on **two small optical telescopes**, that will be **used to detect polarised light signals** emerging from the stars along high galactic latitudes.
- A WALOP each will be mounted **on the 1.3-metre Skinakas Observatory, Crete** (Greek islands), and on the **1-metre telescope** of the South African Astronomical Observatory located in Sutherland.
- Once built, they will be **unique instruments** offering the **widest ever field of view of the sky** in polarimetry. In simple terms, the images will simultaneously have the **finest of details of a star** along with its panoramic background.
- 200 kg weighing WALOP will be capable of **observing hundreds of stars concurrently present** both in the northern and the southern skies

Aducanumab

Science & Technology

Why is in the news?

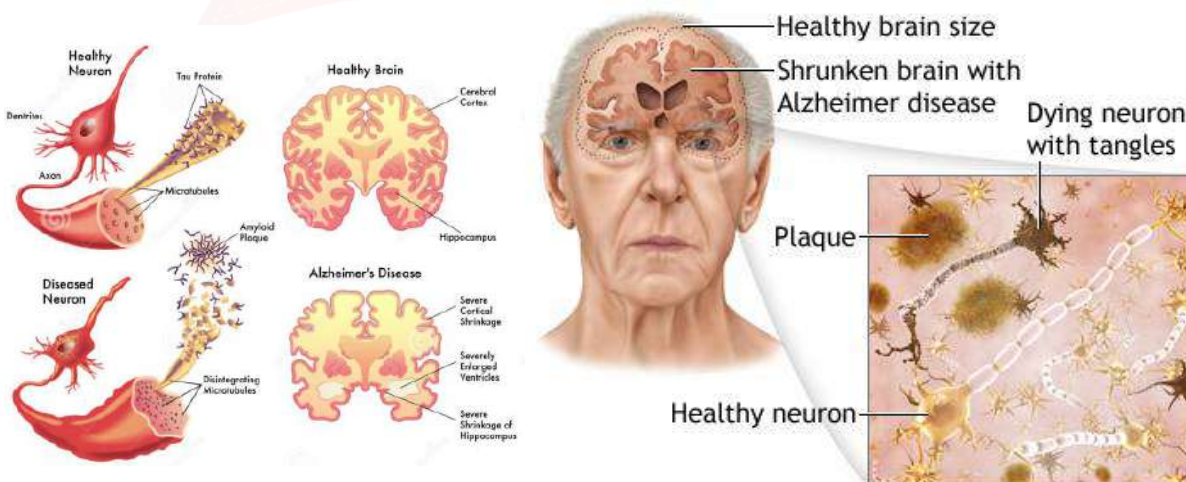
- Aducanumab (Aduhelm), from the company Biogen, is the new drug approved by the US Food and Drug Administration (FDA) for treating Alzheimer's disease.

About

- Aduhelm is **not a cure**, but it **slows down cognitive decline**.
- Alzheimer's disease causes the **accumulation of the debris** caused by the breakdown of neurons in the brain, leading to **plaque formation**.
- So, Aducanumab is a **monoclonal antibody** that is designed to **reduce** the **presence of amyloid beta**, a protein that forms plaques in the brain.
- Aducanumab aims at **altering the course of the disease** by slowing the deterioration of brain function by reducing plaque formation.
- Since there is no treatment so far, the drug that can **slow down Alzheimer's disease** holds much promise and is a ray of hope.

Alzheimer's Disease

- Alzheimer's disease is a **progressive neurologic disorder** that causes the **brain to shrink** (atrophy) and **brain cells to die**.
- The disease is the most common **cause of dementia** — a continuous decline in thinking, behavioural and social skills that affect a person's ability to function independently.
- Alzheimer's disease is thought to be caused by the **abnormal build-up of proteins in and around brain cells**.
 - One of the proteins involved is called **amyloid**, deposits of which form **plaques around brain cells**.
 - The other protein is called **tau**, deposits of which form tangles within brain cells.
- Alzheimer disease **most commonly affects older adults**, but it can also affect people in their 30s or 40s.



Why in the news?

- According to a study published in the American Journal of Gastroenterology, Pfizer or Moderna Covid-19 vaccines are safe for patients with inflammatory bowel diseases (IBD). They do not appear to have an increased risk of side effects from Covid vaccines.

About the disease

- Inflammatory bowel disease (IBD) represents a **group of intestinal disorders** that cause prolonged inflammation of the digestive tract.
- The two most common IBDs are **ulcerative colitis** (UC) and **Crohn's disease**.
- Ulcerative Colitis (**UC**) involves **inflammation of the large intestine**.
- Crohn's disease can cause inflammation in **any part of the digestive tract**. However, it mostly **affects the tail end of the small intestine**.
- Family history and genetics, Weak Immune System, Smoking, Ethnicity, Age** and Environmental Factors among others.
- Treatment may include **immunosuppressive drugs to control the inflammation**.

Why in News?

- Latest edition of UNESCO Science Report (USR) was published on June 11, 2021 which is entitled as "race against time for smarter development".

About the report

- UNESCO Science Report is a **global monitoring report**.
- It is published **every five years by** the United Nations Educational, Scientific, and Cultural Organization (**UNESCO**).
- The report **monitors trends in science governance worldwide** to identify which development path countries are following.
- The latest edition was published with the title '**The race against time for smarter development**'. The report has an **exclusive chapter on India**.

Key outcomes

- The gross domestic expenditure on research (**GERD**) has been **stagnant at 0.7% of the GDP** for years. However, in absolute terms, the research expenditure has increased.
- In **1990**, the density of scientists/engineers engaged in R&D in India **per 10,000 of the labour force stood at 10**. This has now **marginally increased to just 11 in 2018**.
- R&D in the government sector has been **declining steadily since 2015**. On the other hand, the **share of private business enterprises in R&D has increased to 42%**.

Why is in the news?

- Union Minister of Tribal Affairs flagged off mobile vans under the Unmukt project for strengthening screening and timely management of Sickle Cell Disease (SCD) in Khunti district of Jharkhand and Kanker in Chhattisgarh.

About the disease

- It is an **inherited blood disease** which is most common among people of African, Arabian and Indian origin.
- It is a **group of disorders** that **affects hemoglobin**, the molecule in red blood cells that delivers oxygen to cells throughout the body.

- People with this disease have **atypical hemoglobin molecules** called **hemoglobin S**, which can distort red blood cells into a sickle, or crescent shape.
- This **blocks blood flow** and **oxygen** from reaching all parts of the body.

Symptoms

- It can cause **severe pain**, referred to as **sickle cell crises**.
- Over time, people with sickle cell disorders can experience damage to organs including the liver, kidney, lungs, heart and spleen. **Death can also result** from complications of the disorder.
- **Medication, blood transfusions** and rarely a bone-marrow transplant.

Initiatives by India

- Initiative by the Ministry of Tribal Affairs
- **SCD Support Corner**, a **portal** to collect real time data & provide relevant information related to Sickle Cell.
- It will help in making a Central Repository of data.
- An '**Action Research**' **project** under which Yoga dependent lifestyle is promoted **to reduce the complications** in the patient suffering from this disease.
- The Ministry of Social Justice and empowerment has **increased** the **validity of disability certificates** for SCD patients **from 1 year to 3 year**.

Gain-of-function Research

Science & Technology

Why in News?

- The Wuhan Institute of Virology was said to have conducted gain-of-function research on coronaviruses which may possibly have caused the lab-leak origin of the SARS-CoV-2 (Covid-19 pandemic).

About Gain of Functional Research

- Gain of functional research is a type of medical research that tries to alter a disease-causing organism such as a virus or bacteria.
- This change aims to increase its growth speed, transfer rate and range of host to reveal how a disease acts and infects a host.
- This helps researchers to predict characteristics of harmful diseases and develop medicines and related vaccines.
- This aims to understand disease in a better way and get ready for any future pandemic potential threats.

Potential Threats

- With the above explanation and example, you can simply say that the gain of functional research is an experiment where a pathogen is given the power to replicate quickly, increase its transferability and host range.
- And this is dangerous as this can help a disease to cause a pandemic. Therefore generally these researches are conducted under government regulations.
- These experiments are regulated by institutions like the institution DURC Committee and US government agencies such as NIH's recombinant DNA Advisory Committee.
- Similar committees are found in different countries.

Benefits of Gain of Functional research

- Gain of functional research can help scientists to find out a disease beforehand and they can find counter measures such as medicines, vaccines to stop their future.
- It can help researchers to understand the virus in a better way and understand the potential threat it contains.
- This thing will stop many future pandemics, resulting from different viruses, and their locations.
- This can help scientists to be prepared for fighting against mutations of pre-existing diseases.

Issues

- This experiment allows pathogens to grow to their full potential. Even the slightest carelessness or exposure to it can spread the disease rapidly.

- If the disease spreads through the lab it can cause pandemics.
- Viruses of the labs are super strong. Moreover, it provides suitable conditions to grow and attain its full potential. They can be used to instigate bio-wars.

Regulating Body in India

- All activities related to genetically engineered organisms or cells and hazardous microorganisms and products are regulated as per the "**Manufacture, Use, Import, Export and Storage of Hazardous Microorganisms/Genetically Engineered Organisms or Cells Rules, 1989**".
- In 2020, the Department of Biotechnology issued guidelines for the establishment of containment facilities, called '**Biosafety labs**'.
- The notification provides operational guidance on the containment of biohazards and levels of biosafety that all institutions involved in research, development and handling of these microorganisms must comply with.

Delta Plus variant

Science & Technology

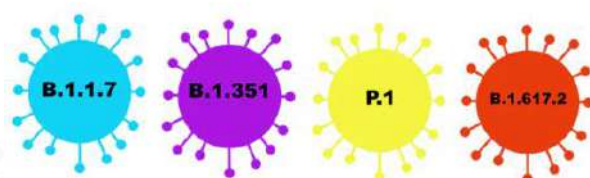
Why in News?

- The Health Ministry has categorised Delta Plus variant of coronavirus as a 'variant of concern'. It has been detected in many states.

About the variant

- The Delta variant formerly known as **B.1.617.2** is believed to be the **most transmissible variant of Covid-19 yet**. It has been initially detected in India.
- The Delta plus variant (B.1.617.2.1 or AY.1) has been formed due to a **mutation in the Delta variant**.

Alpha Beta Gamma Delta



Emergence of virus strains

- Variants of a virus have **one** or **more mutations** that differentiate it from the other variants that **are in circulation**.
- Essentially, the goal of the virus is to **reach a stage** where **it can cohabit with humans** because it needs a host to survive.
- **Errors in the viral RNA** are called **mutations**, and viruses with these mutations are called **variants**. Variants could **differ by a single** or **many mutations**.

Mutation

- A mutation means a **change** in the **genetic sequence of the virus**.
- In the case of SARS-CoV-2, which is an Ribonucleic acid (**RNA**) **virus**, a mutation means a **change in the sequence in which its molecules are arranged**.
- A mutation in an RNA virus often happens when the **virus makes a mistake while it is making copies of itself**.

Variant of Concern (VOC)

- WHO (World Health Organisation) classifies a variant as a VOC when it is associated with:
- An **increase in transmissibility** or detrimental change in Covid-19 epidemiology
- **Increase in virulence** (Ability to cause severe/life-threatening disease)
- **Decrease** in the **effectiveness of public health measures** or available diagnostics, vaccines and therapeutics.

Delta Variant Gains Dominance Around the World

Number of Delta variant infections in the previous four weeks and share of total new COVID-19 infections*



As of Aug 2, 2021, or latest available
* Selected countries. Includes varieties B.1.1617.2, AY.1 and AY.2
Source: GISAID



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Why in News?

- Recently, the Union Minister for Electronics & Information Technology was locked out of his Twitter account allegedly over a notice received for violation of the **Digital Millennium Copyright Act (DMCA)**.

About Digital Millennium Copyright Act (DMCA)

- It is a **1998 law** passed in the US.
- It is among the **world's first laws recognising intellectual property** on the internet.
- It oversees the **implementation of the two treaties** signed and agreed upon by member nations of the World Intellectual Property Organisation (WIPO) in 1996.
- The two treaties are the **WIPO Copyright Treaty** & the **WIPO Performances and Phonograms Treaty**.
- It **criminalizes production and dissemination** of technology, devices, or services intended to circumvent measures that control access to copyrighted works.

Significance of Digital Millennium Copyright Act (DMCA)

- The treaties require member nations to provide in their **respective jurisdictions, protection to intellectual property** that may have been created by citizens of different nations who are also co-signatories to the treaty.
- The protection, accorded by each member state, **must not be any less in any way** than the one being given to a domestic copyright holder.
- It obligates that signatories to the treaty ensure ways to **prevent circumvention of the technical measures** used to protect copyrighted work.
- It also provides the **necessary international legal protection** to digital content.

Need for Digital Millennium Copyright Act (DMCA)

- Establishing protections for online service providers** in certain situations if their users engage in copyright infringement which allows copyright owners to inform online service providers about infringing material so it can be taken down;
- Encouraging copyright owners to give greater access** to their works in digital formats by providing them with legal protections against unauthorized access to their works; and
- Making it unlawful to provide false copyright management information** or to remove or alter that type of information in certain circumstances.

Generation of DMCA Notice

- Any content creator of any form, who believes that their original content has been copied by user or a website without authorisation can file an **application citing their intellectual property has been stolen or violated**.
- The users can either **approach the website on which the content has been hosted, or third party service providers**, which utilise a team of experts to help take down the stolen content for a small fee.
- The content creators such as Facebook, Instagram or Twitter can **directly approach the platform** with a proof of them being original creators.
- The platforms also give the other users against whom allegations of content cheating have been made, a **chance to reply to the DMCA notice** by filing a counter notice.
- The **platform shall then decide which party is telling the truth**, and shall accordingly, either restore the content or keep it hidden.

World Intellectual Property Organization(WIPO)

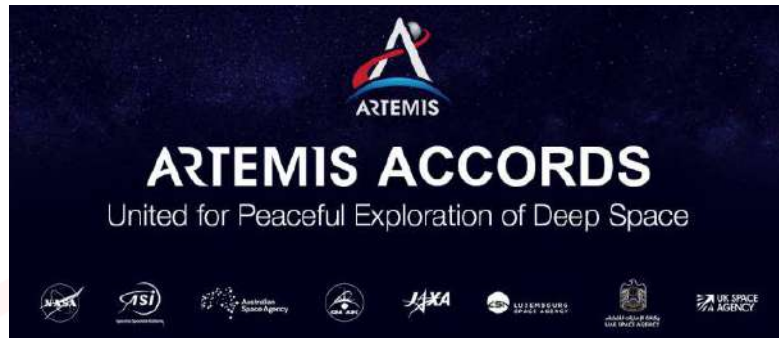
- World Intellectual Property Organization(WIPO) is one of the 15 **specialized agencies of the United Nations** (UN).
- Purpose è It was created to **promote and protect intellectual property** (IP) across the world by cooperating with countries as well as international organizations.
- It's mandate of **governing bodies** and **procedures** are **set out** in the WIPO Convention which had established WIPO in 1967. Headquartered in **Geneva, Switzerland**.
- As of date, **193 nations** across the world, including **India, are members of WIPO**.

Why in News?

- New Zealand became the eleventh signatory to the Artemis Accords, a blueprint for space cooperation and supporting the U.S. space agency's plans to return humans to the moon by 2024 and to launch a historic human mission to Mars.

About the accord

- This accord ensures that **space exploration is conducted in a safe, sustainable and transparent manner** and in full compliance with international law.
- As **more countries establish a presence in outer space**, via research stations, satellites, or even rocket launches, these accords provide a set of principles to create a safe and transparent environment that inspires exploration, science, and commercial activities.
- The other signatories to the accords are **the U.S., Australia, Britain, Canada, Italy, Japan, Luxembourg, South Korea, the United Arab Emirates, and Ukraine**. Brazil also said it plans to sign.

**Why is in the news?**

- A first-of-its-kind research initiative called '**Fund for Industrial Research Engagement (FIRE)**' has been launched by the **Science and Engineering Research Board (SERB)**, in collaboration with Intel India.

About FIRE initiative-

- It is a **joint government and industry initiative** with a co-funding mechanism to promote innovative technology solutions and strengthen academic research through collaboration with key R&D organizations in India.
- It will increase research opportunities in the space of Artificial Intelligence (AI)/Machine Learning (ML), platform systems, circuits & architecture, Internet of Things (IoT), materials & devices, security etc...
- The program **intends to select highly impactful research projects in every cycle** (typically once or twice a year), which have breakthrough potential at a national or global level.
- It will support the best researchers in academia with **funding, mentoring, and industry connect**.
- As the next step, the FIRE program will share a **Request for Proposal (RFP)** and invite the Indian research community to submit research proposals.

Science and Engineering Research Board (SERB)-

- SERB is a **statutory body** of the Department of Science and Technology (DST), Government of India.
- It was created in 2011.
- It is **chaired by Secretary, DST**, SERB comprises 17 members that includes seven Secretaries to the Government of India.
- SERB has a **vision to** position science and technology as the fulcrum for social and economic change by supporting competitive, relevant and quality scientific research and development.
- It has a **mission to** raise the quality and footprint of Indian science and engineering to the highest global levels in an accelerated mode

Why is in the news?

- Anti- COVID drug 2-deoxy-D-Glucose (2-DG) has been launched commercially.

About Deoxy-D-Glucose (2-DG)

- The anti-Covid therapeutic application of 2-DG has **been jointly developed by:**
 - The Institute of Nuclear Medicine and Allied Sciences.
 - Defence Research and Development Organisation (DRDO).
 - Dr Reddy's Laboratories.
- It received the nod(emergency use approval) of the Drug Controller General of India's on May 1, 2021
- It can be administered only upon prescription to hospitalised moderate to severe Covid-19 patients as an additional therapy to the existing care, under the supervision of a qualified physician.
- The drug will be supplied to both Government and private Covid-19 health facilities across India.
- Each sachet of 2-DG has been fixed at Rs 990 per sachet. The government institutions will receive at a subsidized rate.
- The drug is available in powder form in a sachet, and can be taken orally after dissolving in water
- The drug, 2-DB will be sold commercially under the brands 2DGTTM.
- According to Dr Reddy's Laboratories, the drug has a purity of 99.5 percent.
- Its selective accumulation in virally infected cells makes this drug unique.
- The drug reportedly reduces a patient's average recovery time by two and a half days and oxygen demand by up to 40 per cent.
- According to the government, 2-DG being a generic molecule and an analogue of glucose, it can be easily produced and made available in large quantities.

**Who cannot use it(restricted usage)?**

- The 2DG should not be given to pregnant and lactating women and patients below 18 years.
- The uncontrolled diabetes, severe cardiac problem, ARDS, severe hepatic and renal impairment patients have not been studied yet with 2DG, and hence caution should be exercised.

How does it work?

- 2-DG, made of the generic molecule along with an analogue of glucose, accumulates in the virus-infected cells of the body and prevents the invasion of the virus from one cell to another. Viral synthesis and energy production of the virus is cut short, stopping it from growing faster helping Covid patients to no longer depend on supplemental oxygen and recover faster..

Why is in the news?

- Recently, the Union Minister of Defence had visited the **Karwar Naval Base in Karnataka** to review the progress of ongoing infrastructure development under '**Project Seabird**'.

What is Project Seabird?

- It was **approved in 1999** following the Pokhran-II by the then union defence minister George Fernandes.
- It is **largest naval infrastructure project for India** which involves creation of a **naval base at Karwar** on the west coast of India in Karnataka.
- The first phase of the naval base called **Operation Seabird was completed in 2005** and the **second phase started in 2011**.
- It involves a **3,000 feet long runway, docking space for 30 warships, hangars for aircraft** are part of the Rs 19,000 crore project spread over 11,000 acres of land.
- AECOM is the **project management consultant** for managing and overseeing the planning, design, contracting, construction and acceptance of the entire works, including construction of a new Naval Air Station.

Importance of Project Seabird

- It will provide the Indian Navy with its **largest naval base on the west coast** and also the **largest naval base east of the Suez Canal**.
- It is aimed at providing **fleet support and maintenance of warships**.
- The expanded naval complex will be able to **support several major warships** and at least 30 vessels, submarines and yard crafts.
- It will house a **state-of-the-art Naval Air Base** and maintenance section.
- It will **strengthen the country's trade, economy and humanitarian assistance** and give more teeth to the Indian Navy.

About INS Kadamba

- It is an **integrated strategic naval base** of the Indian Navy.
- It can accommodate the **operational fleet of Western Naval Command** and reduce the traffic in the existing naval base located at Mumbai.
- It is **India's third functional naval base** after those in Mumbai and Visakhapatnam.
- It is situated at **Binaga Bay near Karwar** in Karnataka.
- The first phase of the base was **commissioned in 2005** under "Project Seabird".
- It included a **ship lift facility, harbour and anchorage, jetty, berthing facilities** and accommodation facilities.
- INS Shardul** became the first warship to be commissioned at INS Kadamba in 2007.

Why is in the news?

- Recently, a new generation nuclear capable ballistic missile Agni-P (Prime) was successfully test-fired by DRDO from Dr. APJ Abdul Kalam island off the coast of Odisha, Balasore.

About Agni P Missile

- Agni-P is a new-generation advanced variant of Agni class of missiles. It is a canisterised missile with range capability between **1,000 and 2,000 km**.
- Explaining the differences from the earlier Agni class of missiles, a DRDO official said Agni-P had improved parameters, including manoeuvring and accuracy.
- Canisterisation of missiles reduces the time required to launch the missile** while improving its storage and mobility.

- The Agni class of missiles are the mainstay of India's nuclear launch capability which also includes the Prithvi short-range ballistic missiles, submarine-launched ballistic missiles and fighter aircraft.
- **The longest of the Agni series, Agni-V, an Inter-Continental Ballistic Missile (ICBM) with a range of over 5,000 km**, has already been tested several times and validated for induction.
- In the past few years, India has also operationalised its submarine-based nuclear launch capability, completing the nuclear triad.
- This is especially important given India's no-first-use policy while reserving the right of massive retaliation if struck with nuclear weapons first.
- As reported by The Hindu earlier, the DRDO, in January 2020, successfully test-fired a **3,500-km range submarine-launched ballistic missile, K-4**, from a submerged pontoon off the Visakhapatnam coast.
- Once inducted, these missiles will be the mainstay of the **Arihant class of indigenous ballistic missile nuclear submarines (SSBN)** and will give India the stand-off capability to launch nuclear weapons submerged in Indian waters. **INS Arihant, the only SSBN in service, is armed with K-15 missiles with a range of 750 km.**



About Agni Missiles

- Agni Missiles trace **their origins** back to the **Integrated Guided Missile Development Programme (IGMDP)**.
- IGMDP was conceived **by APJ. Abdul Kalam in the 1980s** to enable India to attain self-sufficiency in the field of missile technology.
- The 5 missiles (**P-A-T-N-A**) developed under this program are:
 - **Prithvi**: Short range surface to surface ballistic missile.
 - **Agni**: Ballistic missiles with different ranges, i.e. Agni (1,2,3,4,5)
 - **Trishul**: Short range low level surface to air missile.
 - **Nag**: 3rd generation anti-tank missile.
 - **Akash**: Medium range surface to air missile..

Operation Pangea XIV

Defence & Security

Why is in the news?

- "**Operation Pangea XIV**" was coordinated by the **International Criminal Police Organization** (Interpol). This operation targeted the **sale of fake medicines and products online**. Indian agencies also participated in the operation. The Central Bureau of Investigation is the **nodal body for the Interpol in the country**.

About Interpol

- **Full Name** - International Criminal Police Organisation
- Interpol is an **international police organisation** made up of 194 member countries. Interpol does not work under UN. It has enjoyed a special role – that of **Permanent Observer at the United Nations** - since 1996.
- **Founded** in 1923; **Headquartered** at Lyon, France
- It is **not a police force** in the traditional sense—its agents are **not able to arrest criminals**.
- It is **more of an information-sharing network**, providing a way for national police forces to co- operate effectively and tackle international crime ranging from human trafficking and terrorism to money laundering and illegal art dealing.
- The organization operates centralised criminal databases that contain fingerprint records, DNA samples and stolen documents.
- "**Red Notice**" - a notification that a member state would like someone arrested. States are not obliged to follow these notices, but will often treat them as a warrant for someone's arrest and extradition.
- **Kim Jong Yang** of South Korea was elected **president of Interpol for a two-year term** until 2020.



Why in News?

- Recently, the maiden Indian Navy and European Union Naval Force (EUNAVFOR) exercise began in the Gulf of Aden.

About EUNAVFOR Exercise

- The exercise involved Indian Navy frigate **INS Triakand**, **EU NAVFOR Somalia - Operation Atalanta** assets, including Italian frigate Carabiniere (Atalanta's flagship) and Spanish frigate Navarra, French frigate Surcouf and French amphibious assault helicopter carrier Tonnerre.
- The exercise was based on the scenario of an anti-piracy operation. It included cross-deck helicopter landings, complex tactical evolutions at sea, live firing, a night-time joint patrol and a naval parade in the high seas off the coast of Somalia.
- The EU and India are committed to a free, open, inclusive and rules-based order in the Indo-Pacific region, underpinned by respect for territorial integrity and sovereignty, democracy, rule of law, transparency, freedom of navigation and overflight, unimpeded lawful commerce, and peaceful resolution of disputes. They reaffirm the primacy of international law, including the United Nations Convention on Law of the Sea (UNCLOS).
- In January 2021, the EU and India launched a dialogue on maritime security and agreed to deepen their dialogue and cooperation in this domain. The Indian Navy has been providing escort to World Food Programme chartered vessels, coordinated by EU NAVFOR Somalia - Operation Atalanta.
- The Indian Navy has previously participated in the **Shared Awareness and Deconfliction (SHADE) conference, co-hosted by Operation Atalanta**, whose assets conducted several joint exercises with Indian vessels in the past.

**Gulf of Aden**

- Gulf of Aden, also known as the **Gulf of Berbera**, is a **deepwater gulf** between Yemen to the north, the Arabian Sea to the east, Djibouti to the west, Guardafui Channel, Socatra (Yemen), and Somalia to the south.
- In the northwest, it **connects with the Red Sea through the Bab-el-Mandeb strait**, and it **connects with the Arabian Sea** to the east. To the west, it narrows into the Gulf of Tadjoura in Djibouti.

Integrated Theatre Command

Defence & Security

Why is in the news?

- A high-level committee consisting of representatives from the services and the Ministries concerned has been formed for wider consultations on the creation of integrated triservice theatre commands.

About Integrated Theatre Command(Theaterisation)

- The idea of Theatre Command was suggested in the reports of the **military reforms committee – under Lt General (retd.) DB Shekatkar**.
- It recommended the **creation of 3 integrated theatre commands: northern for the China border, western for the Pakistan border and southern for the maritime role**.
- It enables the **pooling of resources of all three services** under a **single commander**, towards **securing a particular geographical area**.
- A theatre will be **identified on the basis of its sharing of a contiguous geographical boundary with a competing entity or an adversary**.
- The **geographical area** must also include **adjoining seas** and **space** that may be **essential for manoeuvre of own forces to address the threatening entity/adversary** and also its **geographically contiguous collaborators**.

- The commander of a Theatre Command **will not be answerable** to individual Service in **particular and will have all resources** from the **Tri-Services at his disposal**.
- The integrated **theatre commander will be free to train, equip and exercise** his **command to make it a cohesive fighting force** capable of **achieving designated goals**.
- The commander will have all the logistic resources required to support his operations at his disposal.

- **Equipment can be procured, maintained and pre-positioned for quick mobilisation** and apt application during the **envisioned, short-duration, high-intensity war**.
- The allocation of **military hardware**, in terms of **weapon systems, command, control and communication equipment and combat support** elements will be theatre specific and result in **optimisation of the resources**.
- Unified command of the three Services under one designated commander will allow for **prompt and precise decision making** and will remove unnecessary tri-services one-man-up ships.
- Hence, it goes without saying, that the theatre commands **will afford better coordination, intelligence sharing, apt advice and seamless** conduct of operations in a given theatre of operation.

- At the strategic and tactical levels there could be **some challenges**, like the **distribution of certain specialised resources** which are held in limited numbers, e.g. multi-role combat aircraft, command, control and communication equipment, early warning assets, etc.
- Division of such **meagre resources will reduce combat efficiency** at the point of decision. Alternately, these resources will have to be replicated for each theatre command. The cost of the same will be prohibitive, especially when the country is going through trying economic times.
- Besides, **interoperability of troops and equipment from dormant sectors** to the active areas during war will be **difficult and less effective** because they would have been trained and equipped specifically to their primary sector of responsibility.
- Another serious challenge that could be faced is that the concept of a theatre command may promote a **sense of "fighting battles, rather than fighting a war"**, which in turn may reduce our ability to either win a battle or the war.

- The current structure of the armed forces includes **17 different commands**. The Army and Airforce have 7 Commands each and 3 commands are headed by the Navy. Under the Army, the commands are the Northern, Southern, Eastern, Western, Central, Southwestern, Central and Maintenance and Training. The Navy is divided into Western, Eastern and Southern commands.
- Each command is headed by a **4-star rank military officer**.
- India only has **two tri-service commands**. The first one is known as the **Andaman and Nicobar Command (ANC)** and was created in 2001. It is led by service chiefs on a rotational basis.
- The second is a functional command (not overseeing a particular geographical location) called the **Strategic Forces Command** established in 2006.

- The CDS is a **high military office** that **oversees and coordinates** the working of the three Services.
- 1 It offers seamless tri-service views and single-point advice to the Executive.
 - 2 The CDS will also head the **Department of Military Affairs (DMA) to be created within the Ministry of Defence (MoD)** and function as its Secretary.
 - 3 He will be a **four-star General** office and **would not be eligible to hold any government office after demitting the office of CDS.**
 - 4 The CDS would come in the ambit of '**Right to Information Act**, in accordance with the provisions of the **RTI Act, 2005.**

Chief of Defense Staff

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Roles and responsibilities

The CDS's mandate includes bringing about **jointness in operations, logistics, transport, training, support services and repairs and maintenance** of the three services.

- 1 He will act as the **Principal Military Adviser to the Defence Minister** on all tri-Services matters.
- 2 The CDS will also be a member of the **Defence Acquisition Council** chaired by the **Defence Minister and Defence Planning Committee** chaired by the NSA.
- 3 The operational control of all the **theatre commands** will eventually come under CDS, with the service chiefs being responsible for raising, training and sustaining their forces.

Twitter Loses Safe Harbour

Geography

Why is in the news?

- Twitter has lost its 'safe harbour' protection in India over non-compliance with IT rules.

About safe harbour protection

- According to Section 79 of IT Act, 2000, "an intermediary shall not be liable for any third party information, data, or communication link made available or hosted by him," therefore providing Safe Harbour protection.
- In simple words, the law notes that intermediaries such as Twitter or your Internet Service Providers (ISPs) are not liable to punishment if third parties (users) misuse the infrastructure.
- However, the protection is guaranteed only when the intermediary does not 'initiate the transmission,' 'select the receiver of the transmission,' and 'modify the information contained in the transmission.'
- It means that as long as the platform acts just as the medium to carry out messages from users A to user B, that is, without interfering in any manner, it will be safe from any legal prosecution.

Addition of Safe Harbour protection under Section 79, IT Act

- In its original form, the IT Act 2000 provided little or no Safe Harbour protection to internet intermediaries as the definition of the intermediary was restricted.
- However in 2004, in a case where a student posted an obscene clip on bazee.com (now a subsidiary of the e-commerce site eBay) for sale.
- The student and the CEO of the company, Avnish Bajaj, were both held later for letting pornographic material circulate online.
- Bajaj challenged the proceedings against him, contending that he could not be personally held liable for the listing, and that the MMS was transferred directly between the seller and buyer without the intervention of the website.
- The executive was acquitted, the case eventually resulted in the addition of Section 79 in the IT Act to provide immunity intermediaries.

Reasons behind Twitter losing the safe harbour

- Following are the reasons for it;
- The Union government introduced the IT Rules 2021 in December last year & implemented it in May 2021.
- As per the new order, all social media platforms with more than 50 lakh (five million) users will need to appoint a Chief Compliance Officer, a Nodal Contact Person, and a Resident Grievance Officer from India to smoothen the grievance mechanism for citizens.

- The officers will need to acknowledge queries with 24 hours and resolve them in 15 days from the date of receipt.
- Twitter failed to fill in these key positions, and due to this, the company lost precious immunity
- The microblogging platform was even at odds with the government over the new rules and expressed the guidelines potentially threatening freedom of expression.
- However, the company had been given extra time to comply with the guidelines, but it has failed to fall in line with the new IT Rules despite government's repeated indulgence, including an extension.
- **Consequences**
- Its top executives, including the country managing director, could now face police questioning and criminal liability under IPC over 'unlawful' and 'inflammatory' content posted on the platform by any user
- Twitter becomes the only American platform to have lost the protective shield – granted under Section 79 of the IT Act, even though others such as Google, YouTube, Facebook, WhatsApp and Instagram remain protected.
- Now stands exposed to action under the IPC for any third-party unlawful content.
- However, the new IT Rules 2021 do not mention any ban for non-compliance.

INS Sandhayak

Geography

Why is in the news?

- Recently, INS Sandhayak decommissioned 04 Jun 21 after serving the nation for 40 years.

About INS Sandhayak

- INS Sandhayak, the first of its class indigenously designed and built **Hydrographic Survey Ship** of Indian Navy.
- It was conceptualised by then Chief Hydrographer to the Govt. of India, **Rear Admiral FL Fraser**.
- The construction of the ship **began at GRSE Kolkata** (then Calcutta) by laying the keel in 1978.
- The ship was **commissioned to the Indian Navy in 1981**
- The ship has conducted **surveys in shallow coastal waters** and in **deep seas**, besides serving as alma-mater for numerous hydrographers of the Navy.
- The ship, during her commissioned service, has undertaken approximately **200 major Hydrographic Surveys** and **numerous minor surveys** in both East and West coasts of the country, the Andaman seas and the neighbouring countries too.



Significant operations:

- **Operation Pawan**, assisting Indian peacekeeping forces in Sri Lanka in 1987.
- **Operation Rainbow**, when India helped the Sri Lankan Government search for and rescue fishermen and boats lost at sea.
- It was also part of humanitarian missions after the 2004 Tsunami and the maiden Indo-U.S. Humanitarian Assistance and Disaster Relief Exercise – '**Tiger Triumph**'.

Indo-Thai CORPAT

Defence & Security

Why is in the news?

- Recently, the 31st edition of India-Thailand Coordinated Patrol (Indo-Thai CORPAT) between the Indian Navy and the Royal Thai Navy is being conducted.

About Indo-Thai CORPAT

- The two navies have been carrying out CORPAT along their International Maritime Boundary Line **twice a year since 2005**.

- The aim of the Indo-Thai CORPAT exercise is to keep the vital part of the **Indian Ocean safe and secure for commercial shipping** and **international trade**.
- It builds up the **understanding** and **interoperability between navies**.
- The **Indian Naval Ship (INS) Saryu**, and **His Majesty's Thailand Ship (HTMS) Krabi**, along with Dornier Maritime Patrol Aircraft from both navies are participating in the CORPAT.

Other Military Exercises between India and Thailand:

- Exercise MAITREE (Army).
- Exercise SIAM BHARAT (Air Force).

INS Saryu

- It is an indigenously built **Naval Offshore Patrol Vessel (NOPV)**
- It is designed and built by **Goa Shipyard Limited**.
- It is aimed at meeting the increasing **ocean surveillance** and **patrolling requirements** of the Indian Navy.

Cyber Capabilities and National Power Report

Defence & Security

Why is in the news?

- The **Cyber Capabilities and National Power Report** was released by **International Institute for Strategic Studies (IISS)**, an influential think tank that has done a qualitative assessment of cyber power in 15 countries.

Cyber Capabilities and National Power Report

- Countries Under Observation:
 - The report has done a qualitative assessment of cyber power in 15 countries.
 - Four members of the Five Eyes intelligence alliance – the United States, the United Kingdom, Canada and Australia.
 - Three cyber-capable allies of the Five Eyes states – France, Israel and Japan.
 - Four countries viewed by the Five Eyes and their allies as cyber threats – China, Russia, Iran and North Korea.
 - Four states at earlier stages in their cyber power development – India, Indonesia, Malaysia and Vietnam.
- Assessment Criteria:
 - The methodology analyses the cyber ecosystem of each state and how it intersects with international security, economic competition and military affairs. The countries are assessed in seven categories:
 - Strategy and doctrine
 - Governance, command and control
 - Core cyber-intelligence capability
 - Cyber empowerment and dependence
 - Cyber security and resilience
 - Global leadership in cyberspace affairs
 - Offensive cyber capability

Key Observations

- The report has divided the 15 states into three tiers of cyber power:
 - First Tier: States with world-leading strengths across all the categories in the methodology. The United States of America is the only country in this tier.
 - Second Tier: States that have world-leading strengths in some of the categories. Australia, Canada, China, France, Israel, Russia and the United Kingdom are in this tier.
 - Third Tier: States that have strengths or potential strengths in some of the categories but significant weaknesses in others. India, Indonesia, Iran, Japan, Malaysia, North Korea and Vietnam are in this tier.
- This report provides confirmation of the likely durability of US digital-industrial superiority for at least the next ten years. There can be two reasons for this.



- In advanced cyber technologies and their exploitation for economic and military power, the US is still ahead of China.
- Since 2018, the US and several of its leading allies have agreed to restrict China's access to some Western technologies.
 - By doing so, these countries have endorsed a partial decoupling of the West and China that could potentially impede the latter's ability to develop its own advanced technology.

India Specific Observations

- Despite the geo-strategic instability of its region and a keen awareness of the cyber threat it faces, India has made only "modest progress" in developing its policy and doctrine for cyberspace security.
- India has some cyber-intelligence and offensive cyber capabilities but they are regionally focused, principally on Pakistan.
- However, the military confrontation with China in the disputed Ladakh border area in June 2020, followed by a sharp increase in Chinese activity against Indian networks, has heightened Indian concerns about cyber security, not least in systems supplied by China.
- India is currently aiming to compensate for its weaknesses by building new capability with the help of key international partners – including the US, the UK and France – and by looking to concerted international action to develop norms of restraint.
- India's approach towards institutional reform of cyber governance has been "slow and incremental", with key coordinating authorities for cyber security in the civil and military domains established only as late as 2018 and 2019 respectively.
- The key authorities work closely with the main cyber-intelligence agency, the National Technical Research Organisation.
- The strengths of the Indian digital economy include a vibrant start-up culture and a very large talent pool.
- The private sector has moved more quickly than the government in promoting national cyber security.
- The country is active and visible in cyber diplomacy but has not been among the leaders on global norms, preferring instead to make productive practical arrangements with key states.

ICGS Sajag

Defence & Security

Why is in the news?

- The National Security Advisor(NSA) has commissioned the Offshore Patrol Vessel(OPV) ICGS Sajag. (ICGS- Indian Coast Guard ship).
- **About ICGS Sajag:**
- **Goa Shipyard Limited** has indigenously designed and built the Indian Coast Guard Ship Vessel "Sajag".
- The ship is fitted with advanced technology equipment, weapons and sensors. It is also capable of carrying a twin-engine helicopter and four high-speed boats.
- The ICGS Sajag is the third in a series of five offshore patrol vessels under **Samarth Class**.
- **About Offshore Patrol Vehicles(OPVs)**
 - **Offshore Patrol Vehicles(OPVs)** are long-range surface ships. They are capable of operation in maritime zones of India including island territories with helicopter operation capabilities.

Indian Coast Guard

- The Indian Coast Guard (ICG) protects India's maritime interests and enforces maritime law
- It has jurisdiction over the territorial waters of India, including its contiguous zone and exclusive economic zone.
- The Indian Coast Guard was formally established on 18 August **1978** by the Coast Guard Act, 1978 of the Parliament of India as an independent Armed force of India.
- It is responsible for marine environment protection in maritime zones of India and is coordinating authority for response to oil spills in Indian waters.
- It operates **under the Ministry of Defence**
- **HQ : New Delhi**



Why is in the news?

- Recently, the Indian Navy hosted Goa Maritime Symposium (GMS) – 2021 under the aegis of Naval War College, Goa.

About I-familia

- I-Familia is a global database for identifying missing persons based on international DNA kinship matching.
- The result of cutting-edge scientific research, the database seeks to identify missing persons or unidentified human remains when direct comparison is not possible, by using DNA samples from family members instead.
- Its aim is to reunite loved ones or to bring closure to cases and allow families to rebuild their lives.
- INTERPOL's I-Familia service provides the necessary international mechanism to allow missing persons DNA data to be compared globally.
- I-Familia is powered by Bonaparte, a forensic DNA matching software system developed by SMART Research. SMART Research provides the software system, maintenance and support to INTERPOL.

Two types of DNA identification

- DNA identification through direct matching:** A direct DNA sample from the missing person, for example a prior medical sample or a personal item such as a toothbrush, can be compared to the DNA from an unidentified body or human remains to see if a match can be found. This type of identification has been carried out via the INTERPOL DNA Database since 2004.
- DNA identification through kinship matching:** Biological relatives share a percentage of their DNA, depending on their relationship. In the event that a DNA sample from the missing person cannot be obtained for direct matching, DNA from close family members (parents, children, siblings) can also be compared. This is where I-Familia is set to make a difference.

Three components of I-Familia

- I-Familia is made up of three components:
 - A dedicated **global database** to host the DNA profiles provided by relatives, held separately from any criminal data
 - The DNA matching software, called Bonaparte**, developed by Smart Research
 - Interpretation guidelines**, produced by INTERPOL, to efficiently identify and report potential matches.

Why in News?

- Recently, the Ministry of Defence has approved the budgetary support of Rs 498.8 crore to Innovations for Defence Excellence (iDEX) – Defence Innovation Organisation (DIO) for the next five years.

About Innovations for Defence Excellence (iDEX)

- It was launched by the Hon'ble Prime Minister in April 2018.
- It will be funded and managed by a Defence Innovation Organization (DIO).
- It will function as the executive arm of DIO, carrying out all the required activities while DIO will provide high level policy guidance to iDEX.
- It aims at creation of an ecosystem to foster innovation and technology development in Defence & Aerospace.
- The objectives of iDEX are:
 - Facilitate rapid development of new, indigenized, and innovative technologies for the Indian defence and aerospace sector, to meet needs for these sectors in shorter timelines;
 - Create a culture of engagement with innovative startups, to encourage co-creation for defence and aerospace sectors; and
 - Empower a culture of technology co-creation and co-innovation within the defence & aerospace sectors

Defence Innovation Organisation (DIO)

- It is formed as a "not for profit" company as per Section 8 of the Companies Act 2013.
- Its primary objective is to fund and manage the Innovations for Defence Excellence (iDEX).
- It will provide high level policy guidance to iDEX.
- The CEO of iDEX will be selected and recruited by the DIO and will be a professional person of sound technical, scientific and engineering background.
- The CEO of iDEX would also be CEO of DIO thereby providing the linkage between the high level policy guidance given by DIO and its implementation in a professional manner through iDEX.

6 SIPRI Year Book 2021

Geography

Why in News?

- Swedish think tank Stockholm International Peace Research Institute (SIPRI) has released its Year Book '21.

About

- **India possessed** an estimated **156 nuclear warheads** at the **start of 2021**, compared with 150 at the start of last year, while Pakistan had 165 warheads, up from 160 in 2020.
- **China's nuclear arsenal** consisted of **350 warheads**, up from 320 at the start of 2020.
- The nine nuclear armed states — **the U.S., Russia, the U.K., France,**
- **China, India, Pakistan, Israel** and **North Korea** — together possessed an estimated **13,080 nuclear weapons** at the start of 2021.
- Russia and the **U.S.** together **possessed over 90%** of global nuclear weapons.

Stockholm International Peace Research Institute

- It is an **independent international institute** dedicated to research into conflict, armaments, arms control and disarmament.
- It was established in **1966 at Stockholm** (Sweden).
- It provides **data, analysis and recommendations**, based on open sources, to policymakers, researchers, media and the interested public.

Krivak or Talwar Stealth Frigates

Defence & Security

Why is in the news?

- Construction of the keel of the second frigate, of additional Krivak class stealth ships was inaugurated by the Vice Chief of Naval Staff.

About Frigate of the Krivak class

- The keel of the second frigate, of additional Krivak class stealth ships, being built with technology transfer from Russia by the Goa Shipyard Limited (GSL).
- The keel for the first ship was laid on January 29, 2021.
- It would be delivered in 2026 and the second ship after 6 months.
- It is for the first time that these vessels, with such technological complexity, were being constructed indigenously at the GSL.
- The entire hulls of the ships are also being built with indigenous steel.
- The engines for the ships are supplied by Zorya Nashproekt of Ukraine.
- India had earlier procured six Krivak class frigates weighing around 4000 tonnes in two different batches, the Talwar class and the upgraded Teg class.
- The four ships to be built will weigh 300 tonnes more than the earlier ones and will be armed with BrahMos supersonic cruise missiles.
- The Krivak class is a part of Soviet designation Project 1135 Burevestnik.
- These ships are commonly known by their NATO reporting class name of Krivak and are divided into Krivak I, Krivak II, Krivak IV (navy), and Krivak III (coast guard) classes.



Why in the news?

- The third edition of the **SDG India Index and Dashboard 2020–21** was released by **NITI Aayog**. **NITI Aayog** has the twin mandate to oversee the adoption and monitoring of the **SDGs** in the country, and also promote competitive and cooperative federalism among States and UTs.

About the index

- The **SDG India Index 2020–21**, **developed in collaboration with the United Nations in India**, tracks progress of all States and UTs on **17 Goals and 70 targets across 115 indicators** that are aligned to Ministry of Statistics & Programme Implementation's (MoSPI) National Indicator Framework (NIF).
- States and Union Territories are classified as below based on their **SDG India Index** score:
 - Aspirant: 0–49
 - Performer: 50–64
 - Front-Runner: 65–99
 - Achiever: 100
- Since its inaugural launch in 2018, the index has been comprehensively documenting and ranking the progress made by **States and Union Territories** towards achieving the Sustainable Development Goals.

Overall Results and Findings

- Currently, there are no states in the aspirant and achiever category; 15 states/UTs are in the performer category and rest states/UTs in the front runner category.
- The **country's overall SDG score improved by 6 points**—from 60 in 2019 to 66 in 2020–21.
- This positive stride towards achieving the targets is largely driven by exemplary country-wide performance in **Goal 6 (Clean Water and Sanitation)** and **Goal 7 (Affordable and Clean Energy)**.
- State Wise Performance**
 - Kerala has topped** the index with a score of 75.
 - It was **followed by Himachal Pradesh** and **Tamil Nadu** with a score of 74.
 - Bihar, Jharkhand** and **Assam** were the **worst-performing states** in the SDG India index.
 - Mizoram, Haryana, and Uttarakhand are the top gainers in 2020–21 in terms of improvement in score from 2019, with an increase of 12, 10 and 8 points, respectively.

Top-5 States	75	Kerala
	74	Himachal Pradesh, Tamil Nadu
	72	Andhra Pradesh, Goa, Karnataka, Uttarakhand
	71	Sikkim
	70	Maharashtra
Bottom-5 States	61	Chhattisgarh, Nagaland, Odisha
	60	Arunachal Pradesh, Meghalaya, Rajasthan, Uttar Pradesh
	57	Assam
	56	Jharkhand
	52	Bihar

OVERALL	Aspirant (0-49)	Nil
	Performer (50-64)	Manipur, Madhya Pradesh, West Bengal, Chhattisgarh, Nagaland, Odisha, Arunachal Pradesh, Meghalaya, Rajasthan, Uttar Pradesh, Assam, Jharkhand, Bihar
		Dadra and Nagar Haveli and Daman and Diu
	Front Runner (65-99)	Kerala, Himachal Pradesh, Tamil Nadu, Andhra Pradesh, Goa, Karnataka, Uttarakhand, Sikkim, Maharashtra, Gujarat, Telangana, Mizoram, Punjab, Haryana, Tripura
	Achiever (100)	Chandigarh, Delhi, Lakshadweep, Puducherry, Andaman and Nicobar Islands, Jammu and Kashmir, Ladakh

Why in News?

- The 15th edition of Global Peace Index 2021 has been released.

About

- Released by **the Institute for Economics & Peace** (IEP), an international think tank.
- The index presents the **most comprehensive analysis of trends in peace**. It ranks countries according to their levels of peacefulness and identifies potential determinants of peace.
- The index measures the peacefulness of **163 countries** and territories. It covers **99.7% of the world's population**.
- The index is composed of **23 qualitative and quantitative indicators** from highly respected sources. These indicators are grouped into three key domains:
 - ongoing conflict
 - safety and security
 - and Militarization.

Key Highlights

- Iceland** has **topped** the peace index. It was followed by **New Zealand, Denmark, and Portugal**.
- India** has been **ranked 135th** in the 2021 Global Peace Index.

Why in the News?

- Auckland (New Zealand) has topped the Economist Intelligence Unit's (EIU) Global Liveability Index of 140 cities around the world.

About the index

- Released by **Economist Intelligence Unit** (EIU).
- The index assesses the locations that provide the **best and the worst living conditions** around the world. It **assesses 140 cities** around the world.

Parameters

- The index takes into account more than **30 qualitative and quantitative factors**. These factors are spanning five broad categories: **stability** (25%), **healthcare** (20%), **culture and environment** (25%), **education** (10%), and **infrastructure** (20%).
- However, due to the pandemic, the EIU added **new indicators** to it. It includes **stress on healthcare resources** as well as **restrictions** around local sporting events, theatres, music concerts, restaurants, and schools.
- Scores:** Each factor in a city is rated as **acceptable, tolerable, uncomfortable, undesirable, or intolerable**. Factor-wise scores are then compiled and weighted to provide a **score of 1–100 where 1 is considered intolerable and 100 is considered ideal**.

Details of the index

- Top Five Liveable Cities: **Auckland** (New Zealand), **Osaka** (Japan), **Adelaide** (Australia), **Wellington** (New Zealand), and **Tokyo** (Japan).
- Top Five Least Liveable Cities : **Damascus** (Syria), **Lagos** (Nigeria), **Port Moresby** (Papua New Guinea), **Dhaka** (Bangladesh), and **Algiers** (Algeria).

Economist Intelligence Unit

- The Economist Intelligence Unit is the **research and analysis division** of **The Economist Group**, which is the sister company to The Economist newspaper.
- Founded in **1946**.
- Headquarters location in **London, United Kingdom**.

Why in the news?

- The Institute for Management Development (IMD) has recently released the World Competitiveness Index. It measures the economic well-being, people's prosperity and competitiveness of 64 nations

About the index

- The index is released by the Institute for Management Development (IMD).
- Aim:** The index ranks 64 economies. It assesses the extent to which a country promotes the prosperity of its people by measuring economic well-being through data and survey responses.
- Parameters:** The index measures the prosperity and competitiveness of countries by examining four factors:
 - Economic performance
 - Government efficiency
 - Business efficiency
 - Infrastructure

Findings of the report

- Top Rankings:** Switzerland has topped the index. It was followed by Sweden, Denmark, Netherlands and Singapore.
- Asia:** The top-performing Asian economies in order are: Singapore (5th), Hong Kong (7th), Taiwan (8th) and China (16th).
- The **UAE** and the **USA** remain in the same spots as last year (9th and 10th, respectively)

Highlights from India

- India's position has remained unchanged at 43 for the third year in a row.
- Among the four indices used, India's ranking in government efficiency increased to 46 from 50 a year ago, while its ranking in other parameters such as economic performance (37), business efficiency (32) and infrastructure (49) remained the same.
- India's improvements in the government efficiency factor are mostly due to relatively stable public finances (e.g., despite difficulties brought by the pandemic, in 2020 the government deficit stayed at 7%).
- It, however, added that the short-term performance of India's economy will depend on its ability to address the pandemic.

Why in News?

- Recently, the International Energy Agency (IEA) published the World Energy Investment Report, 2021.

About the report

- The report presents the **latest data** and **analysis of how energy investment flows** are recovering from the shock of the Covid-19 pandemic.
- This includes **full-year outlook estimates for 2021**.

Findings of the report

- Global energy investments are set to **recover by nearly 10% in 2021** to \$1.9 trillion reversing the decline in 2020.
- Global Power Sector which saw flat investments in 2020 is set to receive the **highest ever funding** i.e. up by about **5% to more than \$820 billion**. Among them, Renewables are forecast to account for 70% of the total.
- The **technologies** like Carbon Capture and Storage (CCS) are **yet to attain commercial success**. So,

the investments in oil are expected to grow by about 10%.

- Net Zero Plan: The commitments to the Net Zero plan is **gaining momentum**, but its **transition to actual action is not visible**.

International Energy Agency

- It is an **autonomous Intergovernmental Organisation** established in **1974** in Paris, France.
- IEA mainly **focuses on its energy policies** which include economic development, energy security and environmental protection. These policies are also known as the 3 E's of IEA.
- **India and IEA**
 - India became an **Associate member of IEA** in **March 2017** but it was in engagement with IEA long before its association with the organization.
 - Recently, India has **inked a Strategic Partnership Agreement** with the IEA to **strengthen cooperation** in global energy security, stability and sustainability.
- IEA Clean Coal Centre : It is dedicated to providing **independent information and analysis** on how coal can become a cleaner source of energy, compatible with the UN Sustainable Development Goals.
- Reports: **World Energy Investment Report**, **World Energy Outlook Report**, **Global Energy Review**.

RMI Freight Report

Reports & Indexes

Why in the news?

- NITI Aayog and Rocky Mountain Institute (RMI) recently released a new report, titled **Fast Tracking Freight in India: A Roadmap for Clean and Cost-Effective Goods Transport**.

India's Logistics Sector

- The logistics sector represents **5% of India's GDP and employs 2.2 crore people**. Trucks and other vehicles handle most of the movement of these goods.
- As national freight activity will grow by five times till 2050, India's freight transport ecosystem has a critical role to play in supporting India's priorities. Some of these include international competitiveness, job growth, urban and rural livelihoods, and clean air and environment.
- India's cumulative energy consumption from freight transport between 2020 and 2050 under a business as usual (BAU) scenario will be around 5.8 billion tonnes of oil equivalent (TOE). However, India can reduce this energy consumption by 50 % under an efficient scenario through various interventions.

Objectives of the Fast Tracking Freight in India Report:

- **Establish a coherent** vision for a cost-effective, clean, and optimised freight transport system in India.
- **Quantify** the economic, environmental, and public health benefits of the freight system.
- **Describe** techno-economically feasible solutions that would collectively deliver those benefits.

India's Logistics Sector:

- **Currently**, India's logistics sector represents 5% of India's Gross Domestic Product (GDP). The sector employs around 2.2 crore people.
- **India handles** 6 billion tonnes of goods each year, amounting to a total annual cost of INR 9.5 lakh crore.
- **These goods** represent a variety of domestic industries and products:
 - 22% are agricultural goods,
 - 39% are mining products and
 - 39% are manufacturing-related commodities.
- **Trucks and other vehicles** handle most of the movement of these goods. Railways, coastal and inland waterways, pipelines, and airways account for the rest.



Measures need to accommodate more urban citizens:

- **India's freight activity** will grow five-fold by 2050 and about 400 million citizens move to cities. So, a whole system transformation can help uplift the freight sector.
- **This transformation** will be defined by tapping into opportunities such as:
 - Increasing share of rail-based transport
 - Optimisation of logistics and supply chains.
 - Shift to electric and other clean-fuel vehicles.
- **These solutions** can help India save Rs. 311 lakh crore cumulatively over the next three decades

Other measures recommended by the Fast Tracking Freight in India Report:

- The Logistic sector can reduce its rising CO2 emissions and high logistic costs by following measures:
 - Increasing the rail network's capacity
 - Promoting intermodal transport
 - Improving warehousing and trucking practices
 - Policy measures and pilot projects for clean technology adoption and
 - Stricter fuel economy standards.
- **Benefits of these measures:** These measures will lead to the following benefits:
 - Reduces the logistics cost by 4% of GDP
 - Achieves 10 gigatonnes of cumulative CO2 emissions savings between 2020 and 2050
 - Reduces nitrogen oxide(NOx) and particulate matter(PM) emissions by 35% and 28%, respectively until 2050.

Rocky Mountain Institute

- Rocky Mountain Institute (RMI) is a US based non-profit organisation.
- It engages businesses, communities, institutions, and entrepreneurs to accelerate the adoption of market-based solutions that cost-effectively shift from fossil fuels to renewable energy.

Digital News Report, 2021

Reports & Indexes

Why is in the news?

- India is **ranked at 31** in the 10th edition of **Reuters Institute for the Study of Journalism (RISJ)**'s Digital News Report 2021. The Asian College of Journalism (ACJ) provided logistical support for surveying the Indian market.

Details of the report

- India stood at 31 when it came to **"trust in news"** out of the 46 media markets surveyed and **India has featured for the first time** in its main report.
- The study found 73 percent of the respondents in India use smartphones to access news; 82 percent source news online and 63 percent acquire information solely from social media platforms like WhatsApp and YouTube.
- Only 38 per cent in India said they trusted news overall.
- In India, **legacy print brands and government broadcasters scored high** on trust levels among news consumers.
- **Finland had the highest levels of overall trust** in news with 65 per cent, while the **US had the lowest levels of trust** at 29 per cent.
- As ACJ and RISJ interviewed only online news users and English-speaking affluent, younger, educated and city-dwelling population the survey cannot be considered as representing India.

Reuters Institute for the Study of Journalism (RISJ)

- It is a UK-based research centre and think tank.
- The Reuters Institute is the **University of Oxford's research centre** on issues affecting news media globally.



- The institute was founded in the Department of Politics and International Relations at the University of Oxford in **2006** to conduct scholarly and professional research on news media, operate the **Thomson Reuters Journalism Fellowship Programme**, and host academic research fellows.
- The Fellowship Programme, founded in 1983, is jointly based at the University of Oxford's Department of Politics and International Relations and Green Templeton College.
- The RISJ is a **partner of the European Journalism Observatory**, a network of eleven language sites reporting media research from across Europe.

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UPSC

Q) How far do you think naxalism is a manifestation of underlying socio-economic challenges? [10M] [150W]

Naxalism, also known as Left-wing Extremism is an ideology which is against to the concept of democracy and which moves forward with the ideology of Marxist communism and members of this ideology are called as Naxals.

And the word 'Naxal' is derived from a place in West Bengal known as Naxalbari, where its first impact was seen. There are many reasons for this to arise and they are

Naxalism - A manifestation of socio-economic challenges:-

i) Land Alienation:-

Tribals are mostly dependent on land for their livelihood and the government take over of the land is ~~which~~ has made the tribals angry and helpless and this opportunity is used by Naxals and their concepts are manifested into Tribals.

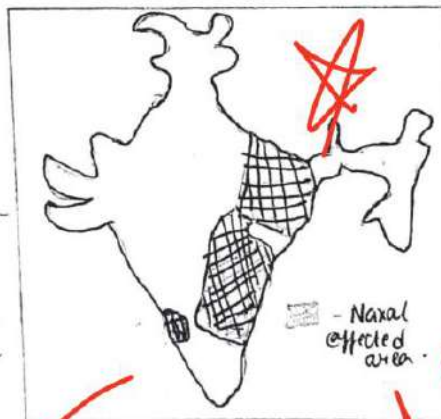


fig: 1(a) - Naxal effected areas in India.

ii) Unemployment:- Many unemployed youth are driven towards naxalism, as they get frustrated with system and this impacts the manifestations of naxals.

iii) Social Alienation:- extreme hilly and Tribal regions are socially alienated from the growing society and this feeling of being ignored among these people

is also another reason for the rise of nationalism.
iv) Poverty:- This aspect also stands as a base that is driven towards nationalism, poor people frustrated and unhappy with their conditions of living are attracted and driven towards the violent ideology.

v) The condescending strata of human society:- The concept of superior and inferior also has its impact to move towards nationalism, the inferior fed up with this strata and hope for a change are also driven towards nationalism.

The socio-economic challenges did manifest nationalism but they alone aren't the cause for it there are other challenges as well that manifested nationalism and they are.

Other challenges that manifested nationalism:

i) Lack of law and order:- This governance aspect is also a reason for nationalism, the poor and people not justified with lack in law and order are driven towards nationalism.

ii) Forest policy:- The forest policies of government like the Forest Conservation Act, 1980 are acting as stop spots to tribals from getting their basic needs from forests, later they are influenced into this violent concept.

iii) Political marginalization:- No proper political representation and marginalisation of weaker sections of society is also a major reason for the emergence of nationalism.

Deep rooted nationalism cannot be taken away from the society but the prospects, impacts and its emergence can be curtailed by focusing on the challenges and solutions to it.

Nationalism as an ideology is not deleterious until it amalgamates with humans.

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